

# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 40: SEPTEMBER 27, 2020–OCTOBER 3, 2020

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 40

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	1.2%	Higher than the previous week. Lower than Hawaii's historical baseline, lower than the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 0 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Comparable to the previous week. This number means that many, if not all, of the 100.0% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.0%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 41)	4.9%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	9.7%	Comparable to Hawaii's historical baseline, comparable to the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week 40, the traditional start date of flu season.

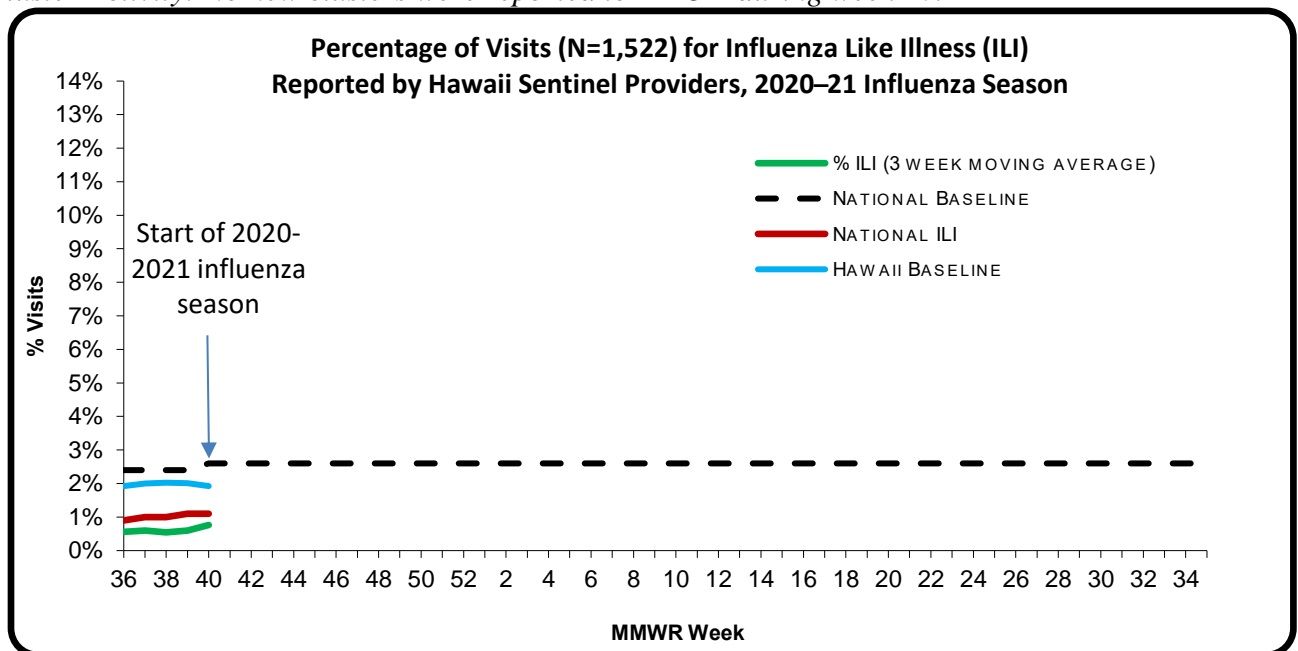
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 40 of the current influenza season:

- **1.2%** (season to date: **1.2%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and comparable to the national ILI rate (**1.1%**) (i.e., inside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 40.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

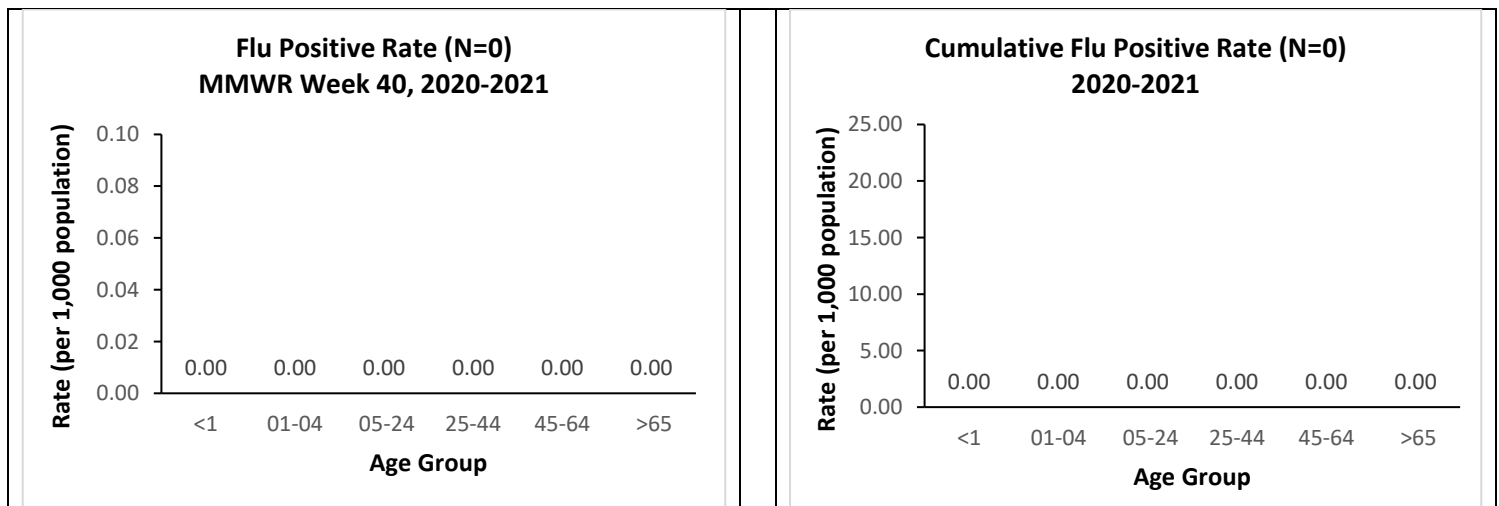
### A. INFLUENZA:

- The following reflects laboratory findings for week 40 of the 2020–21 influenza season:
  - A total of **255** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 255 tested [0.0% positive])
    - 67 (26.3%) were screened only by rapid antigen tests with no confirmatory testing.
    - 188 (73.7%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 255 (100.0%) were negative.

Influenza type	Current week 40 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	0 (0.0)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	0 (0.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



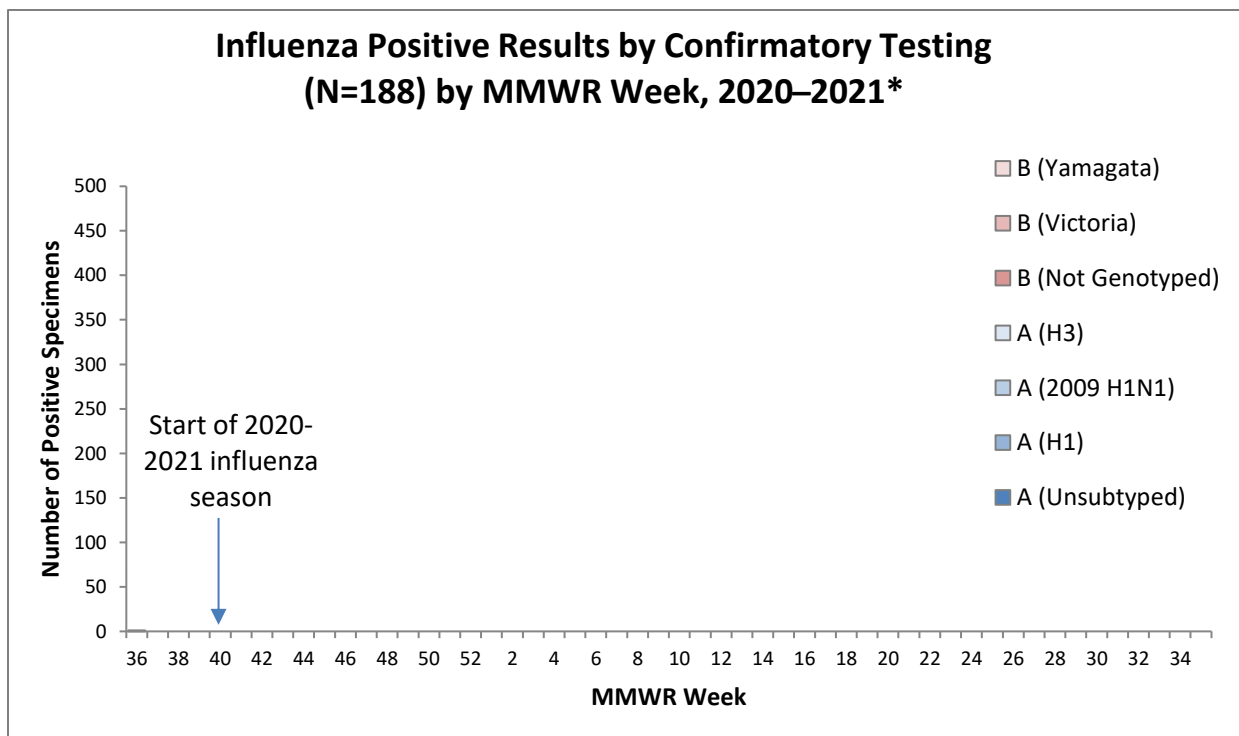
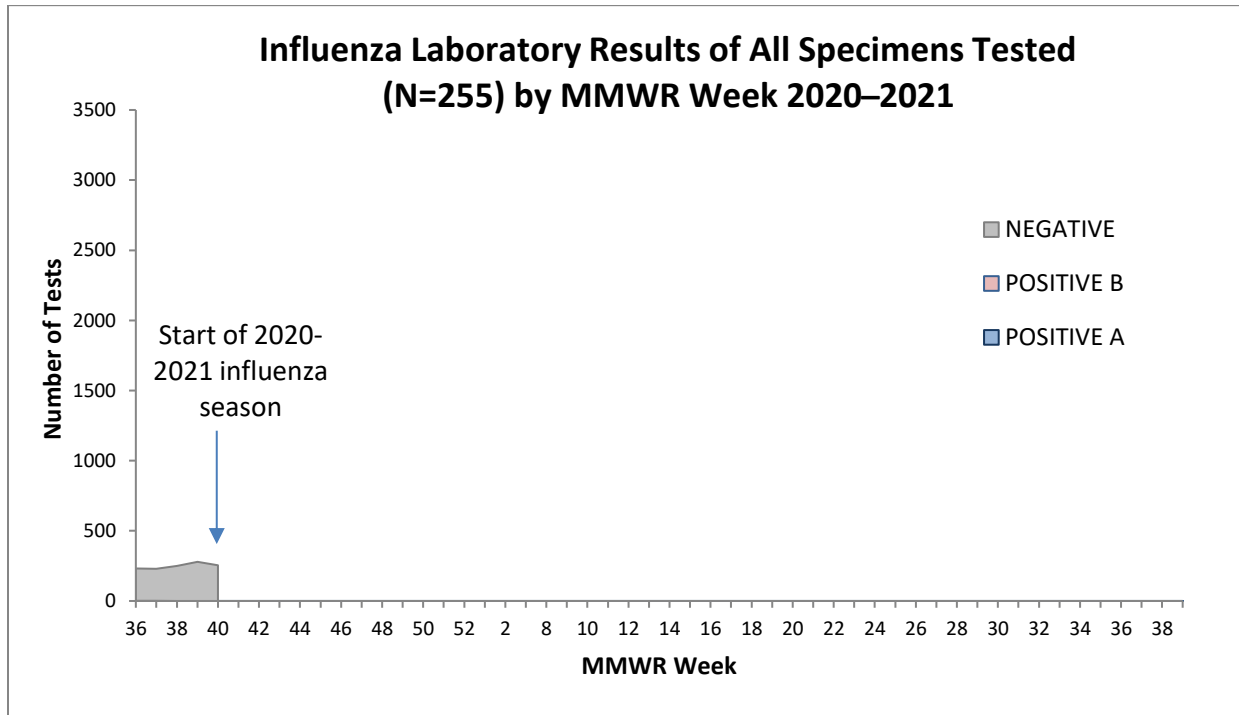
<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.

## 2. LABORATORY TESTING

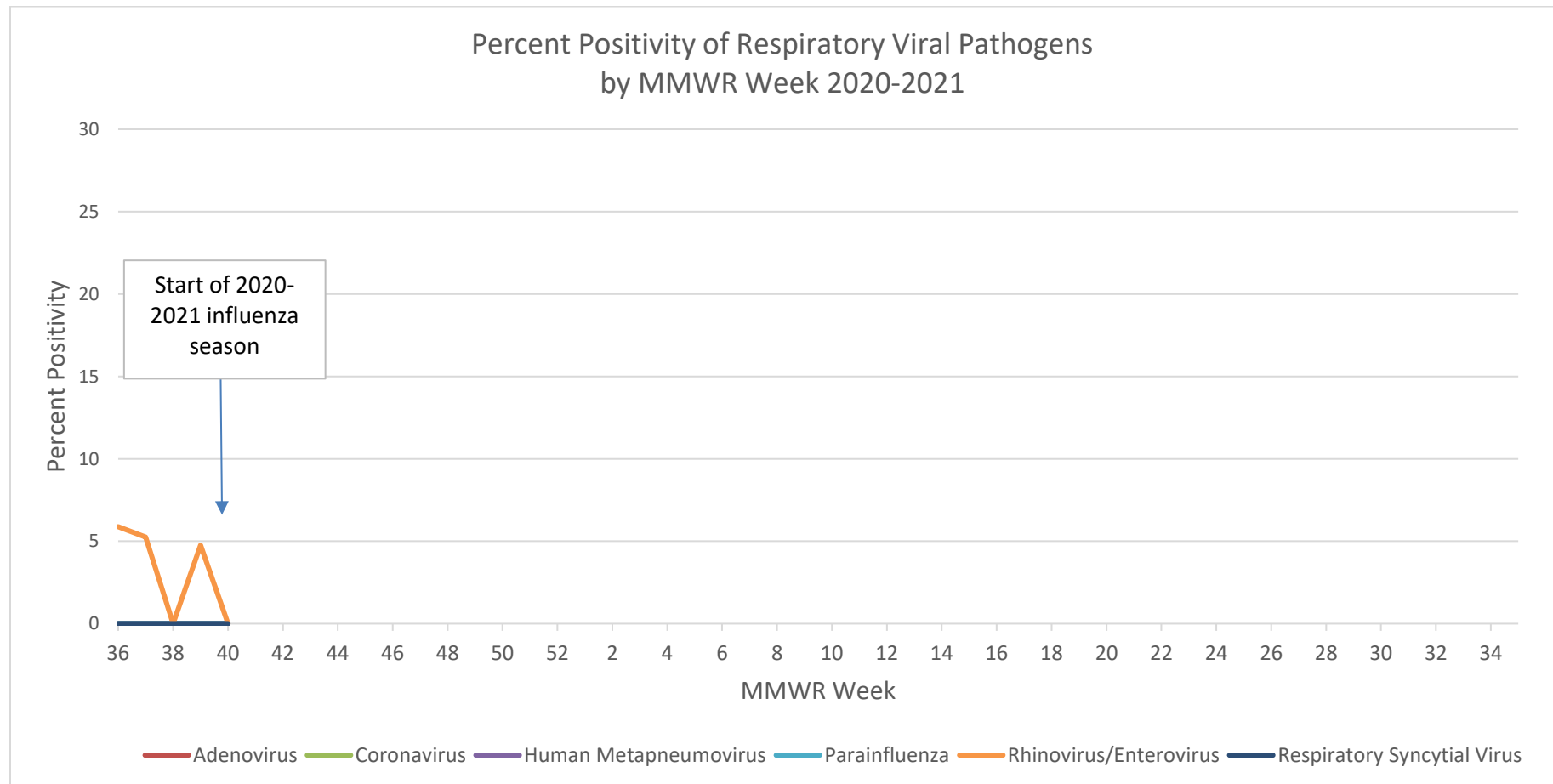
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.



**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate the novel coronavirus (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 41<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>12</sup>
- *A total of 81 surveillance specimens have been tested statewide for COVID-19 (positive: 4 [4.9%]).*
- *Season to date: A total of 3,570 surveillance specimens have been tested for COVID-19 (positive: 193 [5.4%])*
  - *849 specimens have been tested at SLD*<sup>13</sup>.

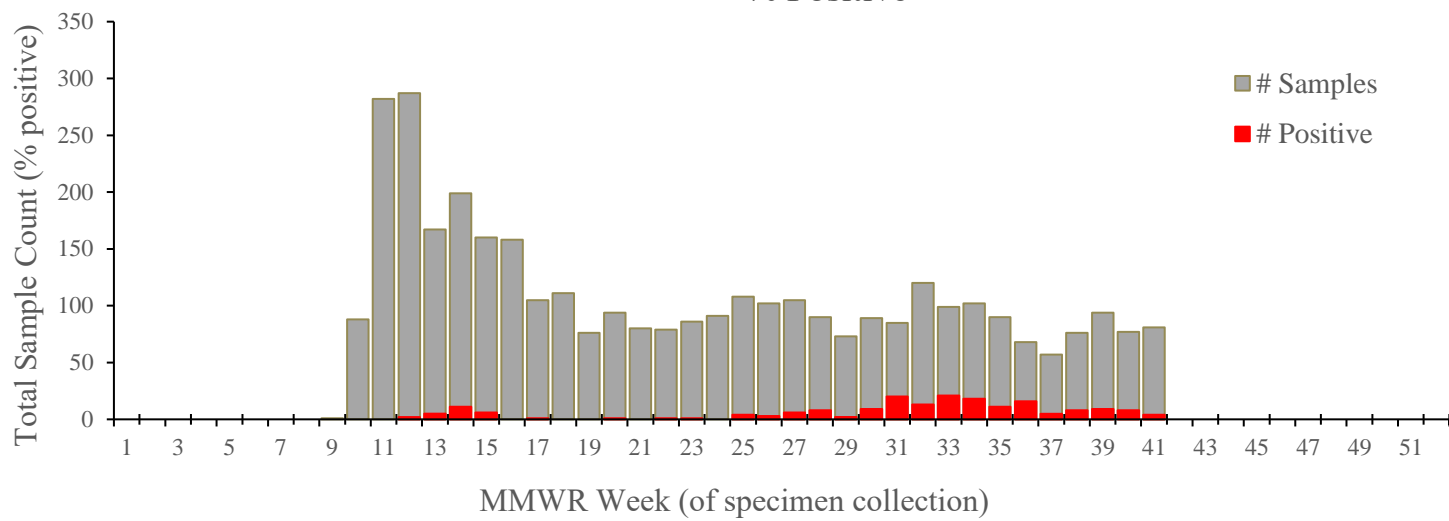
Cumulative Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	368	1.1	0-17	537	3.5
Honolulu	2,303	7.7	18-64	2,086	6.3
Kauai	187	0.5	65+	947	4.5
Maui	462	2.4			
Unknown	250	0			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

### COVID-19 Surveillance Samples Tested (N=3,570), % Positive

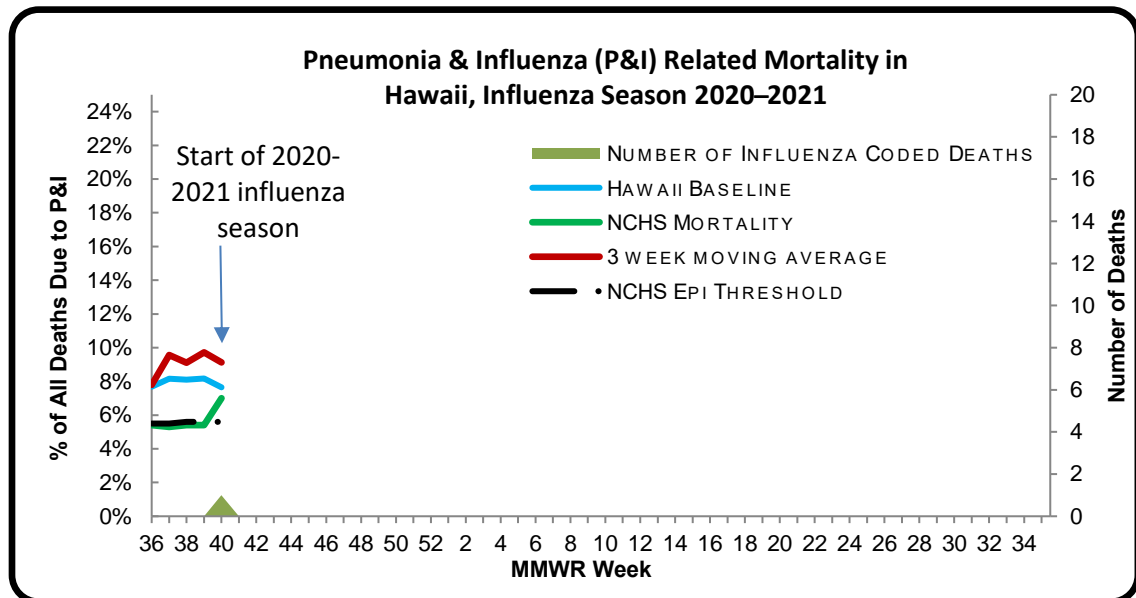


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 40** of the current influenza season:

- **9.7%** of all deaths that occurred in Hawaii during week 40 were related to pneumonia or influenza<sup>14</sup>. For the current season (season to date: **9.7%**), there have been 186 deaths from any cause, 18 of which were due to P&I.
- The P&I rate was comparable to the historical baseline in Hawaii<sup>15</sup> (i.e., inside the 95% confidence interval).
- The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>16</sup> (**7.0%**) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (**5.6%**) (i.e., inside the 95% confidence interval) for week 40.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 40. There has been a total of one influenza-associated pediatric death reported in Hawaii during the 2019–2020 season.

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

- Nationally, no influenza-associated pediatric deaths occurring during the 2020-2021 season were reported to CDC during week 40. (2020-2021 season total: 0).

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### **A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *No human infections with a novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 40.*

#### **B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **July 10, 2020**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2019–2020 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2019–2020 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on a number of factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>



**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/2/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/9/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/16/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/23/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	1/30/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/6/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/13/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/20/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	2/27/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/6/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/13/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/20/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	3/27/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/3/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/10/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/17/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	4/24/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/1/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/8/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/15/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/22/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	5/29/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/5/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/12/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/19/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	6/26/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/3/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/10/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/17/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/24/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	7/31/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/7/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/14/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/21/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	8/28/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/4/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/11/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/18/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	9/25/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/2/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/9/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/16/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/23/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	10/30/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/6/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/13/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/20/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	11/27/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/4/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/11/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/18/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	12/25/2021



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WEEK 41: OCTOBER 4, 2020–OCTOBER 10, 2020

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Metric	Value	Comment
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Number of ILI clusters reported to HDOH	0	There have been 0 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.7%	Higher than the previous week. This number means that many, if not all, of the 99.3% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.4%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 42)	4.7%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	5.3%	Comparable to Hawaii's historical baseline, comparable to the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	3	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week 40, the traditional start date of flu season.

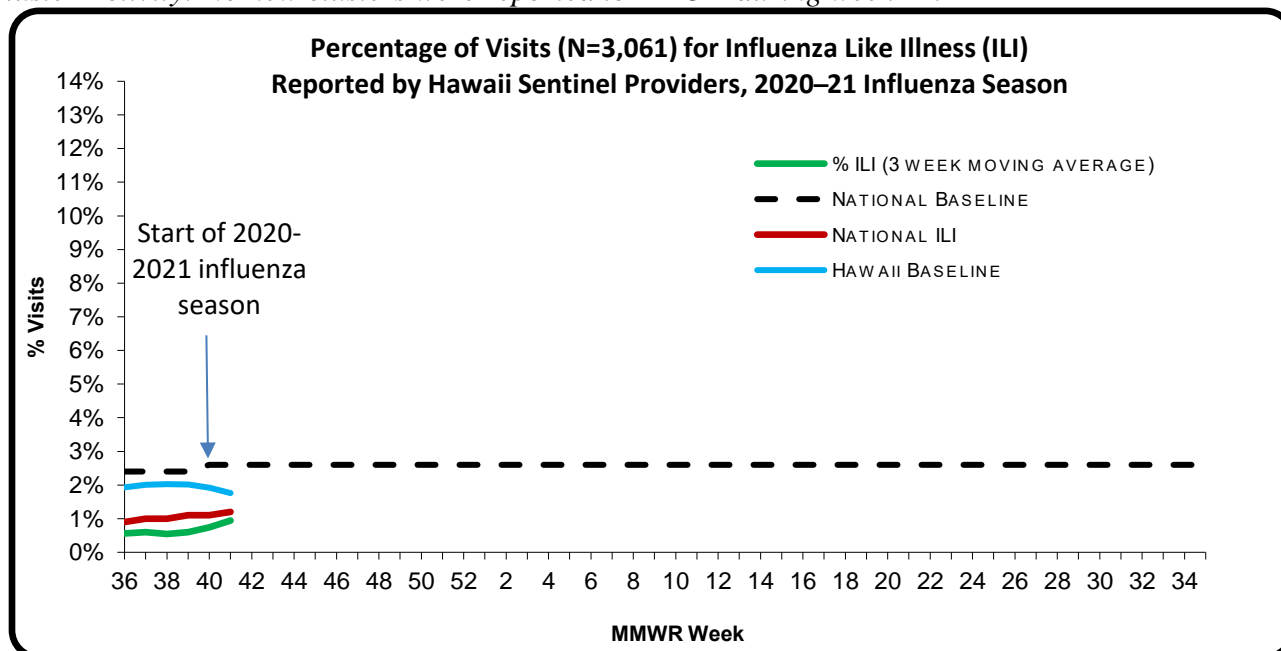
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 41 of the current influenza season:

- **1.3%** (season to date: **1.2%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and comparable to the national ILI rate (**1.2%**) (i.e., inside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 41.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

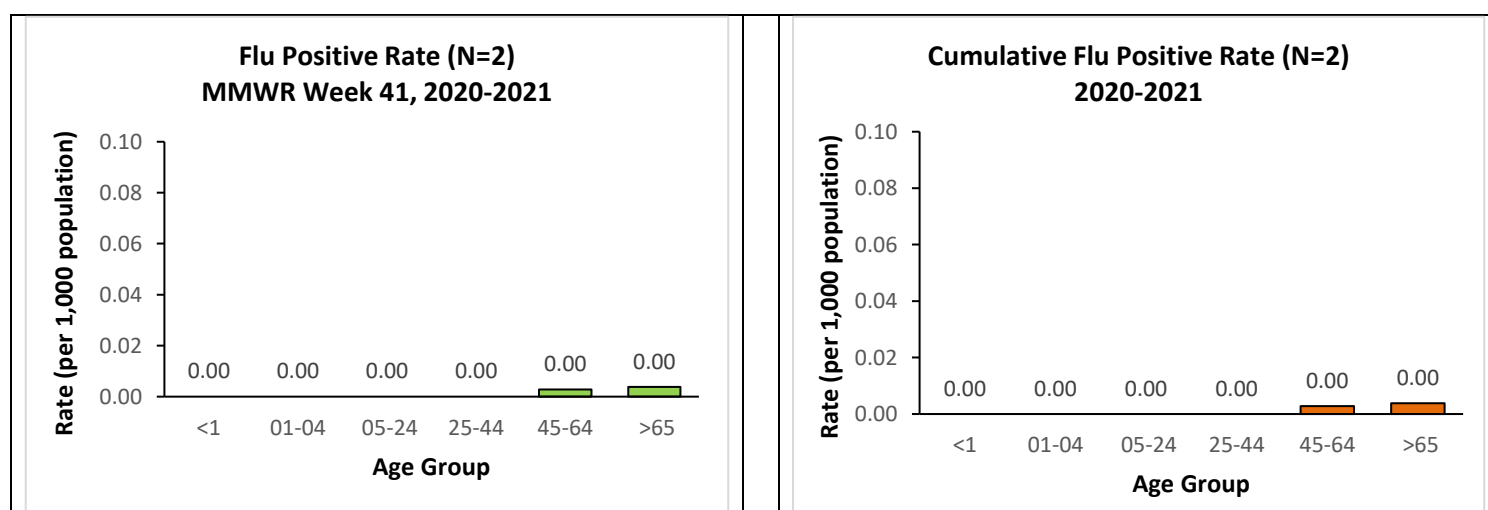
### A. INFLUENZA:

- The following reflects laboratory findings for week 41 of the 2020–21 influenza season:
  - A total of **281** specimens have been tested statewide for influenza viruses (positive: 2 [**0.7%**]). (Season to date: 536 tested [**0.4%** positive])
    - 80 (28.5%) were screened only by rapid antigen tests with no confirmatory testing.
    - 201 (71.5%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 279 (99.3%) were negative.

<i>Influenza type</i>	<i>Current week 41 (%)</i>	<i>Season to date (%)</i>
<i>Influenza A (H1)</i> <sup>9</sup>	0 (0.0)	0 (0.0)
<i>Influenza A (H3)</i>	0 (0.0)	0 (0.0)
<i>Influenza A no subtyping</i>	2 (100.0)	2 (100.0)
<i>Influenza B (Yamagata)</i>	0 (0.0)	0 (0.0)
<i>Influenza B (Victoria)</i>	0 (0.0)	0 (0.0)
<i>Influenza B no genotyping</i>	0 (0.0)	0 (0.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



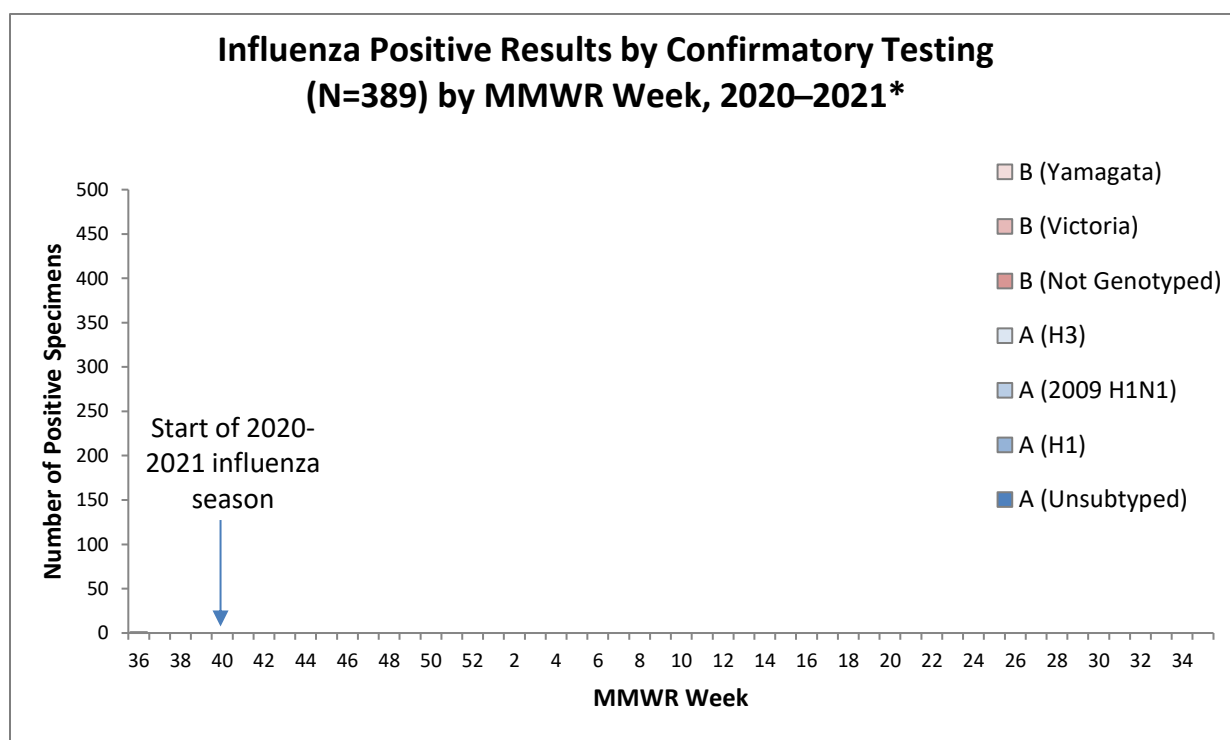
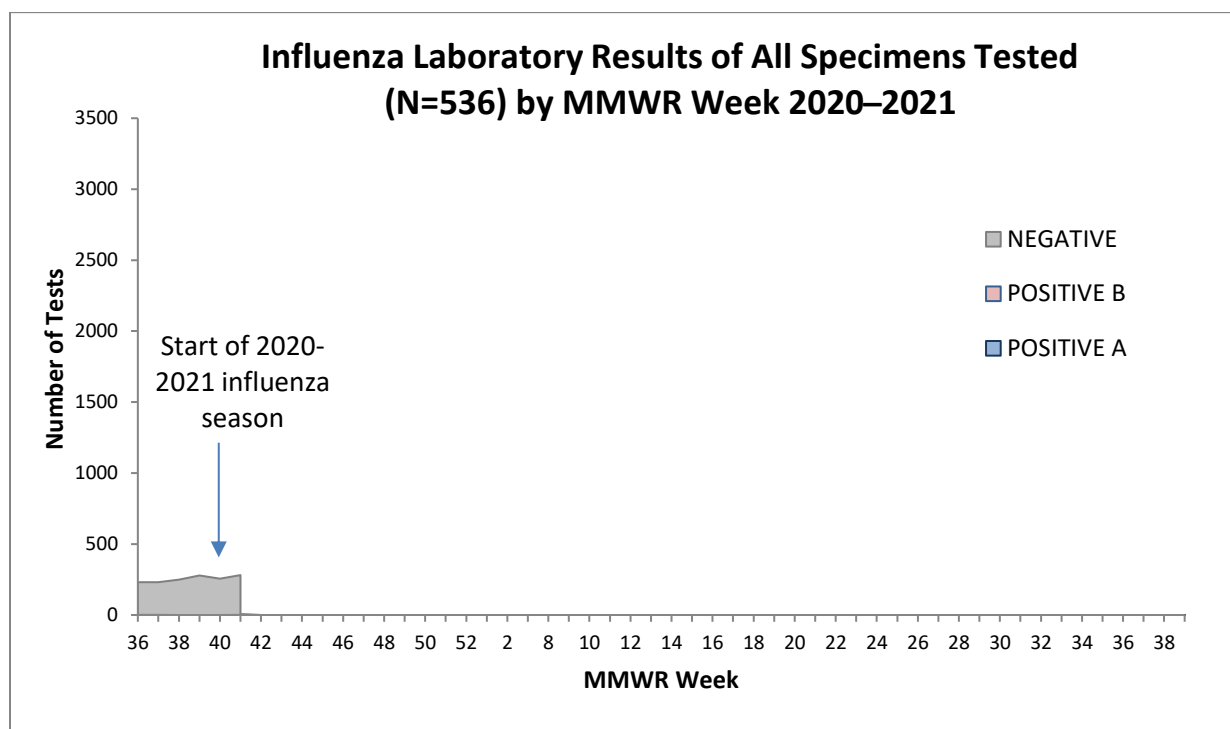
<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.

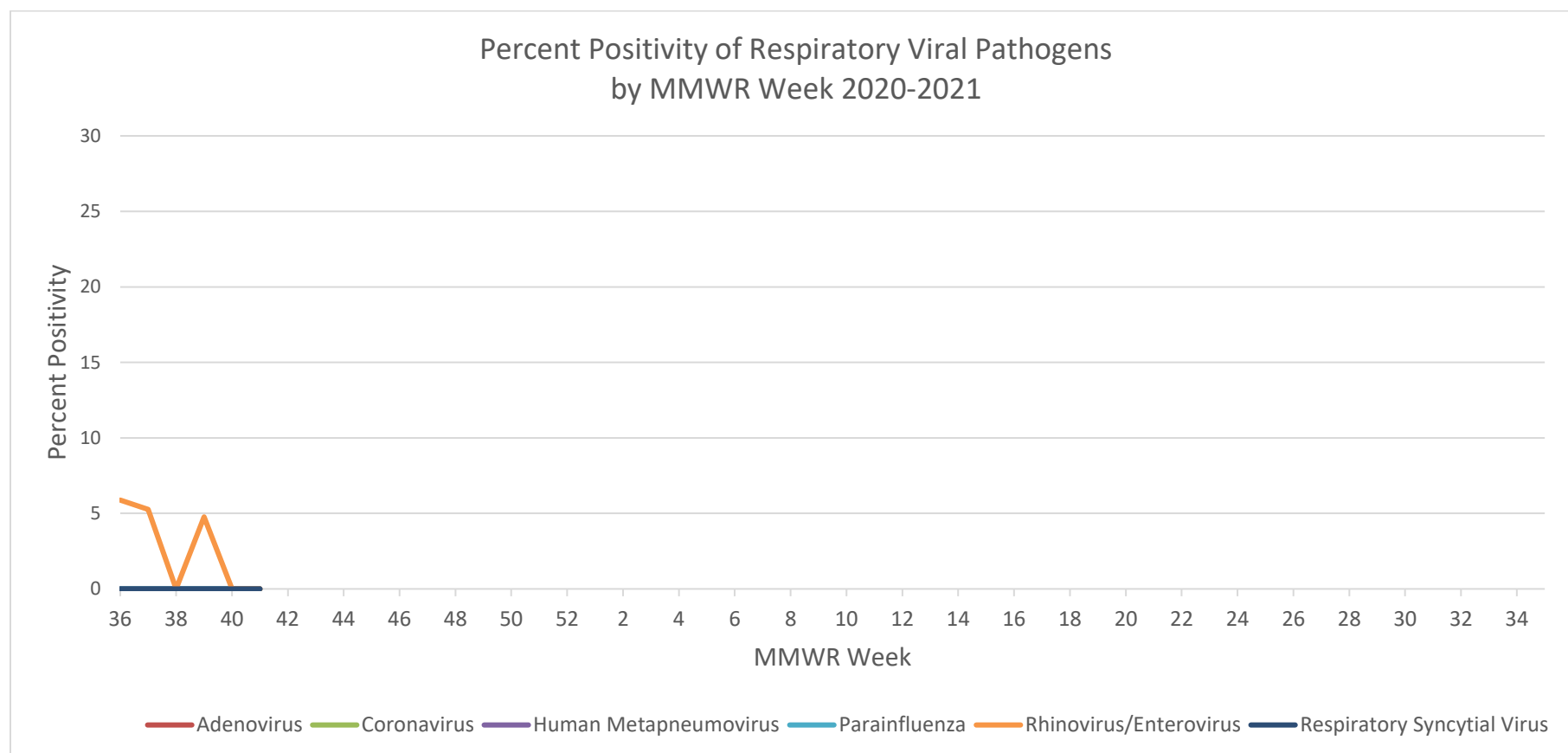
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate the novel coronavirus (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 42<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>12</sup>
- *A total of 64 surveillance specimens have been tested statewide for COVID-19 (positive: 3 [4.7%]).*
- *Cumulative: A total of 3,633 surveillance specimens have been tested for COVID-19 (positive: 196 [5.4%])*
  - *851 specimens have been tested at SLD*<sup>13</sup>.

Cumulative Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	375	1.1	0-17	550	3.5
Honolulu	2,344	7.7	18-64	2,112	6.3
Kauai	186	0.5	65+	971	4.6
Maui	477	2.3			
Unknown	251	0			

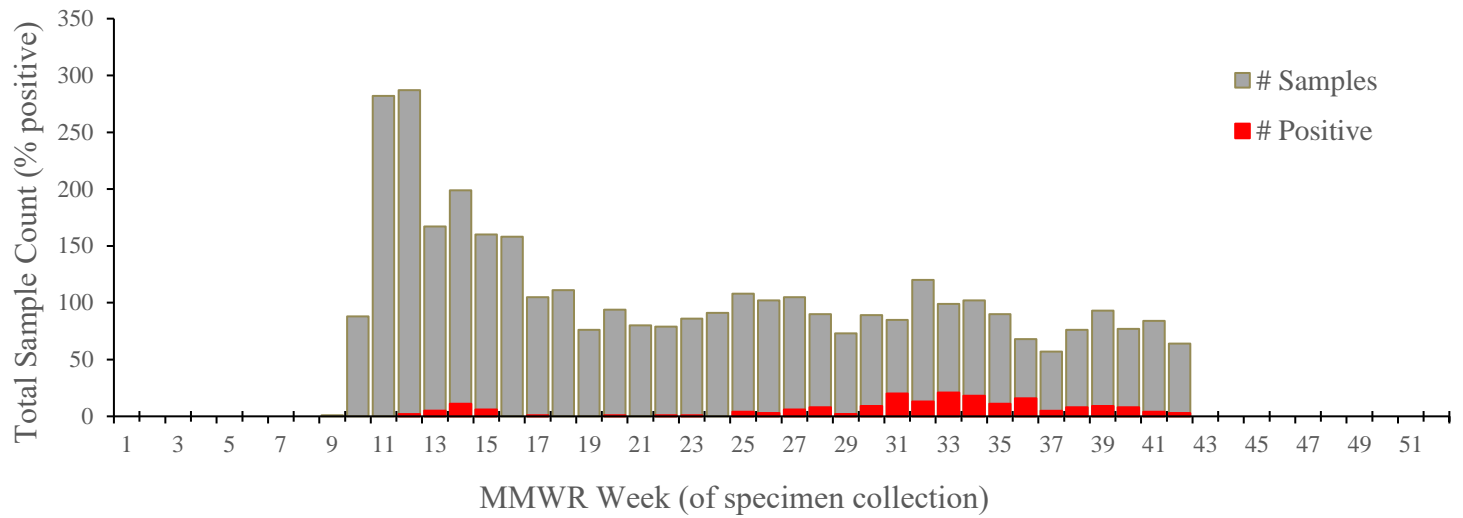
<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.



### COVID-19 Surveillance Samples Tested (N=3,633), % Positive

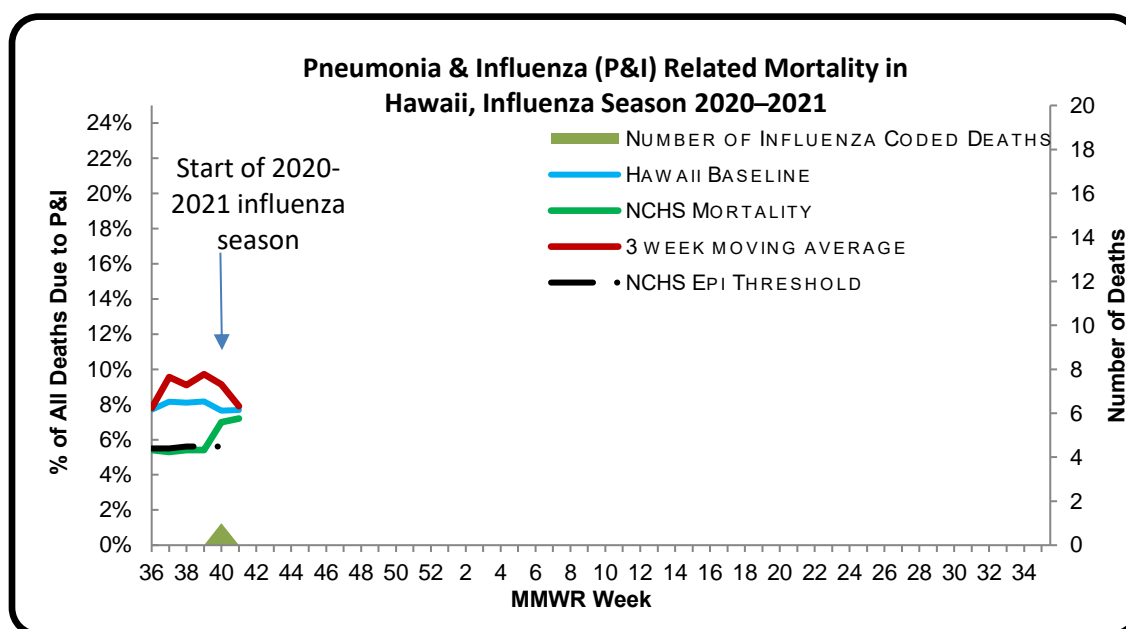


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 41** of the current influenza season:

- **5.3%** of all deaths that occurred in Hawaii during week 41 were related to pneumonia or influenza<sup>14</sup>. For the current season (season to date: **8.0%**), there have been 300 deaths from any cause, 24 of which were due to P&I.
- The P&I rate was comparable to the historical baseline in Hawaii<sup>15</sup> (i.e., inside the 95% confidence interval).
- The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>16</sup> (**7.2%**) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (**5.7%**) (i.e., inside the 95% confidence interval) for week 41.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 41. There has been no influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

- Nationally, no influenza-associated pediatric deaths occurring during the 2020-2021 season were reported to CDC during week 41. (2020-2021 season total: 0).

Three influenza-associated pediatric deaths were reported to CDC during week 41. All three deaths occurred during the 2019-2020 season bringing the total number of deaths occurring during that season to 192. One death was associated with an influenza A virus for which no subtyping was performed and occurred during week 11 (week ending March 14, 2020). Two deaths were associated with influenza B virus infection and occurred during week 3 (week ending January 18, 2020) and week 49 (week ending December 7, 2019).

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### A. VARIANT VIRUSES:

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *No human infections with a novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 41.*

#### B. AVIAN (OR BIRD) INFLUENZA:

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **July 10, 2020**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2019–2020 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on a number of factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/2/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/9/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/16/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/23/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	1/30/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/6/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/13/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/20/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	2/27/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/6/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/13/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/20/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	3/27/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/3/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/10/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/17/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	4/24/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/1/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/8/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/15/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/22/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	5/29/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/5/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/12/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/19/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	6/26/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/3/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/10/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/17/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/24/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	7/31/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/7/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/14/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/21/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	8/28/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/4/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/11/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/18/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	9/25/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/2/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/9/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/16/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/23/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	10/30/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/6/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/13/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/20/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	11/27/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/4/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/11/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/18/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	12/25/2021



# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 42: OCTOBER 11, 2020–OCTOBER 17, 2020

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 42

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.9%	Lower than the previous week. Lower than Hawaii's historical baseline, comparable to the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 0 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Lower than the previous week. This number means that many, if not all, of the 100% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.2%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 43)	3.0%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	3.7%	Lower than Hawaii's historical baseline, Comparable to the national epidemic threshold and higher than the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	2	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week 40, the traditional start date of flu season.

<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

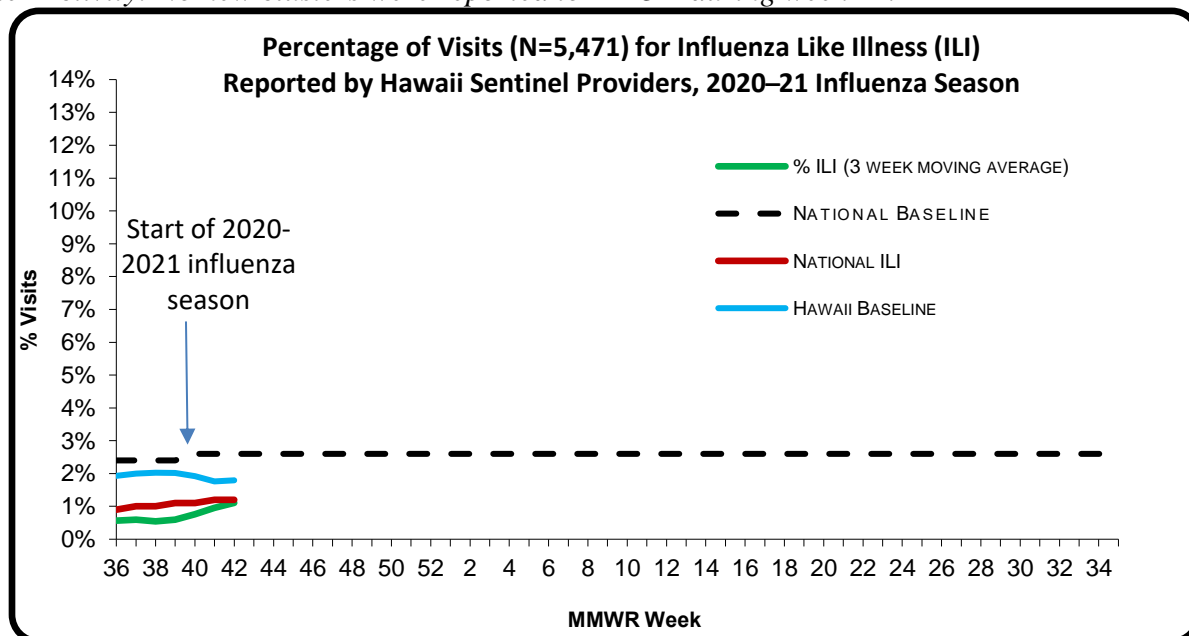


## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For **week 42** of the current influenza season:

- **0.9%** (season to date: **1.1%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were lower than the historical baseline in Hawaii<sup>3,4</sup> (i.e., outside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and comparable to the national ILI rate (**1.2%**) (i.e., inside the 95% confidence interval).
- ILI activity level: *Minimal*<sup>6</sup>
- Geographic Spread: *Sporadic Activity*<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 42.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

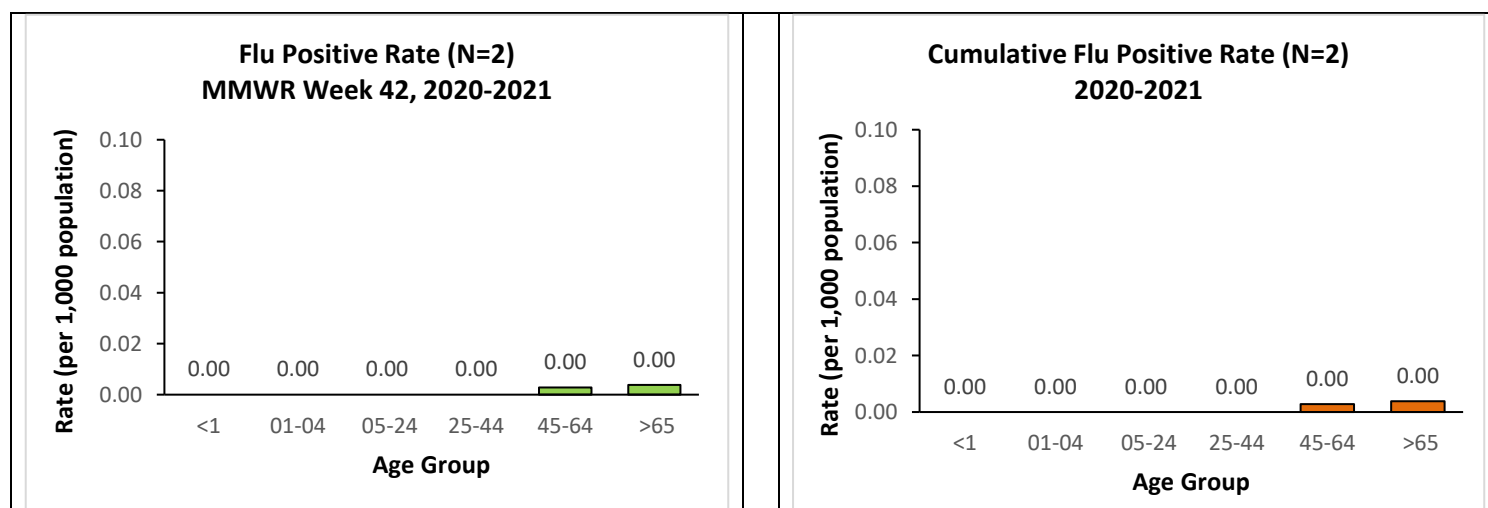
### A. INFLUENZA:

- The following reflects laboratory findings for week 42 of the 2020–21 influenza season:
  - A total of **282** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 805 tested [0.2% positive])
    - 213 (26.5%) were screened only by rapid antigen tests with no confirmatory testing.
    - 592 (73.5%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 803 (99.8%) were negative.

<i>Influenza type</i>	<i>Current week 42 (%)</i>	<i>Season to date (%)</i>
<i>Influenza A (H1)<sup>9</sup></i>	0 (0.0)	0 (0.0)
<i>Influenza A (H3)</i>	0 (0.0)	0 (0.0)
<i>Influenza A no subtyping</i>	0 (0.0)	2 (100.0)
<i>Influenza B (Yamagata)</i>	0 (0.0)	0 (0.0)
<i>Influenza B (Victoria)</i>	0 (0.0)	0 (0.0)
<i>Influenza B no genotyping</i>	0 (0.0)	0 (0.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



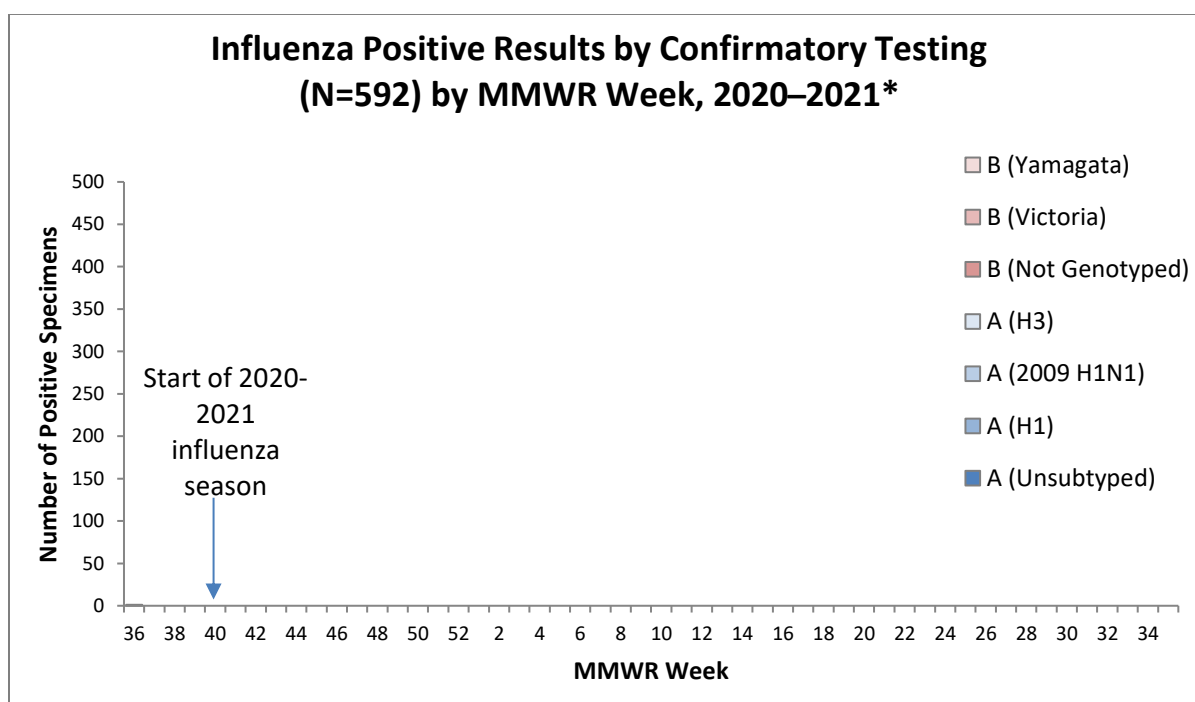
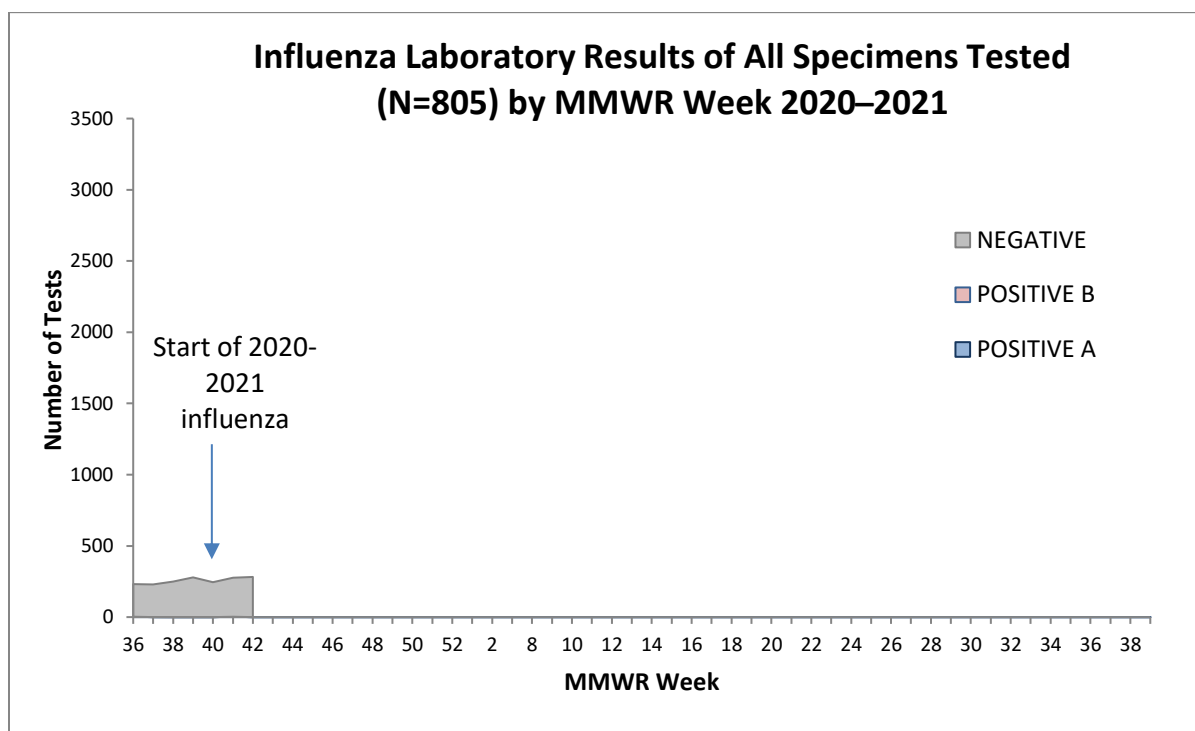
<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.

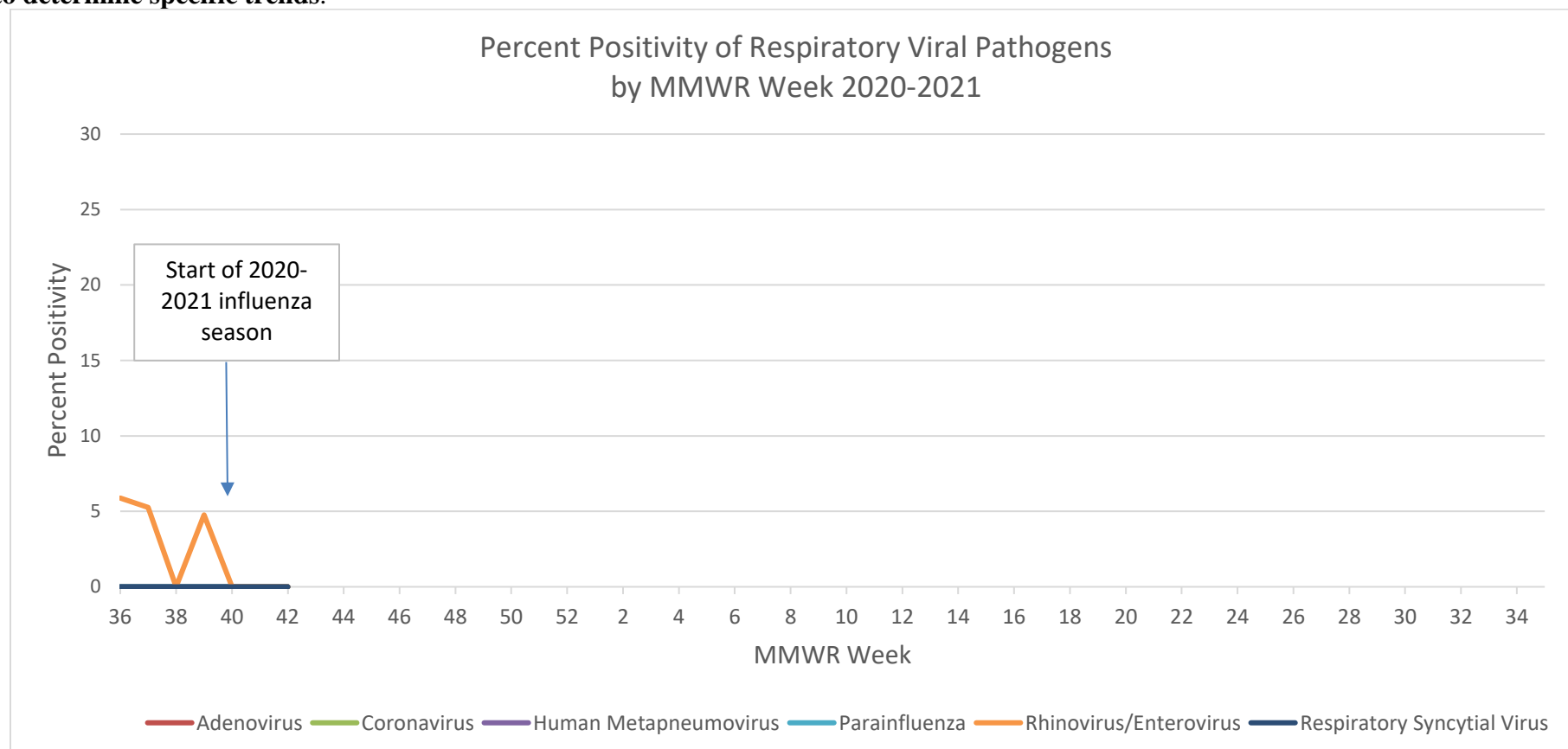
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate the novel coronavirus (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 43<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>12</sup>
- *A total of 66 surveillance specimens have been tested statewide for COVID-19 (positive: 2 [3.0%]).*
- *Cumulative: A total of 3,701 surveillance specimens have been tested for COVID-19 (positive: 198 [5.4%])*
  - *850 specimens have been tested at SLD*<sup>13</sup>.

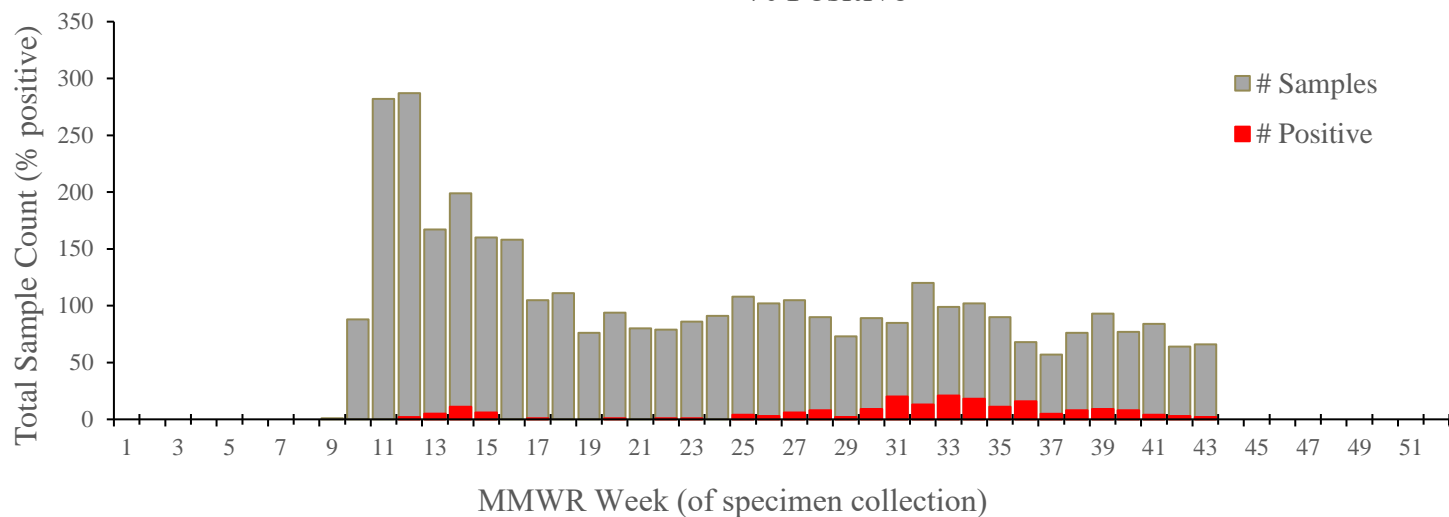
Cumulative Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	376	1.1	0-17	561	3.4
Honolulu	2,384	7.6	18-64	2,148	6.2
Kauai	187	0.5	65+	992	4.6
Maui	498	2.2			
Unknown	256	0			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

# COVID-19 Surveillance Samples Tested (N=3,701), % Positive

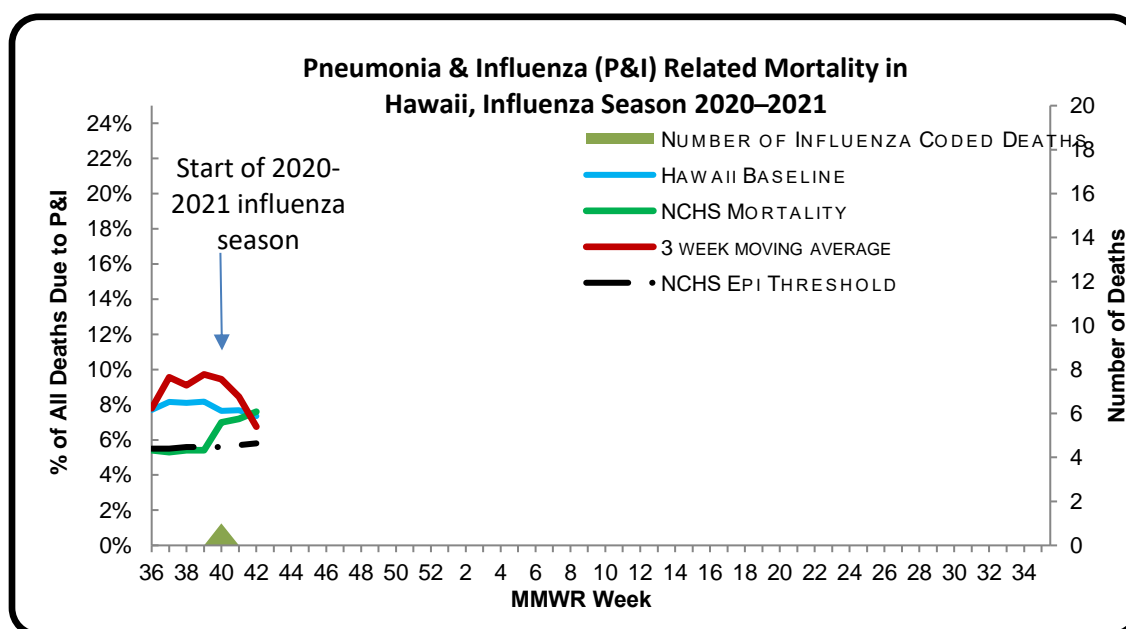


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 42** of the current influenza season:

- *3.7% of all deaths that occurred in Hawaii during week 42 were related to pneumonia or influenza<sup>14</sup>. For the current season (season to date: 7.3%), there have been 518 deaths from any cause, 38 of which were due to P&I.*
- *The P&I rate was lower than the historical baseline in Hawaii<sup>15</sup> (i.e., outside the 95% confidence interval).*
- *The Hawaii P&I rate was lower than the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>16</sup> (7.6%) (i.e., outside the 95% confidence interval) and comparable to the national epidemic threshold (5.8%) (i.e., inside the 95% confidence interval) for week 42.*



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 42. There has been no influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.



- Nationally, no influenza-associated pediatric deaths occurring during the 2020-2021 season were reported to CDC during week 42. (2020-2021 season total: 0).

Two influenza-associated pediatric deaths were reported to CDC during week 42. Both deaths occurred during the 2019-2020 influenza season, bringing the total number of deaths occurring during the 2019-2020 season is 194. One death was associated with an influenza A(H3) virus and occurred during week 47 (the week ending November 23, 2019). One death was associated with an influenza B virus with no lineage determined and occurred during week 51 (the week ending December 21, 2019).

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### A. VARIANT VIRUSES:

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *No human infections with a novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 42.*

#### B. AVIAN (OR BIRD) INFLUENZA:

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **July 10, 2020**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on a number of factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/2/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/9/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/16/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/23/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	1/30/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/6/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/13/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/20/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	2/27/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/6/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/13/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/20/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	3/27/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/3/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/10/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/17/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	4/24/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/1/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/8/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/15/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/22/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	5/29/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/5/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/12/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/19/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	6/26/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/3/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/10/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/17/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/24/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	7/31/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/7/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/14/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/21/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	8/28/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/4/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/11/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/18/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	9/25/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/2/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/9/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/16/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/23/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	10/30/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/6/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/13/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/20/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	11/27/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/4/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/11/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/18/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	12/25/2021



# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

**WEEK 43:** OCTOBER 18, 2020–OCTOBER 24, 2020

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 43

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	1.3%	Higher than the previous week. Comparable to Hawaii's historical baseline, comparable to the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 0 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.7%	Lower than the previous week. This number means that many, if not all, of the 99.3% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.4%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 43)	2.9%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	1.8%	Lower than Hawaii's historical baseline, lower than the national epidemic threshold and lower than the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week 40, the traditional start date of flu season.

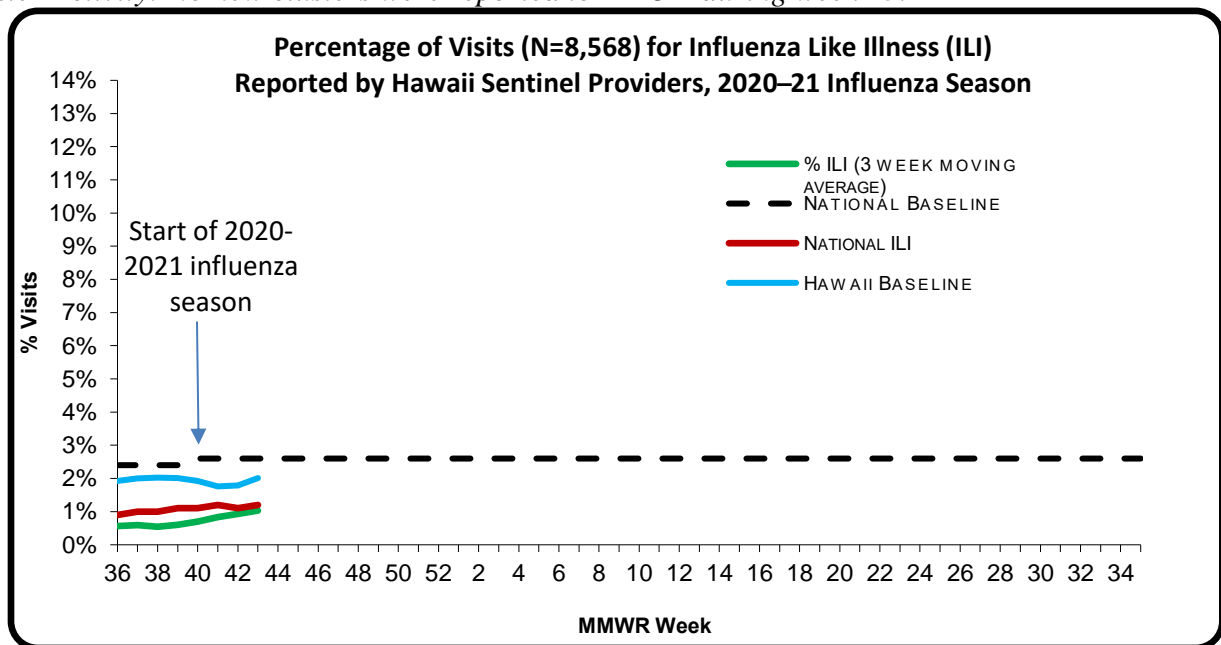
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 43 of the current influenza season:

- **1.3%** (season to date: **1.0%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and comparable to the national ILI rate (**1.2%**) (i.e., inside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 43.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

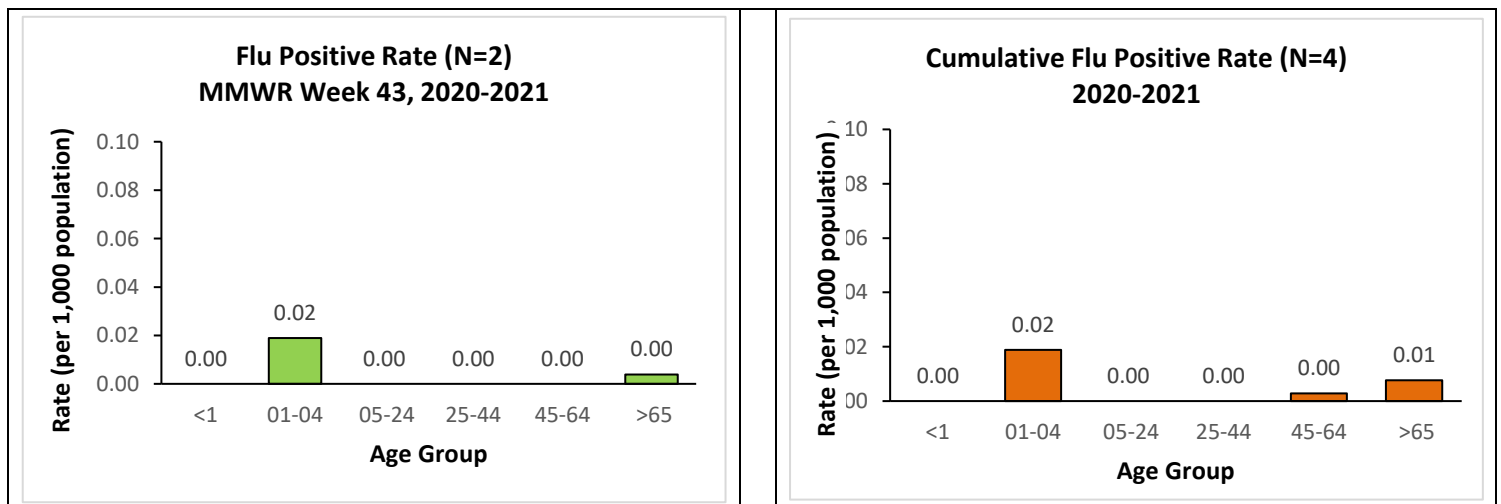
### A. INFLUENZA:

- The following reflects laboratory findings for week 43 of the 2020–21 influenza season:
  - A total of **304** specimens have been tested statewide for influenza viruses (positive: 2 [**0.7%**]). (Season to date: 1,109 tested [**0.4%** positive])
    - 298 (26.9%) were screened only by rapid antigen tests with no confirmatory testing.
    - 811 (73.1%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 302 (99.3%) were negative.

Influenza type	Current week 43 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	2 (100.0)	4 (100.0)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	0 (0.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

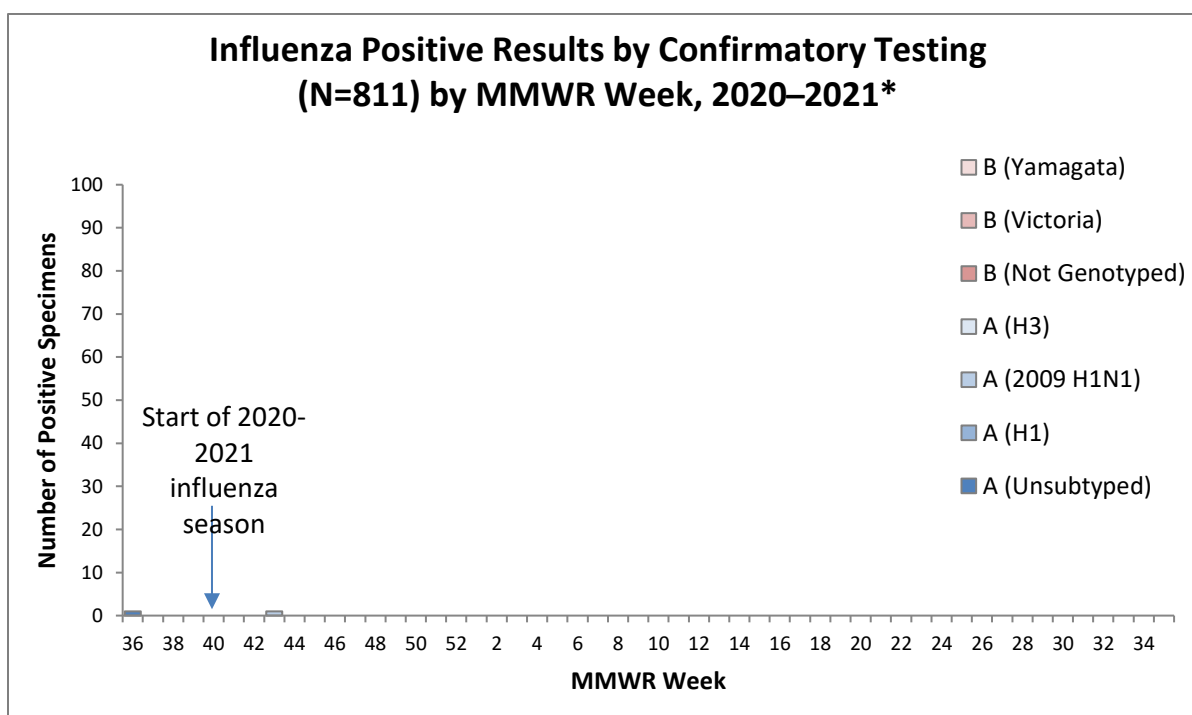
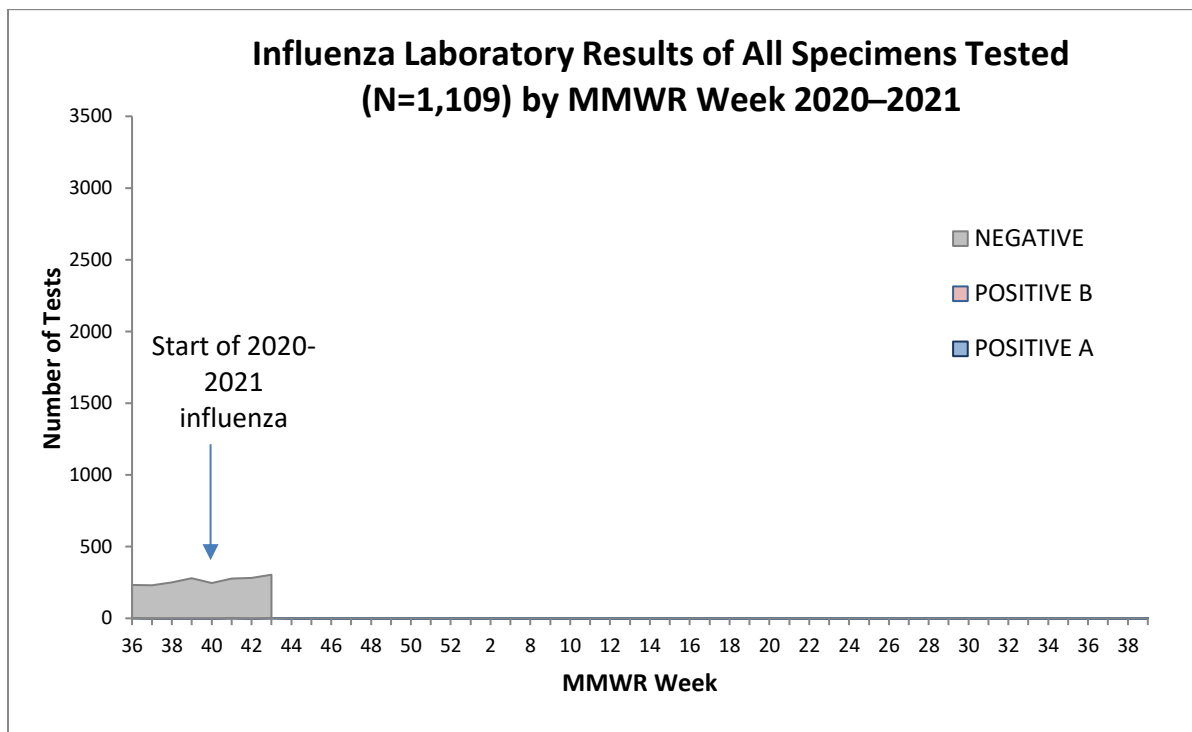
<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.



## 2. LABORATORY TESTING

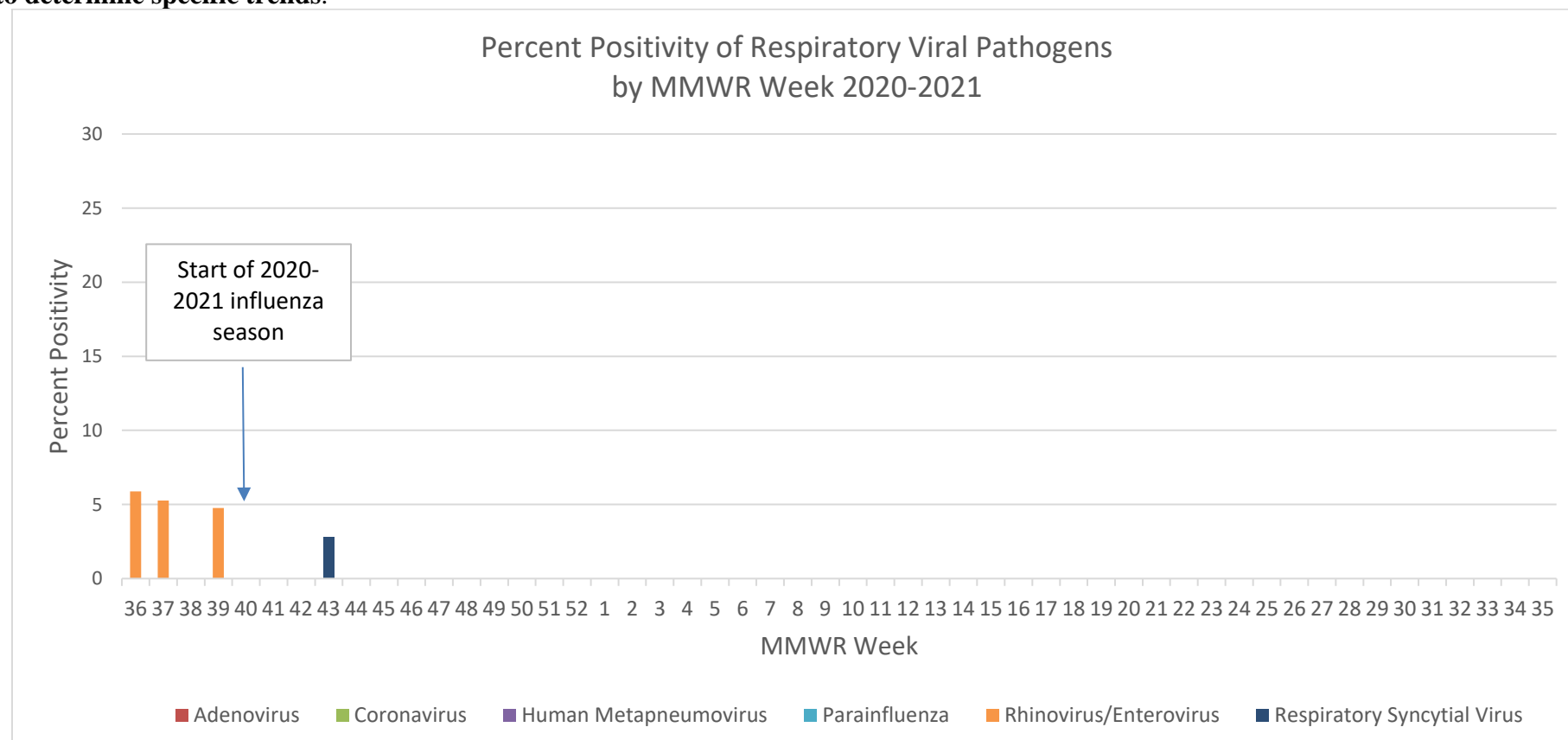
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.



**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate the novel coronavirus (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 43<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>12</sup>
- *A total of 70 surveillance specimens have been tested statewide for COVID-19 (positive: 2 [2.9%]).*
- *Cumulative: A total of 3,704 surveillance specimens have been tested for COVID-19 (positive: 197 [5.3%])*
  - *850 specimens have been tested at SLD*<sup>13</sup>.

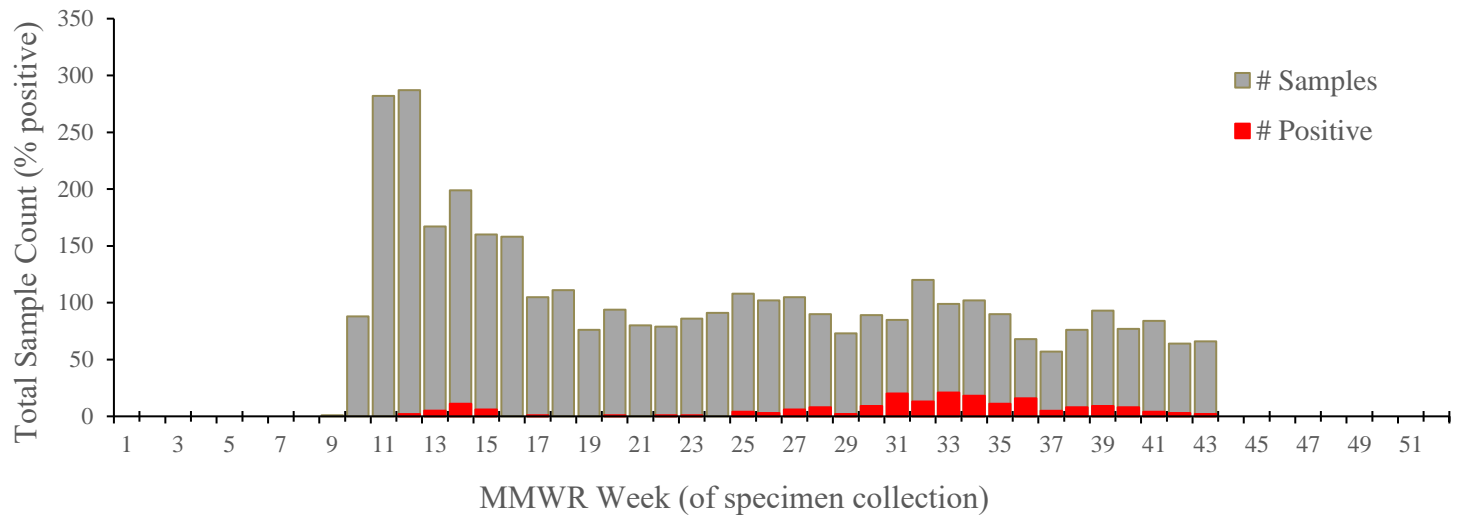
Cumulative Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	374	1.1	0-17	545	3.4
Honolulu	2,205	7.6	18-64	2,017	6.1
Kauai	189	0.5	65+	945	4.6
Maui	484	2.2			
Unknown	255	0			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

### COVID-19 Surveillance Samples Tested (N=3,716), % Positive

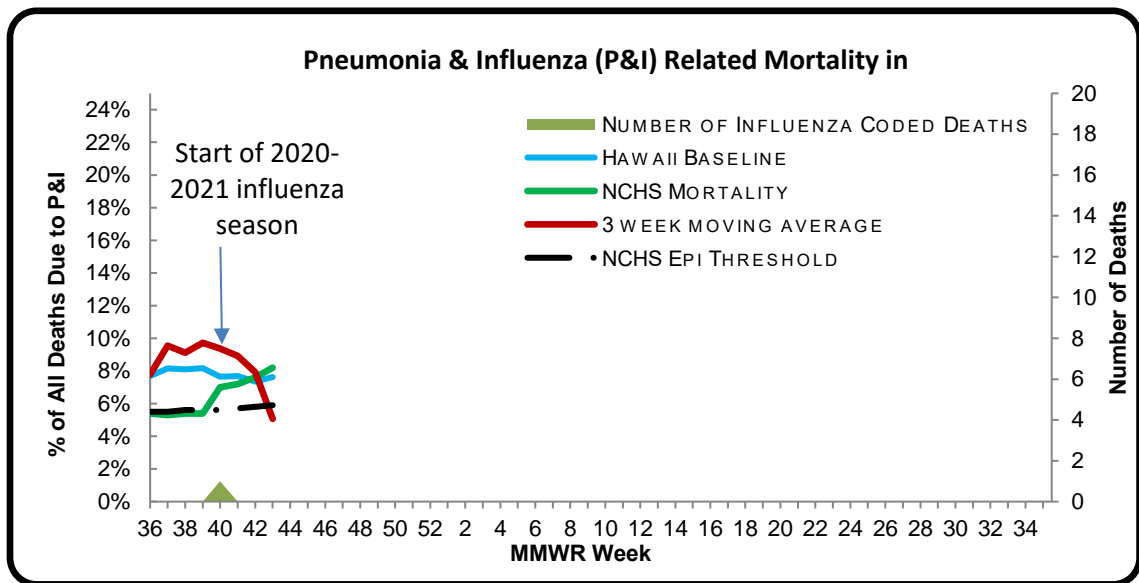


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 43** of the current influenza season:

- *1.8% of all deaths that occurred in Hawaii during week 43 were related to pneumonia or influenza<sup>14</sup>. For the current season (season to date: 7.0%), there have been 753 deaths from any cause, 53 of which were due to P&I.*
- *The P&I rate was lower than the historical baseline in Hawaii<sup>15</sup> (i.e., outside the 95% confidence interval).*
- *The Hawaii P&I rate was lower than the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>16</sup> (8.2%) (i.e., outside the 95% confidence interval) and lower than the national epidemic threshold (5.9%) (i.e., outside the 95% confidence interval) for week 43.*



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 43. There has been no influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths occurring during the 2020-2021 season were reported to CDC during week 43. (2020-2021 season total: 0).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

**A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *No human infections with a novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 43.*

**B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **October 23, 2020**. Since the last update, one new laboratory-confirmed human infection of influenza A (H9N2) virus was reported to WHO from China. The case had exposure to domestic poultry, was hospitalized and recovered.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/2/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/9/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/16/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/23/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	1/30/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/6/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/13/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/20/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	2/27/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/6/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/13/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/20/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	3/27/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/3/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/10/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/17/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	4/24/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/1/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/8/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/15/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/22/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	5/29/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/5/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/12/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/19/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	6/26/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/3/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/10/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/17/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/24/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	7/31/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/7/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/14/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/21/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	8/28/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/4/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/11/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/18/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	9/25/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/2/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/9/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/16/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/23/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	10/30/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/6/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/13/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/20/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	11/27/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/4/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/11/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/18/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	12/25/2021





# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 44: OCTOBER 25, 2020–OCTOBER 31, 2020

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 44

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.8%	Lower than the previous week. Lower than Hawaii's historical baseline, lower than the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 0 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Lower than the previous week. This number means that many, if not all, of the 100% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.3%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 44)	11.5%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	6.0%	Comparable to Hawaii's historical baseline, comparable to the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	1	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week 40, the traditional start date of flu season.

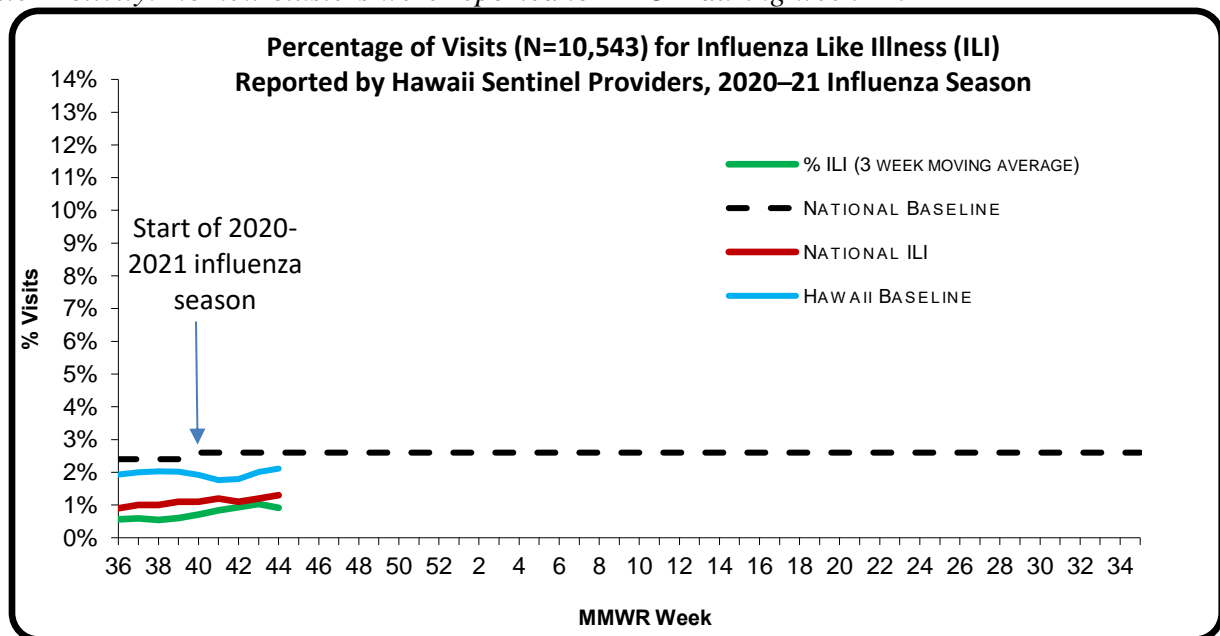
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For **week 44** of the current influenza season:

- **0.8%** (season to date: **1.0%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were lower than the historical baseline in Hawaii<sup>3,4</sup> (i.e., outside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.3%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 44.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

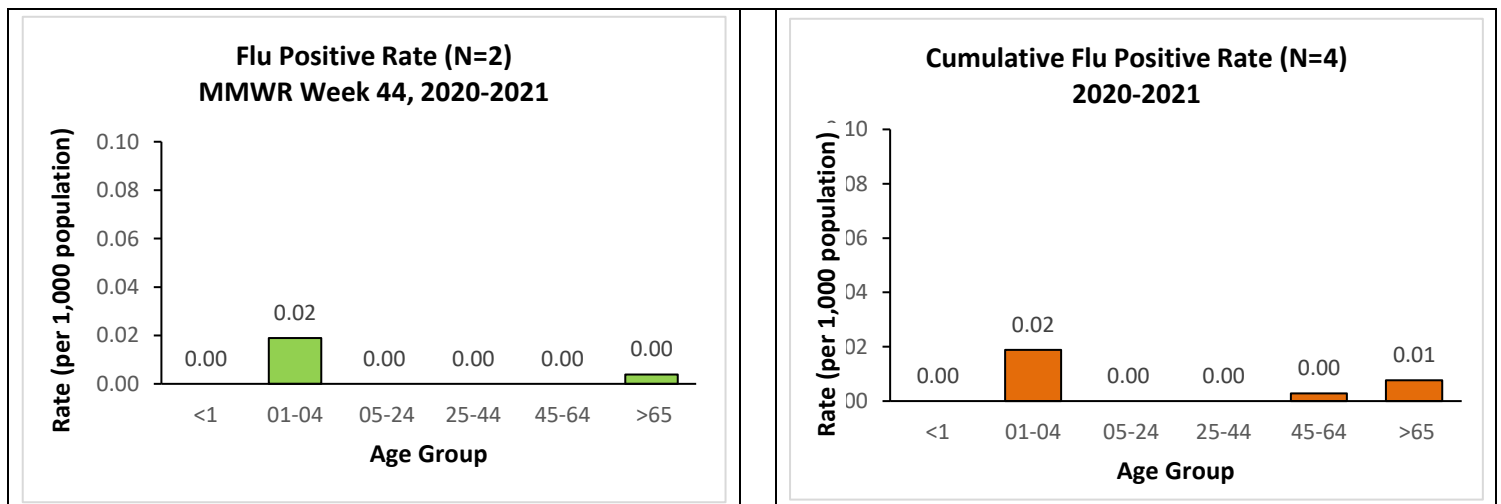
### A. INFLUENZA:

- The following reflects laboratory findings for week 44 of the 2020–21 influenza season:
  - A total of **293** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 1,404 tested [0.3% positive])
    - 381 (27.1%) were screened only by rapid antigen tests with no confirmatory testing.
    - 1,023 (72.9%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 293 (100%) were negative.

Influenza type	Current week 44 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	4 (100.0)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	0 (0.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



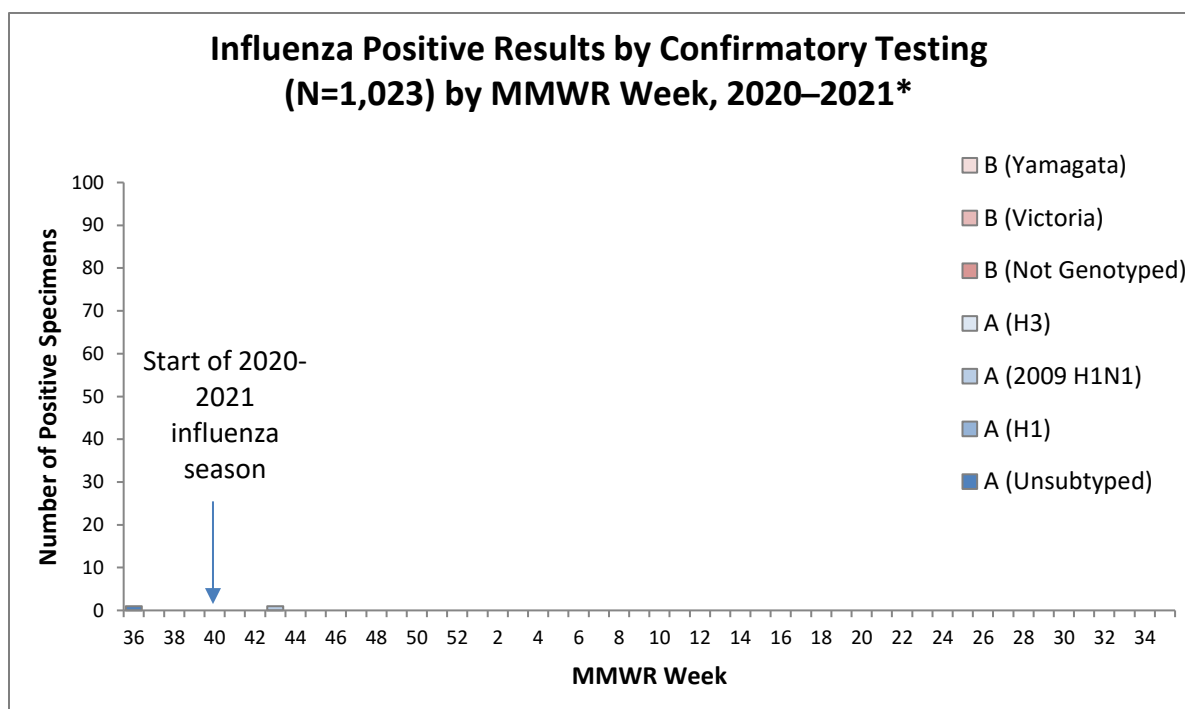
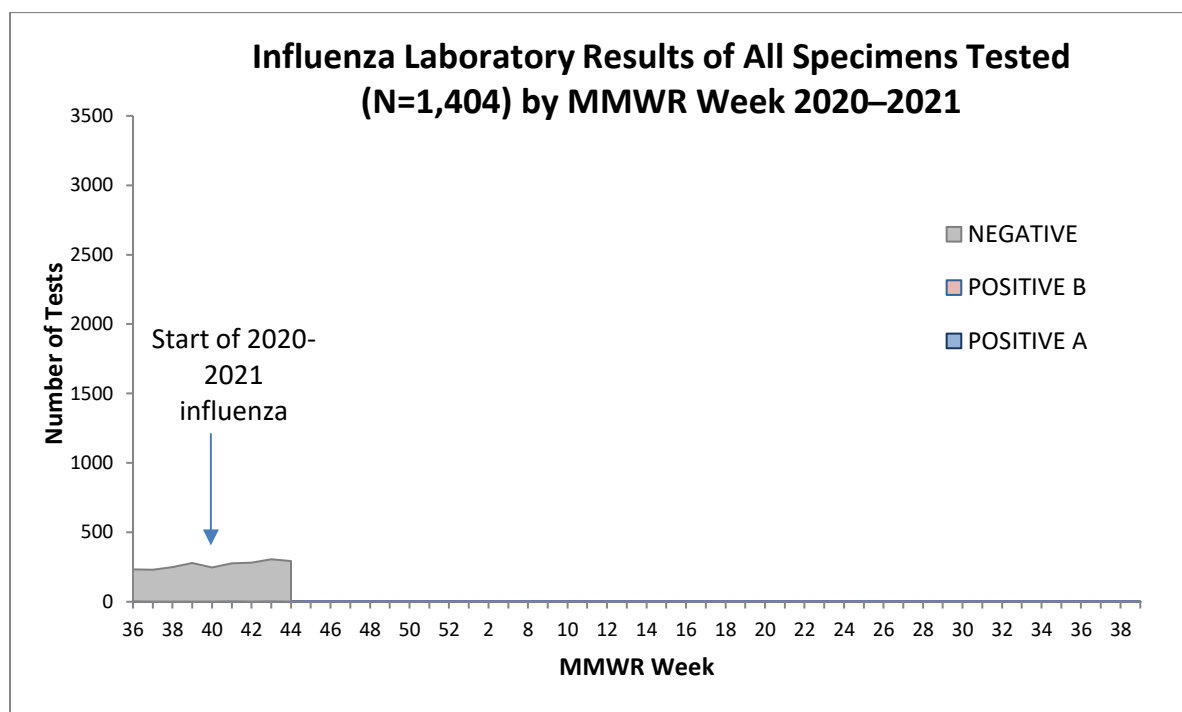
<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.

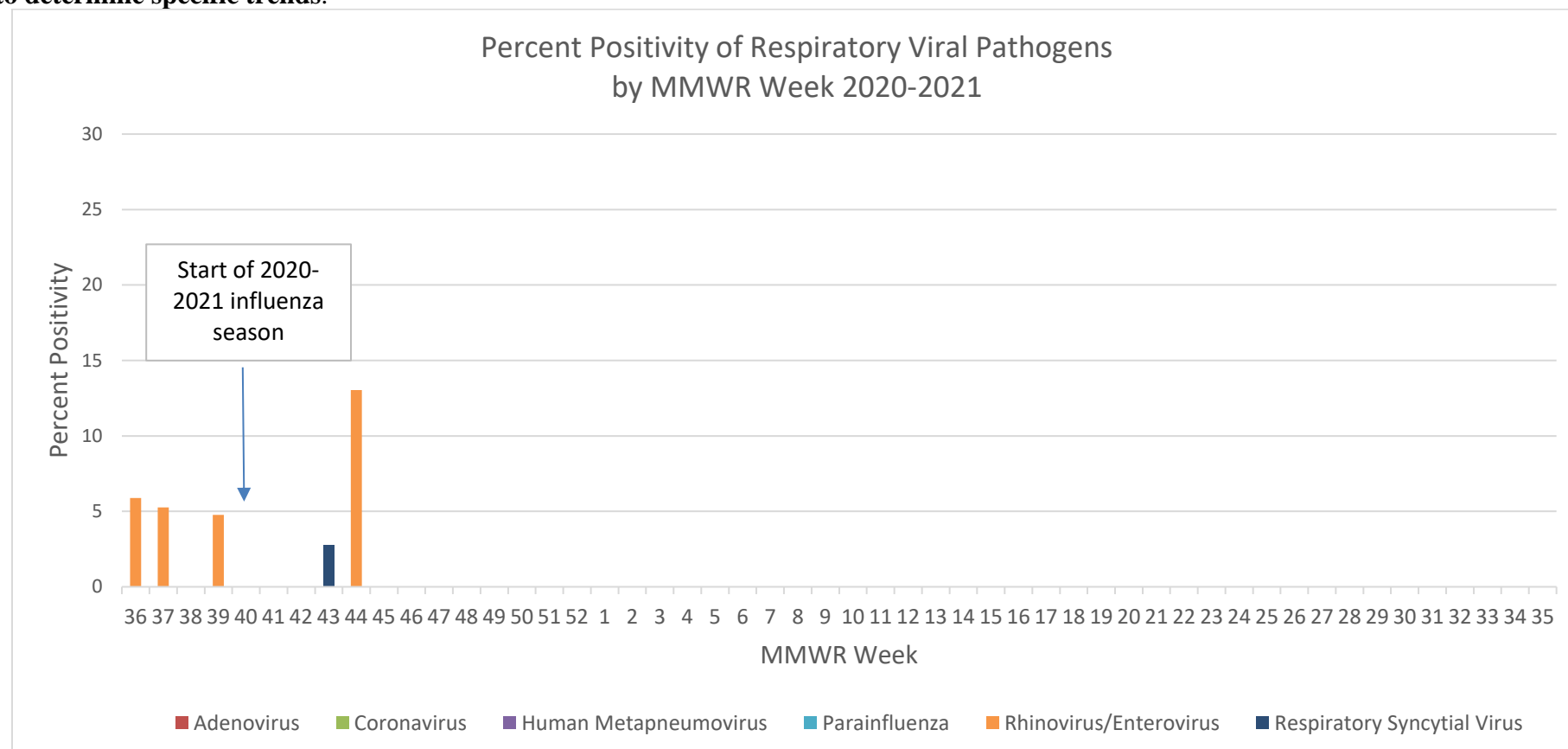
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate the novel coronavirus (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 44<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>12</sup>
  - *A total of 87 surveillance specimens have been tested statewide for COVID-19 (positive: 10 [11.5%]).*
- *Cumulative: A total of 3,791 surveillance specimens have been tested for COVID-19 (positive: 207 [5.5%])*
  - *852 specimens have been tested at SLD*<sup>13</sup>.

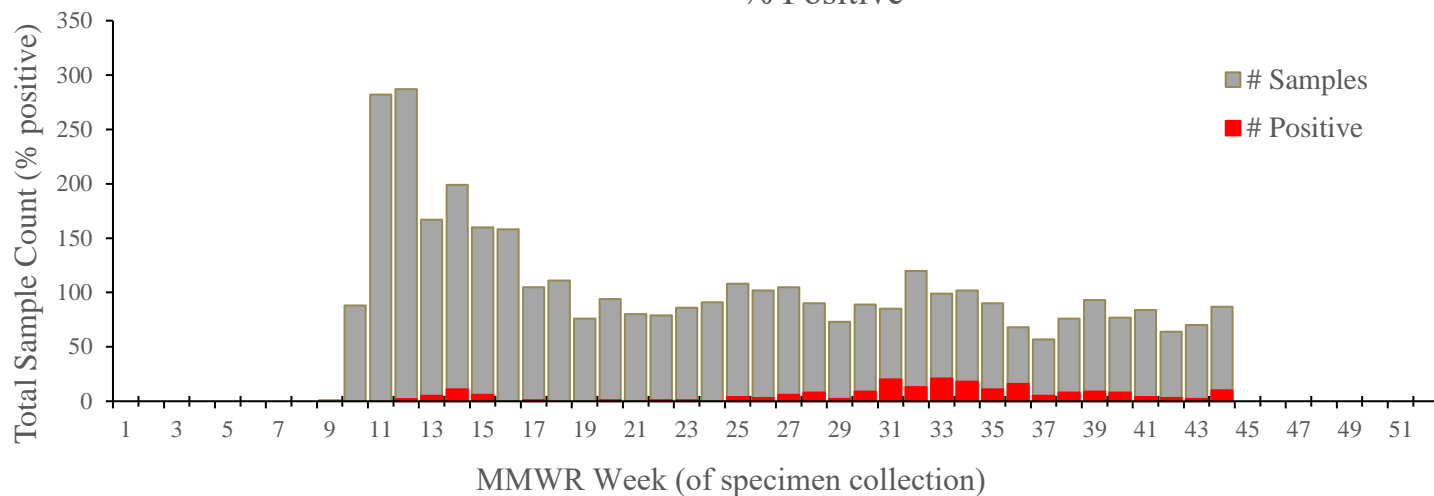
Cumulative Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	379	1.0	0-17	565	3.4
Honolulu	2,258	7.8	18-64	2,055	6.3
Kauai	190	0.5	65+	964	4.7
Maui	498	2.2			
Unknown	259	0			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

### COVID-19 Surveillance Samples Tested (N=3,791), % Positive

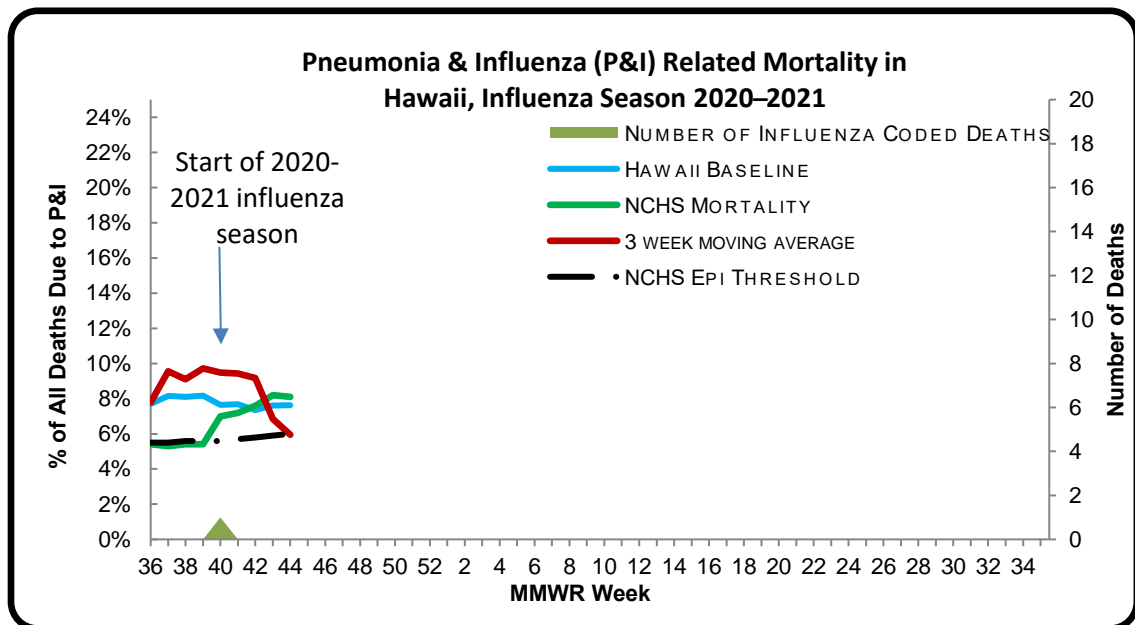


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 44** of the current influenza season:

- **6.0%** of all deaths that occurred in Hawaii during week 44 were related to pneumonia or influenza<sup>14</sup>. For the current season (season to date: **7.7%**), there have been 961 deaths from any cause, 74 of which were due to P&I.
- The P&I rate was comparable to the historical baseline in Hawaii<sup>15</sup> (i.e., inside the 95% confidence interval).
- The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>16</sup> (**8.1%**) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (**6.0%**) (i.e., inside the 95% confidence interval) for week 44.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 44. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.



- Nationally, no influenza-associated pediatric deaths occurring during the 2020-2021 season were reported to CDC during week 44. (2020-2021 season total: 0).

One influenza-associated pediatric death was reported to CDC during week 44. This death occurred during the 2019-2020 influenza season bringing the total number of deaths occurring during that season to 195. It was associated with an influenza B virus with no lineage determined and occurred during week 2 (the week ending January 11, 2020).

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### A. VARIANT VIRUSES:

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *No human infections with a novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 44.*

#### B. AVIAN (OR BIRD) INFLUENZA:

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **October 23, 2020**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/2/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/9/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/16/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/23/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	1/30/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/6/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/13/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/20/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	2/27/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/6/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/13/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/20/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	3/27/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/3/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/10/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/17/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	4/24/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/1/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/8/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/15/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/22/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	5/29/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/5/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/12/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/19/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	6/26/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/3/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/10/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/17/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/24/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	7/31/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/7/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/14/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/21/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	8/28/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/4/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/11/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/18/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	9/25/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/2/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/9/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/16/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/23/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	10/30/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/6/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/13/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/20/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	11/27/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/4/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/11/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/18/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	12/25/2021



# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 45: NOVEMBER 1, 2020–NOVEMBER 7, 2020

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 45

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	1.3%	Higher than the previous week. Comparable to Hawaii's historical baseline, comparable to the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 0 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Comparable to the previous week. This number means that many, if not all, of the 100% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.2%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 45)	13.8%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	4.6%	Comparable to Hawaii's historical baseline, comparable to the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week 40, the traditional start date of flu season.

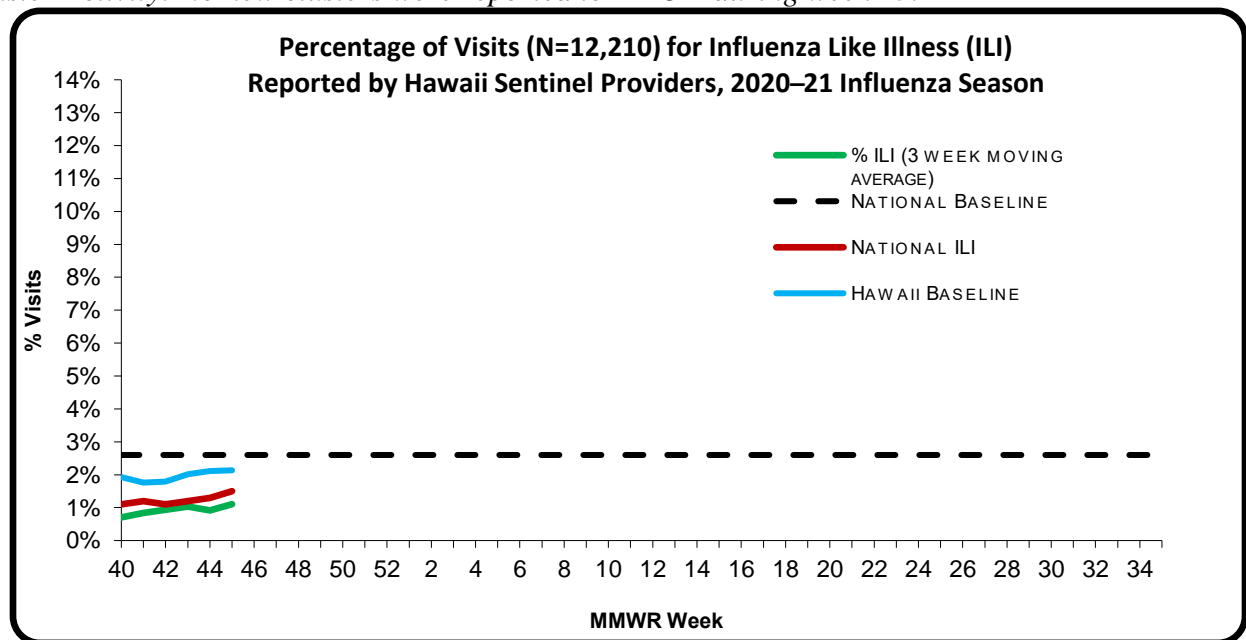
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 45 of the current influenza season:

- **1.3%** (season to date: **1.0%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and comparable to the national ILI rate (**1.5%**) (i.e., inside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 45.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

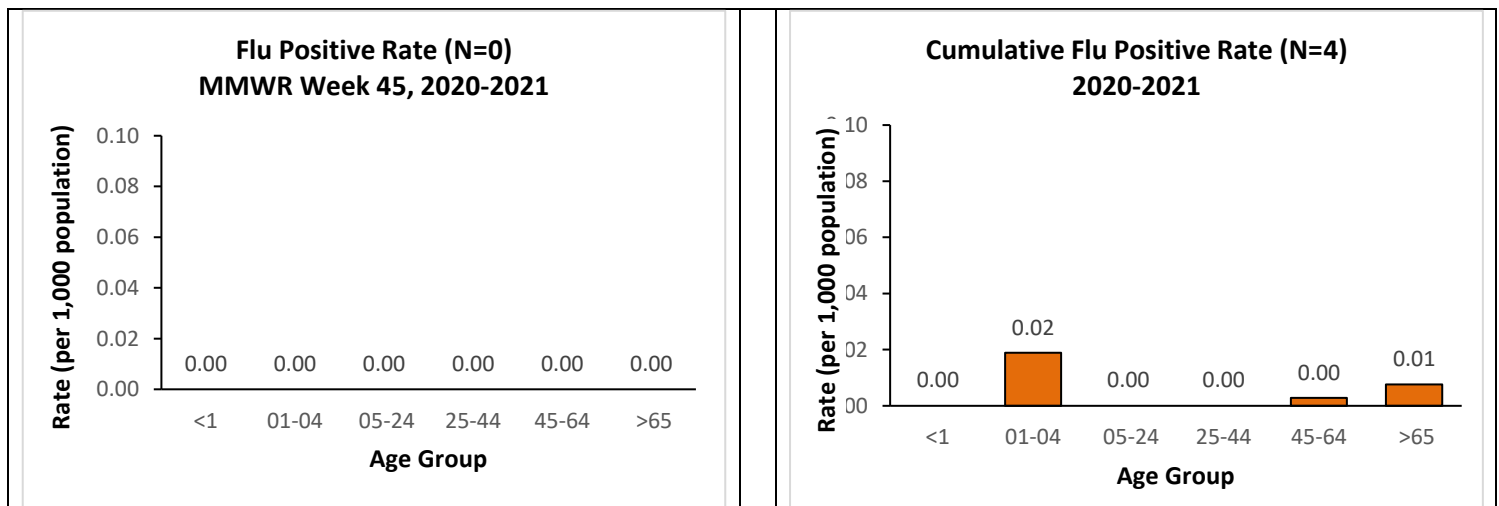
### A. INFLUENZA:

- The following reflects laboratory findings for week 45 of the 2020–21 influenza season:
  - A total of **343** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 1,749 tested [0.2% positive])
    - 73 (21.3%) were screened only by rapid antigen tests with no confirmatory testing.
    - 270 (78.7%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 343 (100%) were negative.

Influenza type	Current week 45 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	4 (100.0)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	0 (0.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

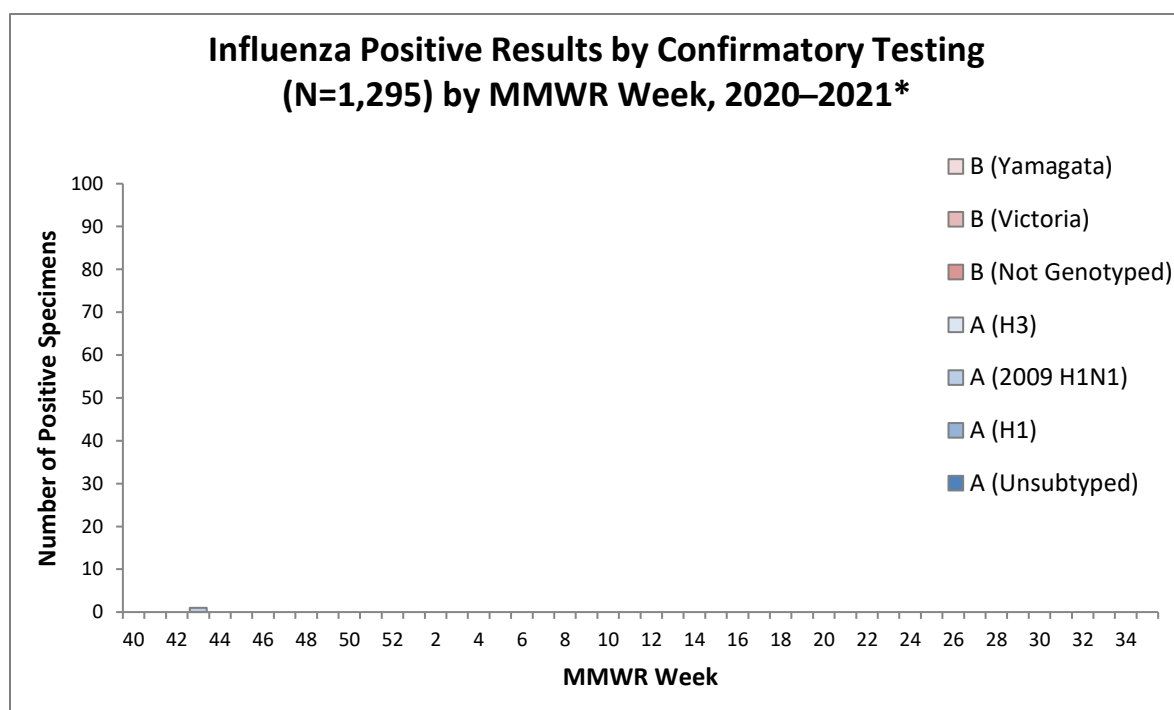
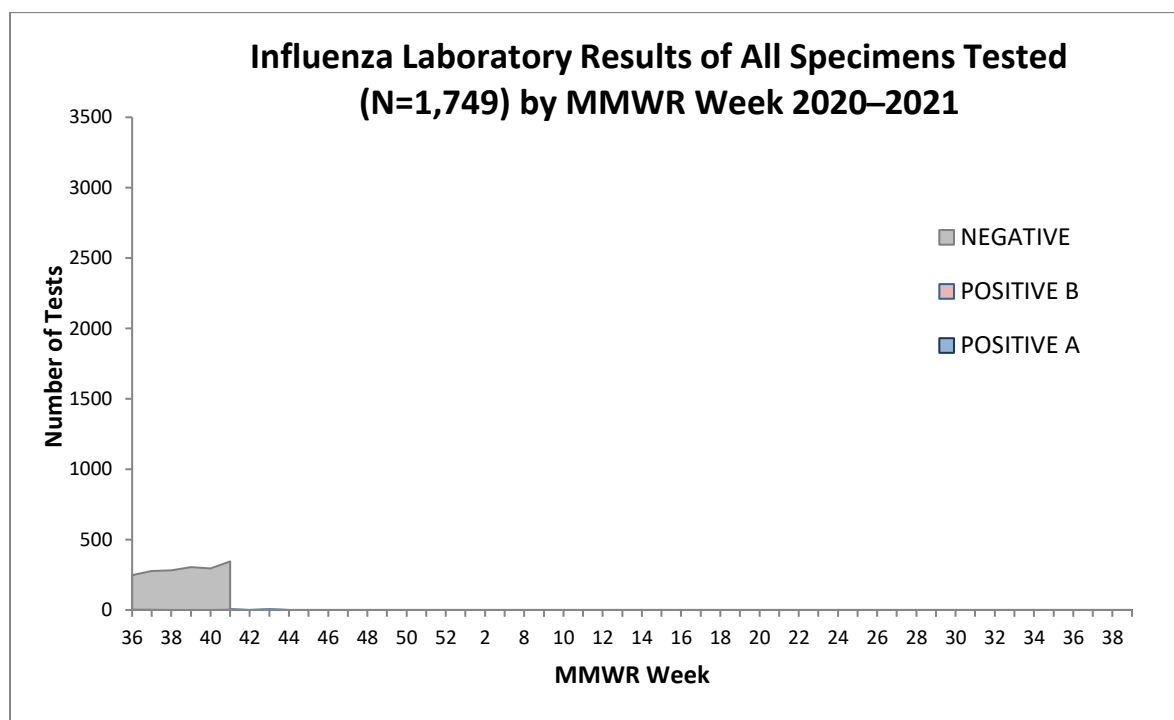
<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.



## 2. LABORATORY TESTING

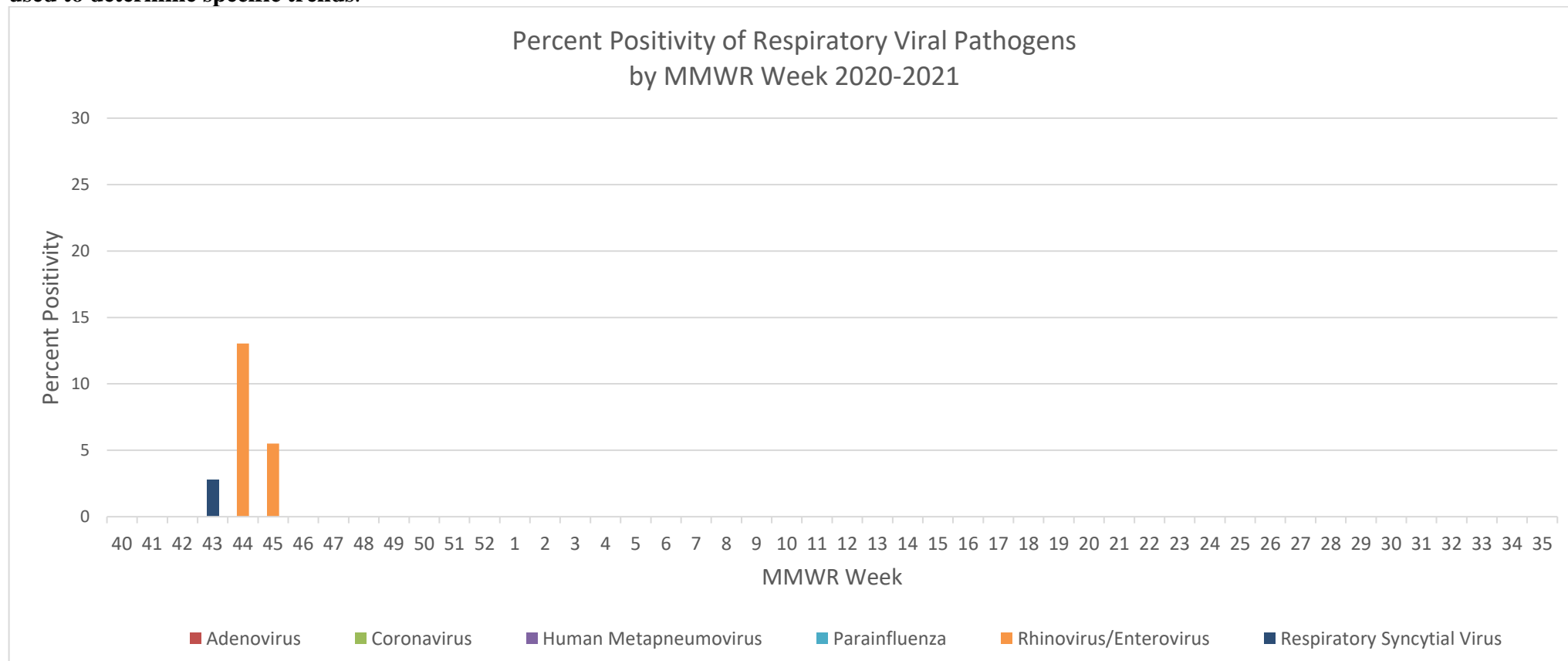
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.



**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate the novel coronavirus (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 45<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>12</sup>
  - *A total of 109 surveillance specimens have been tested statewide for COVID-19 (positive: 15 [13.8%]).*
- *Cumulative: A total of 3,897 surveillance specimens have been tested for COVID-19 (positive: 222 [5.7%])*
  - *855 specimens have been tested at SLD*<sup>13</sup>.

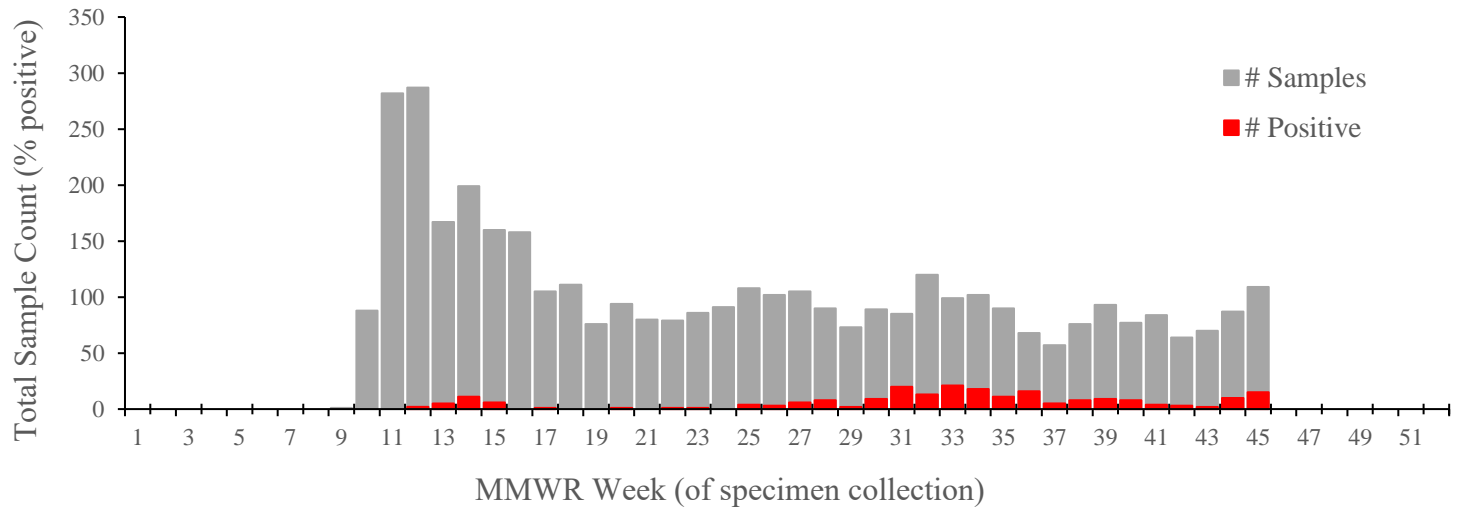
Cumulative Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	390	1.3	0-17	611	3.6
Honolulu	2,527	8.1	18-64	2,240	6.7
Kauai	196	0.5	65+	1,046	4.7
Maui	521	2.1			
Unknown	263	0			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

### COVID-19 Surveillance Samples Tested (N=3,897), % Positive

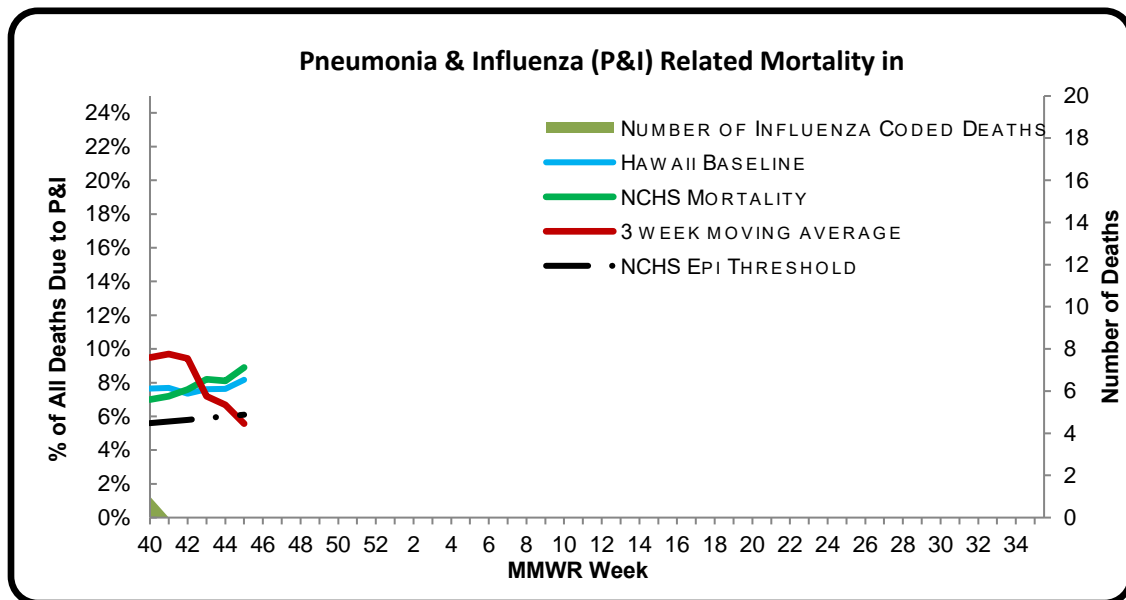


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For week 45 of the current influenza season:

- **4.6%** of all deaths that occurred in Hawaii during week 45 were related to pneumonia, influenza, or COVID-19 (PIC)<sup>14</sup>. For the current season (season to date: **7.9%**), there have been 1,156 deaths from any cause, 91 of which were due to P&I.
- The P&I rate was comparable to the historical baseline in Hawaii<sup>15</sup> (i.e., inside the 95% confidence interval).
- The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>16</sup> (**8.9%**) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (**6.1%**) (i.e., inside the 95% confidence interval) for week 45.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 45. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths occurring during the 2020-2021 season were reported to CDC during week 45. (2020-2021 season total: 0).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

**A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *No human infections with a novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 45.*

**B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **October 23, 2020**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/2/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/9/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/16/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/23/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	1/30/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/6/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/13/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/20/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	2/27/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/6/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/13/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/20/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	3/27/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/3/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/10/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/17/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	4/24/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/1/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/8/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/15/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/22/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	5/29/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/5/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/12/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/19/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	6/26/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/3/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/10/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/17/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/24/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	7/31/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/7/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/14/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/21/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	8/28/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/4/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/11/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/18/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	9/25/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/2/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/9/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/16/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/23/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	10/30/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/6/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/13/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/20/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	11/27/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/4/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/11/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/18/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	12/25/2021





# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

**WEEK 46:** NOVEMBER 8, 2020–NOVEMBER 14, 2020

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 46

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	1.0%	Lower than the previous week. Comparable to Hawaii's historical baseline, lower than the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 0 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Comparable to the previous week. This number means that many, if not all, of the 100% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.2%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 46)	7.8%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	4.2%	Comparable to Hawaii's historical baseline, comparable to the national epidemic threshold and lower than the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week 40, the traditional start date of flu season.

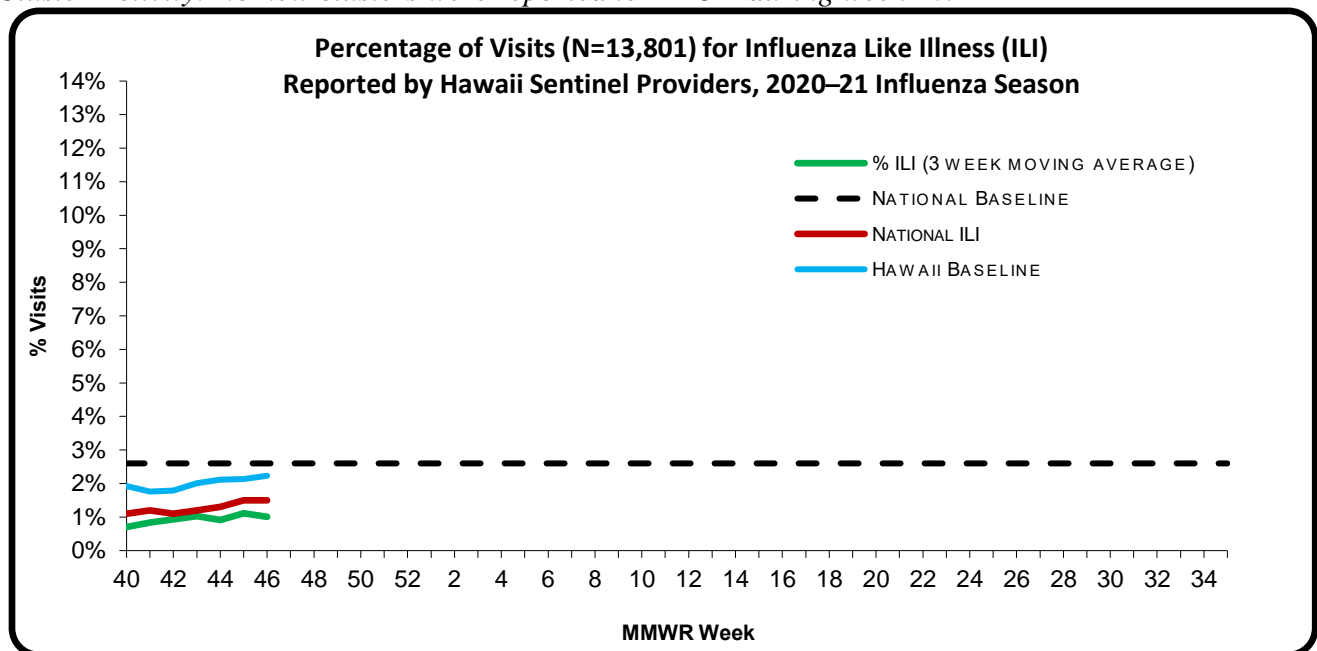
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 46 of the current influenza season:

- **1.0%** (season to date: **1.0%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.5%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 46.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

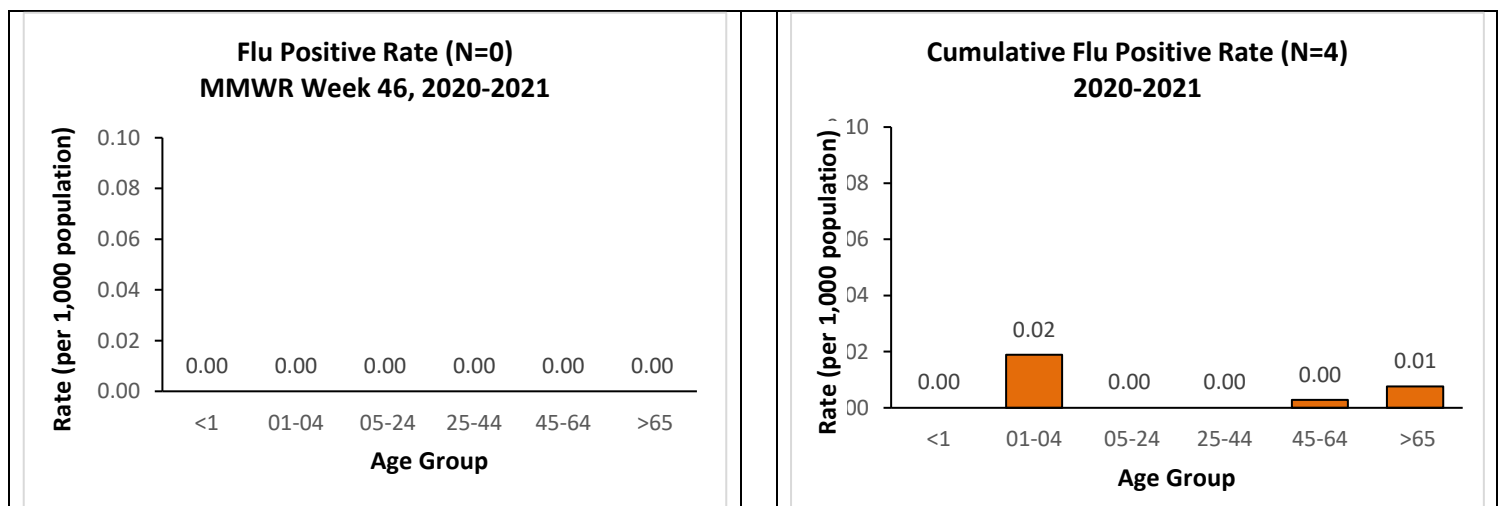
### A. INFLUENZA:

- The following reflects laboratory findings for week 46 of the 2020–21 influenza season:
  - A total of **339** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 2,092 tested [0.2% positive])
    - 76 (22.4%) were screened only by rapid antigen tests with no confirmatory testing.
    - 263 (77.6%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 339 (100%) were negative.

Influenza type	Current week 46 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	4 (100.0)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	0 (0.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



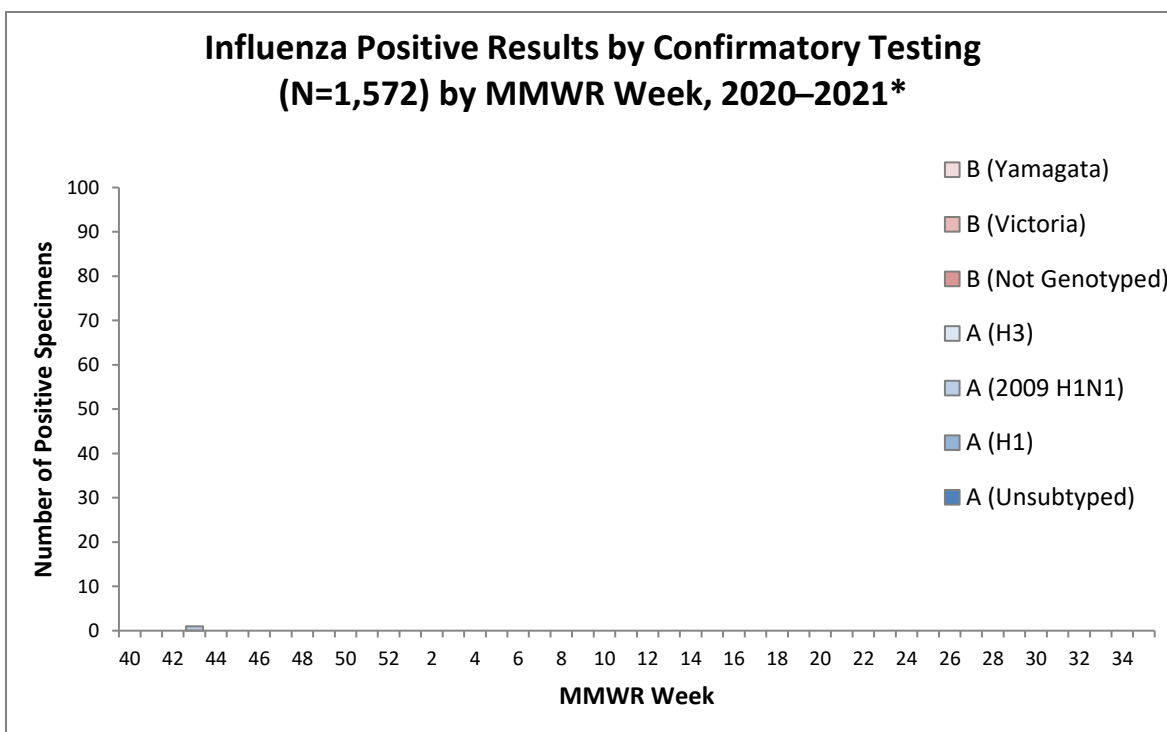
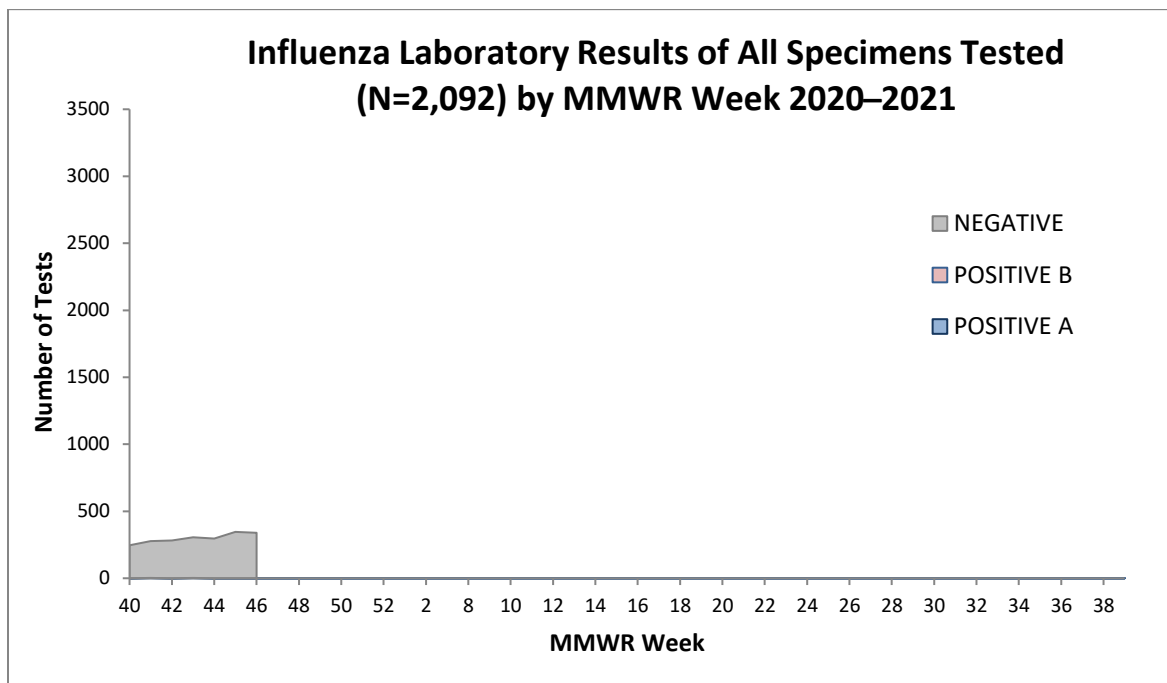
<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.

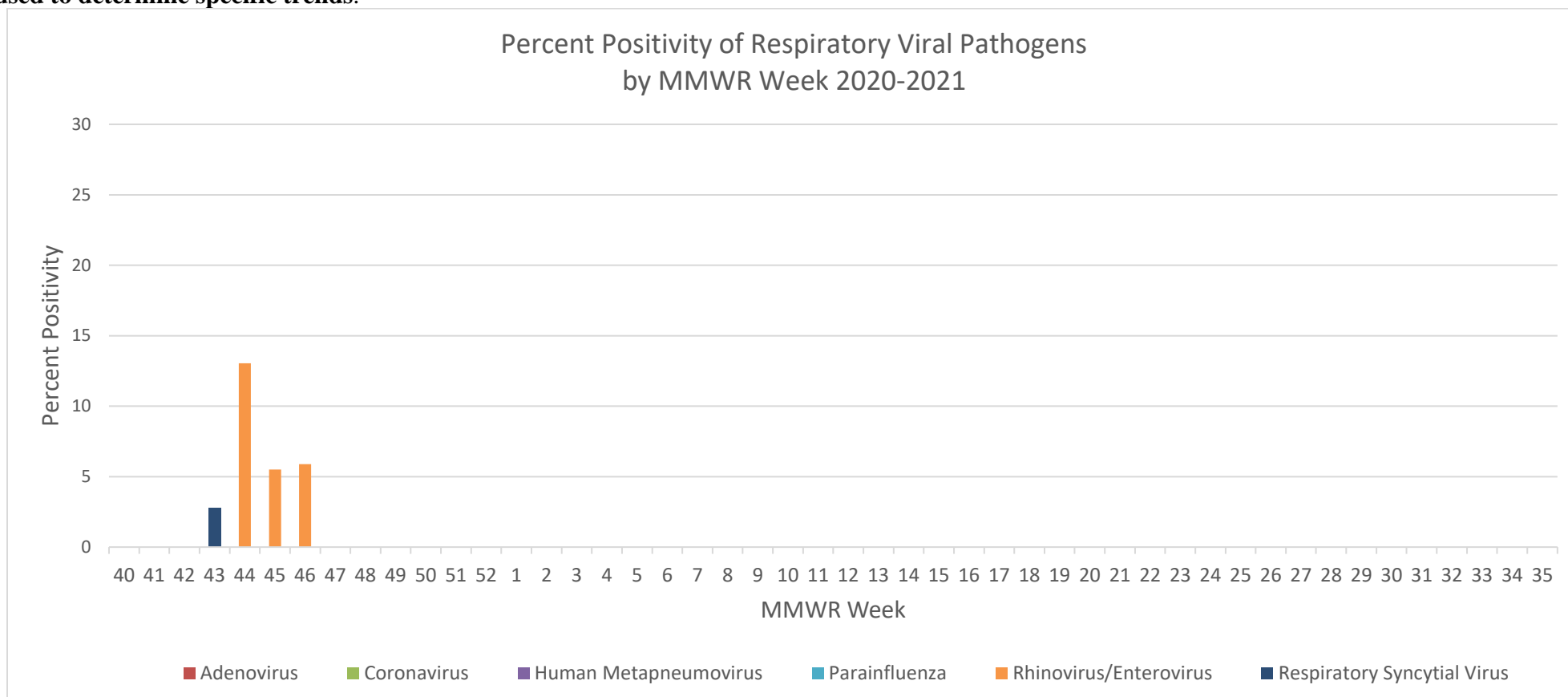
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate the novel coronavirus (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 46<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>12</sup>
  - *A total of 154 surveillance specimens have been tested statewide for COVID-19 (positive: 12 [7.8%]).*
- *Cumulative: A total of 4,048 surveillance specimens have been tested for COVID-19 (positive: 234 [5.8%])*
  - *884 specimens have been tested at SLD*<sup>13</sup>.

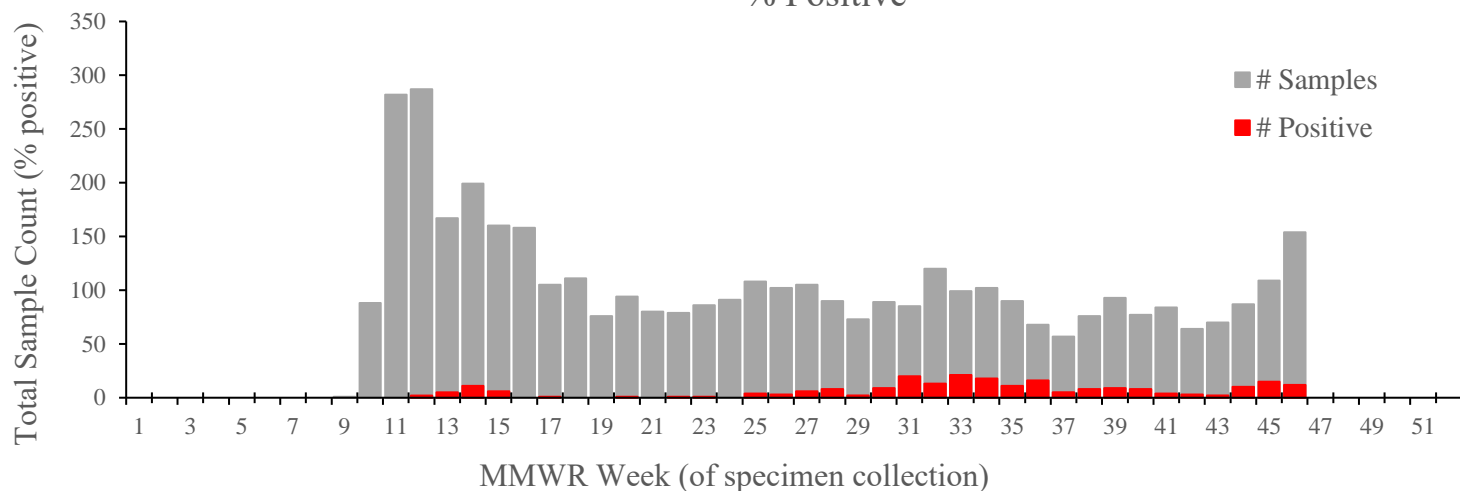
Cumulative Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	400	1.5	0-17	648	3.9
Honolulu	2,644	8.1	18-64	2,318	6.9
Kauai	201	0.5	65+	1,082	4.5
Maui	524	2.1			
Unknown	266	0.4			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

### COVID-19 Surveillance Samples Tested (N=4,048), % Positive

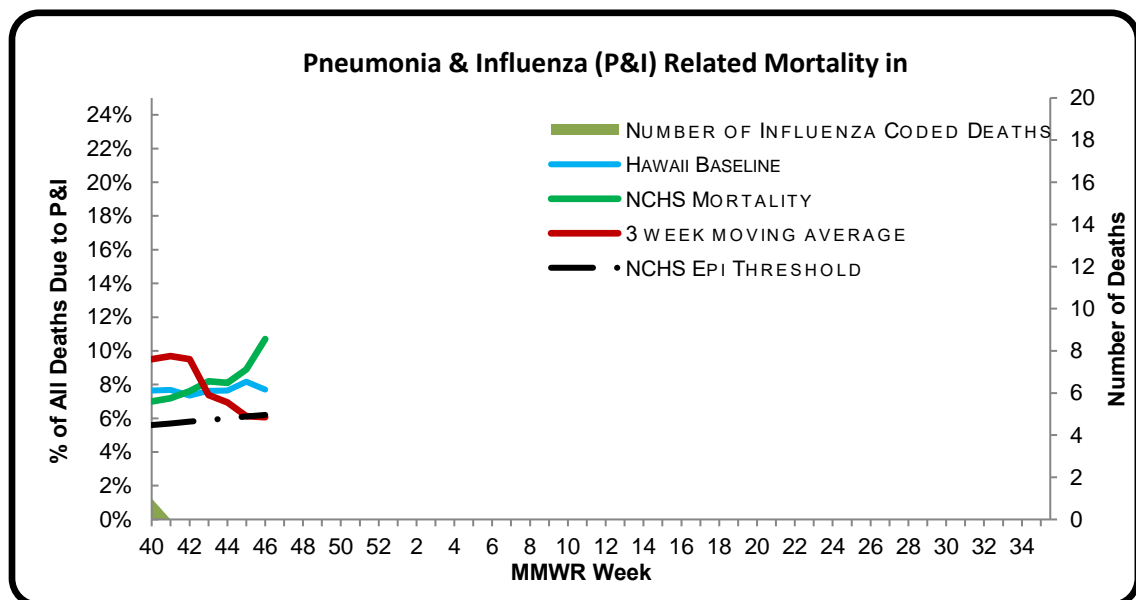


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 46** of the current influenza season:

- **4.2%** of all deaths that occurred in Hawaii during week 46 were related to pneumonia, influenza, or COVID-19 (PIC)<sup>14</sup>. For the current season (season to date: **7.6%**), there have been 1,436 deaths from any cause, 109 of which were due to P&I.
- The P&I rate was comparable to the historical baseline in Hawaii<sup>15</sup> (i.e., inside the 95% confidence interval).
- The Hawaii P&I rate was lower than the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>16</sup> (**10.7%**) (i.e., outside the 95% confidence interval) and comparable to the national epidemic threshold (**6.2%**) (i.e., inside the 95% confidence interval) for week 46.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 46. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths occurring during the 2020-2021 season were reported to CDC during week 46. (2020-2021 season total: 0).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.



**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

**A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *No human infections with a novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 46.*

**B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **October 23, 2020**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

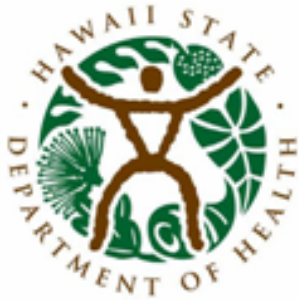
For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/2/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/9/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/16/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/23/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	1/30/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/6/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/13/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/20/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	2/27/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/6/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/13/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/20/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	3/27/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/3/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/10/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/17/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	4/24/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/1/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/8/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/15/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/22/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	5/29/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/5/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/12/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/19/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	6/26/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/3/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/10/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/17/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/24/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	7/31/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/7/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/14/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/21/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	8/28/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/4/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/11/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/18/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	9/25/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/2/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/9/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/16/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/23/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	10/30/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/6/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/13/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/20/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	11/27/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/4/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/11/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/18/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	12/25/2021



# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 47: NOVEMBER 15, 2020–NOVEMBER 21, 2020

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 47

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.9%	Lower than the previous week. Comparable to Hawaii's historical baseline, lower than the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 0 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Comparable to the previous week. This number means that many, if not all, of the 100% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.2%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 47)	7.5%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia, influenza or COVID-19 (PIC) mortality rate	4.7%	Comparable to Hawaii's historical baseline, comparable to the national epidemic threshold and lower than the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week 40, the traditional start date of flu season.

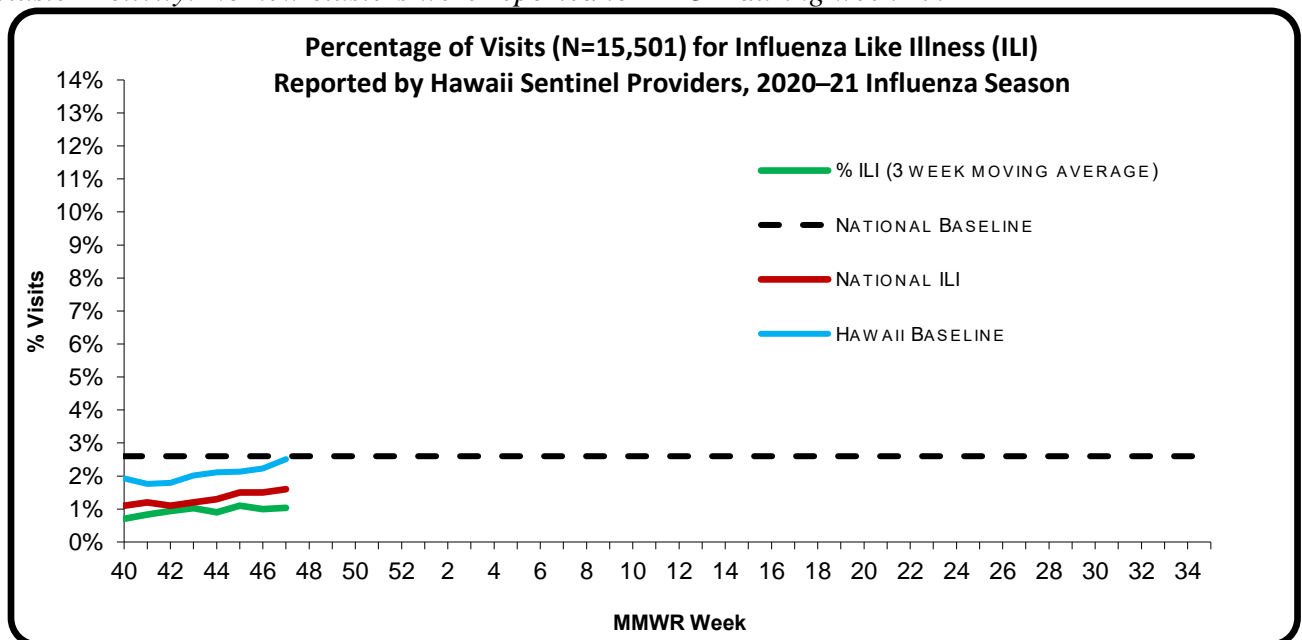
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For **week 47** of the current influenza season:

- **0.9%** (season to date: **1.0%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.6%**) (i.e., outside the 95% confidence interval).
- ILI activity level: *Minimal*<sup>6</sup>
- Geographic Spread: *Sporadic Activity*<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 47.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

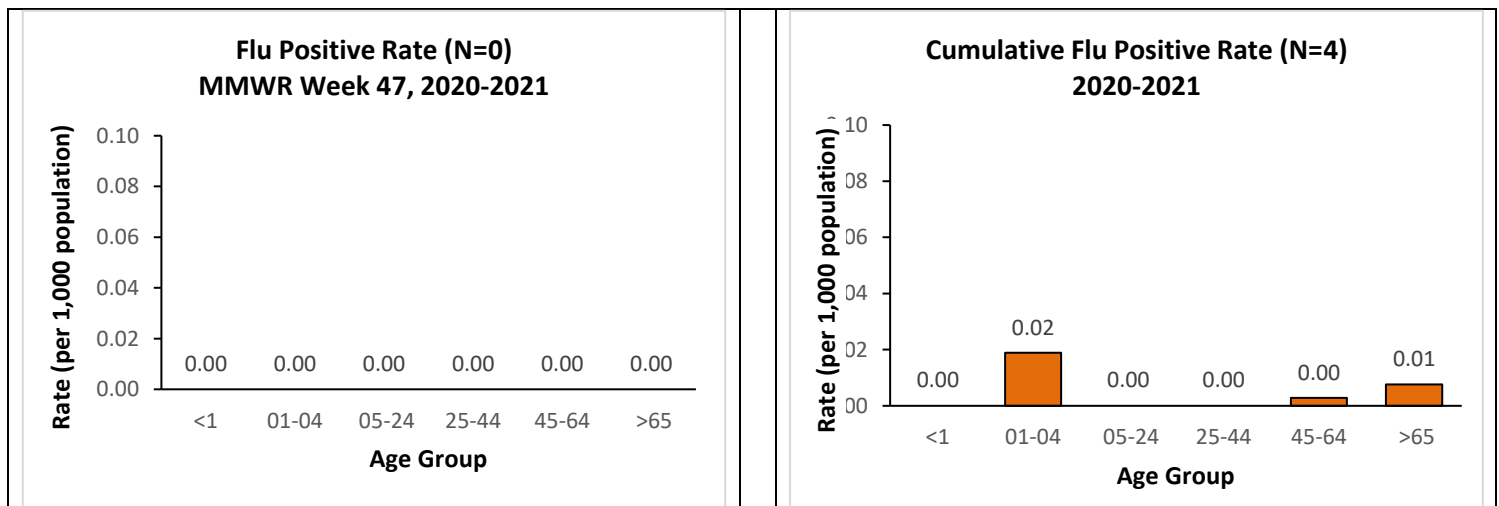
### A. INFLUENZA:

- The following reflects laboratory findings for week 47 of the 2020–21 influenza season:
  - A total of **396** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 2,489 tested [0.2% positive])
    - 89 (22.5%) were screened only by rapid antigen tests with no confirmatory testing.
    - 307 (77.5%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 396 (100%) were negative.

Influenza type	Current week 47 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	4 (100.0)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	0 (0.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



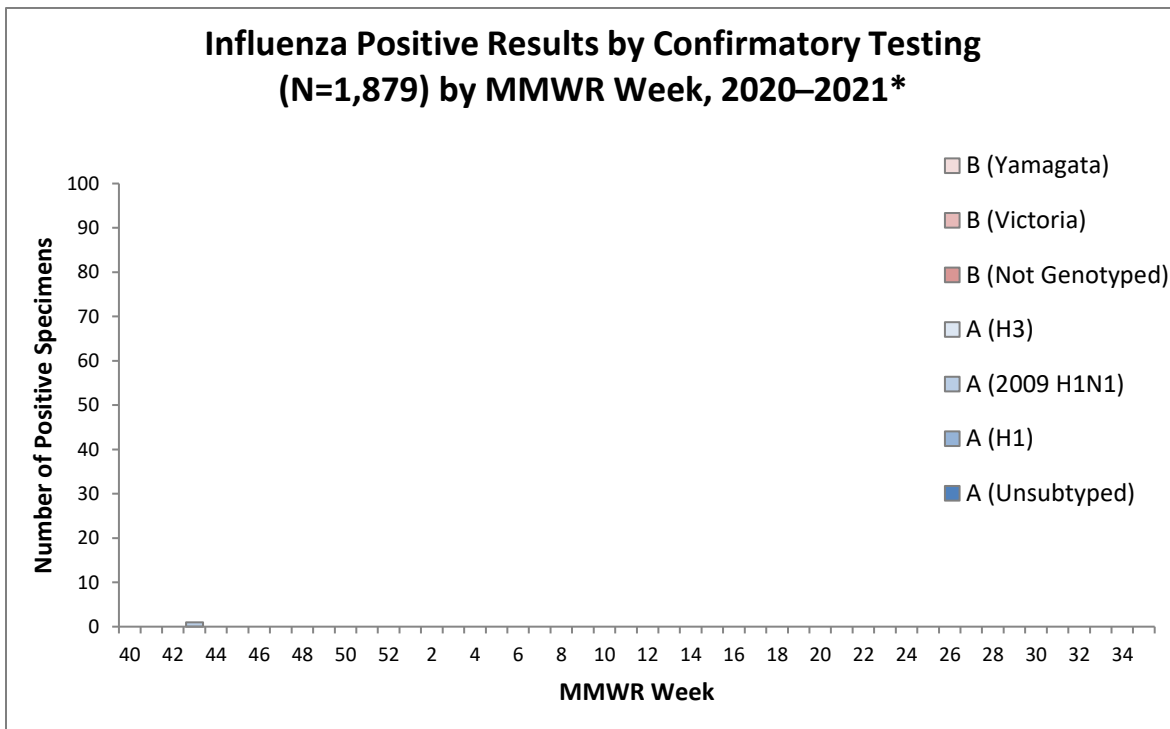
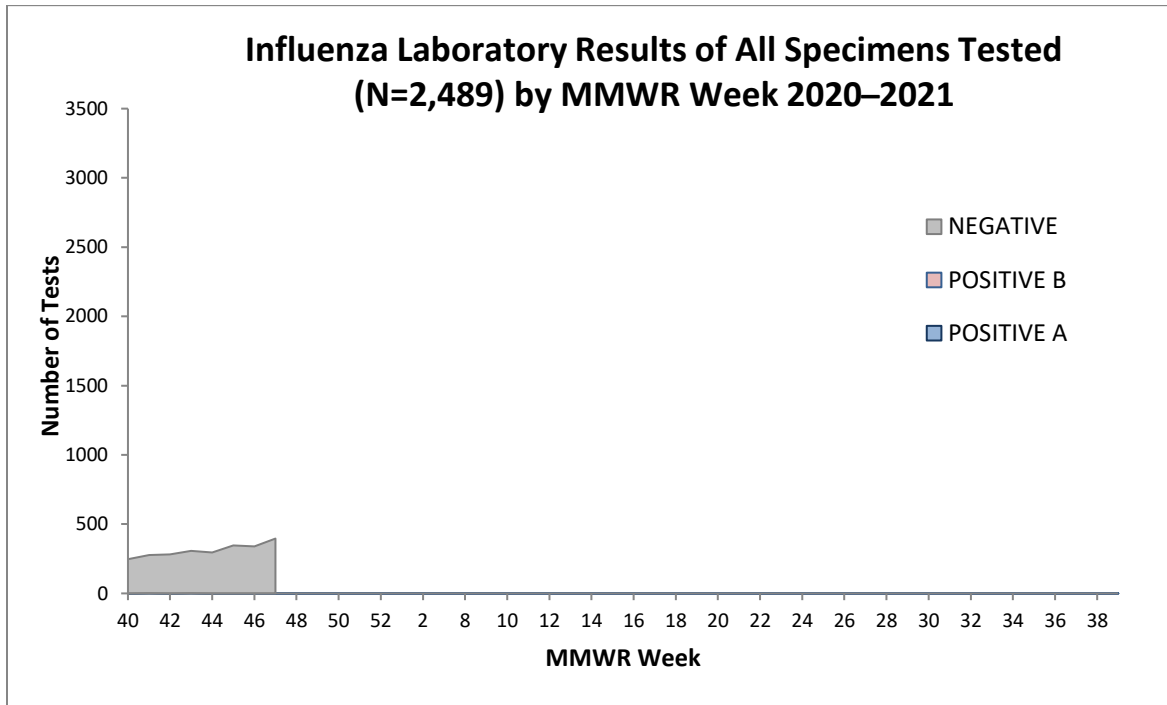
<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.

## 2. LABORATORY TESTING

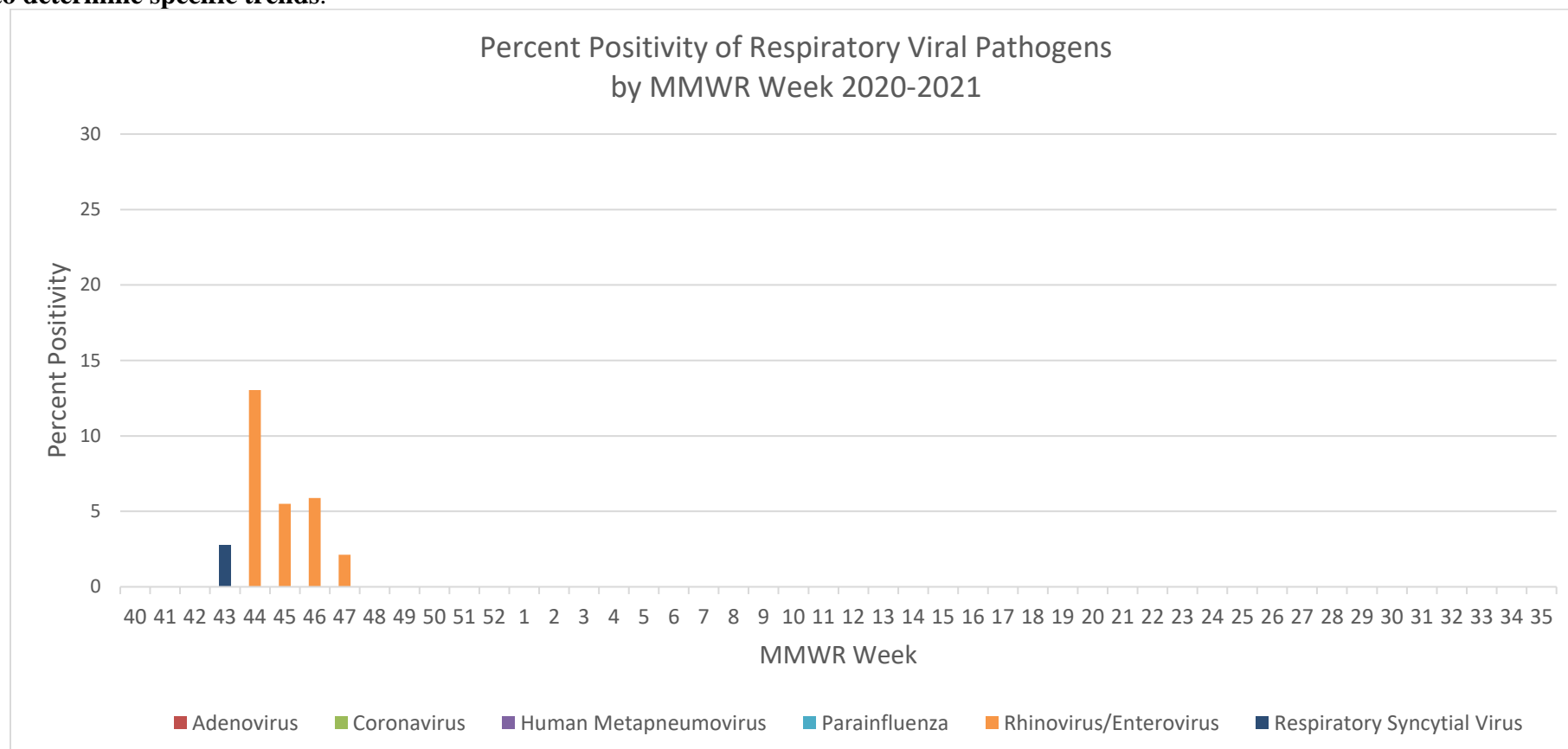
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.



**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate the novel coronavirus (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 47<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>12</sup>
  - A total of **146** surveillance specimens have been tested statewide for COVID-19 (positive: 11 [7.5%]).
- *Cumulative: A total of **4,054** surveillance specimens have been tested for COVID-19 (positive: 234 [5.8%])*
  - 886 specimens have been tested at SLD<sup>13</sup>.

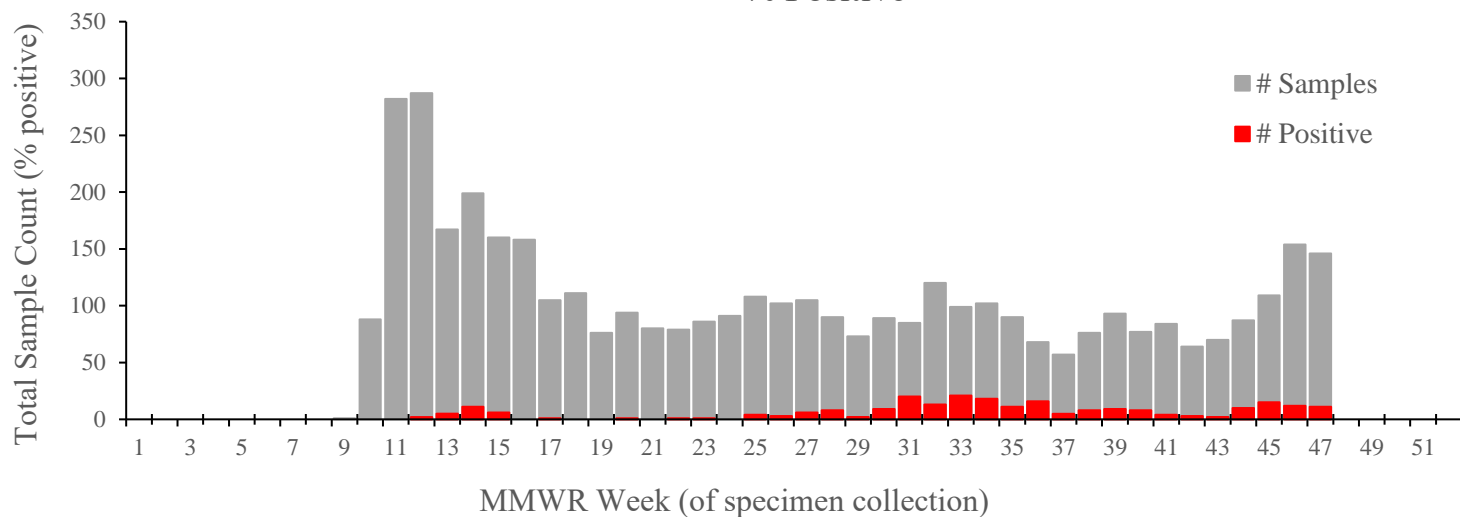
Cumulative Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	402	1.5	0-17	668	3.7
Honolulu	2,741	8.0	18-64	2,371	6.9
Kauai	204	0.5	65+	1,120	4.5
Maui	540	2.0			
Unknown	272	0.7			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

# COVID-19 Surveillance Samples Tested (N=4,054), % Positive

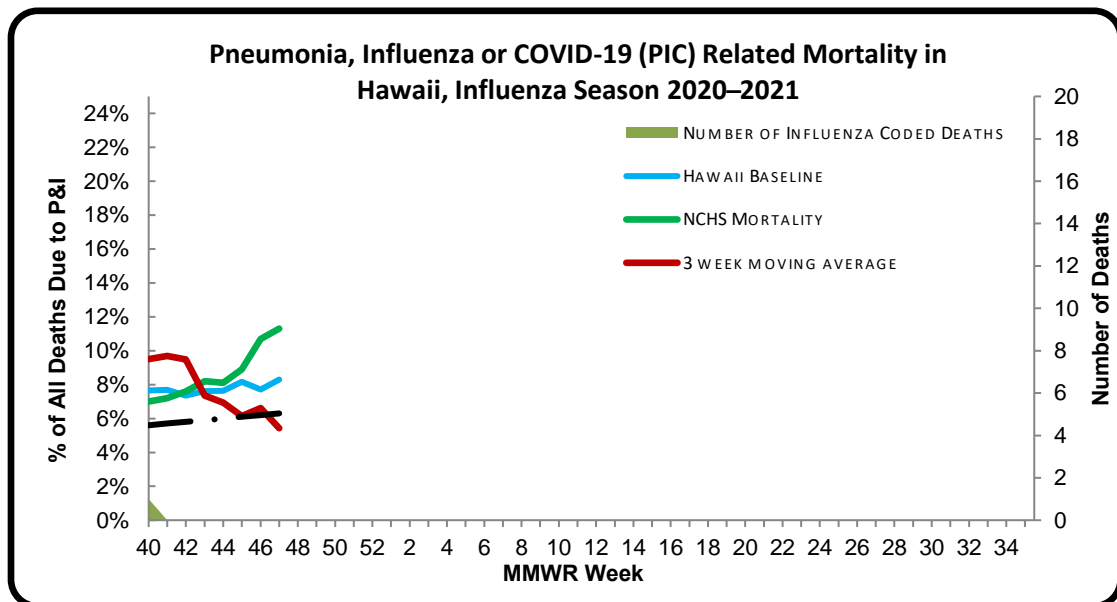


### III. PNEUMONIA, INFLUENZA OR COVID-19 (PIC) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 47** of the current influenza season:

- **4.7%** of all deaths that occurred in Hawaii during week 47 were related to pneumonia, influenza, or COVID-19 (PIC)<sup>14</sup>. For the current season (season to date: **7.5%**), there have been 1,609 deaths from any cause, 120 of which were due to P&I.
- The PIC rate was comparable to the historical baseline in Hawaii<sup>15</sup> (i.e., inside the 95% confidence interval).
- The Hawaii PIC rate was lower than the CDC's National Center for Health Statistics (NCHS) PIC mortality<sup>16</sup> (**10.7%**) (i.e., outside the 95% confidence interval) and comparable to the national epidemic threshold (**6.3%**) (i.e., inside the 95% confidence interval) for week 47.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 47. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths occurring during the 2020-2021 season were reported to CDC during week 47. (2020-2021 season total: 0).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

**A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *No human infections with a novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 47.*

**B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **October 23, 2020**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/2/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/9/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/16/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/23/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	1/30/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/6/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/13/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/20/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	2/27/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/6/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/13/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/20/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	3/27/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/3/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/10/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/17/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	4/24/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/1/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/8/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/15/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/22/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	5/29/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/5/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/12/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/19/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	6/26/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/3/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/10/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/17/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/24/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	7/31/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/7/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/14/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/21/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	8/28/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/4/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/11/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/18/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	9/25/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/2/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/9/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/16/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/23/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	10/30/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/6/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/13/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/20/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	11/27/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/4/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/11/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/18/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	12/25/2021





# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 48: NOVEMBER 22, 2020–NOVEMBER 28, 2020

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 48

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.5%	Lower than the previous week. Lower than Hawaii's historical baseline, lower than the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 0 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.3%	Higher than the previous week. This number means that many, if not all, of the 99.7% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.2%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 48)	3.0%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia, influenza or COVID-19 (PIC) mortality rate	3.2%	Lower than Hawaii's historical baseline, Lower than the national epidemic threshold and lower than the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week 40, the traditional start date of flu season.

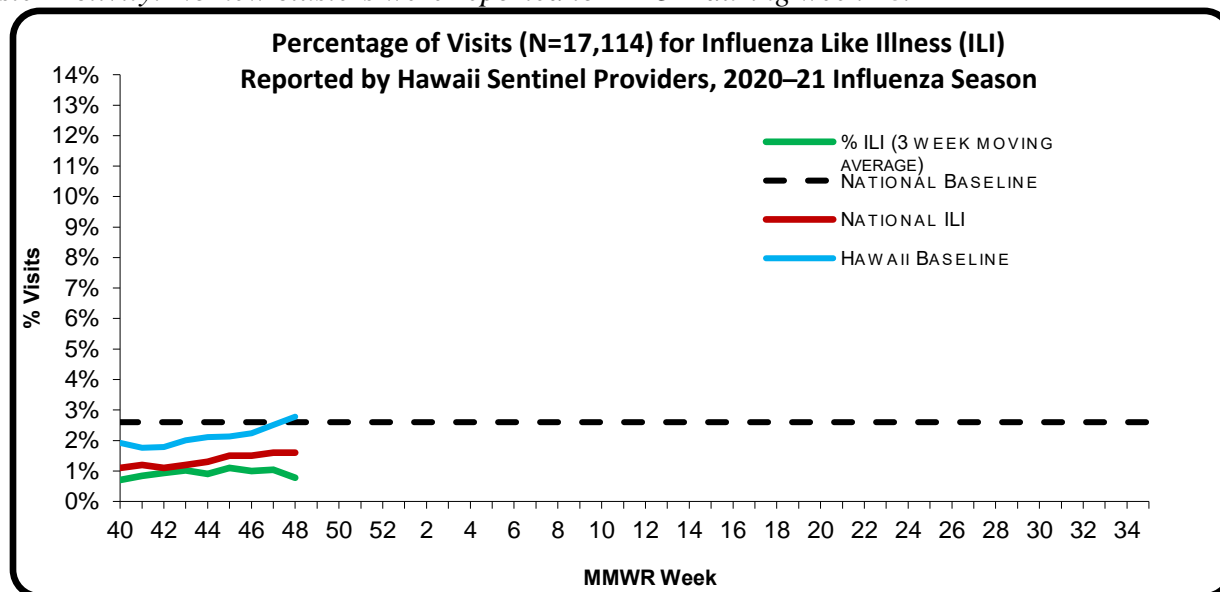
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For **week 48** of the current influenza season:

- **0.5%** (season to date: **1.0%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were lower than the historical baseline in Hawaii<sup>3,4</sup> (i.e., outside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.6%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 48.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

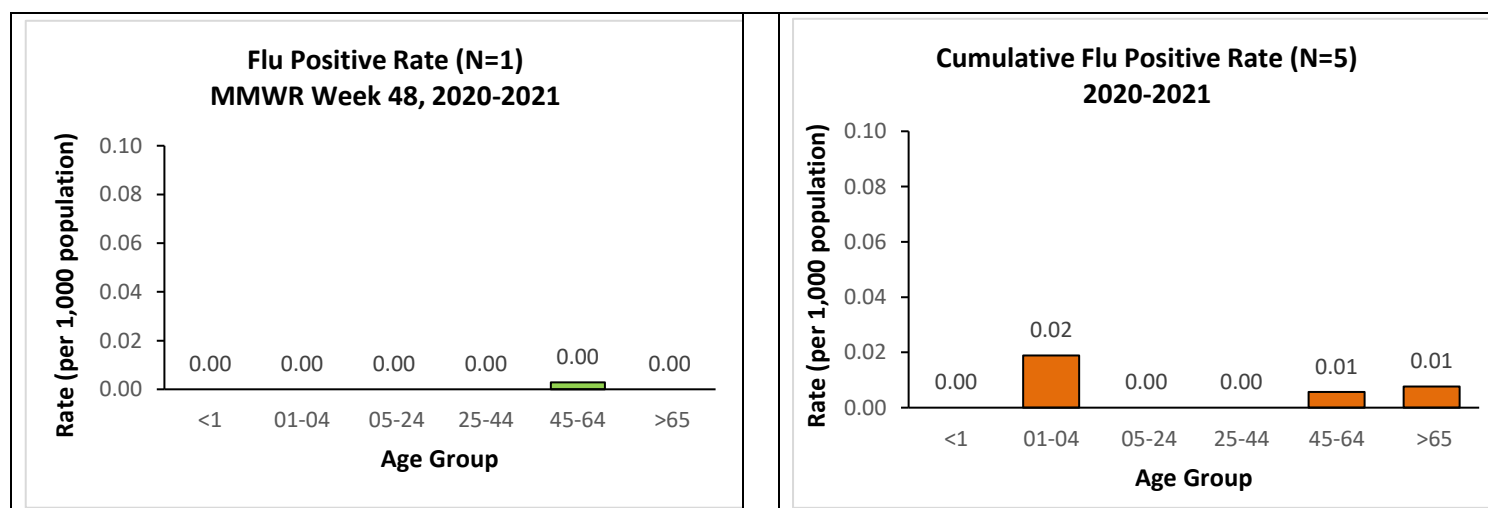
### A. INFLUENZA:

- The following reflects laboratory findings for week 48 of the 2020–21 influenza season:
  - A total of 375 specimens have been tested statewide for influenza viruses (positive: 1 [0.3%]). (Season to date: 2,935 tested [0.2% positive])
    - 89 (23.7%) were screened only by rapid antigen tests with no confirmatory testing.
    - 286 (76.3%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 374 (99.7%) were negative.

Influenza type	Current week 48 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	1 (100.0)	5 (100.0)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	0 (0.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



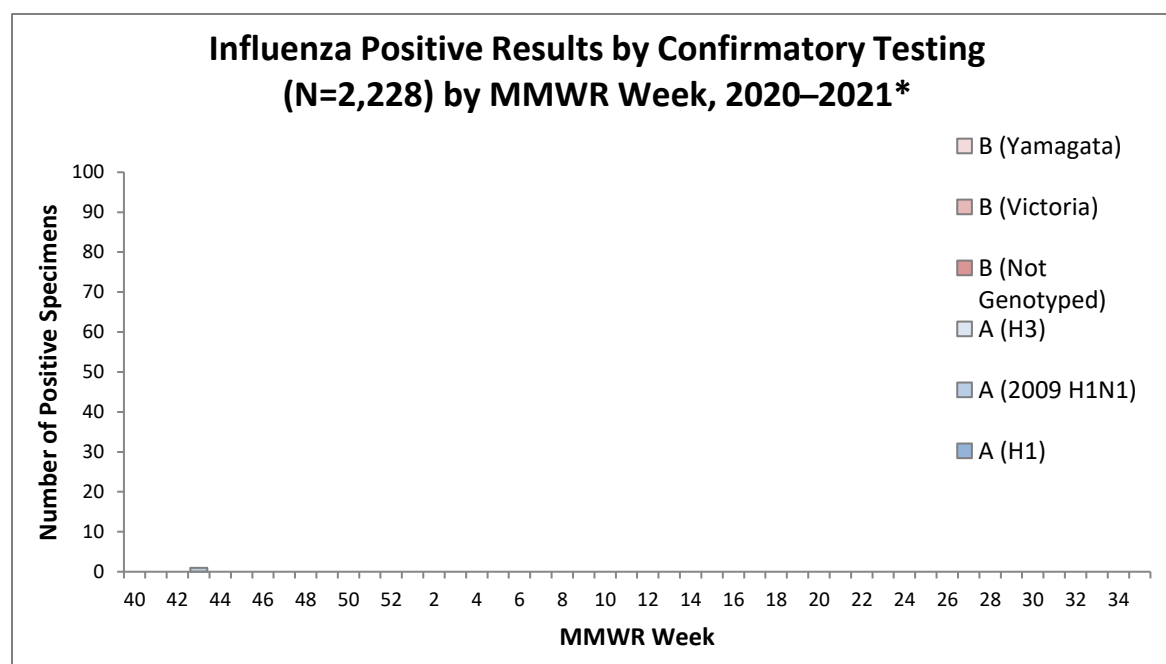
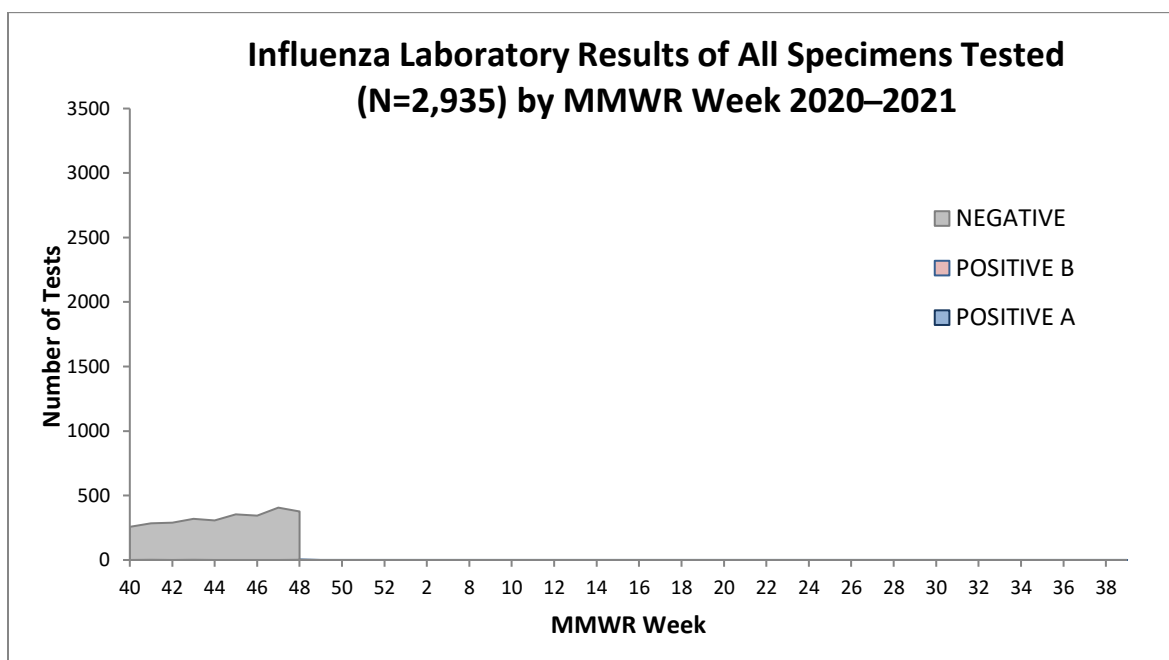
<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.

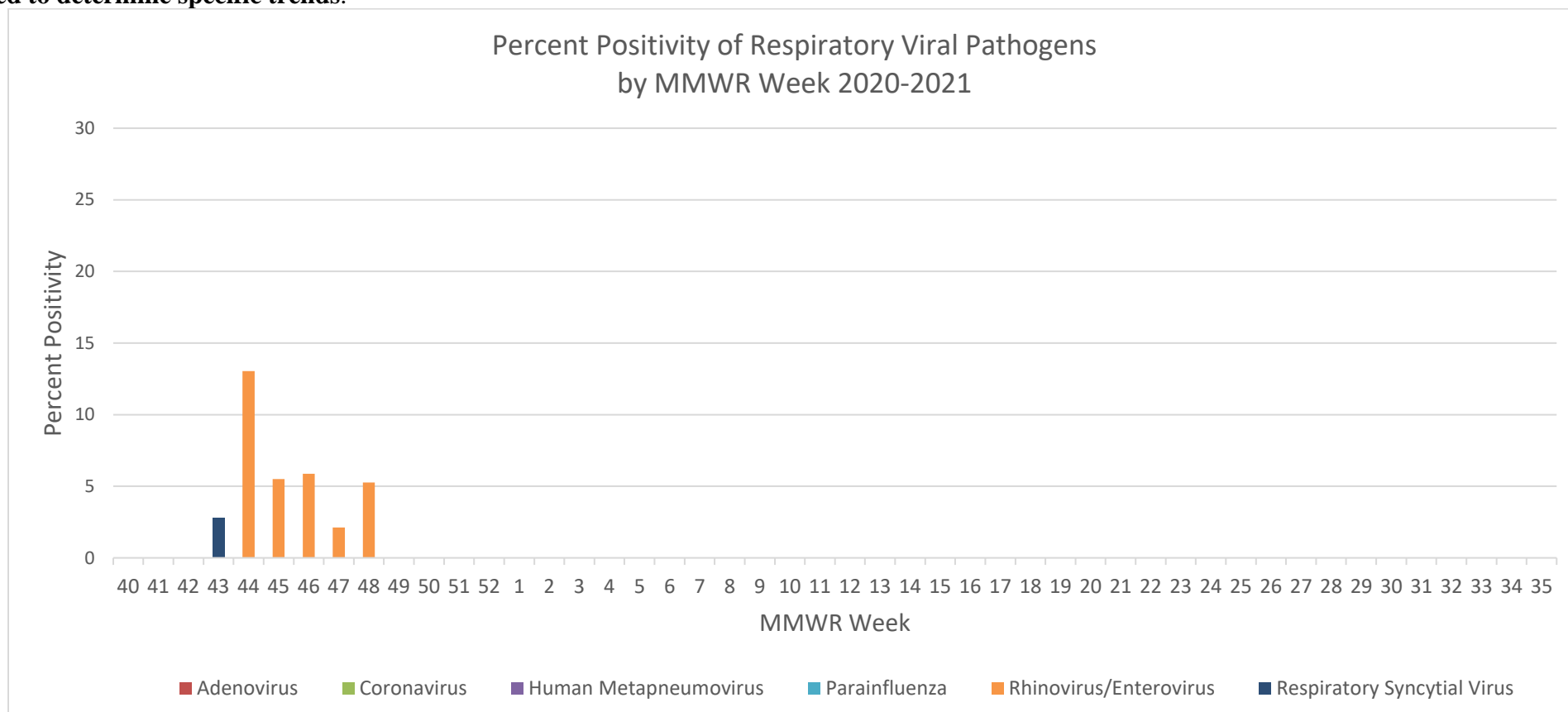
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate the novel coronavirus (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 48<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>12</sup>
  - *A total of 133 surveillance specimens have been tested statewide for COVID-19 (positive: 4 [3.0%]).*
- *Cumulative: A total of 4,296 surveillance specimens have been tested for COVID-19 (positive: 245 [5.7%])*
  - *885 specimens have been tested at SLD*<sup>13</sup>.

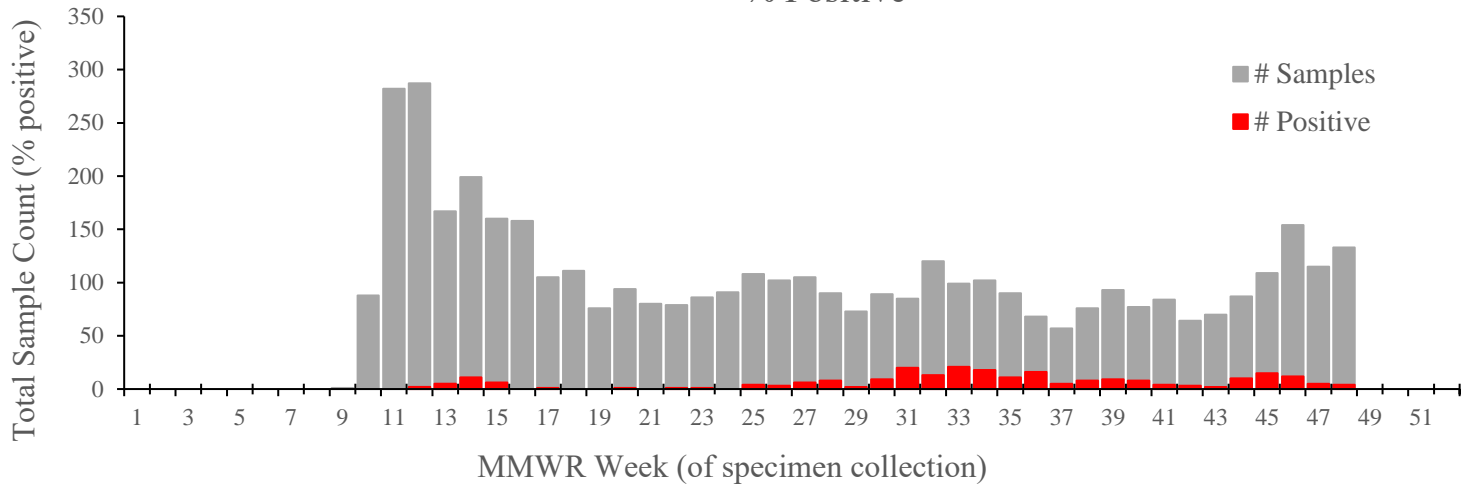
Cumulative Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	410	1.7	0-17	707	3.8
Honolulu	2,862	7.8	18-64	2,425	6.9
Kauai	204	0.5	65+	1,164	4.5
Maui	551	2.0			
Unknown	269	0.7			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

### COVID-19 Surveillance Samples Tested (N=4,296), % Positive

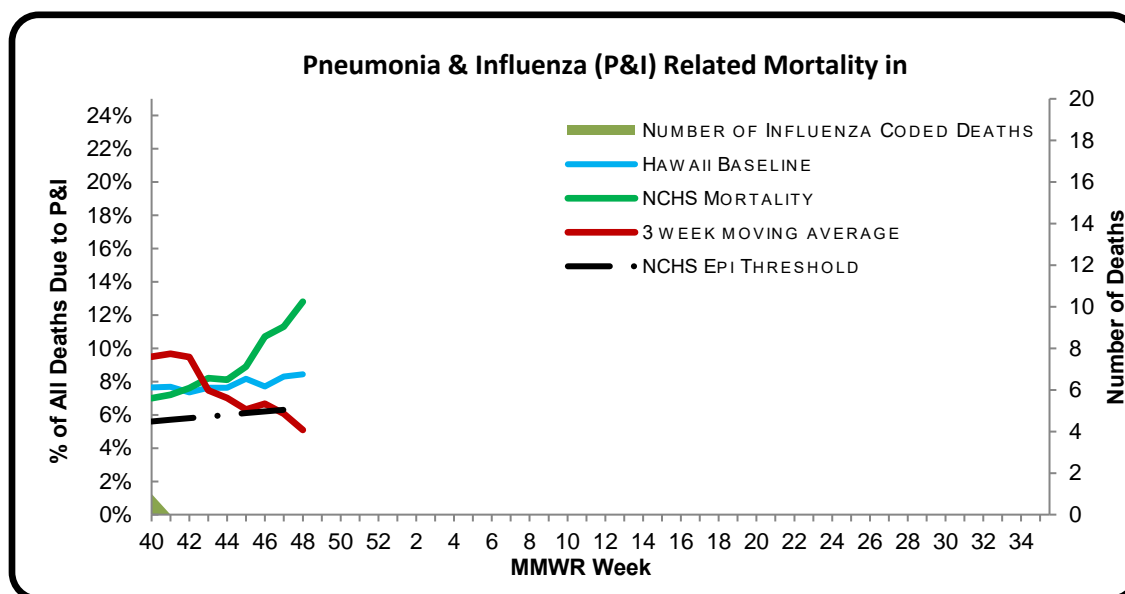


### III. PNEUMONIA, INFLUENZA OR COVID-19 (PIC) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 48** of the current influenza season:

- **3.2%** of all deaths that occurred in Hawaii during week 48 were related to pneumonia, influenza, or COVID-19 (PIC)<sup>14</sup>. For the current season (season to date: **7.1%**), there have been 1,978 deaths from any cause, 140 of which were due to PIC.
- The PIC rate was lower than the historical baseline in Hawaii<sup>15</sup> (i.e., outside the 95% confidence interval).
- The Hawaii PIC rate was lower than the CDC's National Center for Health Statistics (NCHS) PIC mortality<sup>16</sup> (**12.8%**) (i.e., outside the 95% confidence interval) and lower than the national epidemic threshold (**6.4%**) (i.e., outside the 95% confidence interval) for week 48.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 48. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths occurring during the 2020–2021 season were reported to CDC during week 48. (2020–2021 season total: 0).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.



**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

**A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *No human infections with a novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 48.*

**B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **October 23, 2020**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

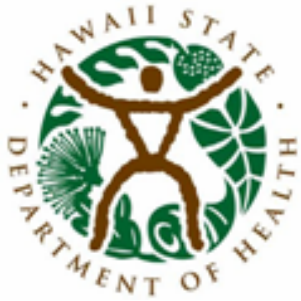
For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/2/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/9/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/16/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/23/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	1/30/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/6/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/13/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/20/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	2/27/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/6/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/13/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/20/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	3/27/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/3/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/10/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/17/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	4/24/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/1/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/8/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/15/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/22/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	5/29/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/5/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/12/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/19/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	6/26/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/3/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/10/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/17/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/24/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	7/31/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/7/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/14/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/21/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	8/28/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/4/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/11/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/18/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	9/25/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/2/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/9/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/16/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/23/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	10/30/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/6/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/13/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/20/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	11/27/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/4/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/11/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/18/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	12/25/2021



# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

**WEEK 49:** NOVEMBER 29, 2020–DECEMBER 5, 2020

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 49

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.6%	Higher than the previous week. Lower than Hawaii's historical baseline, lower than the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 0 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Higher than the previous week. This number means that many, if not all, of the 100% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 49)	3.5%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia, influenza or COVID-19 (PIC) mortality rate	3.3%	Lower than Hawaii's historical baseline, Lower than the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	1	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week 40, the traditional start date of flu season.

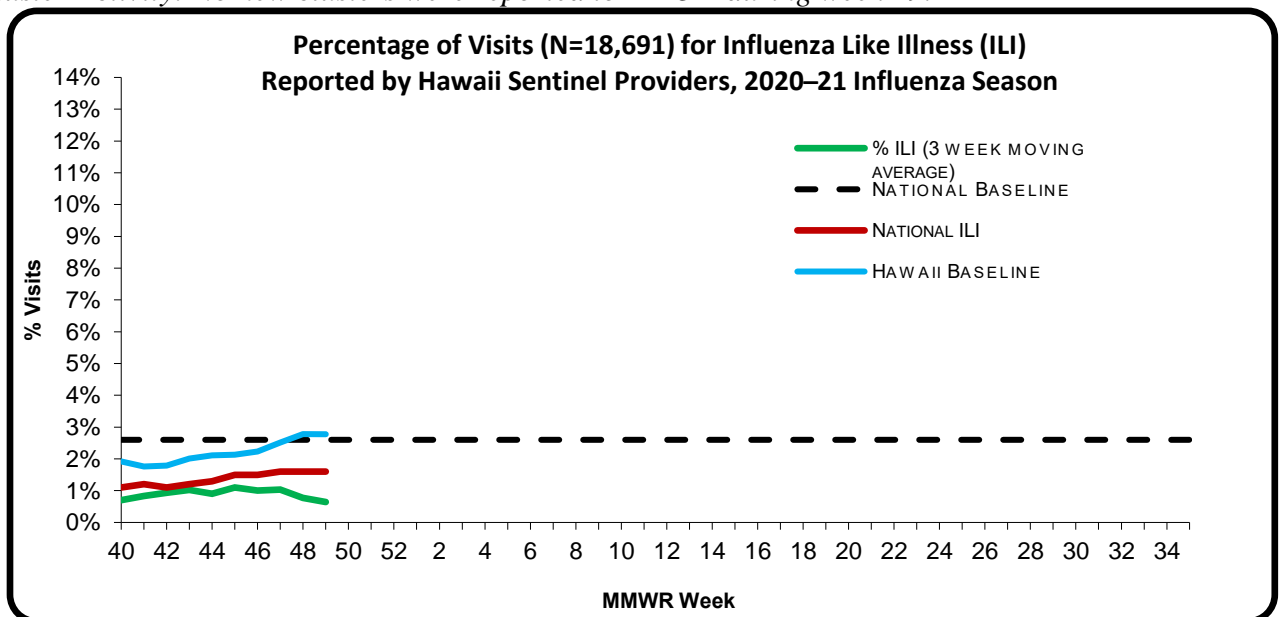
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For **week 49** of the current influenza season:

- **0.6%** (season to date: **0.9%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were lower than the historical baseline in Hawaii<sup>3,4</sup> (i.e., outside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.6%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 49.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

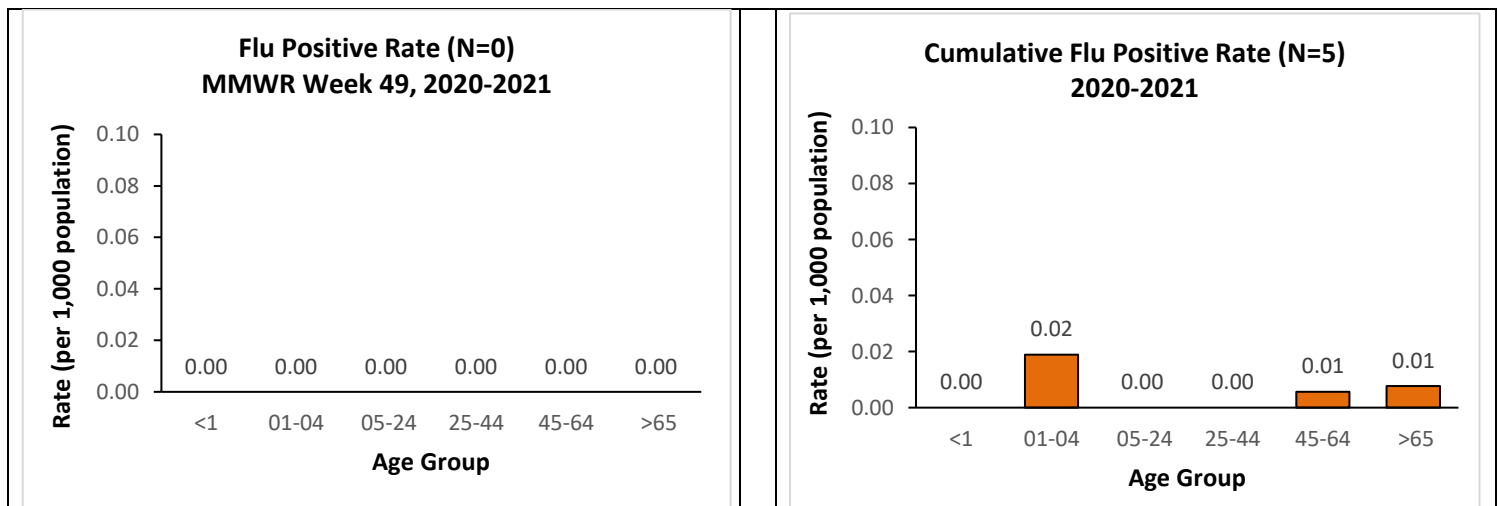
### A. INFLUENZA:

- The following reflects laboratory findings for week 49 of the 2020–21 influenza season:
  - A total of **444** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 3,387 tested [0.1% positive])
    - 118 (26.6%) were screened only by rapid antigen tests with no confirmatory testing.
    - 326 (73.4%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 444 (100.0%) were negative.

Influenza type	Current week 49 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	5 (100.0)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	0 (0.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



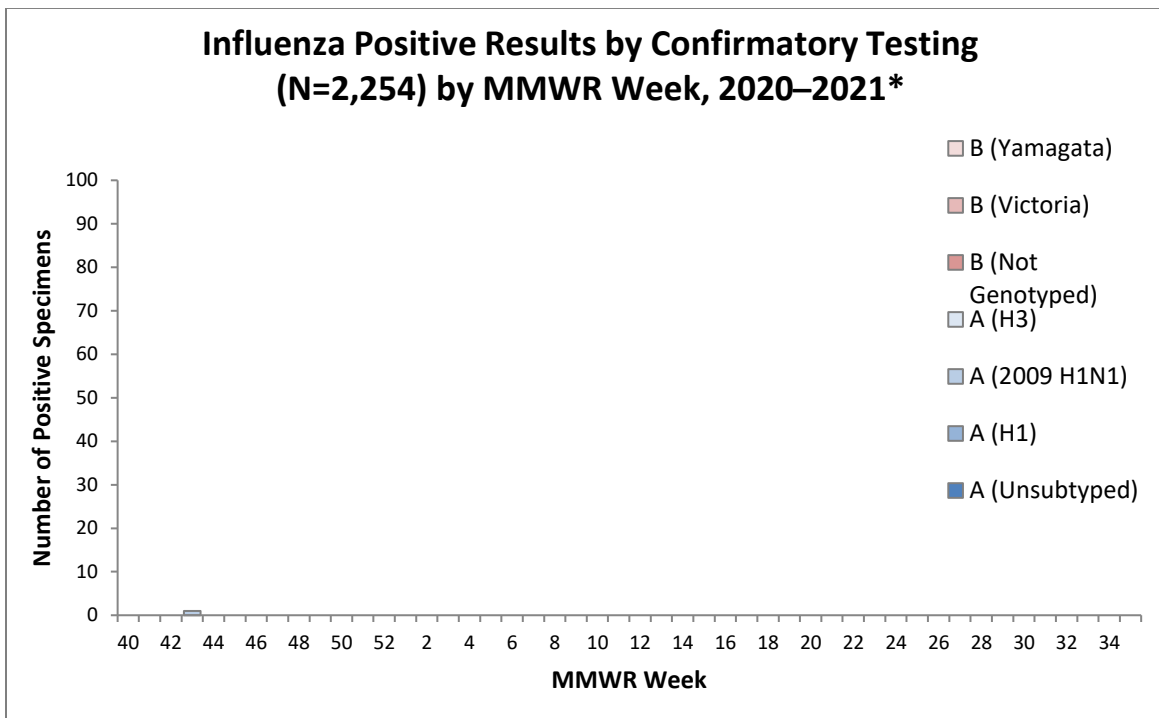
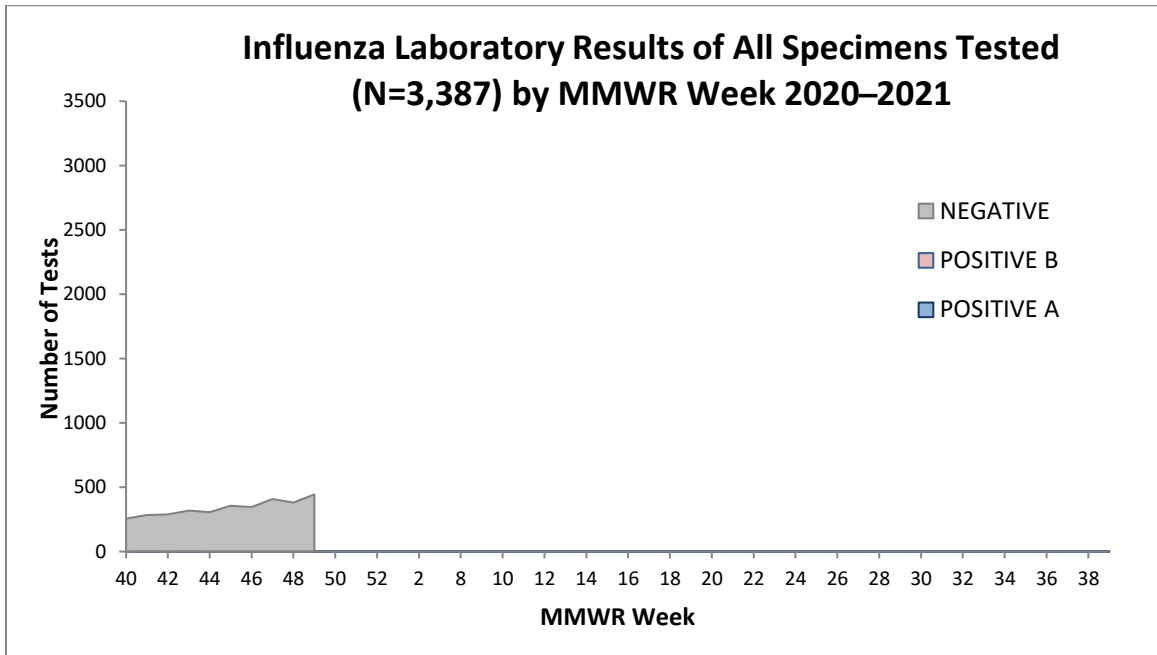
<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.

## 2. LABORATORY TESTING

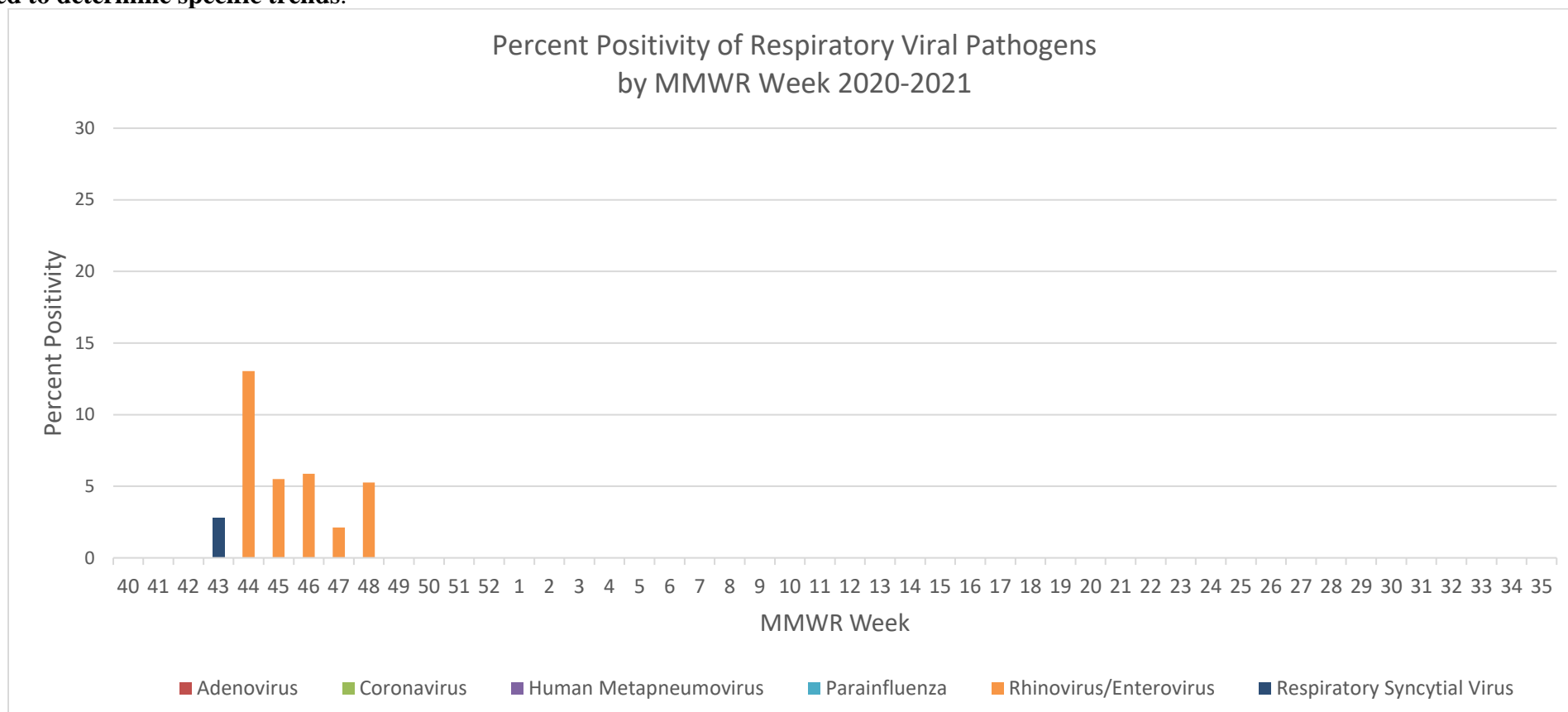
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.



**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate the novel coronavirus (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 49<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional<sup>12</sup>*
  - A total of **172** surveillance specimens have been tested statewide for COVID-19 (positive: 6 [3.5%]).
  - Cumulative: A total of **4,470** surveillance specimens have been tested for COVID-19 (positive: 252 [5.6%]).
  - 887 specimens have been tested at SLD<sup>13</sup>.

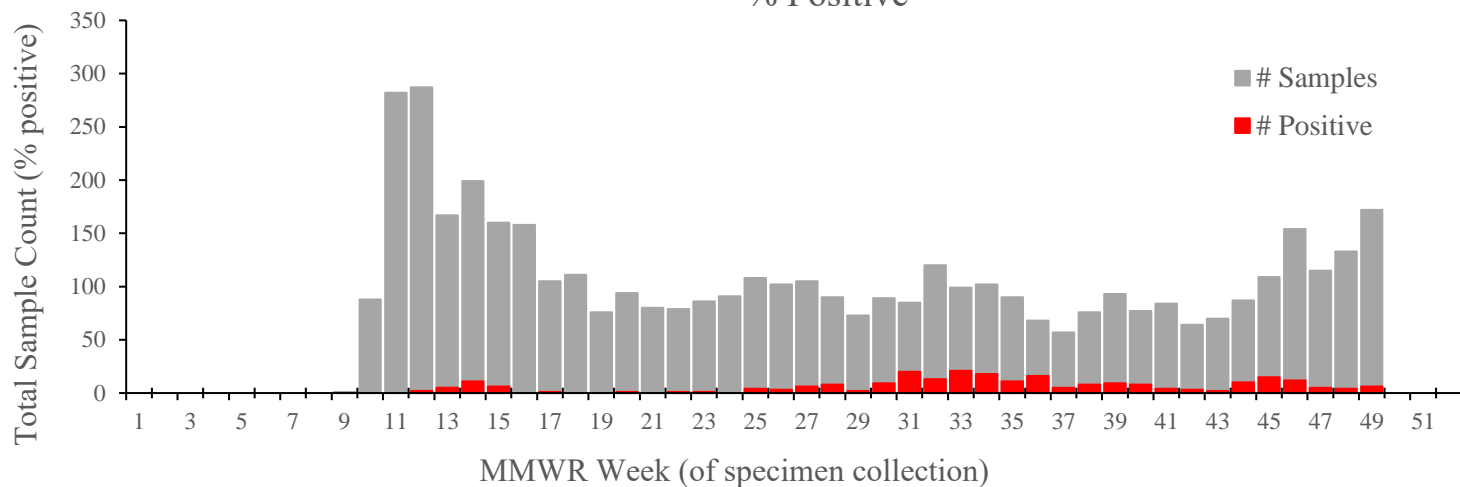
Cumulative Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	421	2.1	0-17	736	3.7
Honolulu	2,997	7.6	18-64	2,509	6.8
Kauai	209	0.5	65+	1,225	4.4
Maui	576	1.9			
Unknown	267	0.8			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

### COVID-19 Surveillance Samples Tested (N=4,470), % Positive

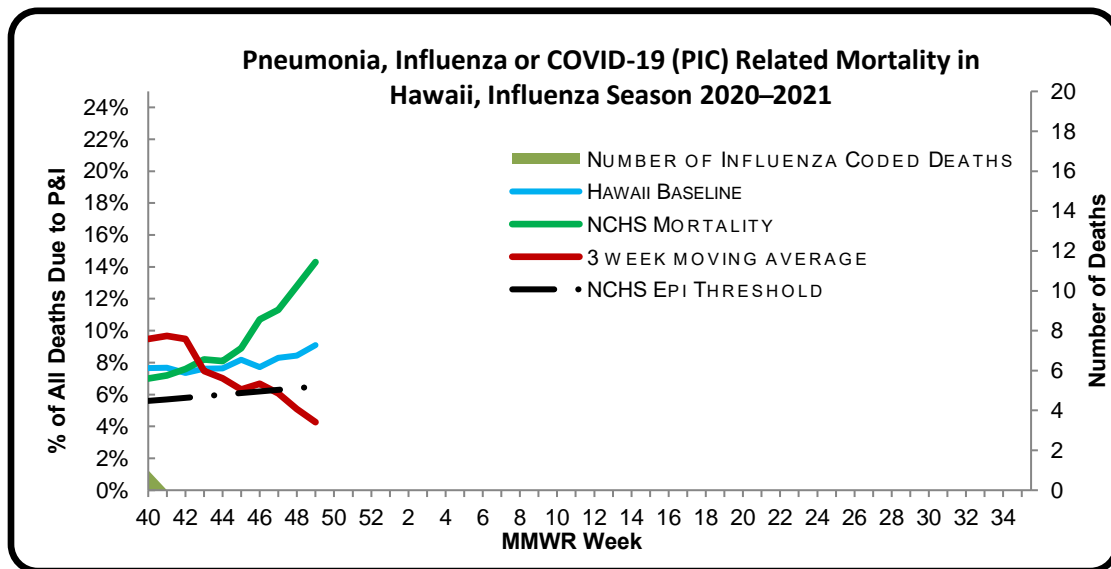


### III. PNEUMONIA, INFLUENZA OR COVID-19 (PIC) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 49** of the current influenza season:

- **3.3%** of all deaths that occurred in Hawaii during week 49 were related to pneumonia, influenza, or COVID-19 (PIC)<sup>14</sup>. For the current season (season to date: **6.9%**), there have been 2,068 deaths from any cause, 143 of which were due to PIC.
- The PIC rate was lower than the historical baseline in Hawaii<sup>15</sup> (i.e., outside the 95% confidence interval).
- The Hawaii PIC rate was lower than the CDC's National Center for Health Statistics (NCHS) PIC mortality<sup>16</sup> (**14.3%**) (i.e., outside the 95% confidence interval) and comparable to the national epidemic threshold (**6.5%**) (i.e., inside the 95% confidence interval) for week 49.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 49. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, one influenza-associated pediatric death occurring during the 2020-2021 season was reported to CDC during week 49. This death was associated with an influenza B virus with no lineage determined and occurred during week 48 (the week ending November 28, 2020). (2020-2021 season total: 1).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

**A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *No human infections with a novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 49.*

**B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **October 23, 2020**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

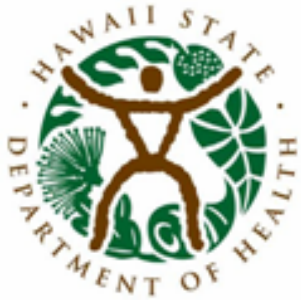
<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/2/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/9/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/16/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/23/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	1/30/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/6/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/13/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/20/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	2/27/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/6/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/13/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/20/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	3/27/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/3/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/10/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/17/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	4/24/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/1/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/8/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/15/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/22/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	5/29/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/5/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/12/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/19/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	6/26/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/3/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/10/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/17/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/24/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	7/31/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/7/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/14/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/21/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	8/28/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/4/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/11/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/18/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	9/25/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/2/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/9/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/16/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/23/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	10/30/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/6/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/13/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/20/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	11/27/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/4/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/11/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/18/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	12/25/2021





# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 50: DECEMBER 6, 2020–DECEMBER 12, 2020

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 50

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	1.0%	Higher than the previous week. Comparable to Hawaii's historical baseline, lower than the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 0 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Higher than the previous week. This number means that many, if not all, of the 100% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 50)	7.4%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia, influenza or COVID-19 (PIC) mortality rate	2.6%	Lower than Hawaii's historical baseline, Lower than the national epidemic threshold and lower than the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week 40, the traditional start date of flu season.

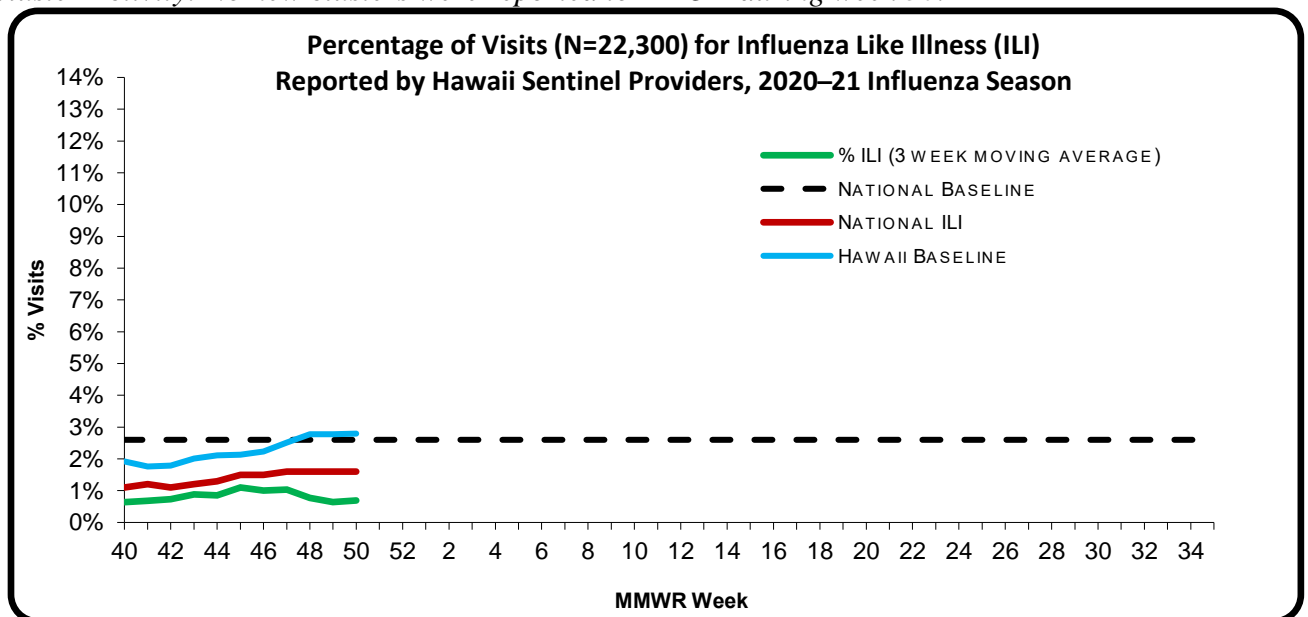
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For **week 50** of the current influenza season:

- **1.0%** (season to date: **0.9%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., outside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.6%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 50.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

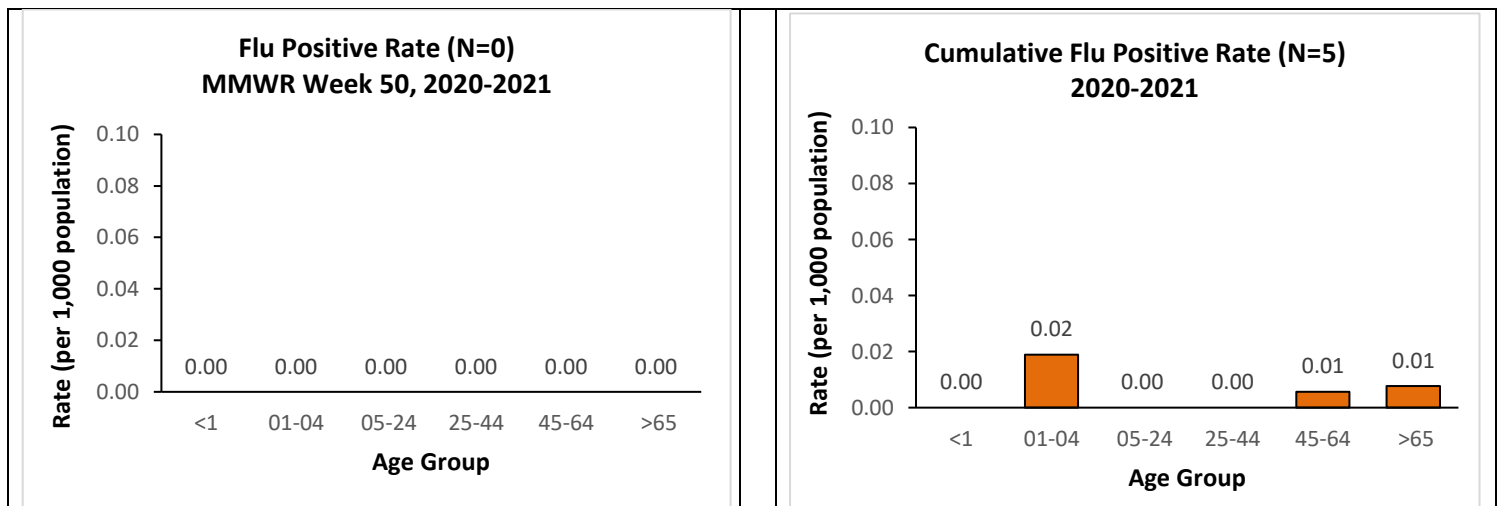
### A. INFLUENZA:

- The following reflects laboratory findings for week 50 of the 2020–21 influenza season:
  - A total of **441** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 3,830 tested [0.1% positive])
    - 76 (17.2%) were screened only by rapid antigen tests with no confirmatory testing.
    - 365 (82.8%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 441 (100.0%) were negative.

Influenza type	Current week 50 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	5 (100.0)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	0 (0.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



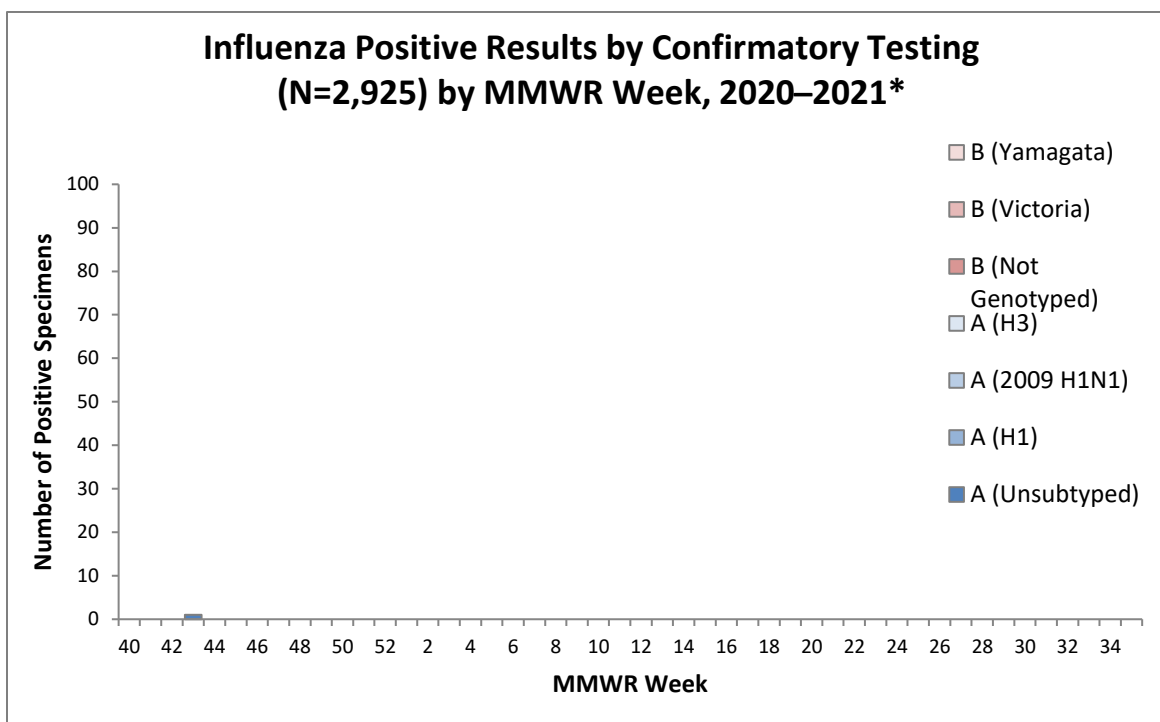
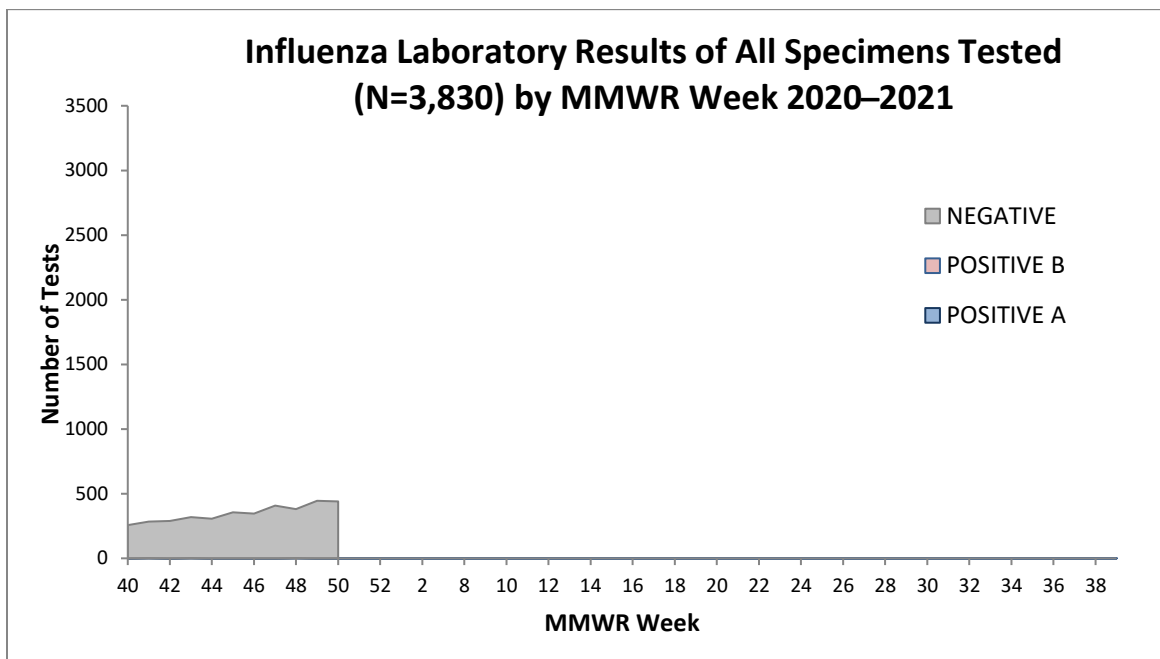
<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.

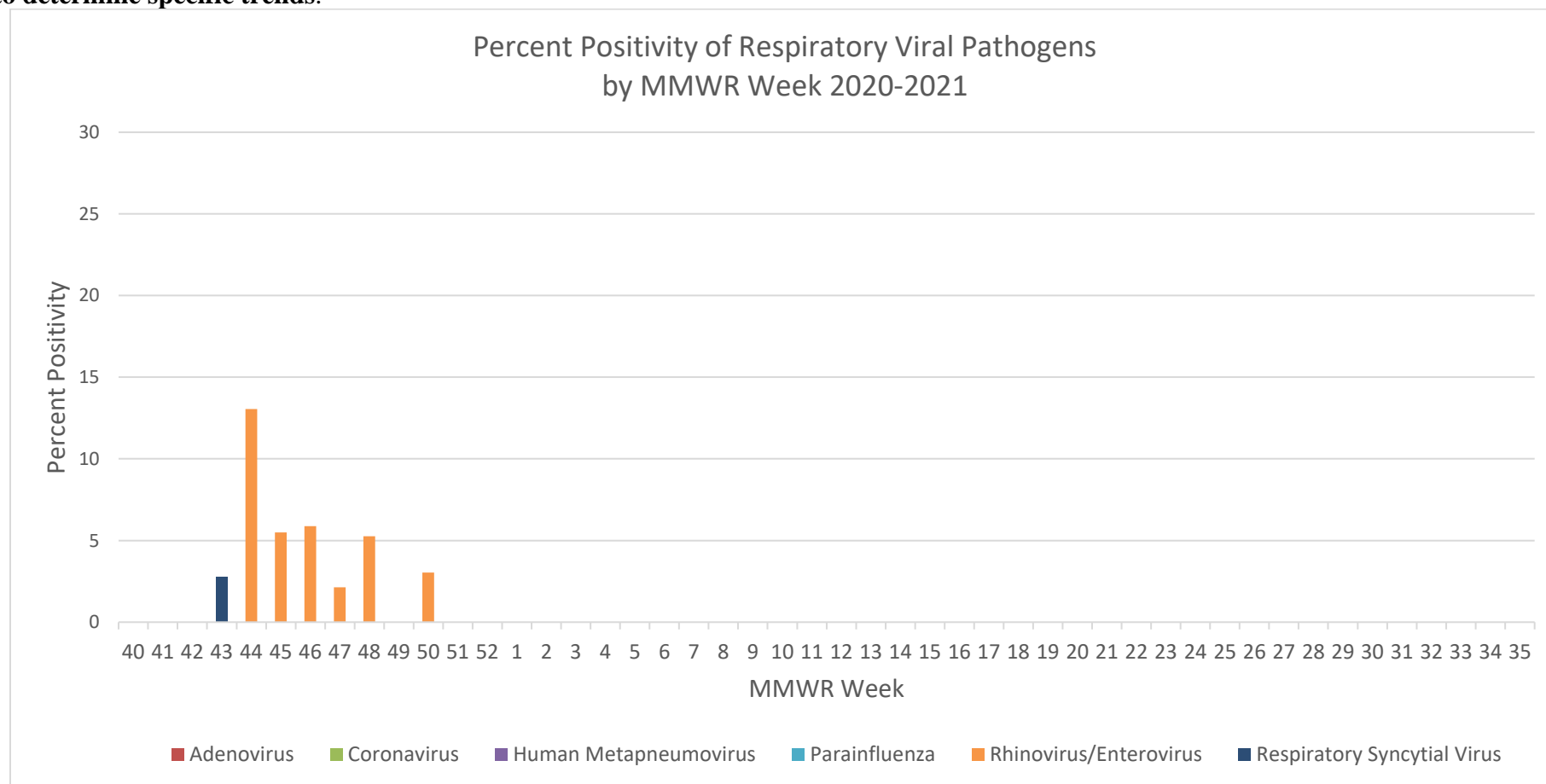
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate the novel coronavirus (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 50<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>12</sup>
  - A total of **136** surveillance specimens have been tested statewide for COVID-19 (positive: 10 [7.4%]).
  - Cumulative: A total of **4,606** surveillance specimens have been tested for COVID-19 (positive: 263 [5.7%]).
  - 889 specimens have been tested at SLD<sup>13</sup>.

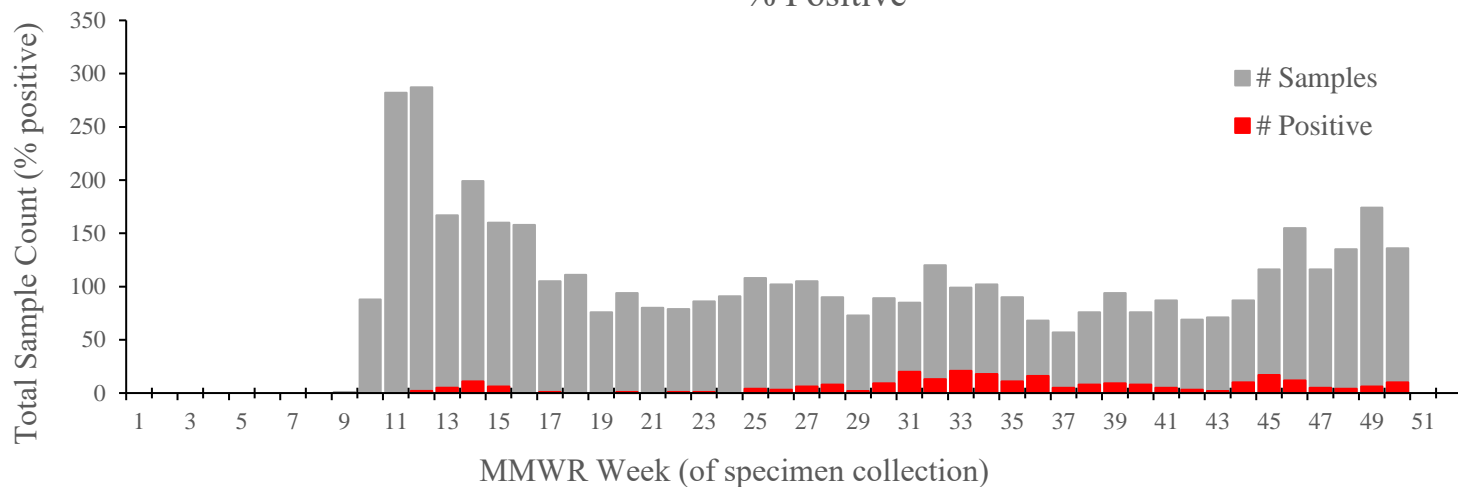
Cumulative Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	428	2.1	0-17	768	3.7
Honolulu	3,109	7.7	18-64	2,569	6.9
Kauai	213	0.5	65+	1,269	4.5
Maui	585	1.9			
Unknown	269	0.7			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

### COVID-19 Surveillance Samples Tested (N=4,606), % Positive

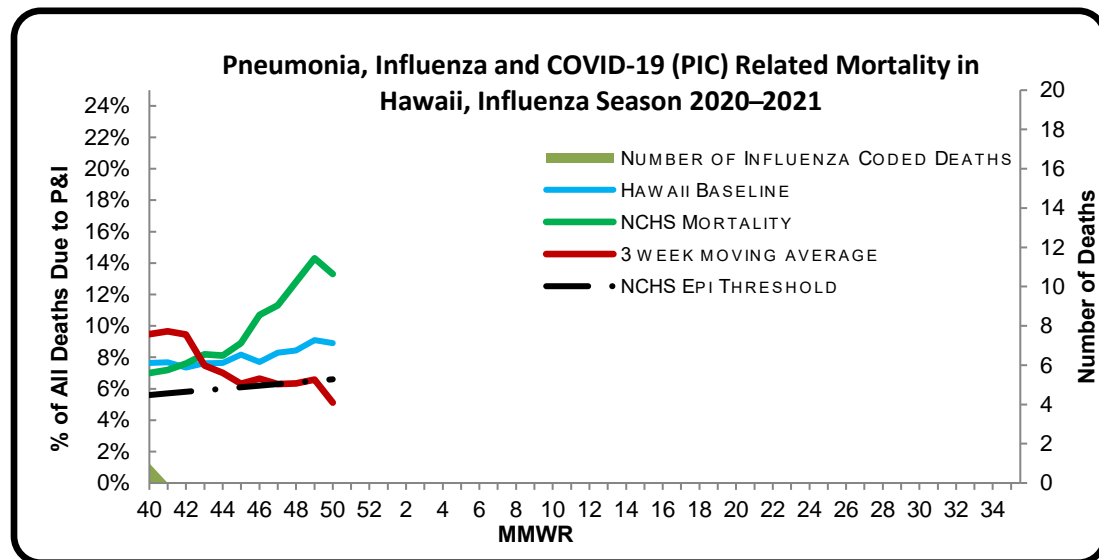


### III. PNEUMONIA, INFLUENZA OR COVID-19 (PIC) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 50** of the current influenza season:

- **2.6%** of all deaths that occurred in Hawaii during week 50 were related to pneumonia, influenza, or COVID-19 (PIC)<sup>14</sup>. For the current season (season to date: **7.1%**), there have been 2,300 deaths from any cause, 164 of which were due to PIC.
- The PIC rate was lower than the historical baseline in Hawaii<sup>15</sup> (i.e., outside the 95% confidence interval).
- The Hawaii PIC rate was lower than the CDC's National Center for Health Statistics (NCHS) PIC mortality<sup>16</sup> (13.3%) (i.e., outside the 95% confidence interval) and lower than the national epidemic threshold (**6.6%**) (i.e., inside the 95% confidence interval) for week 50.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 50. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 50. (2020–2021 season total: 1).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.



**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### **A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *No human infections with a novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 50.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*

#### **B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **December 9, 2020**. Since the last update, one new laboratory-confirmed human infection of influenza A(H5N1) virus was reported to WHO from Lao People’s Democratic Republic (PDR). This case was hospitalized and recovered. This case had exposure to domestic poultry at the residence. One new laboratory-confirmed human infection of influenza A(H5N6) virus was reported to WHO from China. This case was hospitalized and resulted in a fatality. This case had exposure to domestic poultry from a live poultry market. One laboratory-confirmed human infection of influenza A(H9N2) virus was reported to WHO from China. The case was hospitalized. This case had exposure to domestic poultry.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/2/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/9/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/16/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/23/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	1/30/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/6/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/13/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/20/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	2/27/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/6/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/13/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/20/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	3/27/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/3/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/10/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/17/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	4/24/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/1/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/8/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/15/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/22/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	5/29/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/5/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/12/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/19/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	6/26/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/3/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/10/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/17/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/24/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	7/31/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/7/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/14/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/21/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	8/28/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/4/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/11/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/18/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	9/25/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/2/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/9/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/16/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/23/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	10/30/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/6/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/13/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/20/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	11/27/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/4/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/11/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/18/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	12/25/2021



# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 51: DECEMBER 13, 2020–DECEMBER 19, 2020

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 51

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.5%	Lower than the previous week. Comparable to Hawaii's historical baseline, lower than the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	2	There have been 2 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Comparable to the previous week. This number means that many, if not all, of the 100% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 51)	8.2%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia, influenza or COVID-19 (PIC) mortality rate	1.5%	Lower than Hawaii's historical baseline, lower than the national epidemic threshold and lower than the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week 40, the traditional start date of flu season.

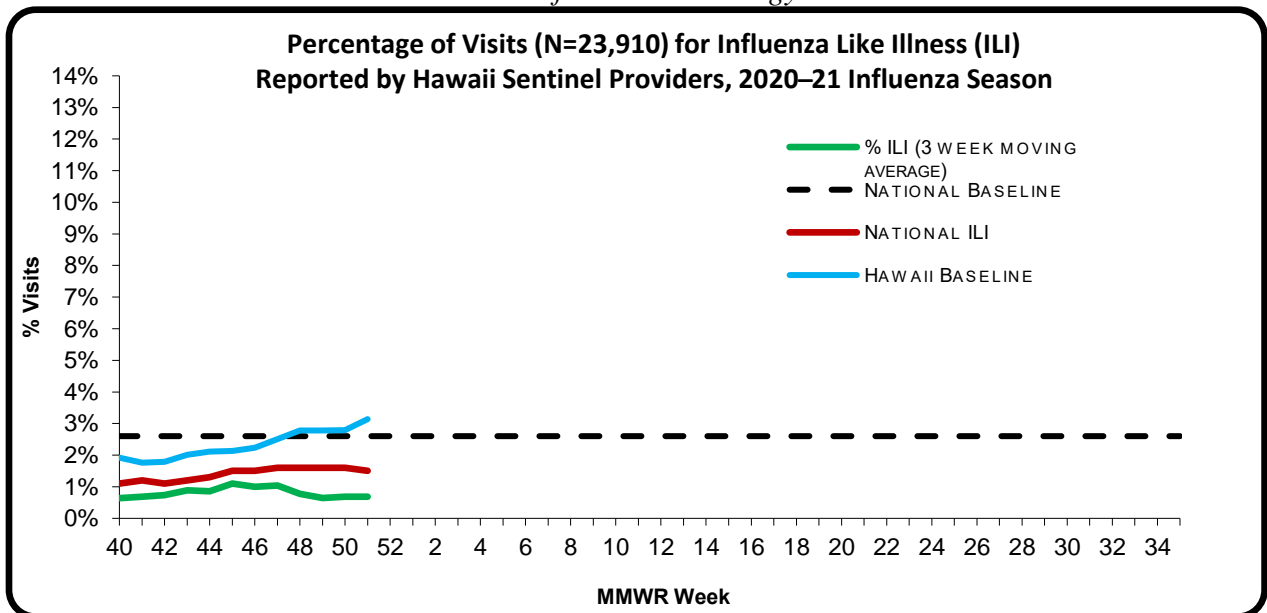
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 51 of the current influenza season:

- **0.5%** (season to date: **0.8%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., outside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.5%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: Two new clusters were reported to HDOH during week 51. These clusters occurred at schools on Oahu. These clusters included cases of unknown etiology.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

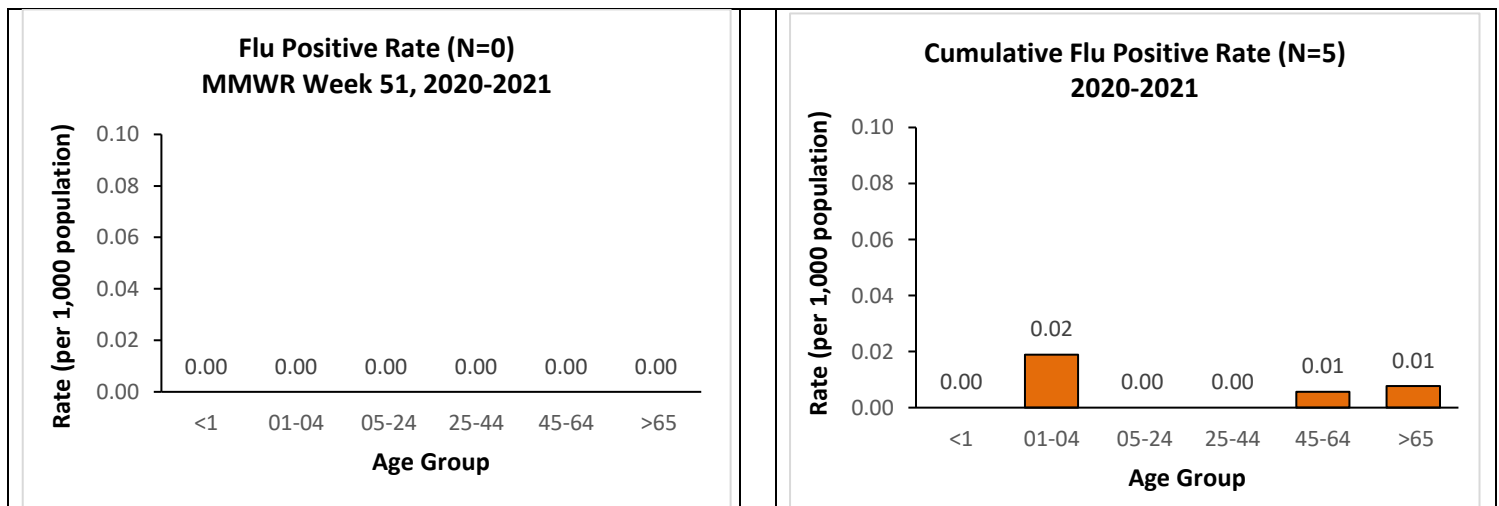
### A. INFLUENZA:

- The following reflects laboratory findings for week 51 of the 2020–21 influenza season:
  - A total of **428** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 4,259 tested [0.1% positive])
    - 114 (26.6%) were screened only by rapid antigen tests with no confirmatory testing.
    - 314 (73.4%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 428 (100.0%) were negative.

Influenza type	Current week 51 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	5 (100.0)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	0 (0.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

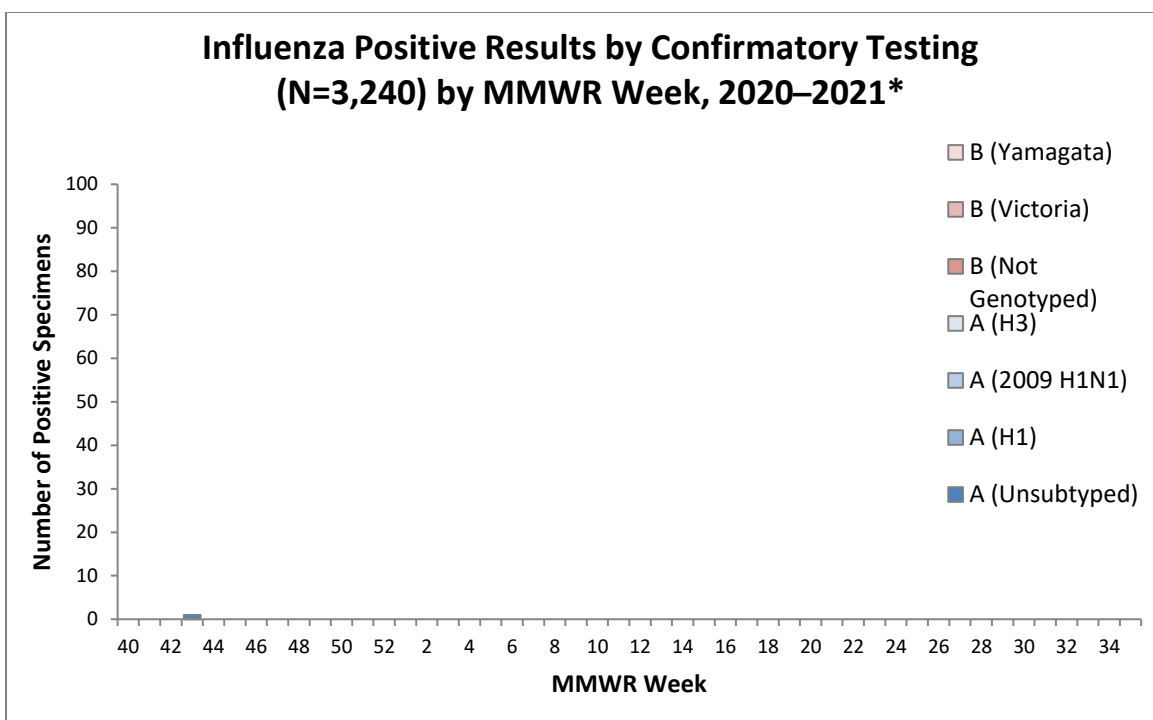
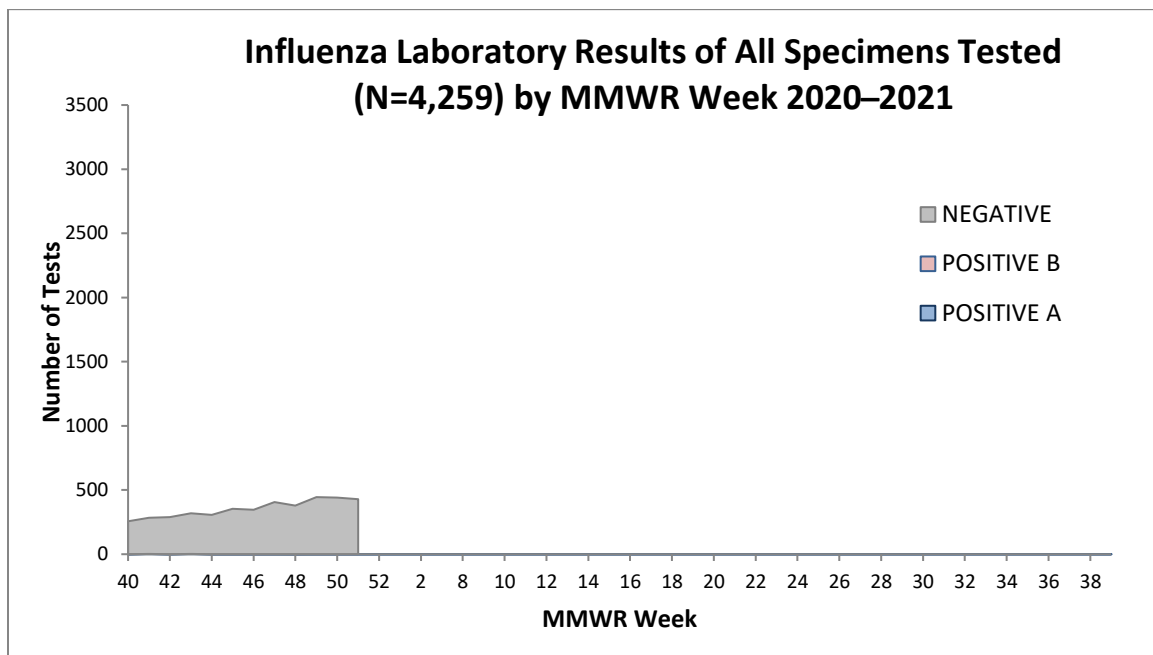
<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.



## 2. LABORATORY TESTING

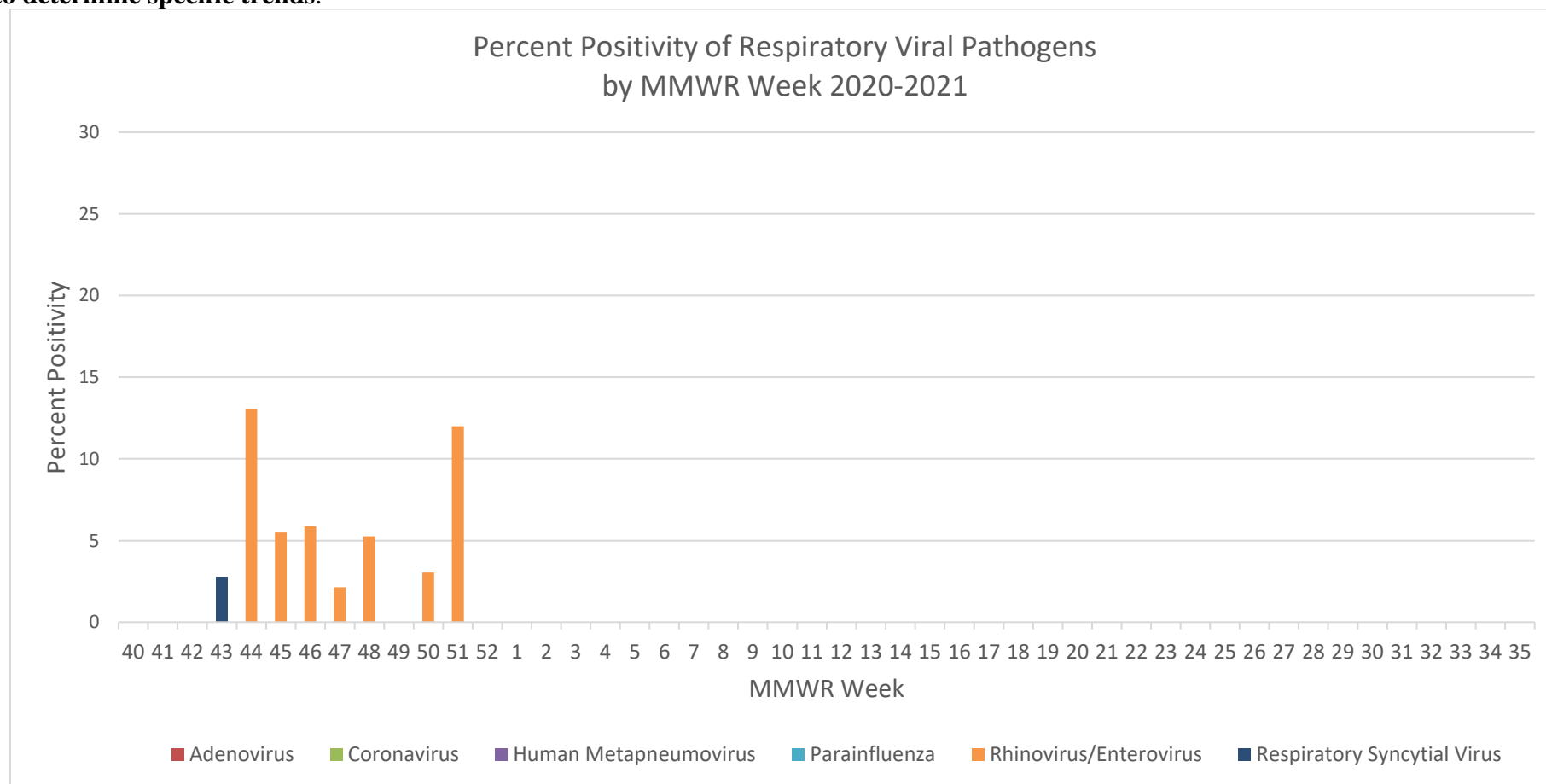
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.



**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate the novel coronavirus (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 51<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>12</sup>
  - A total of **146** surveillance specimens have been tested statewide for COVID-19 (positive: 12 [8.2%]).
  - Cumulative: A total of **4,752** surveillance specimens have been tested for COVID-19 (positive: 275 [5.8%]).
  - 888 specimens have been tested at SLD<sup>13</sup>.

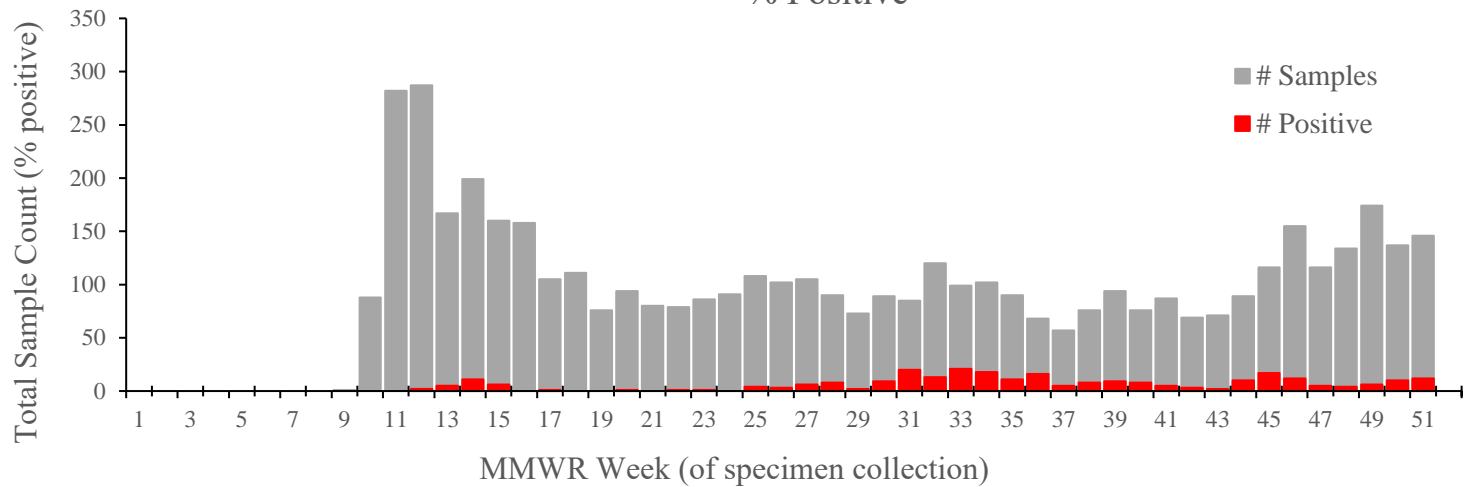
Cumulative Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	439	2.3	0-17	797	3.5
Honolulu	3,221	7.7	18-64	2,647	7.1
Kauai	217	0.5	65+	1,308	4.5
Maui	603	2.2			
Unknown	272	1.1			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

# COVID-19 Surveillance Samples Tested (N=4,752), % Positive

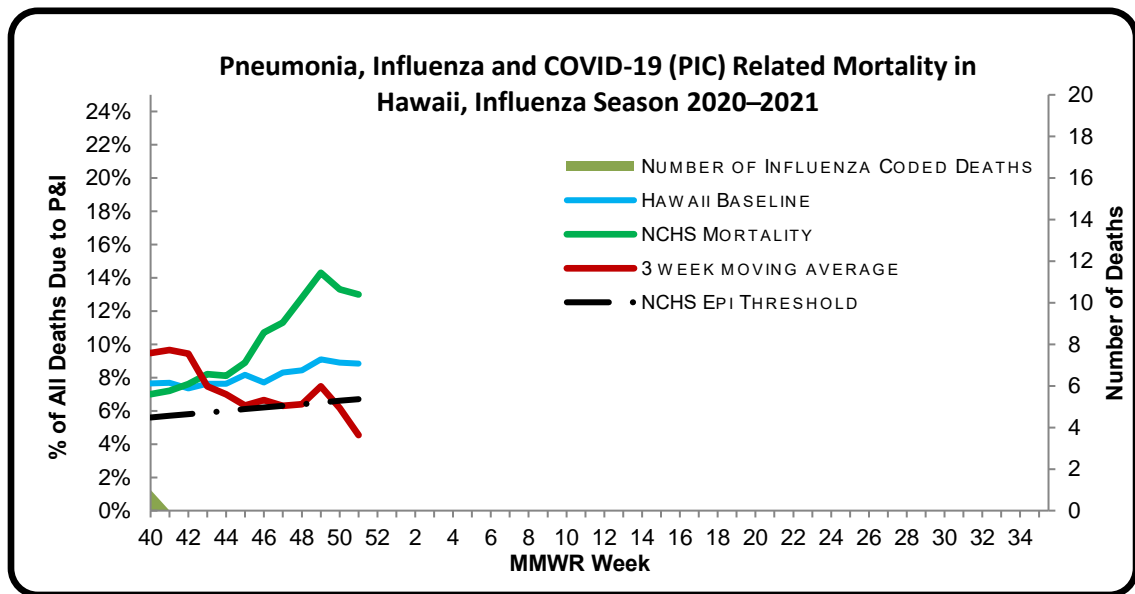


### III. PNEUMONIA, INFLUENZA OR COVID-19 (PIC) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 51** of the current influenza season:

- *1.5% of all deaths that occurred in Hawaii during week 51 were related to pneumonia, influenza, or COVID-19 (PIC)<sup>14</sup>. For the current season (season to date: 7.1%), there have been 2,484 deaths from any cause, 176 of which were due to PIC.*
- *The PIC rate was lower than the historical baseline in Hawaii<sup>15</sup> (i.e., outside the 95% confidence interval).*
- *The Hawaii PIC rate was lower than the CDC's National Center for Health Statistics (NCHS) PIC mortality<sup>16</sup> (13.0%) (i.e., outside the 95% confidence interval) and lower than the national epidemic threshold (6.7%) (i.e., inside the 95% confidence interval) for week 51.*



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 51. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 51. (2020–2021 season total: 1).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

**A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *No human infections with a novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 51.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*

**B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **December 9, 2020**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/2/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/9/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/16/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/23/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	1/30/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/6/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/13/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/20/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	2/27/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/6/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/13/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/20/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	3/27/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/3/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/10/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/17/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	4/24/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/1/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/8/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/15/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/22/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	5/29/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/5/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/12/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/19/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	6/26/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/3/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/10/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/17/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/24/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	7/31/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/7/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/14/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/21/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	8/28/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/4/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/11/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/18/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	9/25/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/2/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/9/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/16/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/23/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	10/30/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/6/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/13/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/20/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	11/27/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/4/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/11/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/18/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	12/25/2021





# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 52: DECEMBER 20, 2020–DECEMBER 26, 2020

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 52

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.6%	Higher than the previous week. Comparable to Hawaii's historical baseline, lower than the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 2 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Comparable to the previous week. This number means that many, if not all, of the 100% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 52)	11.5%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia, influenza or COVID-19 (PIC) mortality rate	3.9%	Lower than Hawaii's historical baseline, lower than the national epidemic threshold and lower than the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week 40, the traditional start date of flu season.

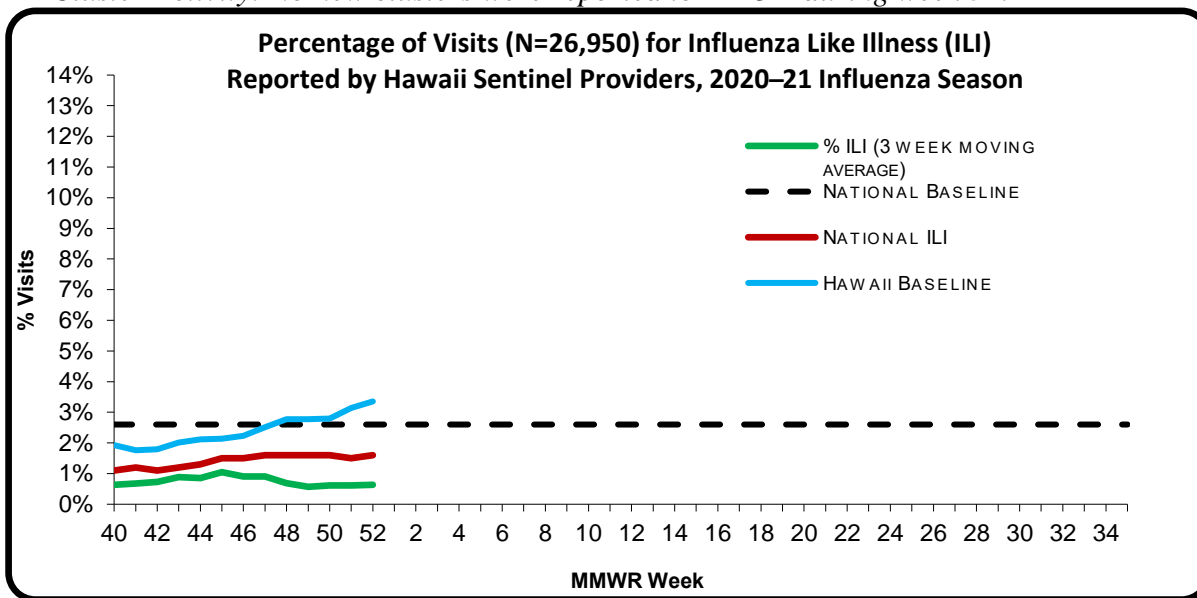
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 52 of the current influenza season:

- **0.6%** (season to date: **0.8%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.6%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 52.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

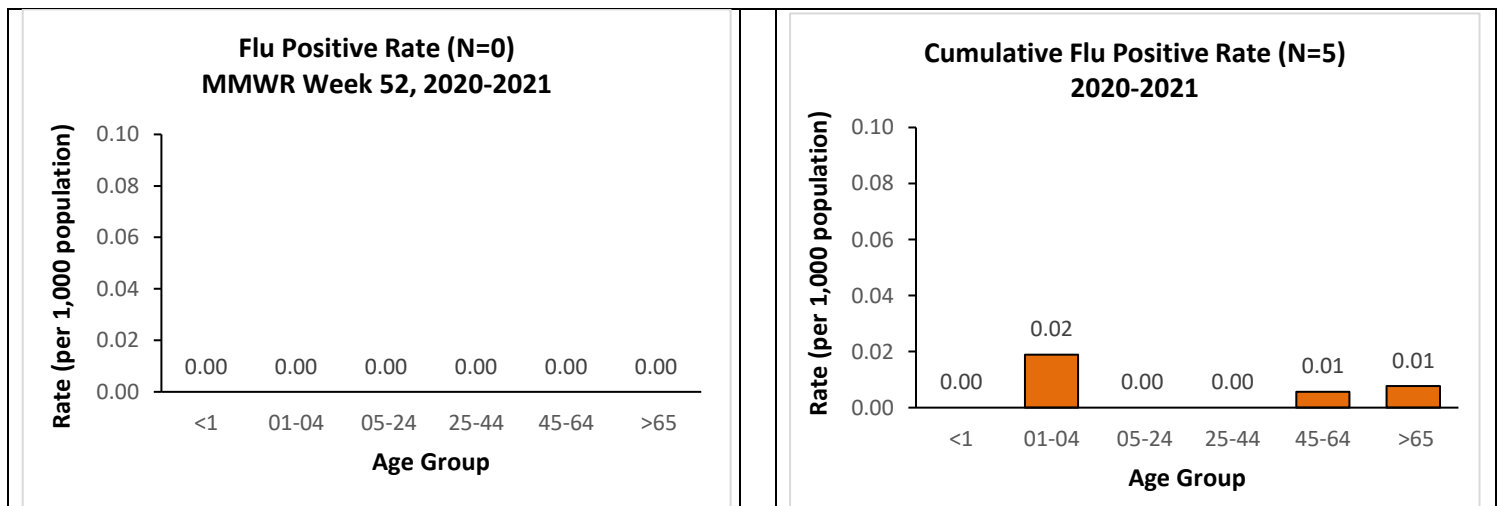
### A. INFLUENZA:

- The following reflects laboratory findings for week 52 of the 2020–21 influenza season:
  - A total of **415** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 4,676 tested [0.1% positive])
    - 68 (16.4%) were screened only by rapid antigen tests with no confirmatory testing.
    - 347 (83.6%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 415 (100.0%) were negative.

Influenza type	Current week 52 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	5 (100.0)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	0 (0.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



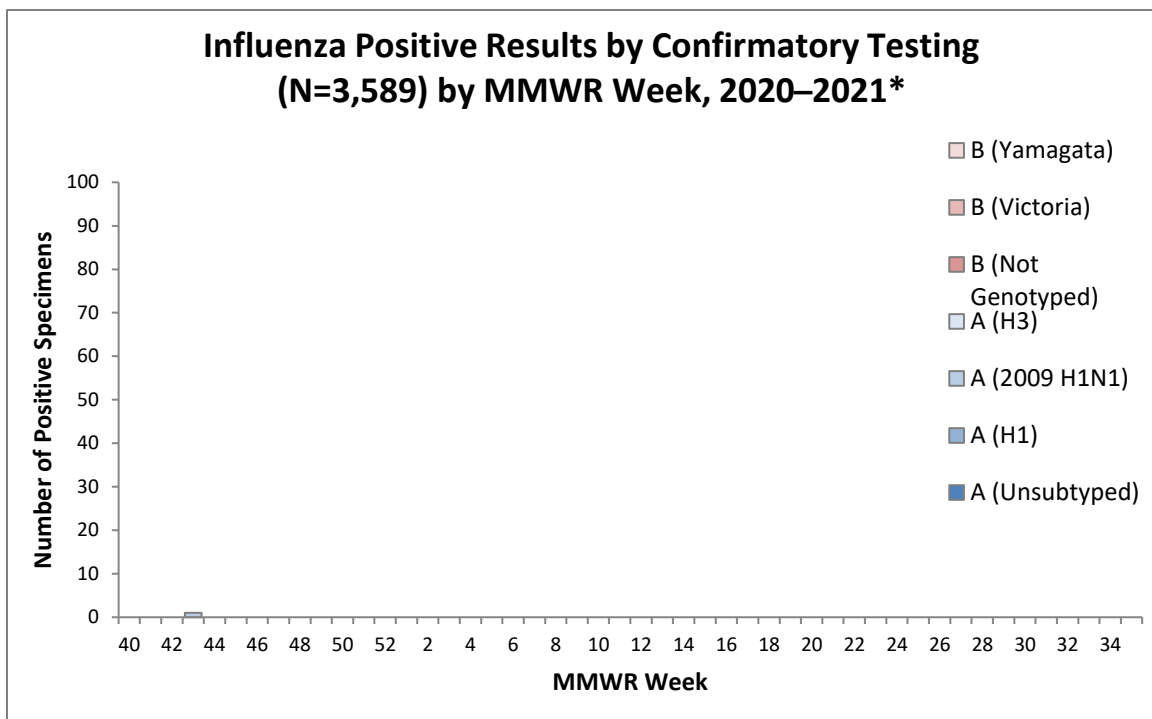
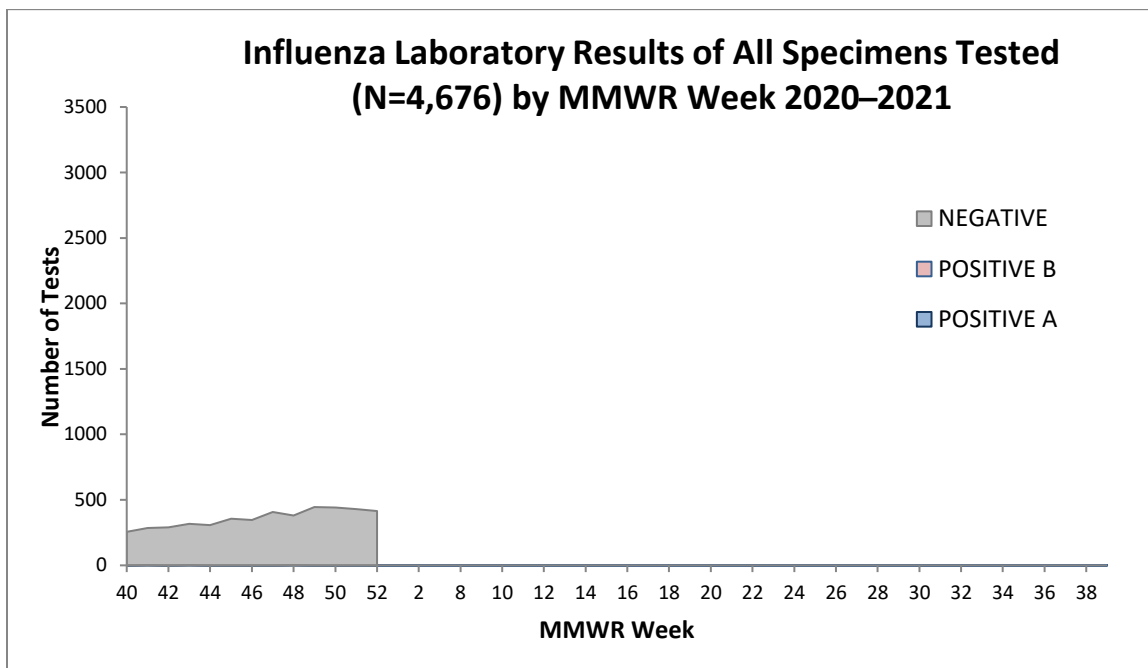
<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.

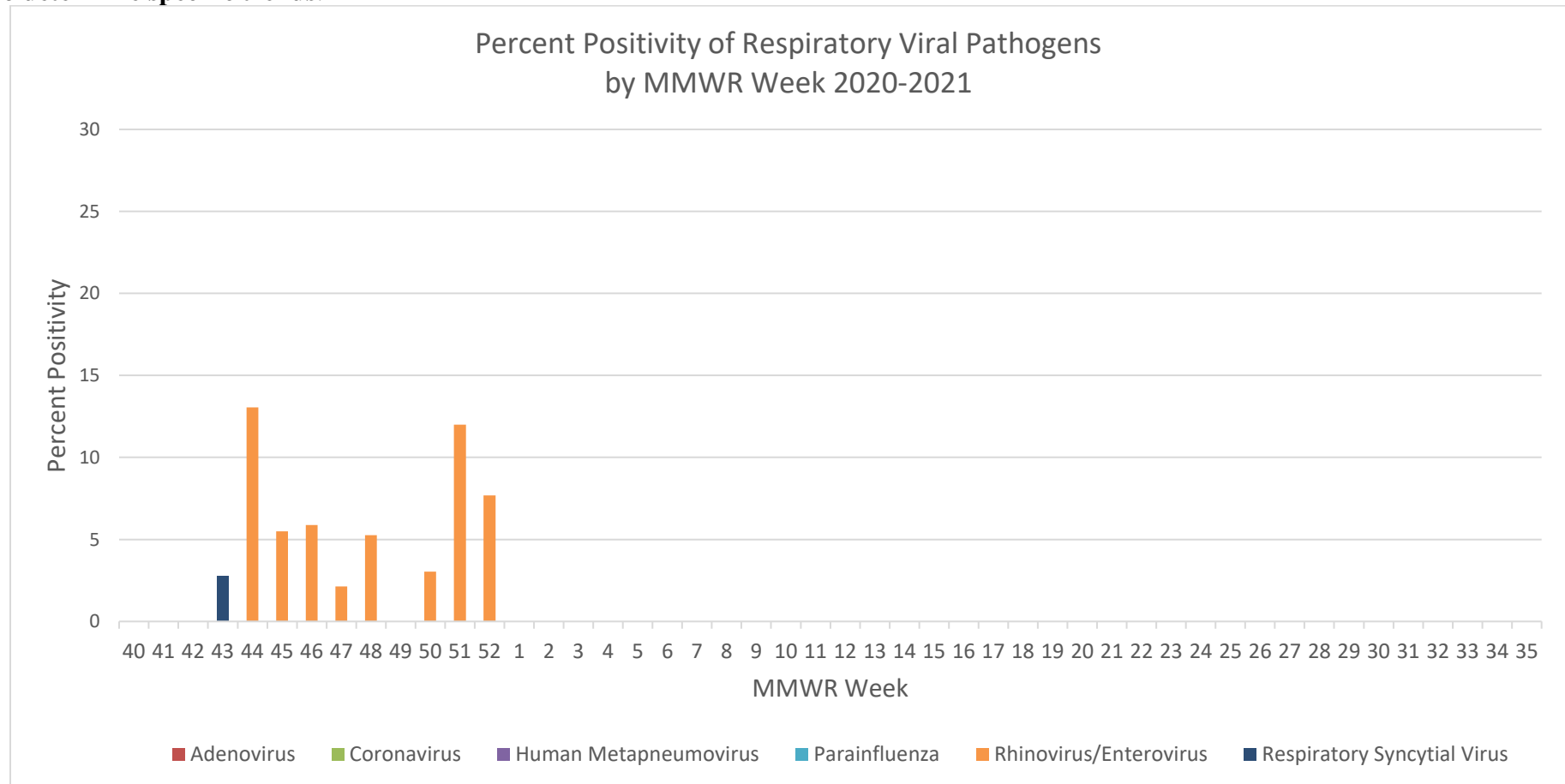
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate the novel coronavirus (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 52<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>12</sup>
  - A total of **104** surveillance specimens have been tested statewide for COVID-19 (positive: 12 [**11.5%**]).
  - Cumulative: A total of **4,856** surveillance specimens have been tested for COVID-19 (positive: 287 [5.9%]).
  - 888 specimens have been tested at SLD<sup>13</sup>.

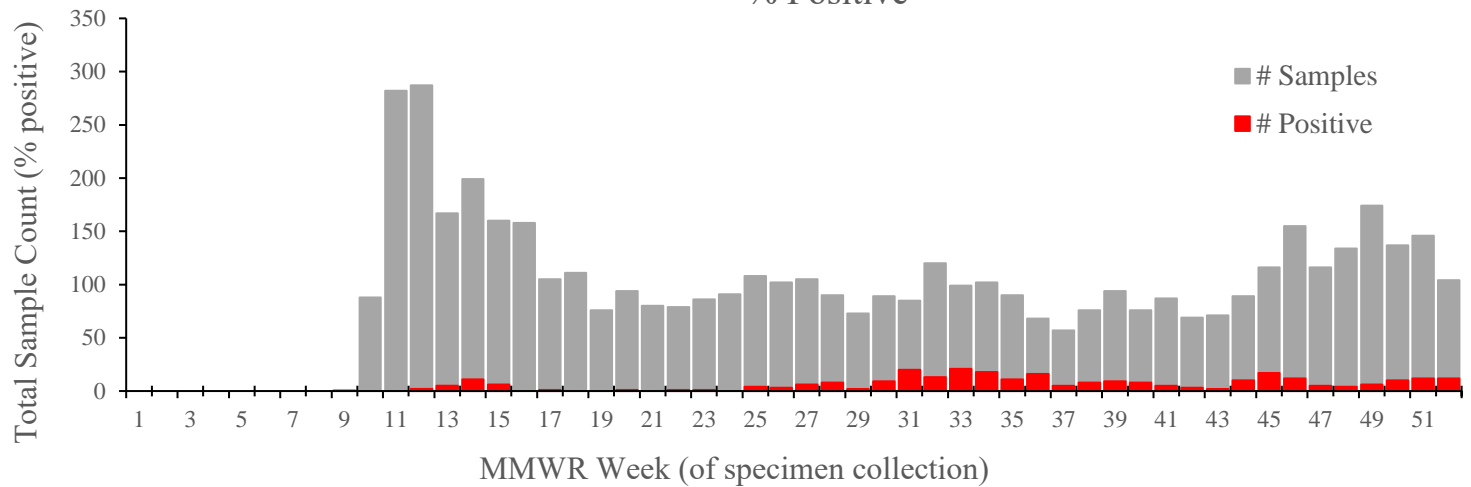
Cumulative Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	445	2.3	0-17	803	3.5
Honolulu	3,308	7.8	18-64	2,710	7.3
Kauai	217	0.5	65+	1,343	4.6
Maui	614	2.3			
Unknown	272	1.1			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

# COVID-19 Surveillance Samples Tested (N=4,856), % Positive

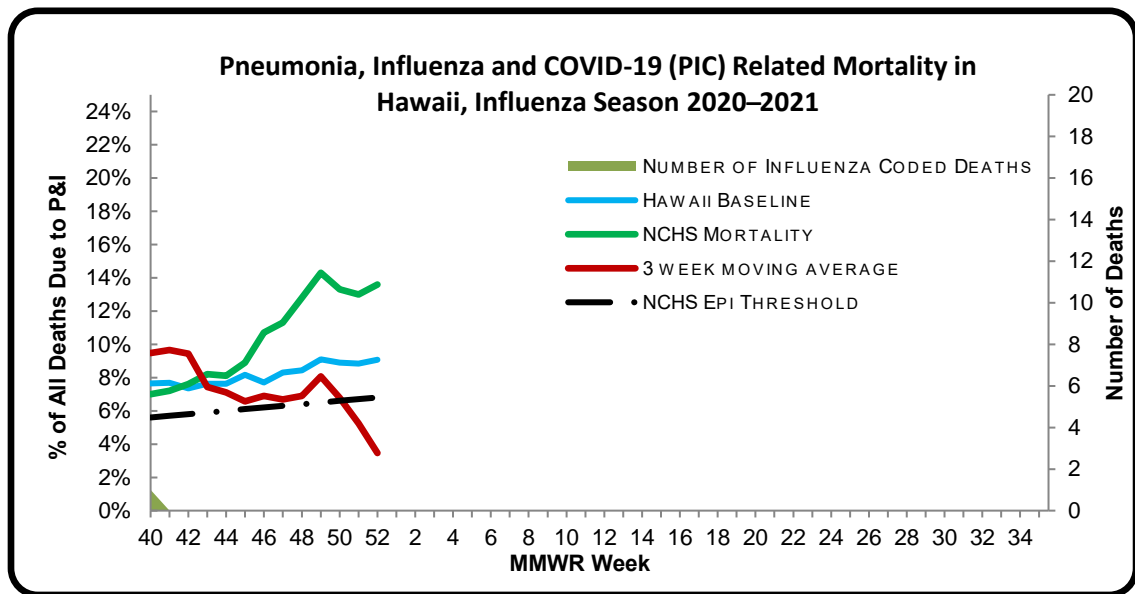


### III. PNEUMONIA, INFLUENZA OR COVID-19 (PIC) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 52** of the current influenza season:

- **3.9%** of all deaths that occurred in Hawaii during week 52 were related to pneumonia, influenza, or COVID-19 (PIC)<sup>14</sup>. For the current season (season to date: **6.9%**), there have been 2,808 deaths from any cause, 195 of which were due to PIC.
- The PIC rate was lower than the historical baseline in Hawaii<sup>15</sup> (i.e., outside the 95% confidence interval).
- The Hawaii PIC rate was lower than the CDC's National Center for Health Statistics (NCHS) PIC mortality<sup>16</sup> (**13.6%**) (i.e., outside the 95% confidence interval) and lower than the national epidemic threshold (**6.8%**) (i.e., outside the 95% confidence interval) for week 52.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 52. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 52. (2020–2021 season total: 1).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.



**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### **A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *No human infections with a novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 52.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*

#### **B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **December 9, 2020**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/2/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/9/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/16/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/23/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	1/30/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/6/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/13/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/20/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	2/27/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/6/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/13/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/20/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	3/27/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/3/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/10/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/17/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	4/24/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/1/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/8/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/15/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/22/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	5/29/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/5/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/12/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/19/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	6/26/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/3/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/10/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/17/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/24/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	7/31/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/7/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/14/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/21/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	8/28/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/4/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/11/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/18/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	9/25/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/2/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/9/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/16/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/23/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	10/30/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/6/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/13/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/20/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	11/27/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/4/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/11/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/18/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	12/25/2021



# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 53: DECEMBER 27, 2020–JANUARY 2, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 53

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.7%	Higher than the previous week. Comparable to Hawaii's historical baseline, lower than the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 2 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.3%	Higher than the previous week. This number means that many, if not all, of the 99.7% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 53)	17.7%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia, influenza or COVID-19 (PIC) mortality rate	0.0%	Lower than Hawaii's historical baseline, lower than the national epidemic threshold and lower than the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See appendix 2 for interpretation of MMWR weeks. Data reported will begin on week 40, the traditional start date of flu season.

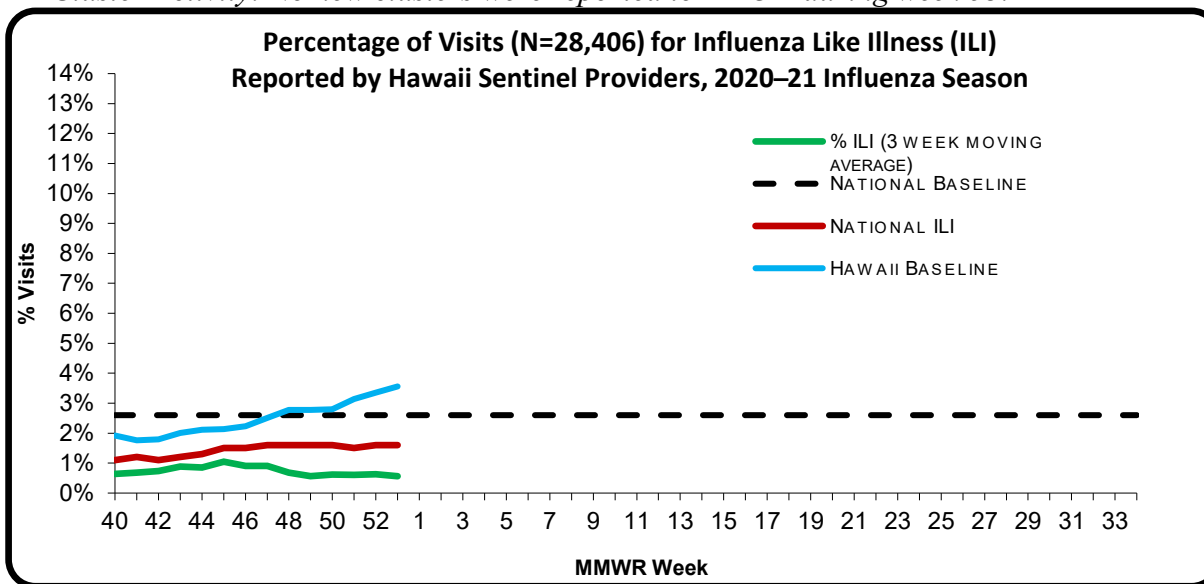
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 53 of the current influenza season:

- **0.7%** (season to date: **0.8%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.6%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 53.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

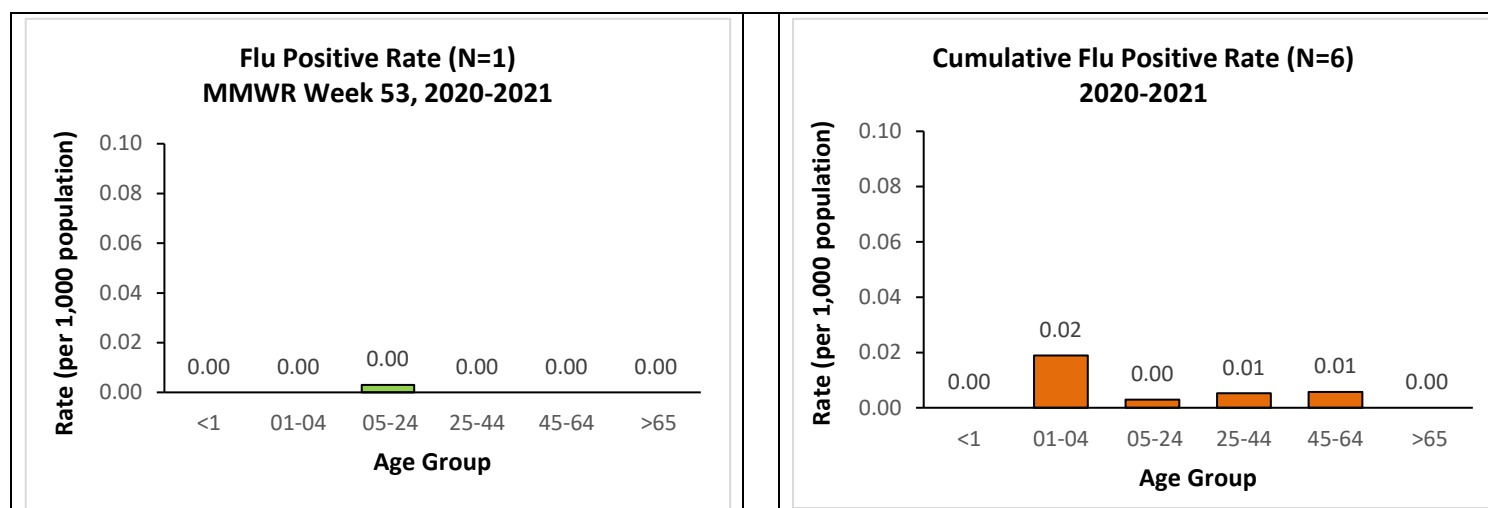
### A. INFLUENZA:

- The following reflects laboratory findings for week 53 of the 2020–21 influenza season:
  - A total of **392** specimens have been tested statewide for influenza viruses (positive: 1 [0.3%]). (Season to date: 5,068 tested [0.1% positive])
    - 95 (24.2%) were screened only by rapid antigen tests with no confirmatory testing.
    - 297 (75.8%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 391 (99.7%) were negative.

Influenza type	Current week 53 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	1 (100.0)	6 (100.0)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	0 (0.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

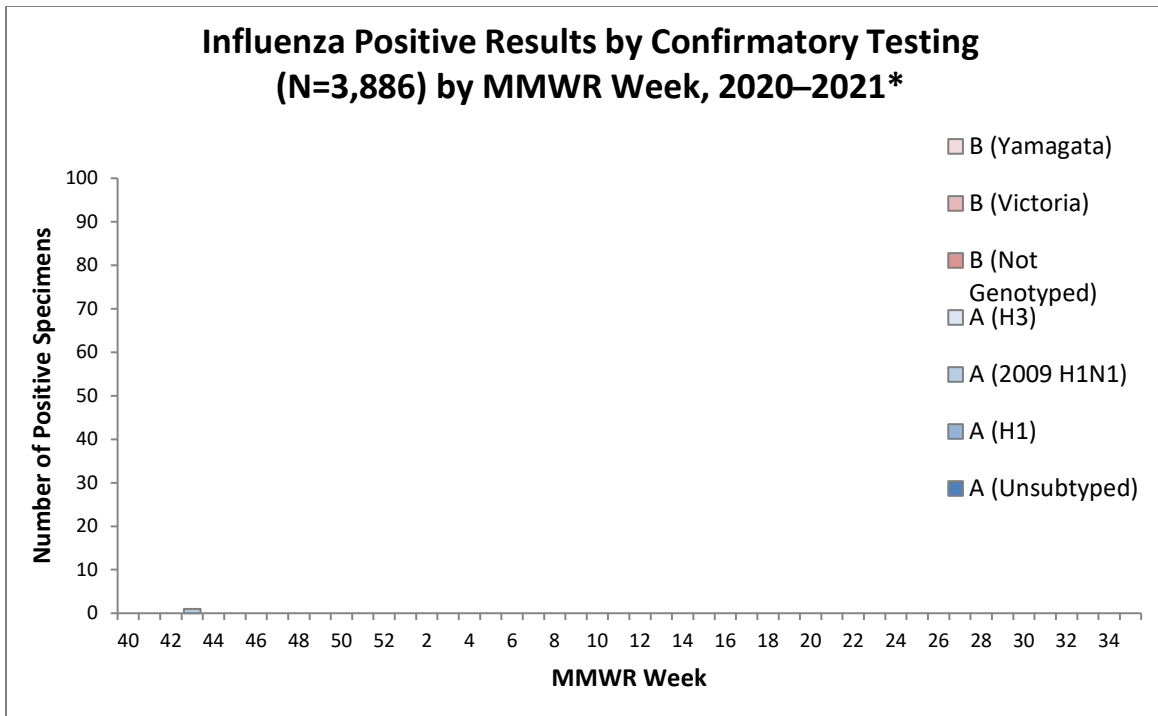
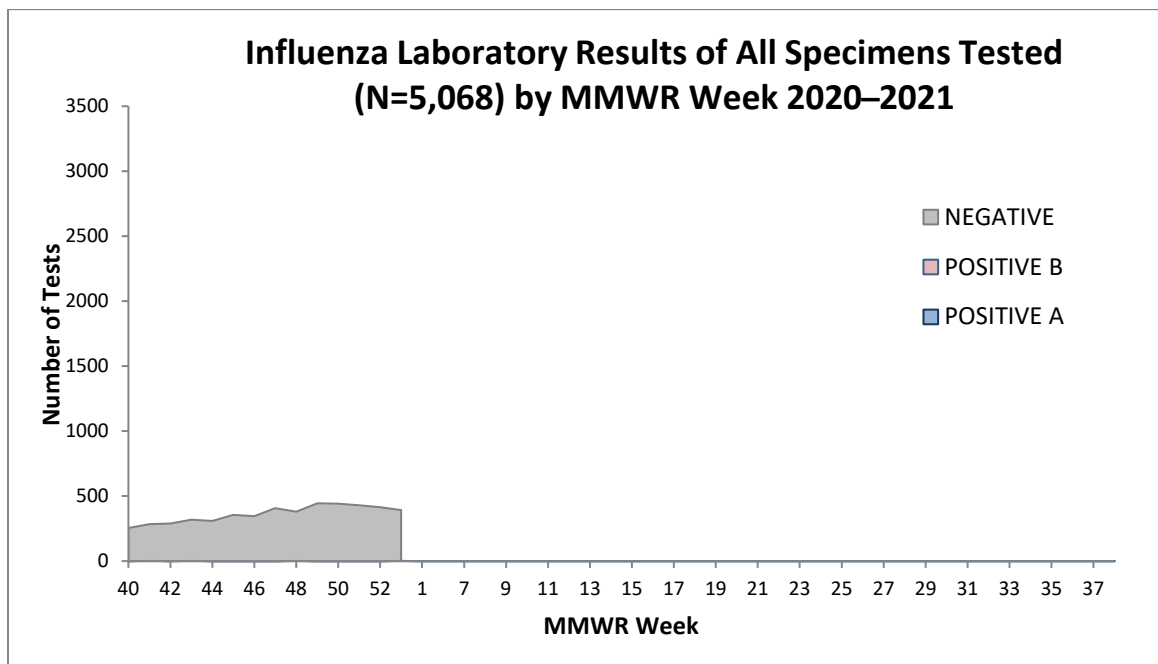
<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.



## 2. LABORATORY TESTING

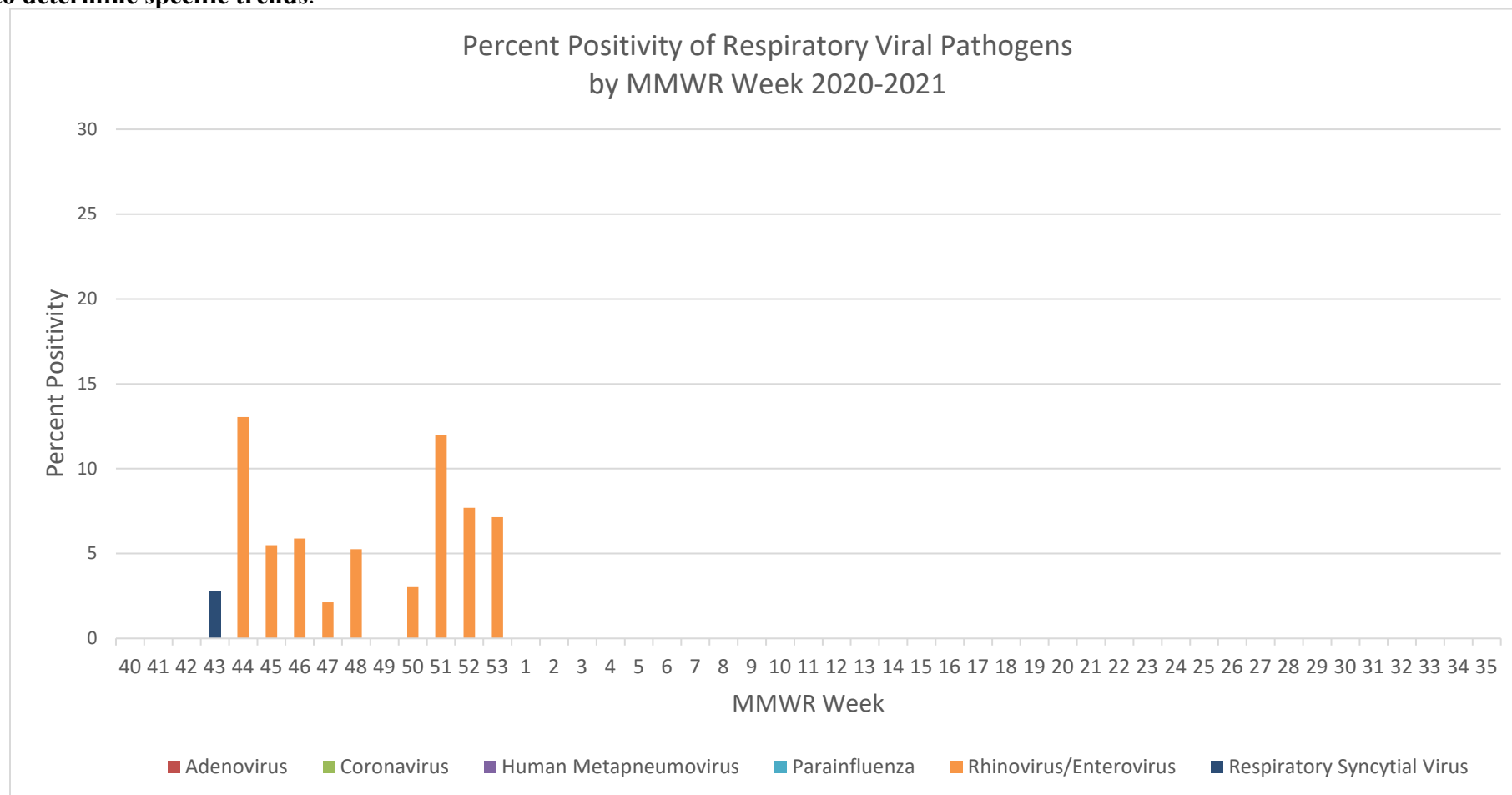
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.



**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate the novel coronavirus (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 53<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>12</sup>
  - A total of **147** surveillance specimens have been tested statewide for COVID-19 (positive: 26 [17.7%]).
  - Cumulative: A total of **5,106** surveillance specimens have been tested for COVID-19 (positive: 320 [6.3%]).
  - 888 specimens have been tested at SLD<sup>13</sup>.

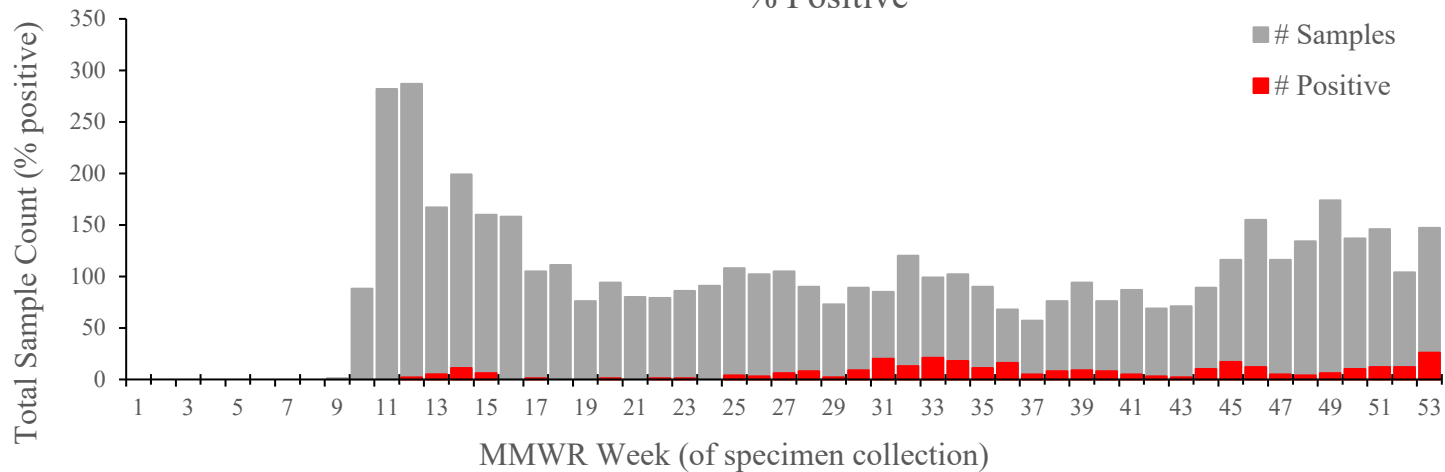
Cumulative Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	461	2.2	0-17	810	3.3
Honolulu	3,500	8.2	18-64	2,834	7.8
Kauai	224	0.5	65+	1,434	5.0
Maui	643	3.0			
Unknown	278	1.4			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

### COVID-19 Surveillance Samples Tested (N=5,106), % Positive

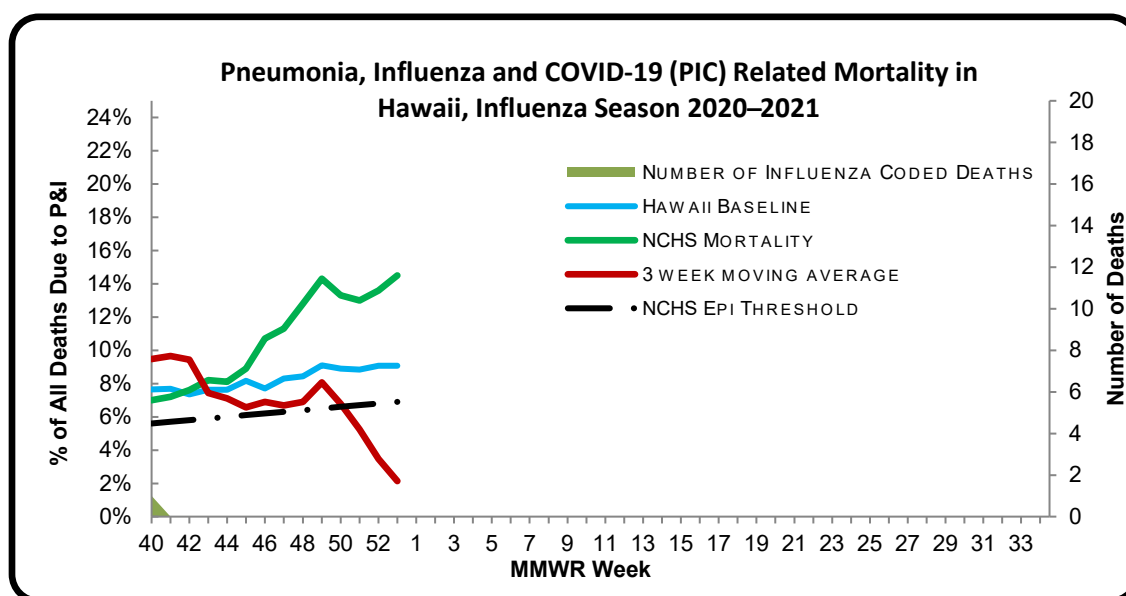


### III. PNEUMONIA, INFLUENZA OR COVID-19 (PIC) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For week 53 of the current influenza season:

- **0.0%** of all deaths that occurred in Hawaii during week 53 were related to pneumonia, influenza, or COVID-19 (PIC)<sup>14</sup>. For the current season (season to date: **6.8%**), there have been 2,870 deaths from any cause, 195 of which were due to PIC.
- The PIC rate was lower than the historical baseline in Hawaii<sup>15</sup> (i.e., outside the 95% confidence interval).
- The Hawaii PIC rate was lower than the CDC's National Center for Health Statistics (NCHS) PIC mortality<sup>16</sup> (**14.5%**) (i.e., outside the 95% confidence interval) and lower than the national epidemic threshold (**6.9%**) (i.e., outside the 95% confidence interval) for week 53.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 53. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 53. (2020–2021 season total: 1).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### **A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *No human infections with a novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 53.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*

#### **B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **December 9, 2020**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/2/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/9/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/16/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/23/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	1/30/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/6/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/13/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/20/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	2/27/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/6/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/13/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/20/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	3/27/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/3/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/10/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/17/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	4/24/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/1/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/8/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/15/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/22/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	5/29/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/5/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/12/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/19/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	6/26/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/3/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/10/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/17/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/24/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	7/31/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/7/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/14/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/21/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	8/28/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/4/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/11/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/18/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	9/25/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/2/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/9/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/16/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/23/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	10/30/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/6/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/13/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/20/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	11/27/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/4/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/11/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/18/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	12/25/2021
53				01/02/2021	





# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 1: JANUARY 3, 2021–JANUARY 9, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 1

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.5%	Lower than the previous week. Comparable to Hawaii's historical baseline, lower than the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 2 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Lower than the previous week. This number means that many, if not all, of the 100% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 1)	13.3%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia, influenza or COVID-19 (PIC) mortality rate	6.2%	Comparable to Hawaii's historical baseline, comparable to the national epidemic threshold and lower than the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See **appendix 2 for interpretation of MMWR weeks**. Data reported will begin on week 40, the traditional start date of flu season.

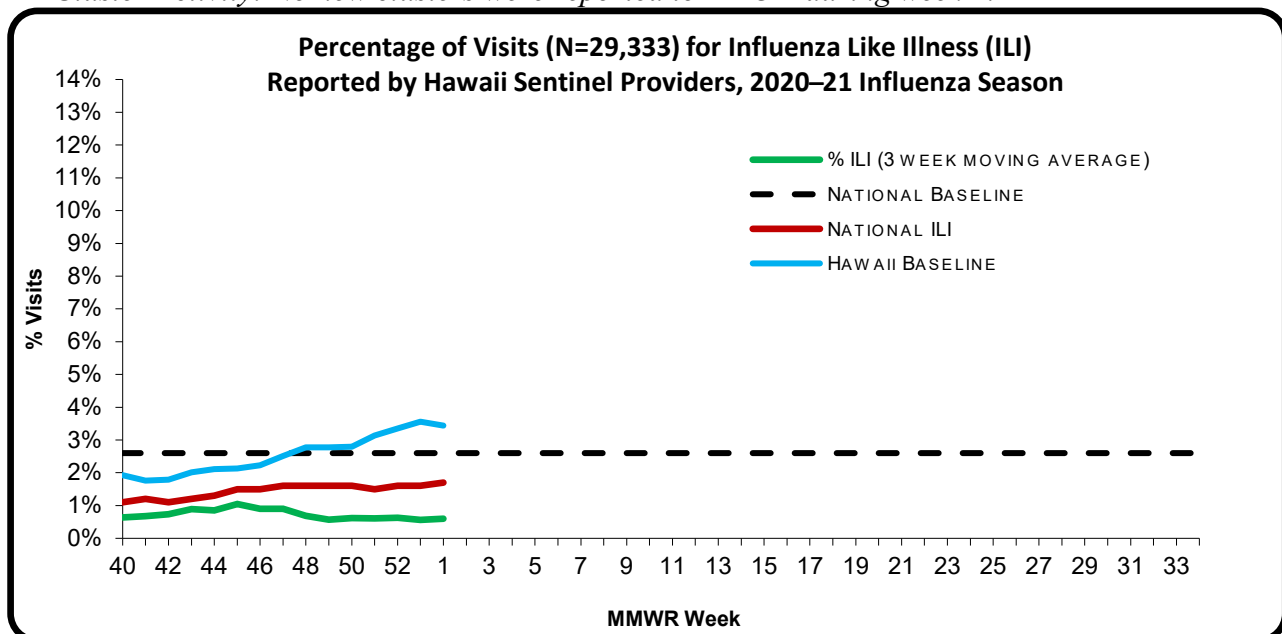
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 1 of the current influenza season:

- **0.5%** (season to date: **0.8%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.7%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 1.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

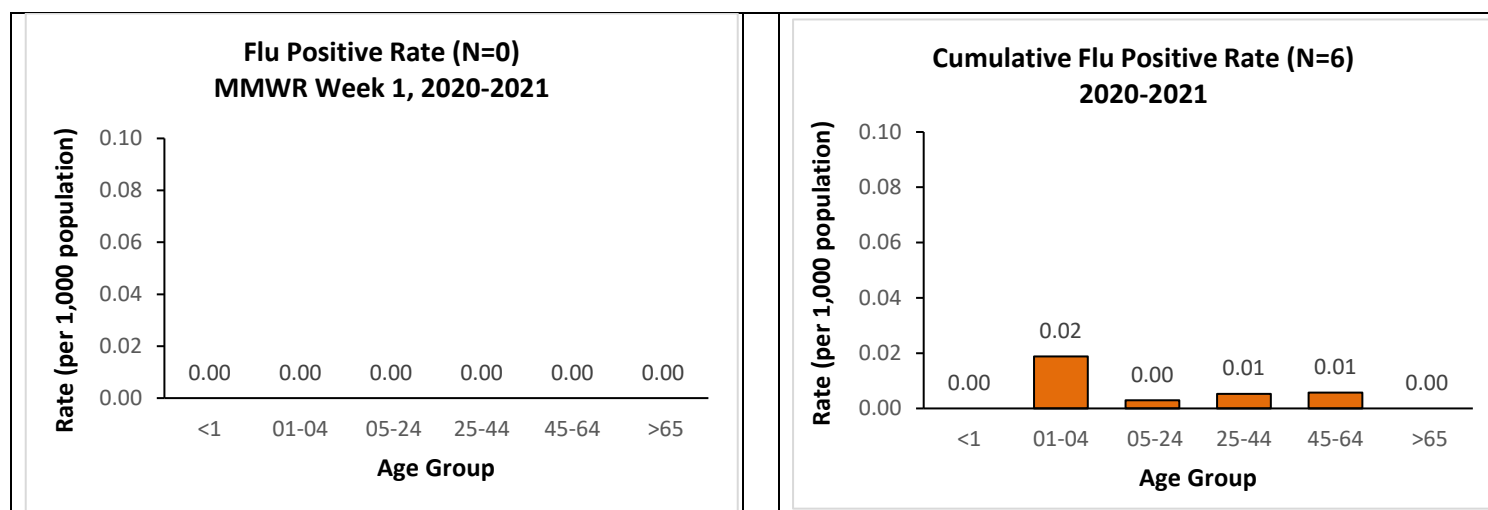
### A. INFLUENZA:

- The following reflects laboratory findings for week 1 of the 2020–21 influenza season:
  - A total of **465** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 5,535 tested [0.1% positive])
    - 107 (23.0%) were screened only by rapid antigen tests with no confirmatory testing.
    - 358 (77.0%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 465 (100.0%) were negative.

Influenza type	Current week 1 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	6 (100.0)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	0 (0.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



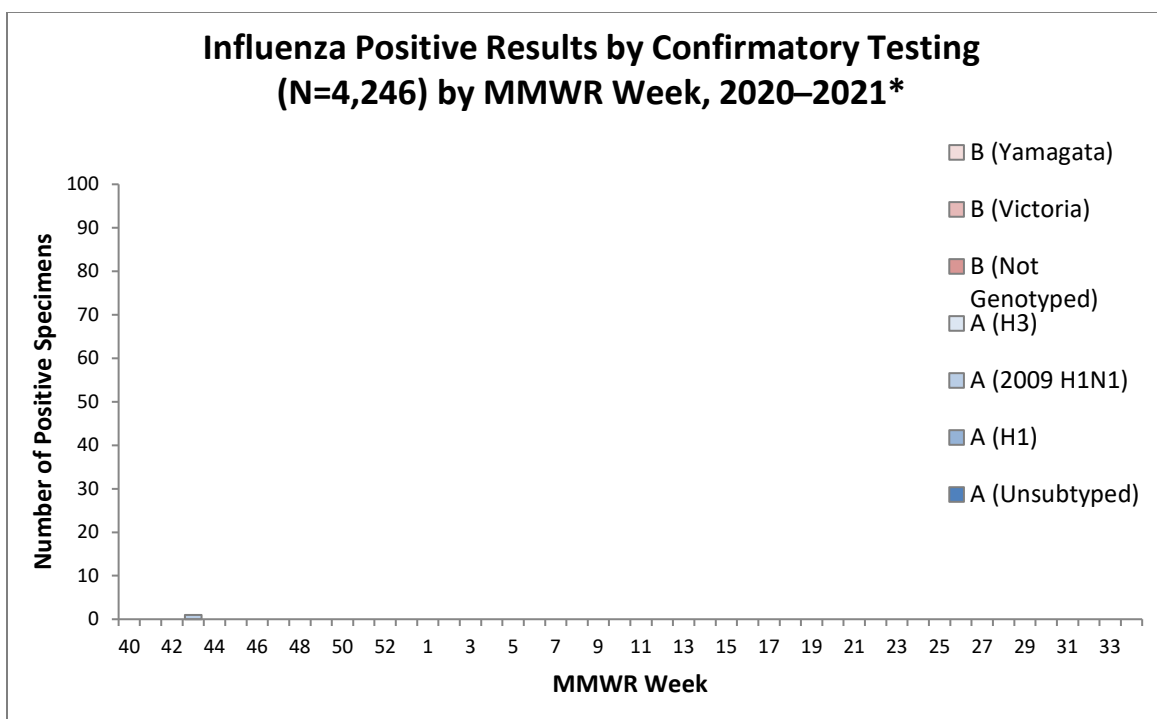
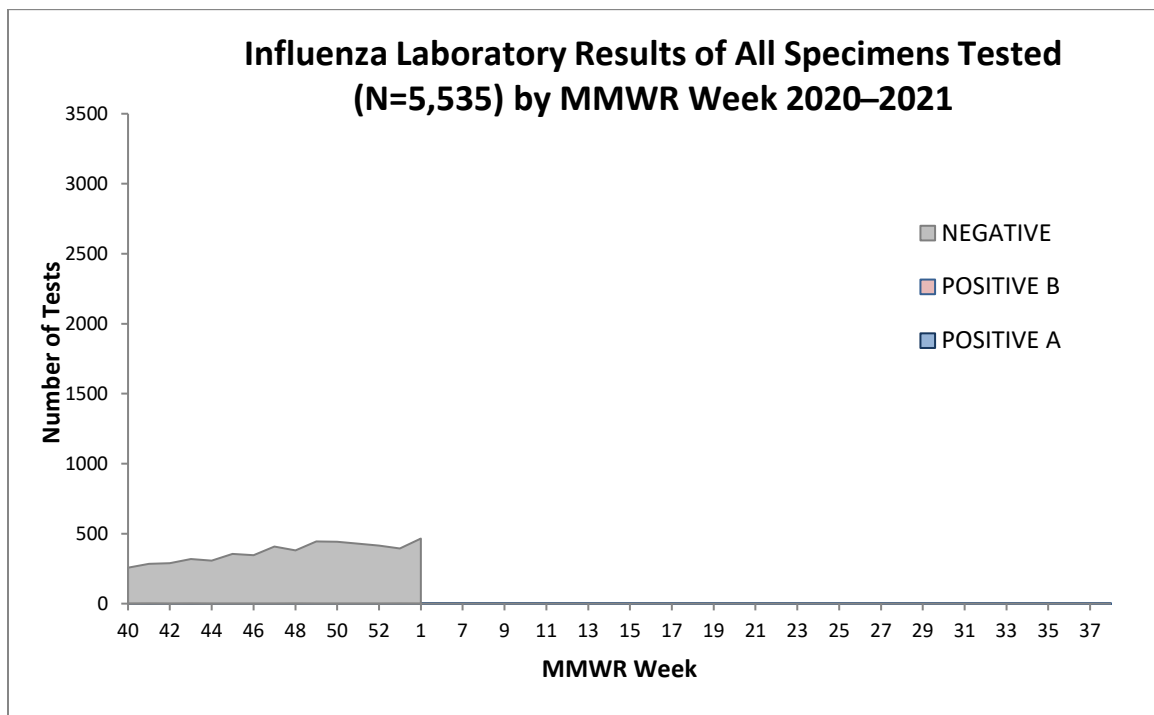
<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.

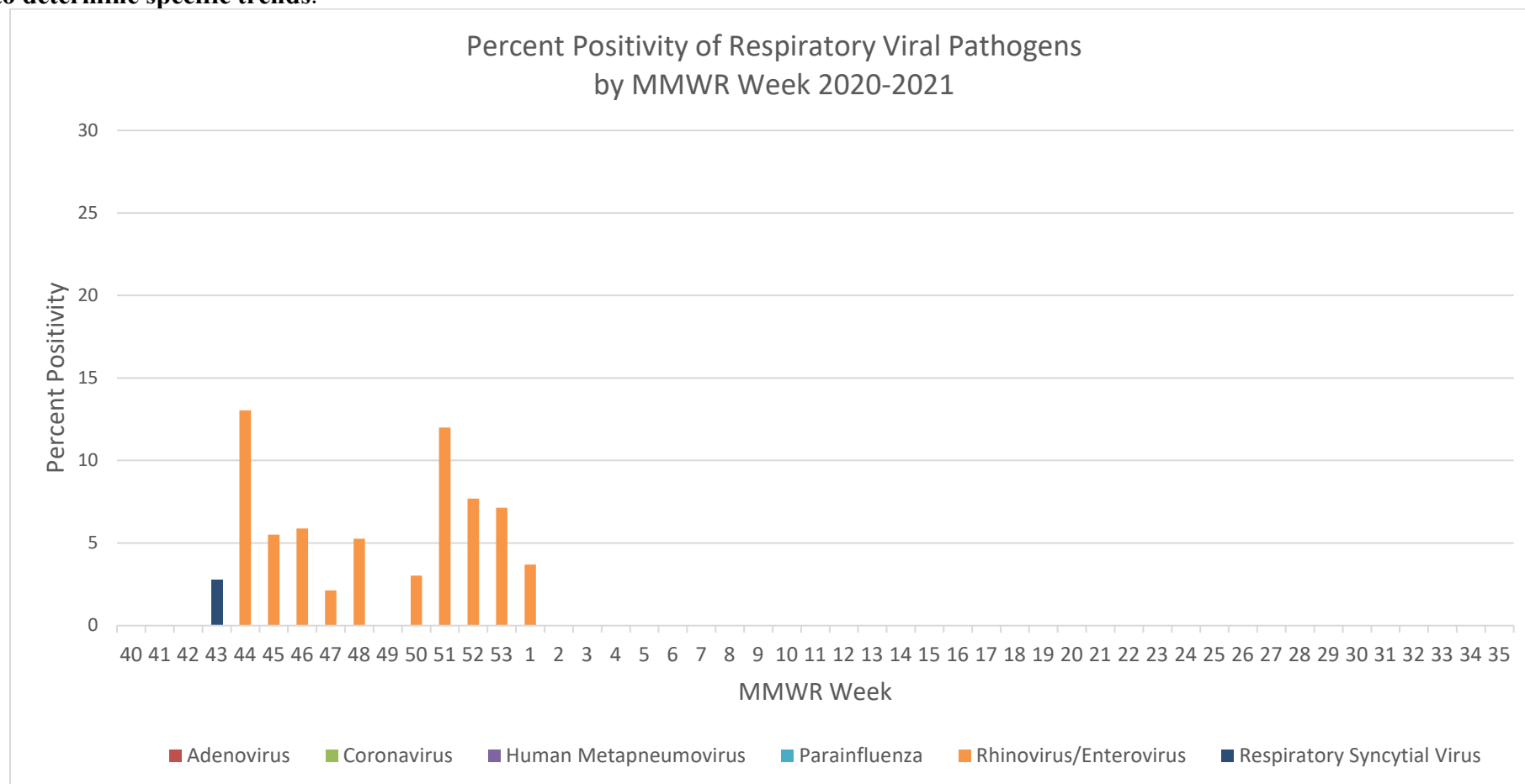
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 1<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>12</sup>
  - *A total of 113 surveillance specimens have been tested statewide for COVID-19 (positive: 15 [13.3%]).*
  - *Cumulative: A total of 5,241 surveillance specimens have been tested for COVID-19 (positive: 334[6.4%]).*
  - *893 specimens have been tested at SLD*<sup>13</sup>.

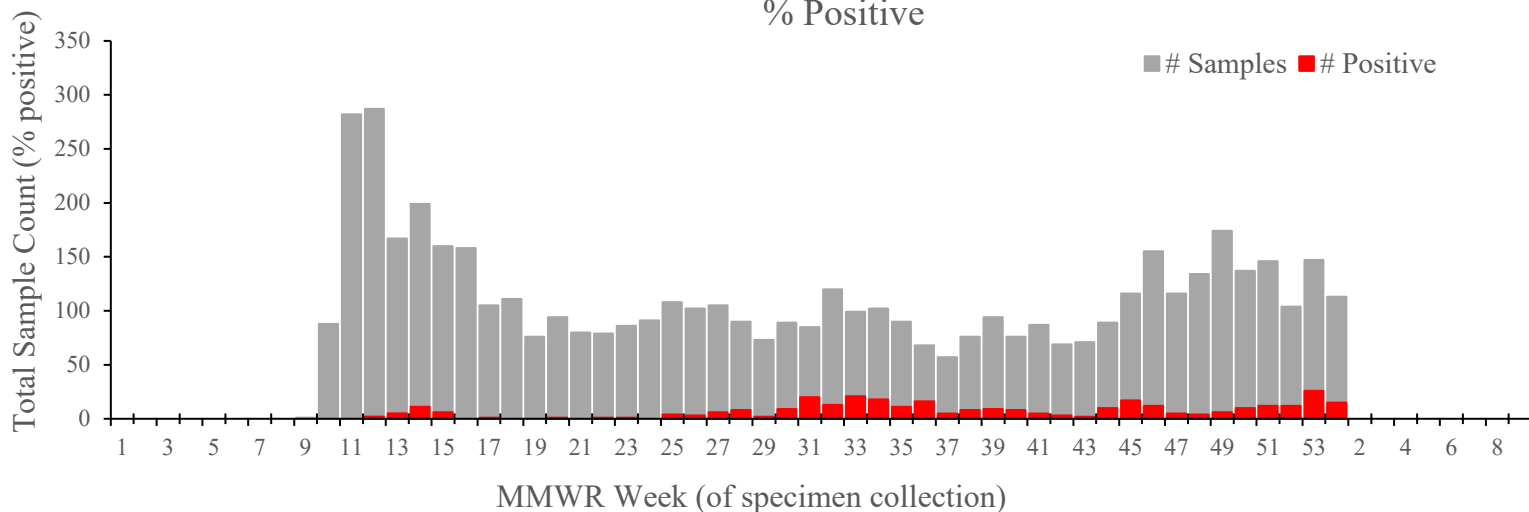
Cumulative Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	469	2.1	0-17	854	3.4
Honolulu	3,599	8.3	18-64	2,910	7.9
Kauai	224	0.5	65+	1,477	5.2
Maui	665	3.3			
Unknown	284	1.4			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

# COVID-19 Surveillance Samples Tested (N=5,241), % Positive

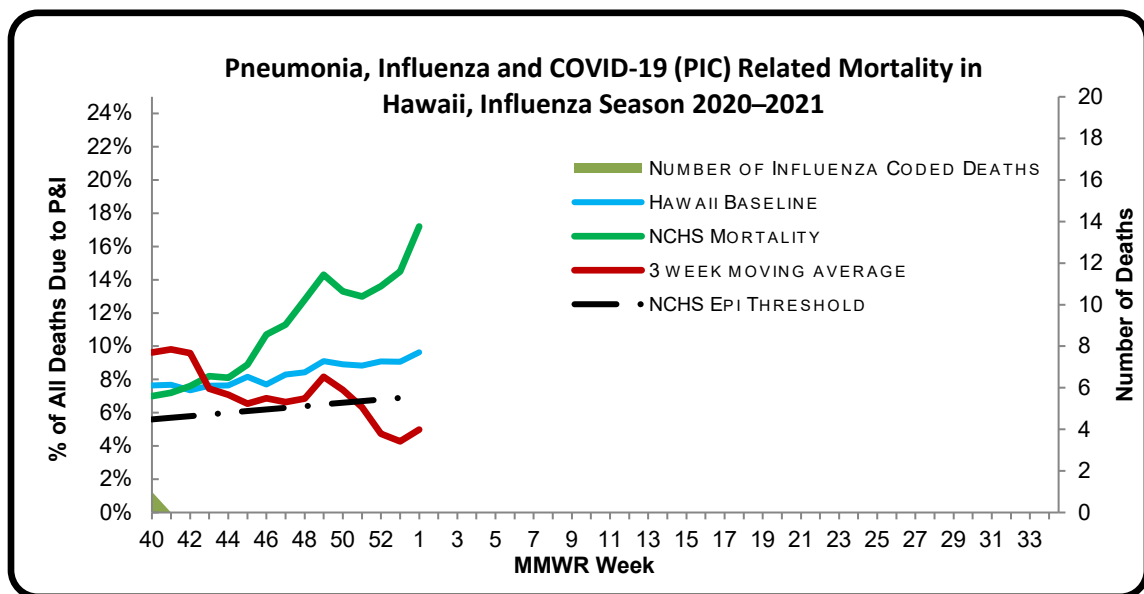


### III. PNEUMONIA, INFLUENZA OR COVID-19 (PIC) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 1** of the current influenza season:

- **6.2%** of all deaths that occurred in Hawaii during week 1 were related to pneumonia, influenza, or COVID-19 (PIC)<sup>14</sup>. For the current season (season to date: **7.0%**), there have been 3,075 deaths from any cause, 216 of which were due to PIC.
- The PIC rate was comparable to the historical baseline in Hawaii<sup>15</sup> (i.e., inside the 95% confidence interval).
- The Hawaii PIC rate was lower than the CDC's National Center for Health Statistics (NCHS) PIC mortality<sup>16</sup> (**17.2%**) (i.e., outside the 95% confidence interval) and comparable to the national epidemic threshold (**7.0%**) (i.e., inside the 95% confidence interval) for week 1.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 1. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 1. (2020-2021 season total: 1).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.



**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### **A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *No human infections with a novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 1.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*

#### **B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **December 9, 2020**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/2/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/9/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/16/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/23/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	1/30/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/6/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/13/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/20/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	2/27/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/6/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/13/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/20/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	3/27/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/3/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/10/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/17/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	4/24/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/1/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/8/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/15/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/22/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	5/29/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/5/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/12/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/19/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	6/26/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/3/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/10/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/17/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/24/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	7/31/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/7/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/14/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/21/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	8/28/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/4/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/11/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/18/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	9/25/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/2/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/9/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/16/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/23/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	10/30/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/6/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/13/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/20/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	11/27/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/4/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/11/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/18/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	12/25/2021
53				01/02/2021	



# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 2: JANUARY 10, 2021–JANUARY 16, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 2

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.7%	Higher than the previous week. Lower than Hawaii's historical baseline, lower than the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 2 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Comparable to the previous week. This number means that many, if not all, of the 100% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 1)	8.8%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia, influenza or COVID-19 (PIC) mortality rate	4.4%	Lower than Hawaii's historical baseline, comparable to the national epidemic threshold and lower than the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See **appendix 2 for interpretation of MMWR weeks**. Data reported will begin on week 40, the traditional start date of flu season.

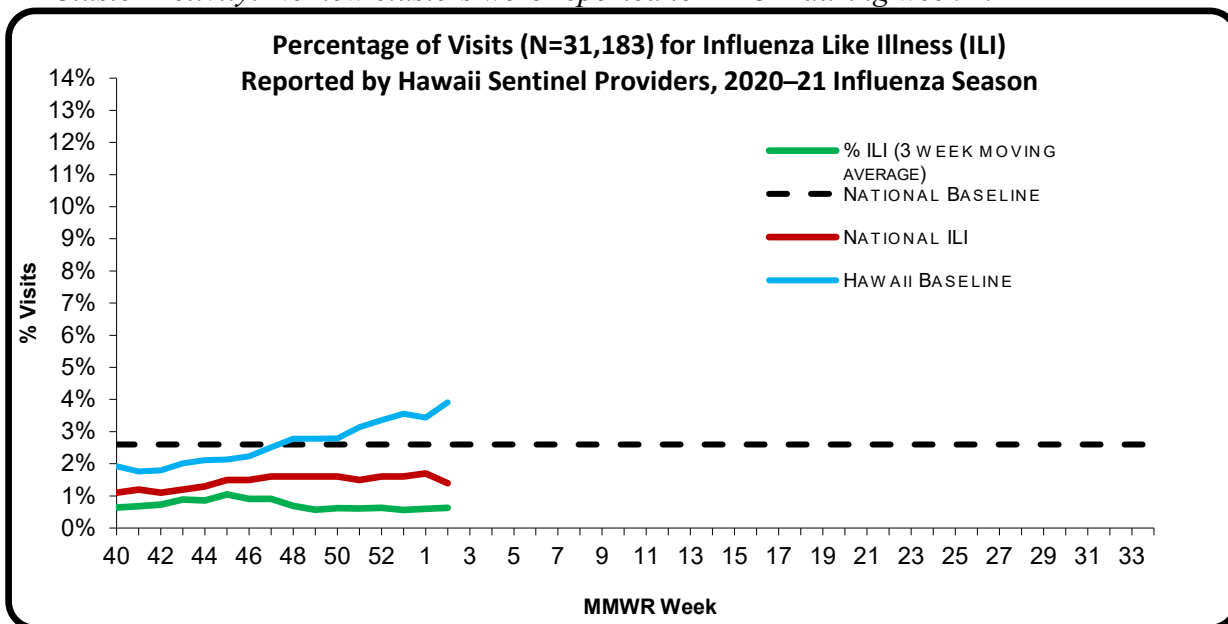
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 2 of the current influenza season:

- **0.7%** (season to date: **0.8%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were lower than the historical baseline in Hawaii<sup>3,4</sup> (i.e., outside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.4%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 2.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

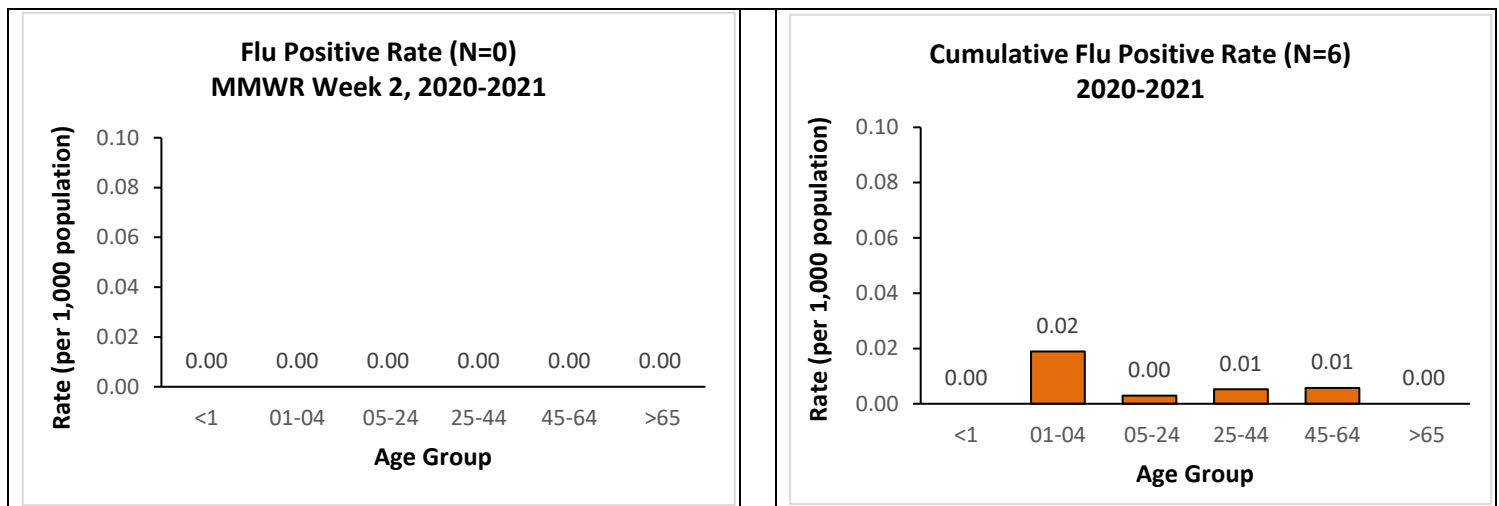
### A. INFLUENZA:

- The following reflects laboratory findings for week 2 of the 2020–21 influenza season:
  - A total of **459** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 6,003 tested [0.1% positive])
    - 86 (18.7%) were screened only by rapid antigen tests with no confirmatory testing.
    - 373 (81.3%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 459 (100.0%) were negative.

Influenza type	Current week 2 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	6 (100.0)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	0 (0.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



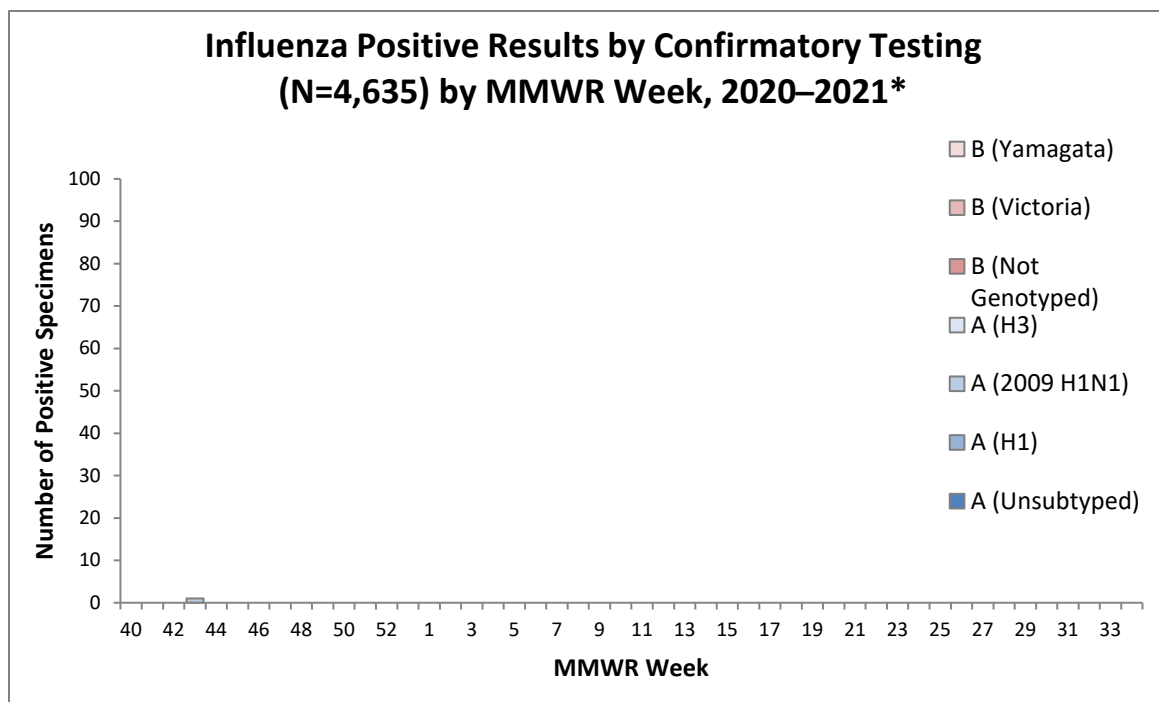
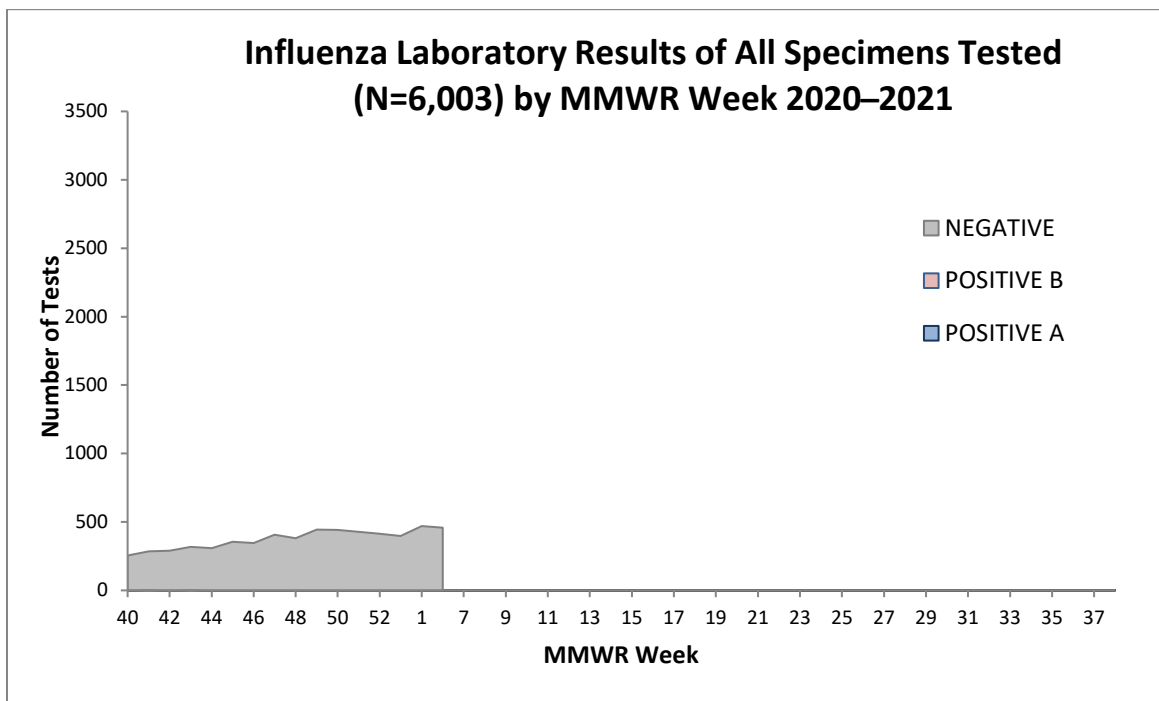
<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.

## 2. LABORATORY TESTING

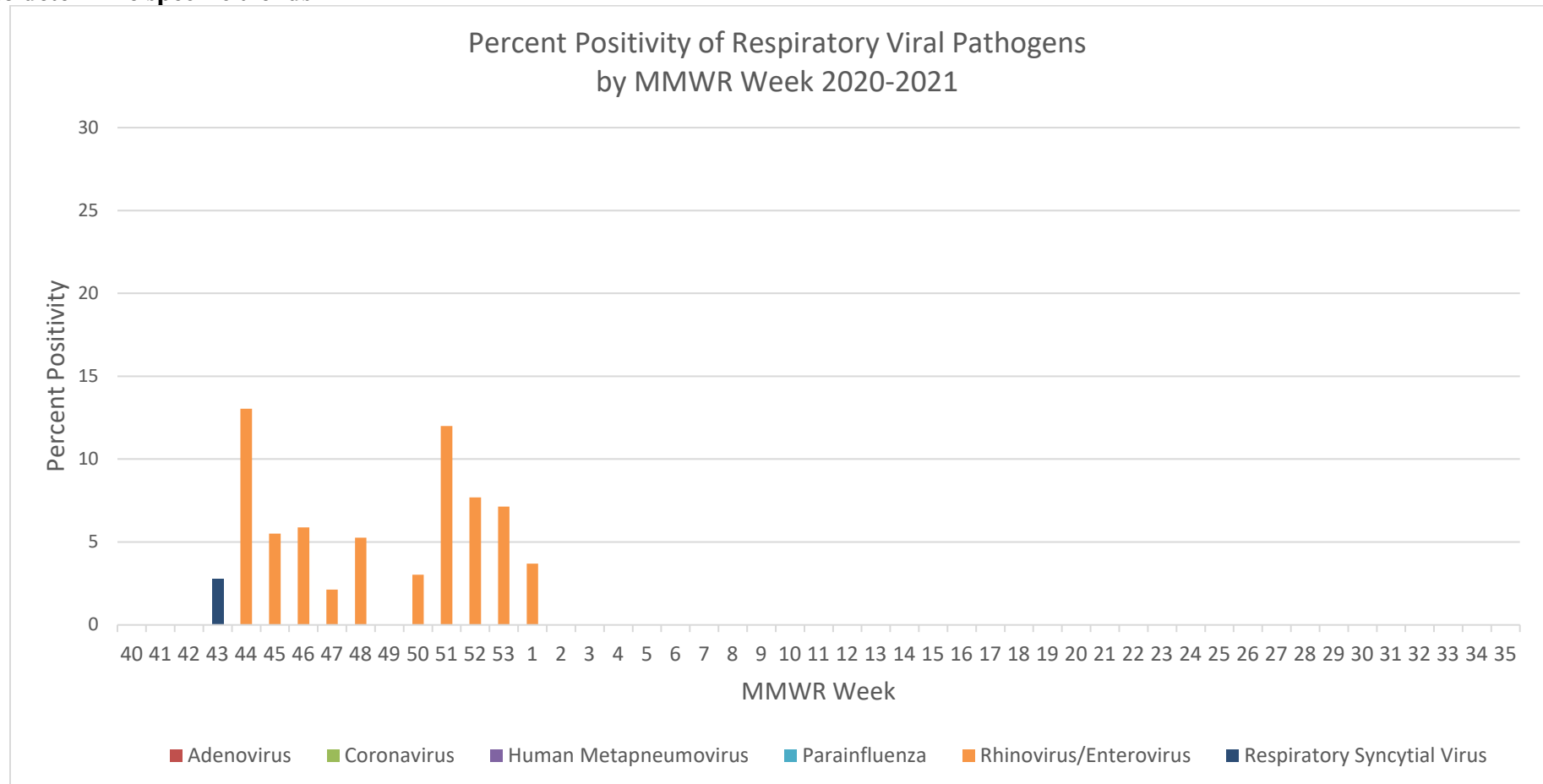
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.



**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 2<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>12</sup>
  - *A total of 125 surveillance specimens have been tested statewide for COVID-19 (positive: 11 [8.8%]).*
  - *Cumulative: A total of 5,389 surveillance specimens have been tested for COVID-19 (positive: 347[6.4%]).*
  - *894 specimens have been tested at SLD*<sup>13</sup>.

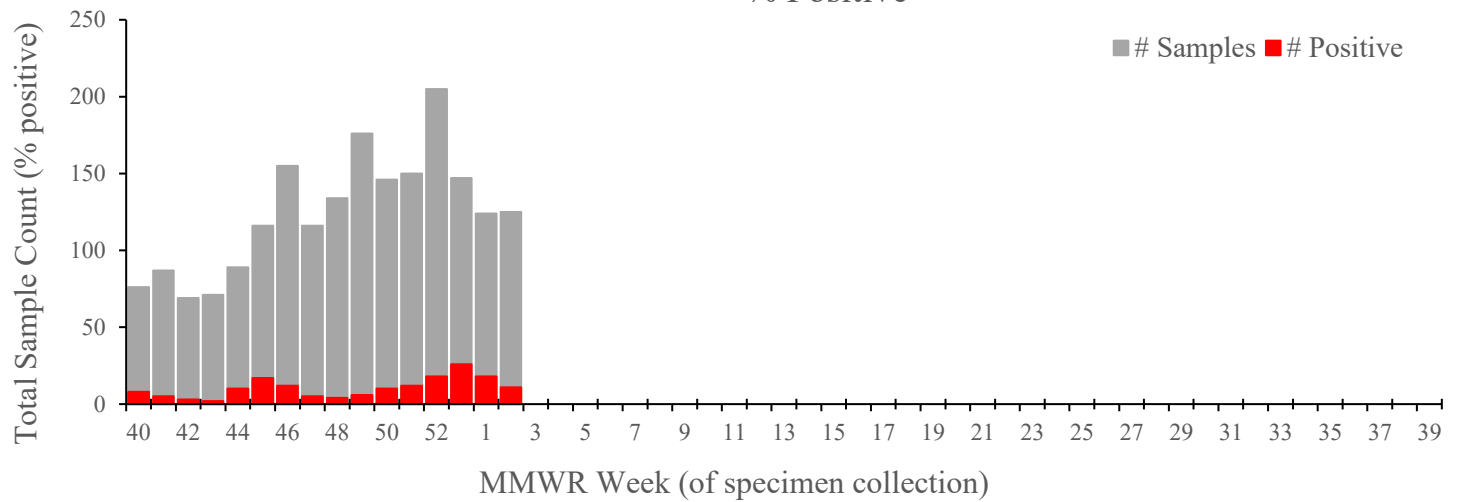
Cumulative Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	472	2.1	0-17	878	3.5
Honolulu	3,708	8.3	18-64	2,985	7.9
Kauai	235	0.4	65+	1,526	5.2
Maui	685	3.7			
Unknown	289	1.4			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

### COVID-19 Surveillance Samples Tested (N=1,986), % Positive

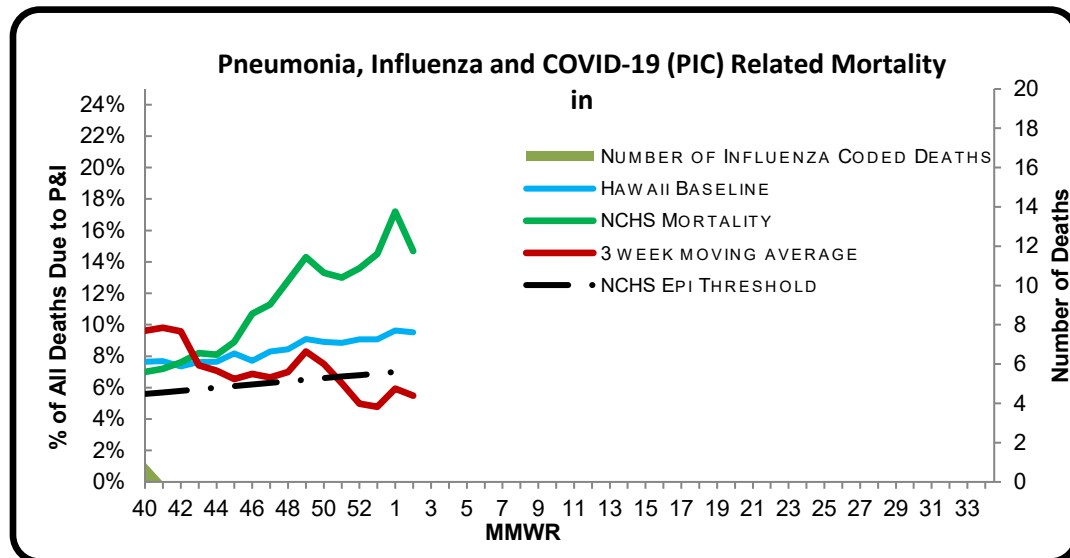


### III. PNEUMONIA, INFLUENZA OR COVID-19 (PIC) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 2** of the current influenza season:

- *4.4% of all deaths that occurred in Hawaii during week 2 were related to pneumonia, influenza, or COVID-19 (PIC)<sup>14</sup>. For the current season (season to date: 7.0%), there have been 3,295 deaths from any cause, 232 of which were due to PIC.*
- *The PIC rate was lower than the historical baseline in Hawaii<sup>15</sup> (i.e., outside the 95% confidence interval).*
- *The Hawaii PIC rate was lower than the CDC's National Center for Health Statistics (NCHS) PIC mortality<sup>16</sup> (14.7%) (i.e., outside the 95% confidence interval) and comparable to the national epidemic threshold (7.0%) (i.e., inside the 95% confidence interval) for week 2.*



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 2. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 2. (2020-2021 season total: 1).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

**A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *No human infections with a novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 2.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*

**B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **December 9, 2020**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	





# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 3: JANUARY 17, 2021–JANUARY 23, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 3

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.6%	Lower than the previous week. Lower than Hawaii's historical baseline, lower than the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 2 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Comparable to the previous week. This number means that many, if not all, of the 100% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 1)	8.8%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia, influenza or COVID-19 (PIC) mortality rate	8.1%	Comparable to Hawaii's historical baseline, comparable to the national epidemic threshold and lower than the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See **appendix 2 for interpretation of MMWR weeks**. Data reported will begin on week 40, the traditional start date of flu season.

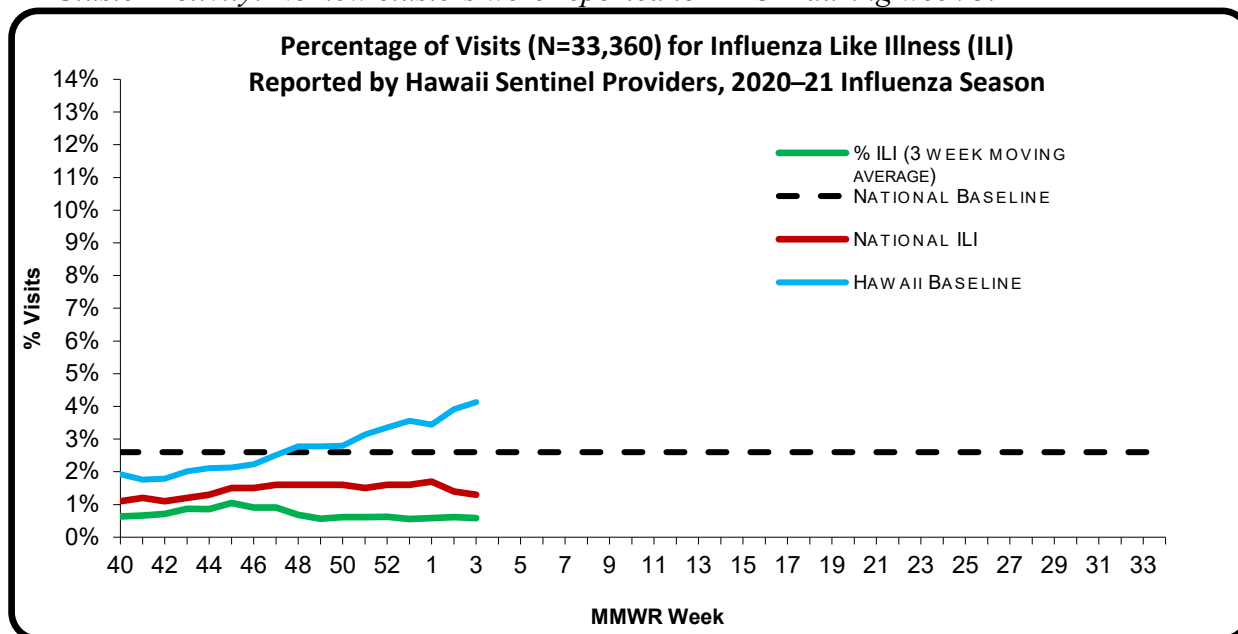
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 3 of the current influenza season:

- **0.6%** (season to date: **0.7%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were lower than the historical baseline in Hawaii<sup>3,4</sup> (i.e., outside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.3%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 3.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

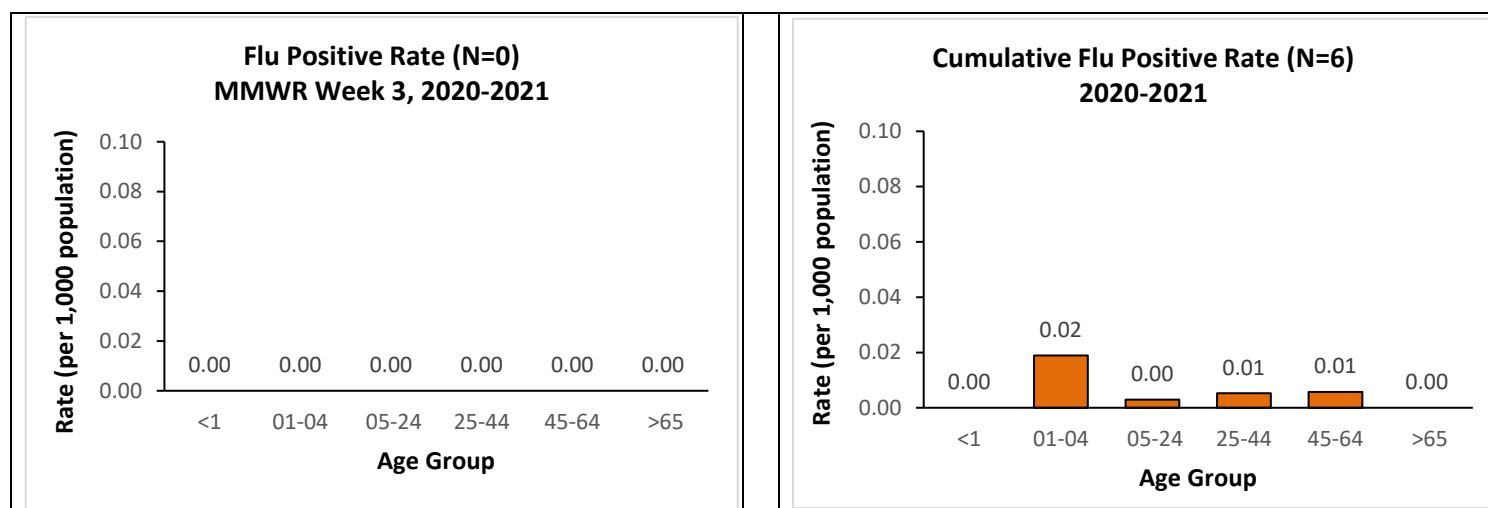
### A. INFLUENZA:

- The following reflects laboratory findings for week 3 of the 2020–21 influenza season:
  - A total of **410** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 6,419 tested [0.1% positive])
    - 75 (18.3%) were screened only by rapid antigen tests with no confirmatory testing.
    - 335 (81.7%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 410 (100.0%) were negative.

Influenza type	Current week 3 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	6 (100.0)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	0 (0.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



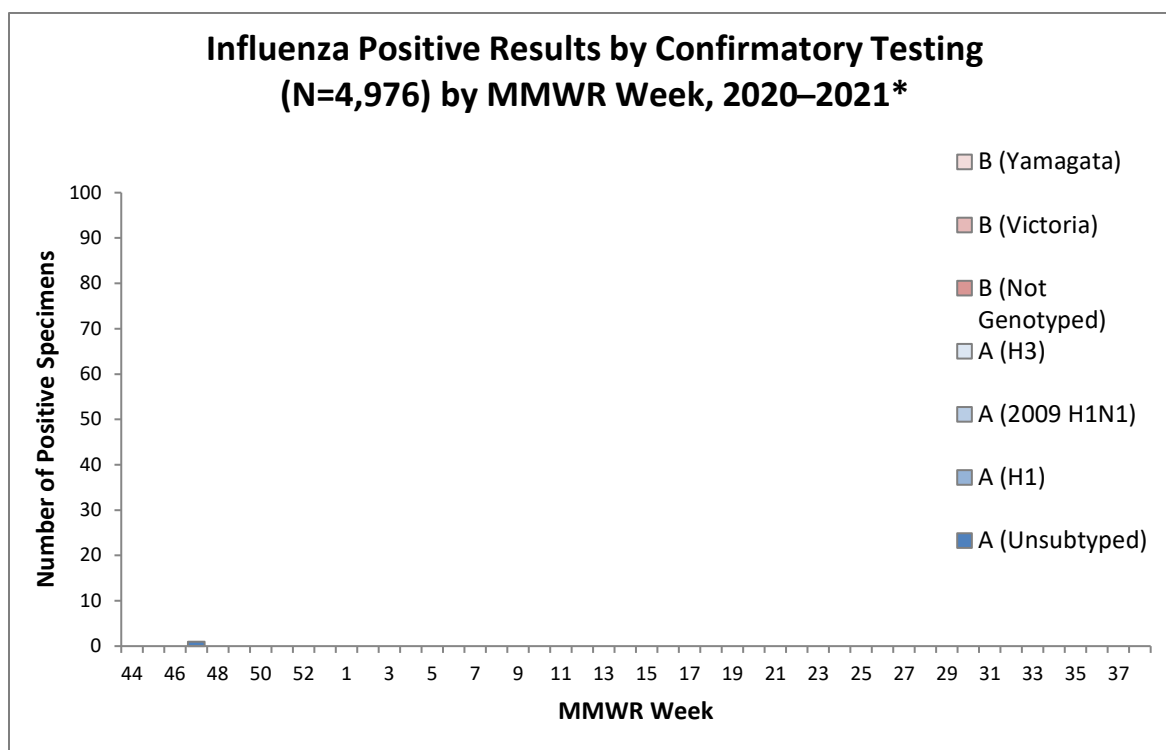
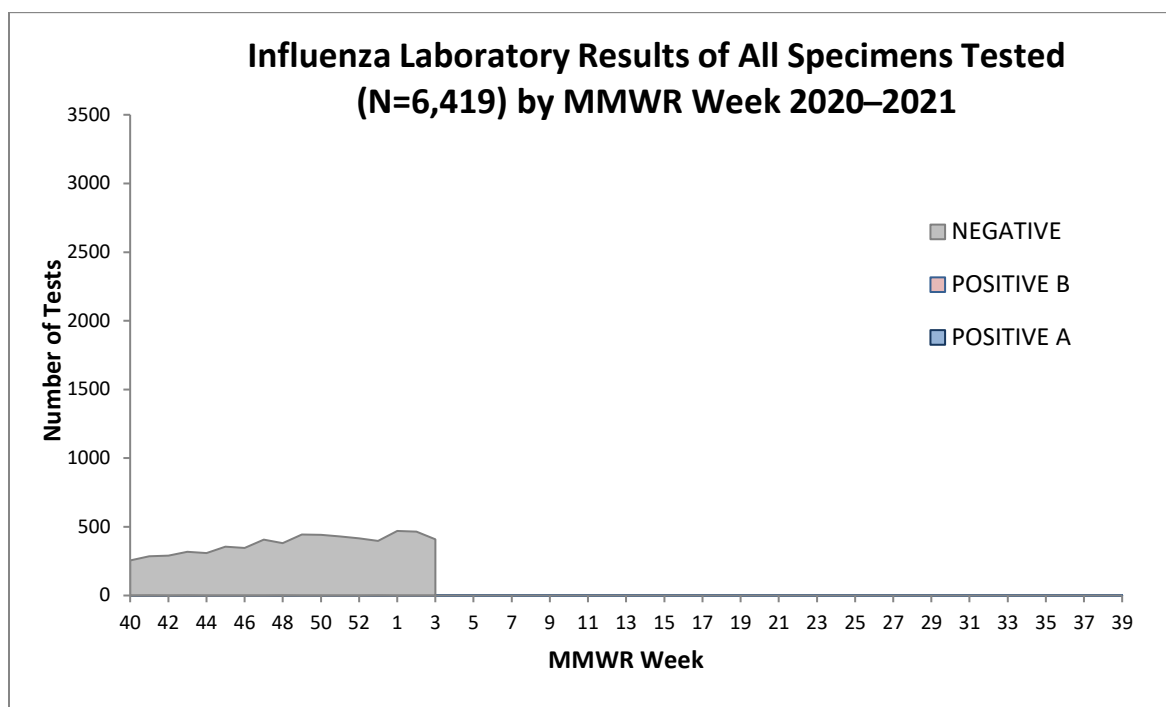
<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.

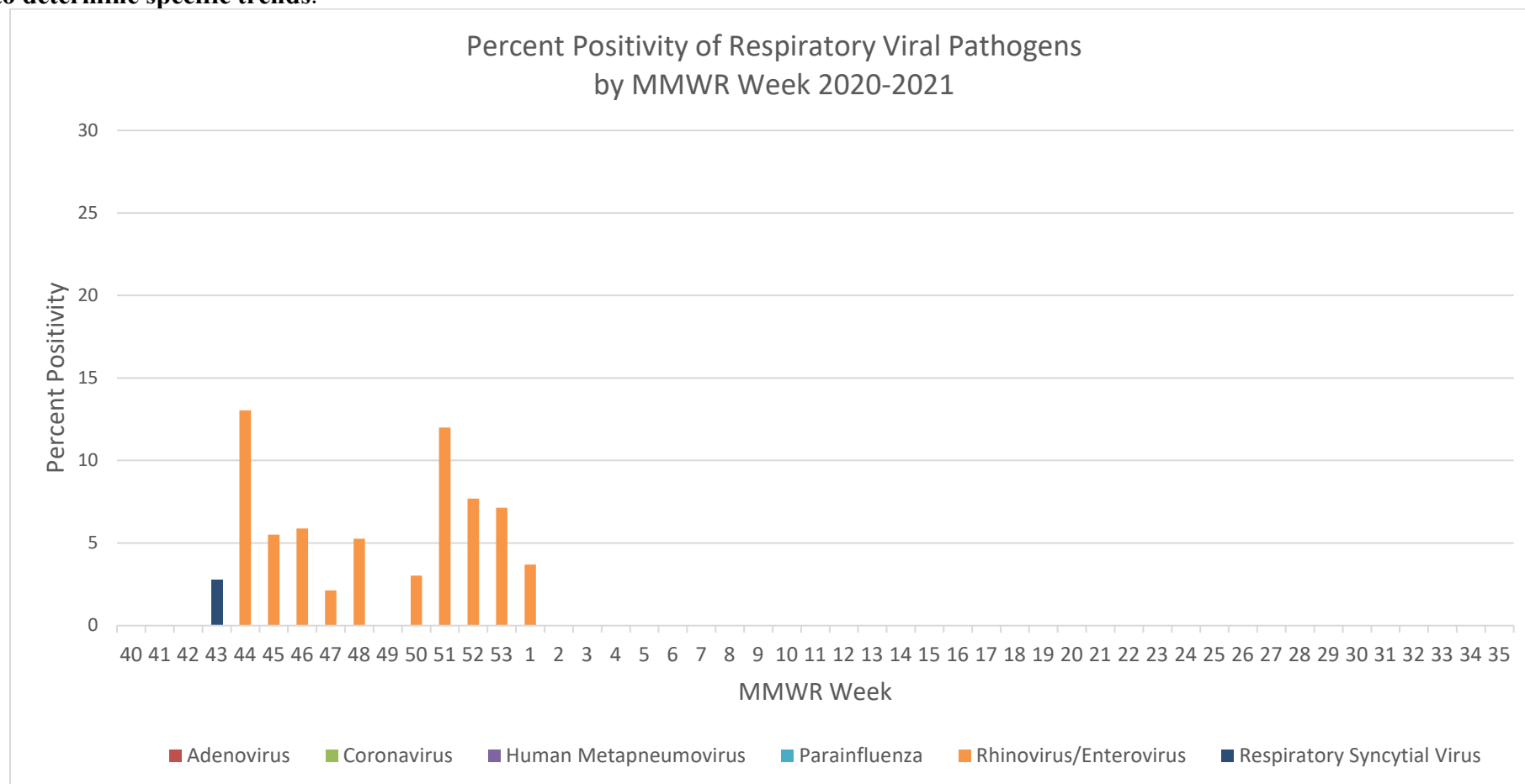
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 3<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>12</sup>
  - A total of **98** surveillance specimens have been tested statewide for COVID-19 (positive: 4 [4.1%]).
  - Cumulative: A total of **5,487** surveillance specimens have been tested for COVID-19 (positive: 351 [6.4%]).
  - 894 specimens have been tested at SLD<sup>13</sup>.

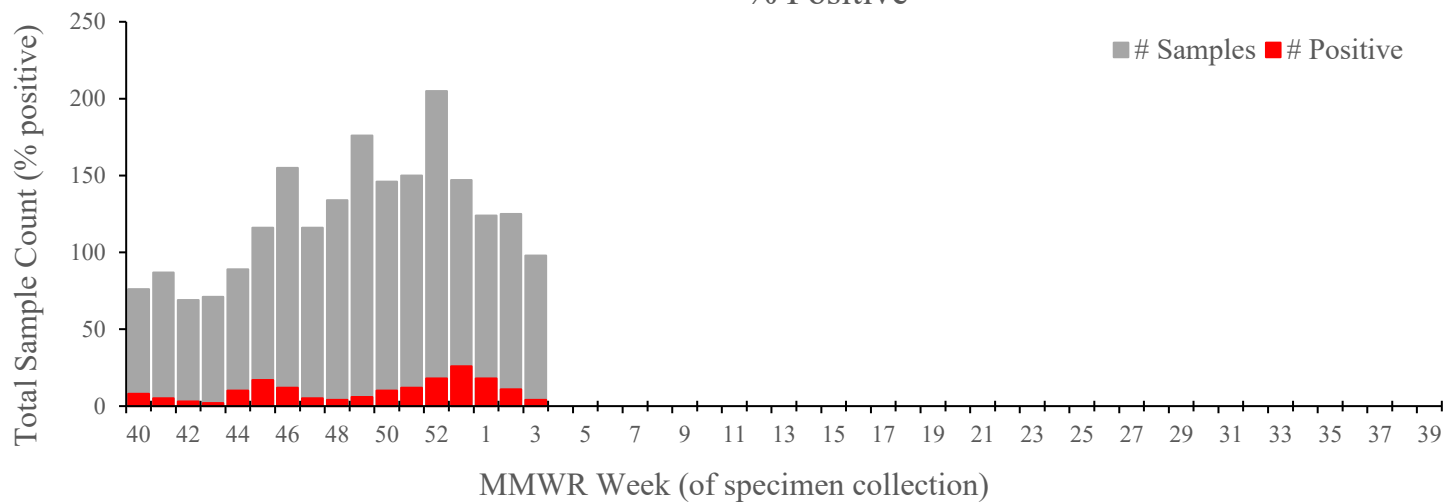
Cumulative Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	473	2.1	0-17	892	3.5
Honolulu	3,790	8.2	18-64	3,031	7.9
Kauai	239	0.4	65+	1,564	5.2
Maui	694	3.6			
Unknown	291	1.4			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

### COVID-19 Surveillance Samples Tested (N=2,084), % Positive

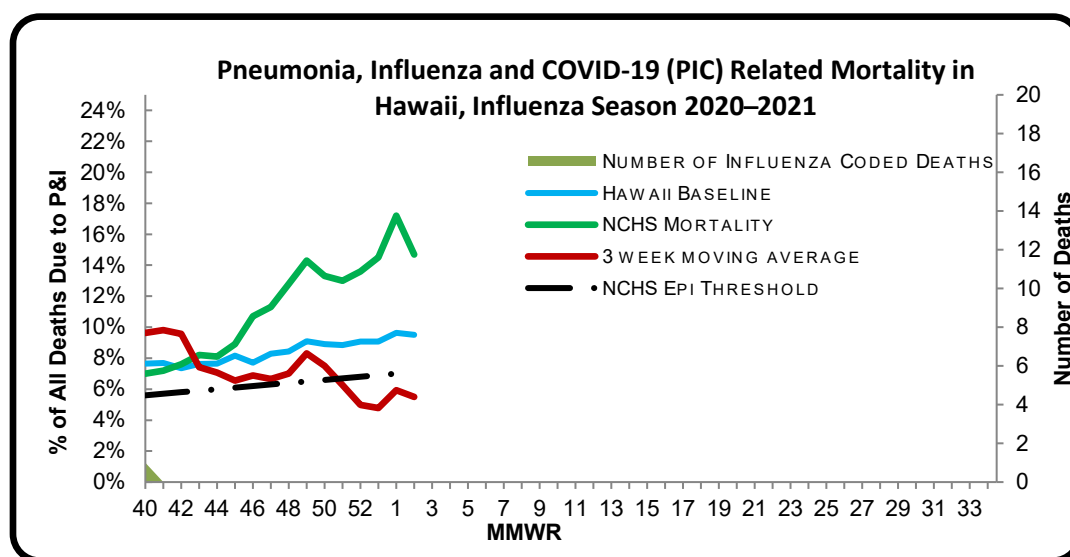


### III. PNEUMONIA, INFLUENZA OR COVID-19 (PIC) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For week 3 of the current influenza season:

- **8.1%** of all deaths that occurred in Hawaii during week 3 were related to pneumonia, influenza, or COVID-19 (PIC)<sup>14</sup>. For the current season (season to date: 7.2%), there have been 3,533 deaths from any cause, 255 of which were due to PIC.
- The PIC rate was comparable to the historical baseline in Hawaii<sup>15</sup> (i.e., inside the 95% confidence interval).
- The Hawaii PIC rate was lower than the CDC's National Center for Health Statistics (NCHS) PIC mortality<sup>16</sup> (14.8%) (i.e., outside the 95% confidence interval) and comparable to the national epidemic threshold (7.1%) (i.e., inside the 95% confidence interval) for week 3.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 3. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 3. (2020–2021 season total: 1).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.



**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### **A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *One human infection with a novel influenza A virus, H1N1v (0), H3N2v (1), and H1N2v (0), has been reported during the 2020–2021 influenza season.*
  - *One new human infection with novel influenza A H3N2v virus were reported to CDC during week 3.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*

#### **B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **December 9, 2020**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	



# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 4: JANUARY 24, 2021–JANUARY 30, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 4

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.4%	Lower than the previous week. Lower than Hawaii's historical baseline, lower than the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 2 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Comparable to the previous week. This number means that many, if not all, of the 100% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 1)	6.6%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	6.7%	Comparable to Hawaii's historical baseline, comparable to the national epidemic threshold and lower than the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See **appendix 2 for interpretation of MMWR weeks**. Data reported will begin on week 40, the traditional start date of flu season.

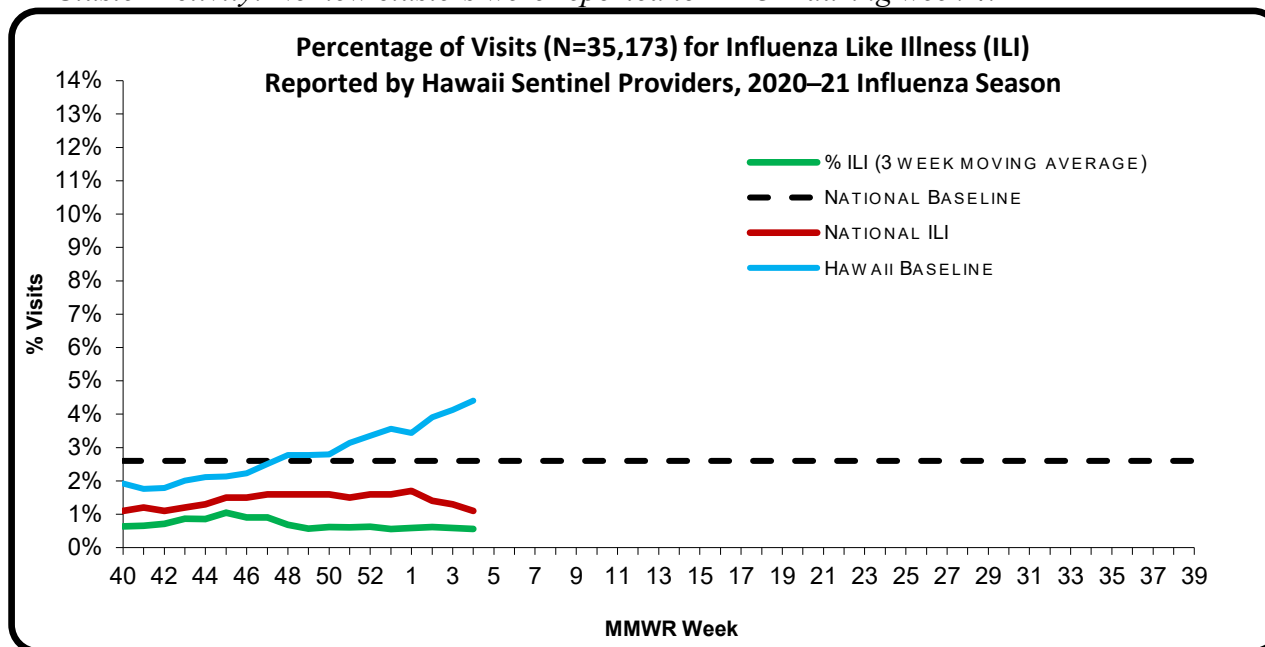
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 3 of the current influenza season:

- **0.4%** (season to date: **0.7%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were lower than the historical baseline in Hawaii<sup>3,4</sup> (i.e., outside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.1%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 4.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

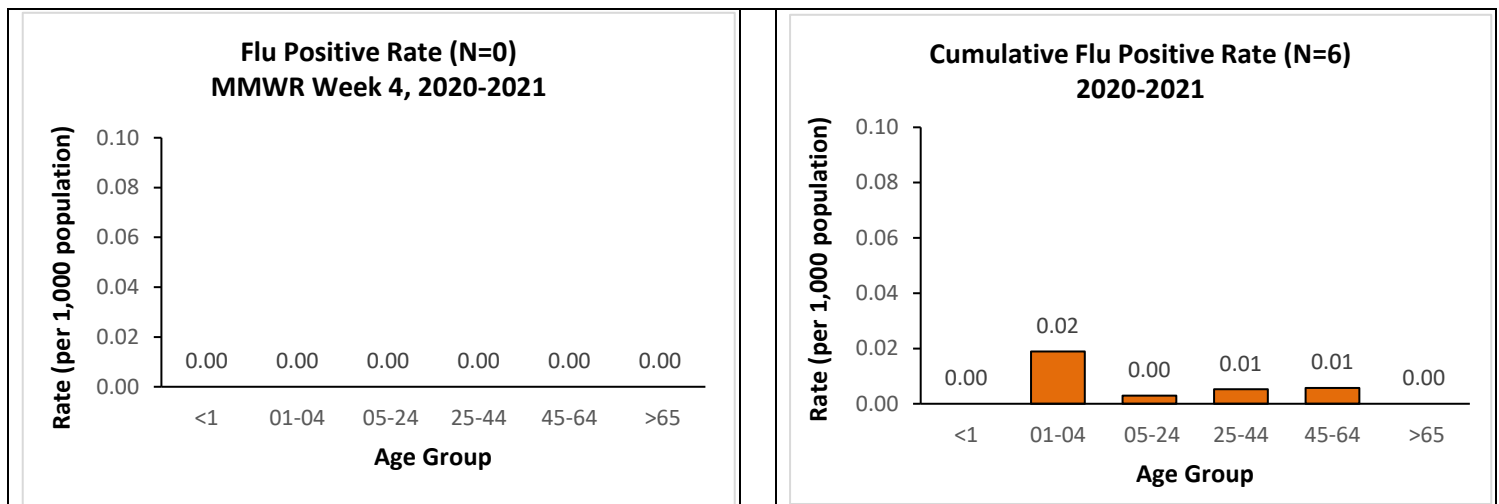
### A. INFLUENZA:

- The following reflects laboratory findings for week 4 of the 2020–21 influenza season:
  - A total of **371** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 6,790 tested [0.1% positive])
    - 73 (19.7%) were screened only by rapid antigen tests with no confirmatory testing.
    - 298 (80.3%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 371 (100.0%) were negative.

Influenza type	Current week 4 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	6 (100.0)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	0 (0.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



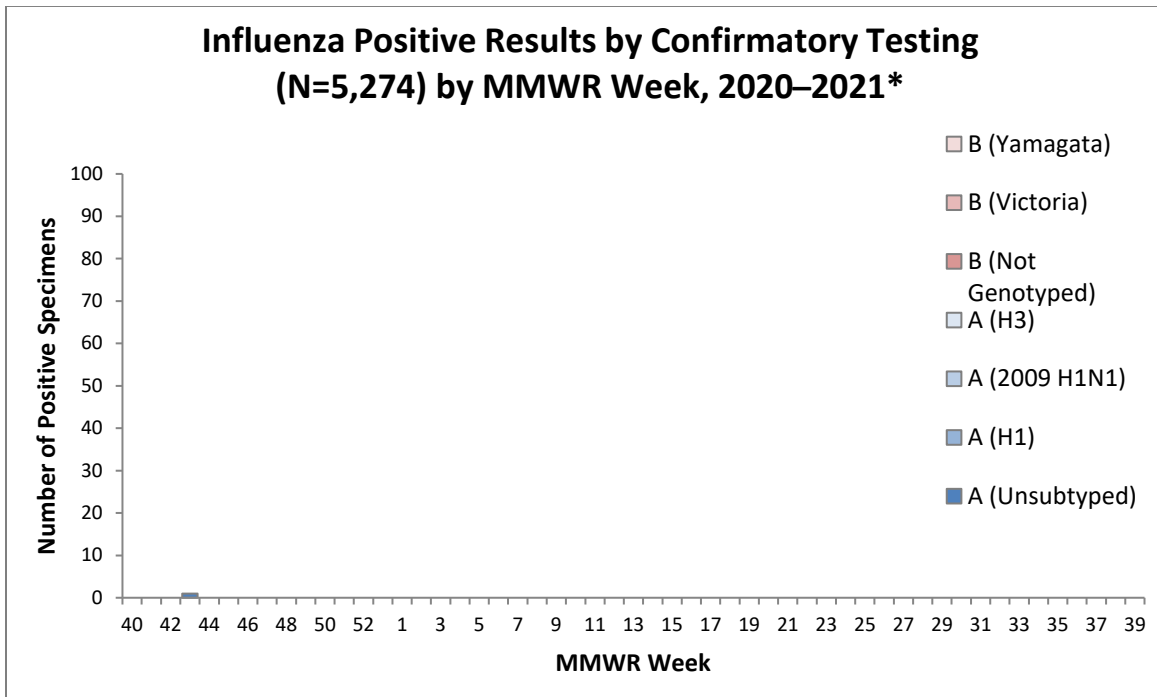
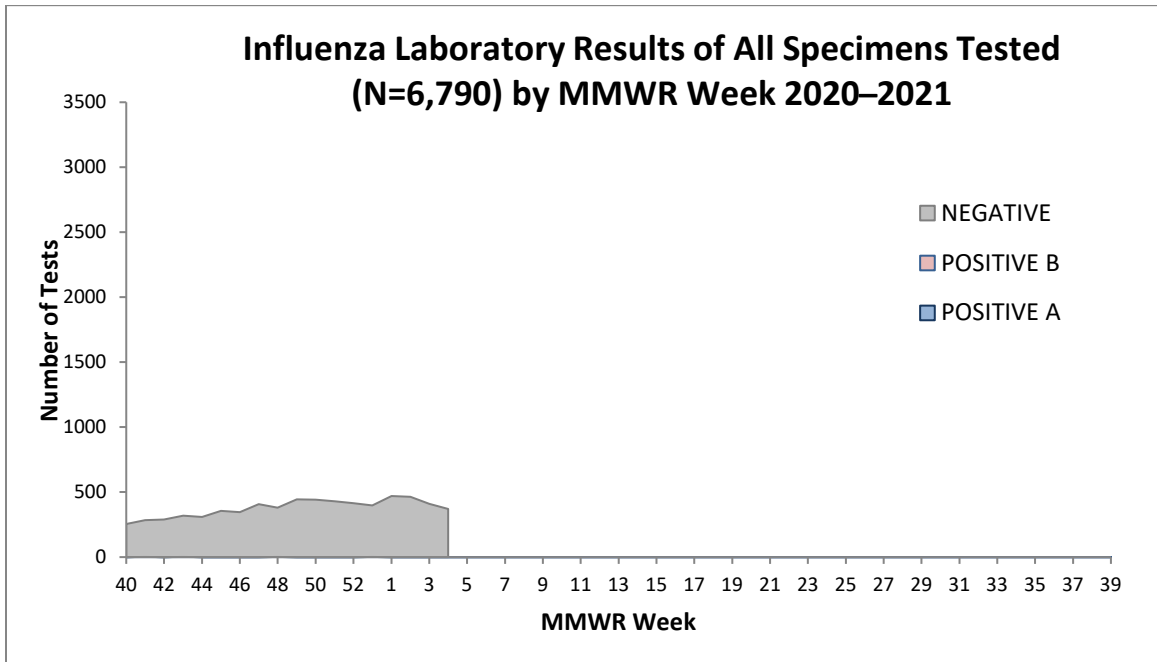
<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.

## 2. LABORATORY TESTING

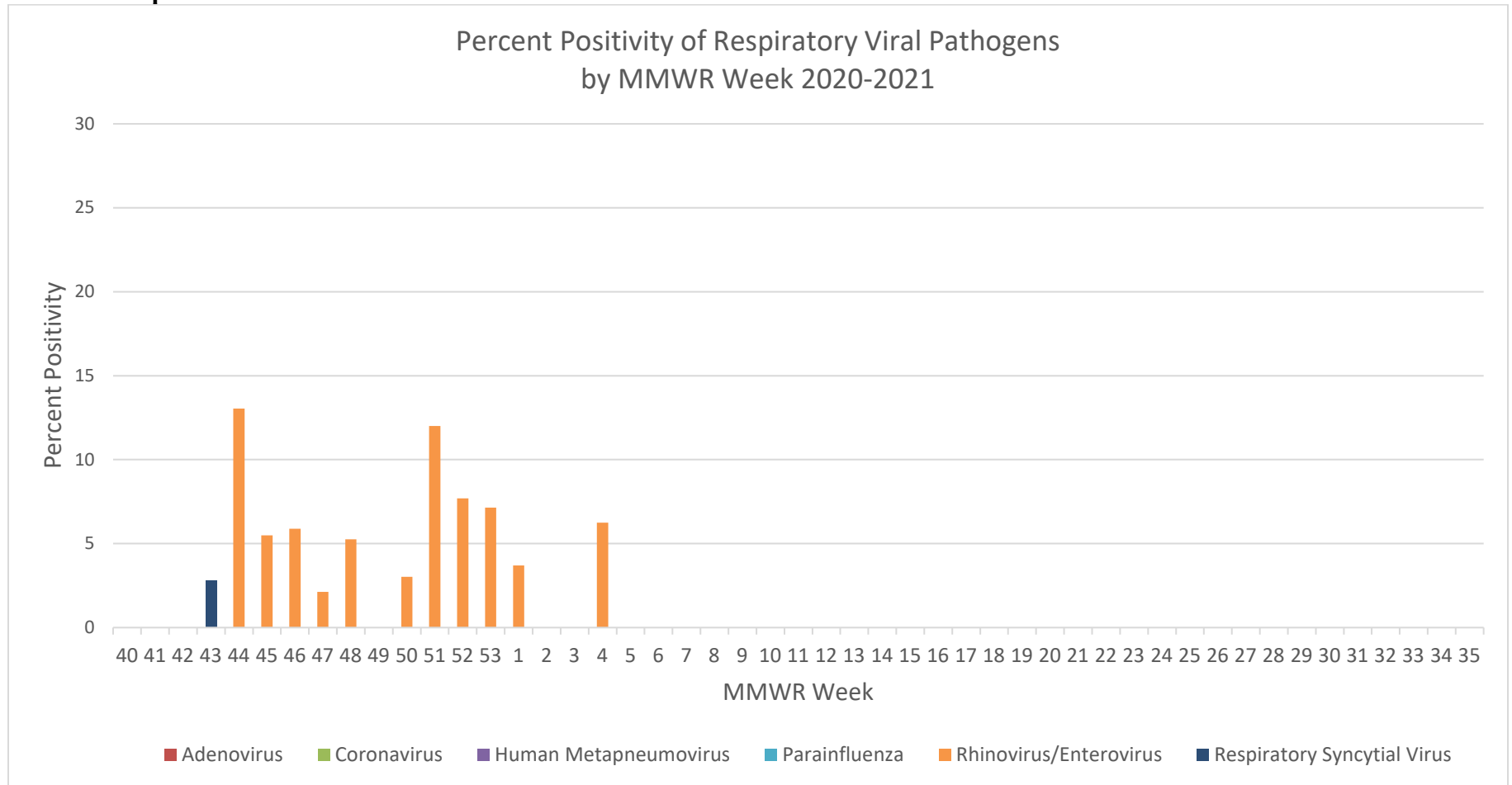
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.



**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 4<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

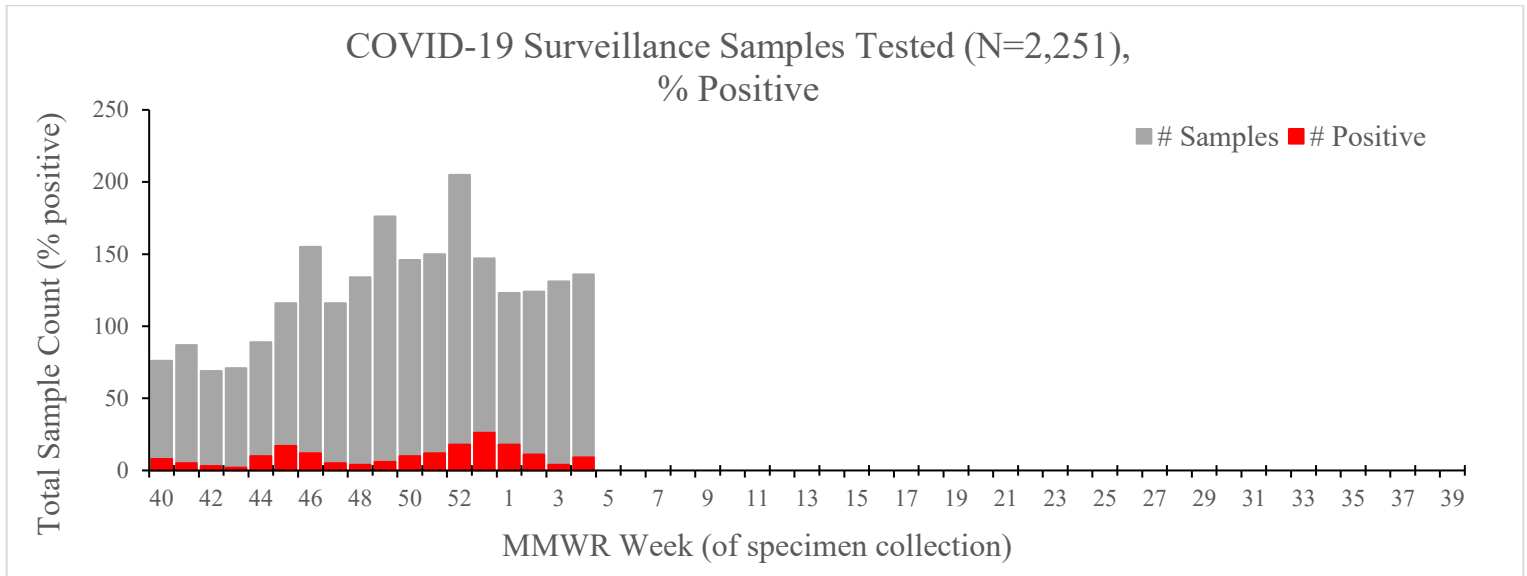
- *COVID-19 geographic spread: Regional*<sup>12</sup>
  - *A total of 136 surveillance specimens have been tested statewide for COVID-19 (positive: 9 [6.6%]).*
  - *Cumulative: A total of 5,605 surveillance specimens have been tested for COVID-19 (positive: 357 [6.4%]).*
  - *886 specimens have been tested at SLD*<sup>13</sup>.

Cumulative Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	487	2.3	0-17	923	3.7
Honolulu	3,882	8.2	18-64	3,063	7.8
Kauai	243	0.4	65+	1,619	5.3
Maui	703	3.6			
Unknown	290	1.0			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

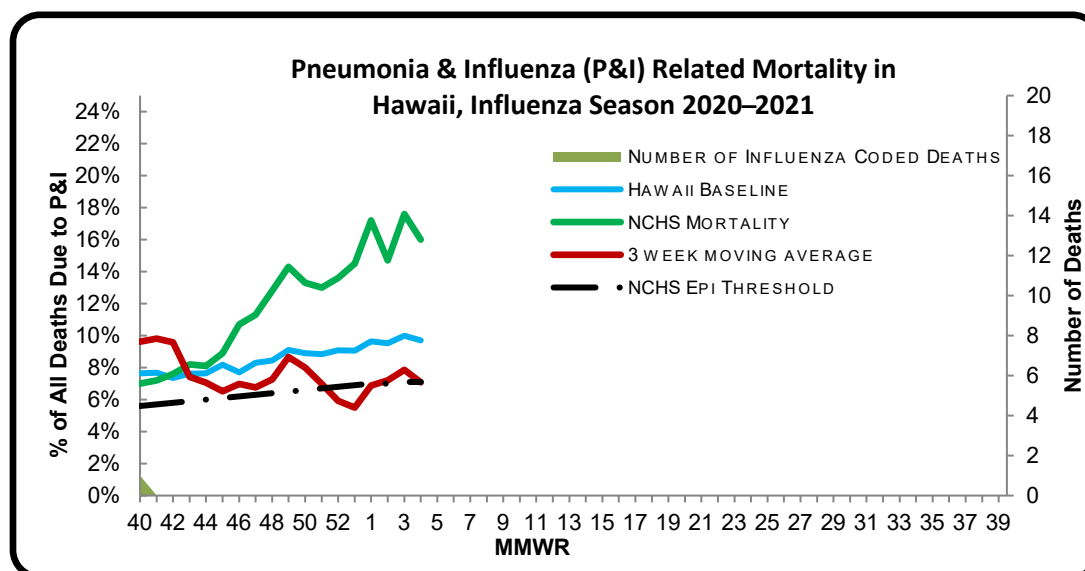


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For week 4 of the current influenza season:

- 6.7% of all deaths that occurred in Hawaii during week 4 were related to pneumonia or influenza (P&I)<sup>14</sup>. For the current season (season to date: 7.4%), there have been 3,747 deaths from any cause, 277 of which were due to P&I.
- The P&I rate was comparable to the historical baseline in Hawaii<sup>15</sup> (i.e., inside the 95% confidence interval).
- The Hawaii P&I rate was lower than the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>16</sup> (16.0%) (i.e., outside the 95% confidence interval) and comparable to the national epidemic threshold (7.1%) (i.e., inside the 95% confidence interval) for week 4.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 4. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 4. (2020-2021 season total: 1).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### **A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *One human infection with a novel influenza A virus, H1N1v (0), H3N2v (1), and H1N2v (0), has been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 4.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*

#### **B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **December 9, 2020**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	





# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 5: JANUARY 31, 2021–FEBRUARY 6, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 5

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.6%	Higher than the previous week. Lower than Hawaii's historical baseline, lower than the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 2 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Comparable to the previous week. This number means that many, if not all, of the 100% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 1)	3.2%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	5.4%	Lower than Hawaii's historical baseline, comparable to the national epidemic threshold and lower than the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See **appendix 2 for interpretation of MMWR weeks**. Data reported will begin on week 40, the traditional start date of flu season.

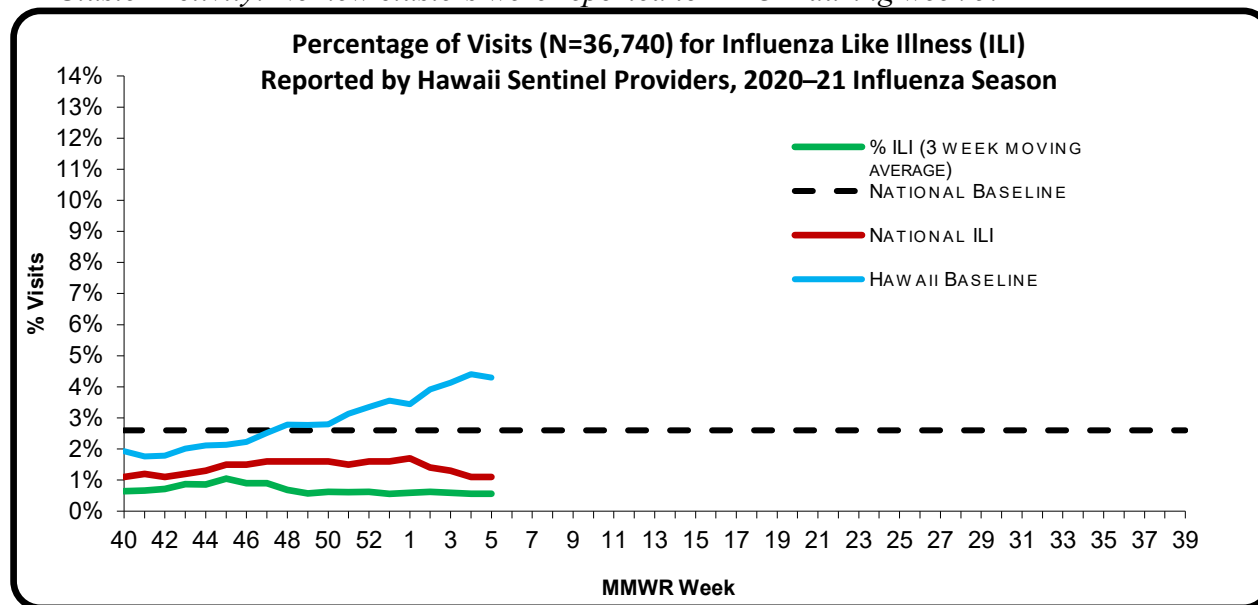
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 5 of the current influenza season:

- **0.6%** (season to date: **0.7%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were lower than the historical baseline in Hawaii<sup>3,4</sup> (i.e., outside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.1%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 5.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

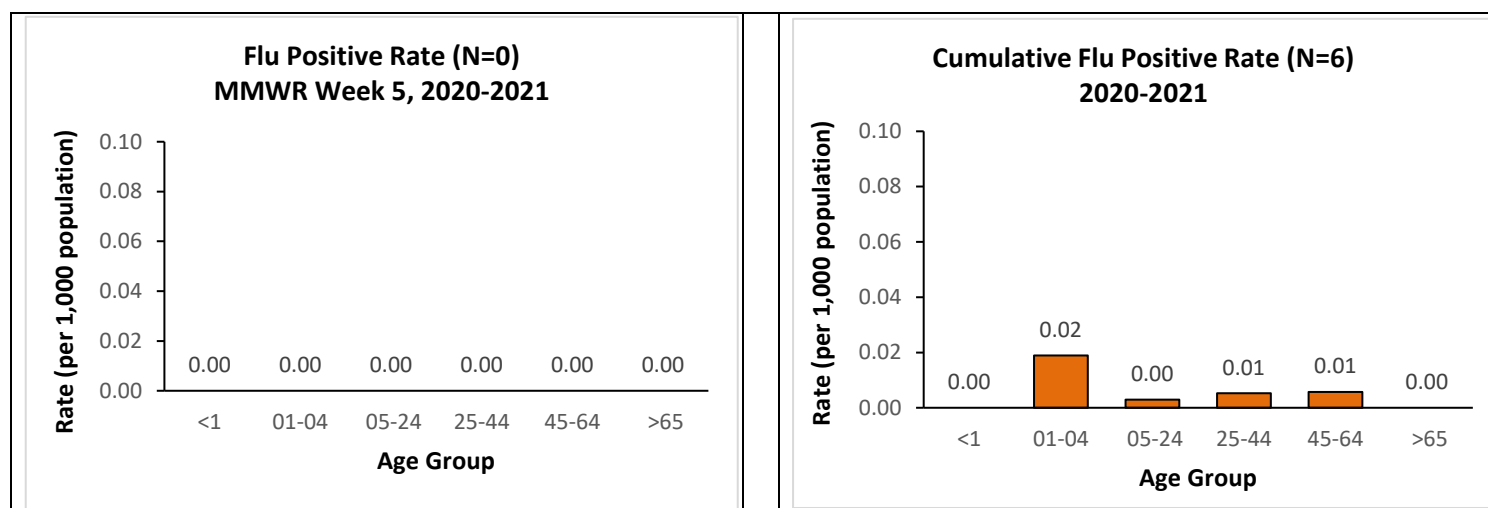
### A. INFLUENZA:

- The following reflects laboratory findings for week 5 of the 2020–21 influenza season:
  - A total of **303** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 7,093 tested [0.1% positive])
    - 53 (17.5%) were screened only by rapid antigen tests with no confirmatory testing.
    - 250 (82.5%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 303 (100.0%) were negative.

Influenza type	Current week 5 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	6 (100.0)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	0 (0.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



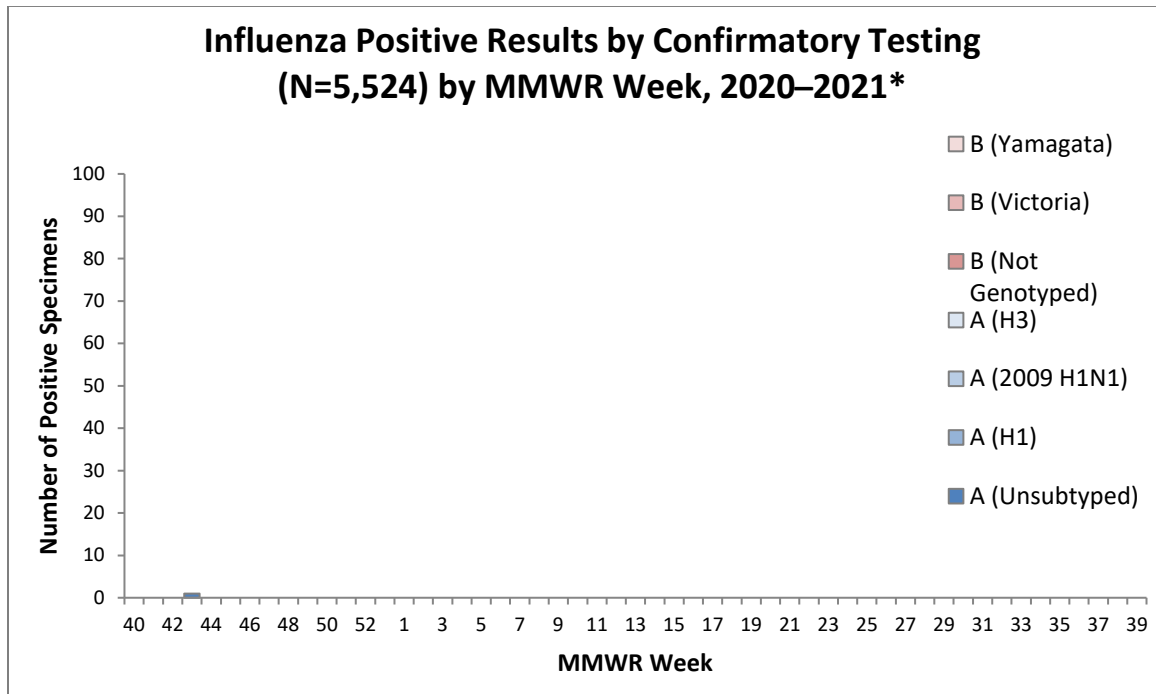
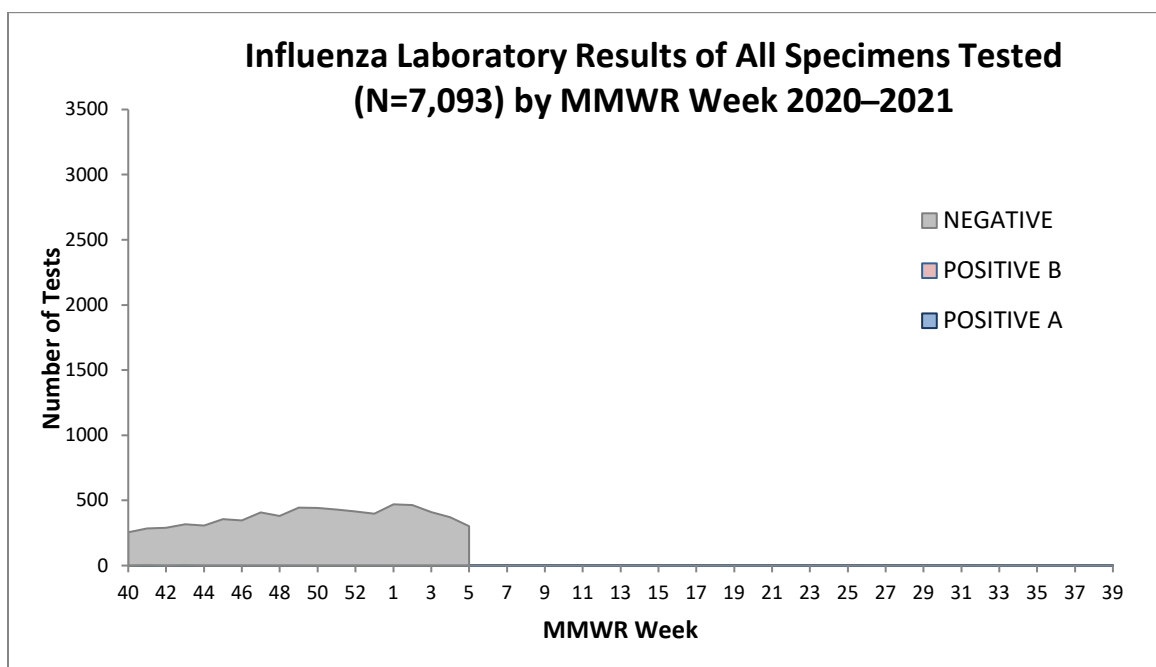
<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.

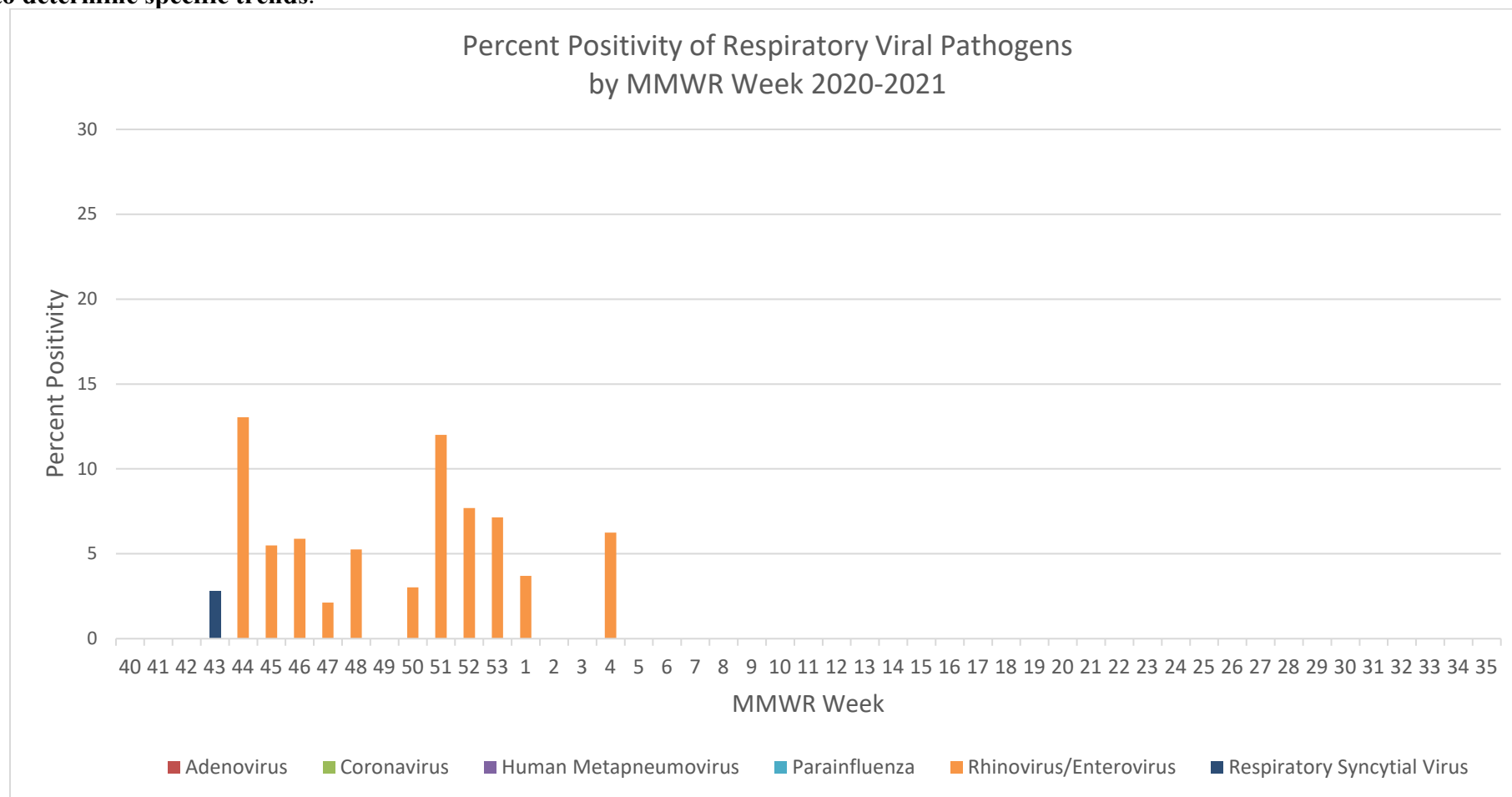
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 5<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

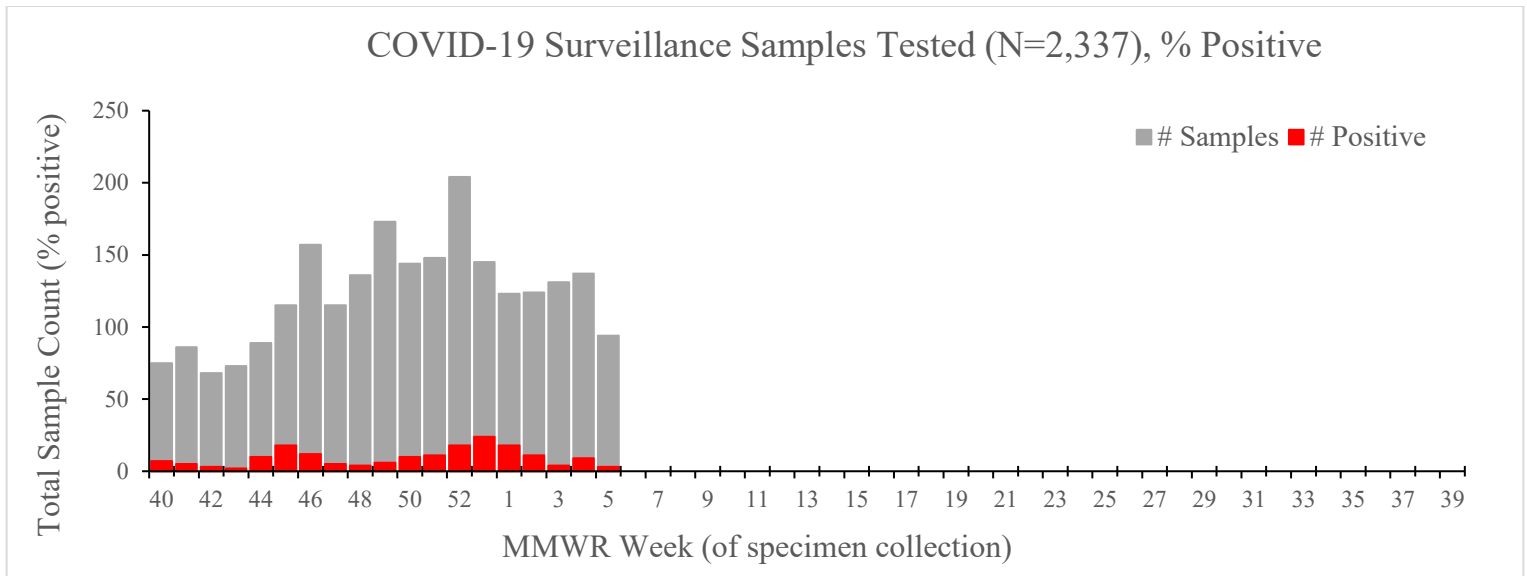
- *COVID-19 geographic spread: Regional*<sup>12</sup>
  - A total of **94** surveillance specimens have been tested statewide for COVID-19 (positive: 3 [3.2%]).
  - Season to date: A total of **2,337** surveillance specimens have been tested for COVID-19 (positive: 180 [7.7%]).
  - 62 specimens have been tested at SLD<sup>13</sup>.

Season to date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	137	5.8	0-17	445	3.4
Honolulu	1,787	8.7	18-64	1,125	10.4
Kauai	71	0.0	65+	767	6.3
Maui	269	4.8			
Unknown	73	4.1			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

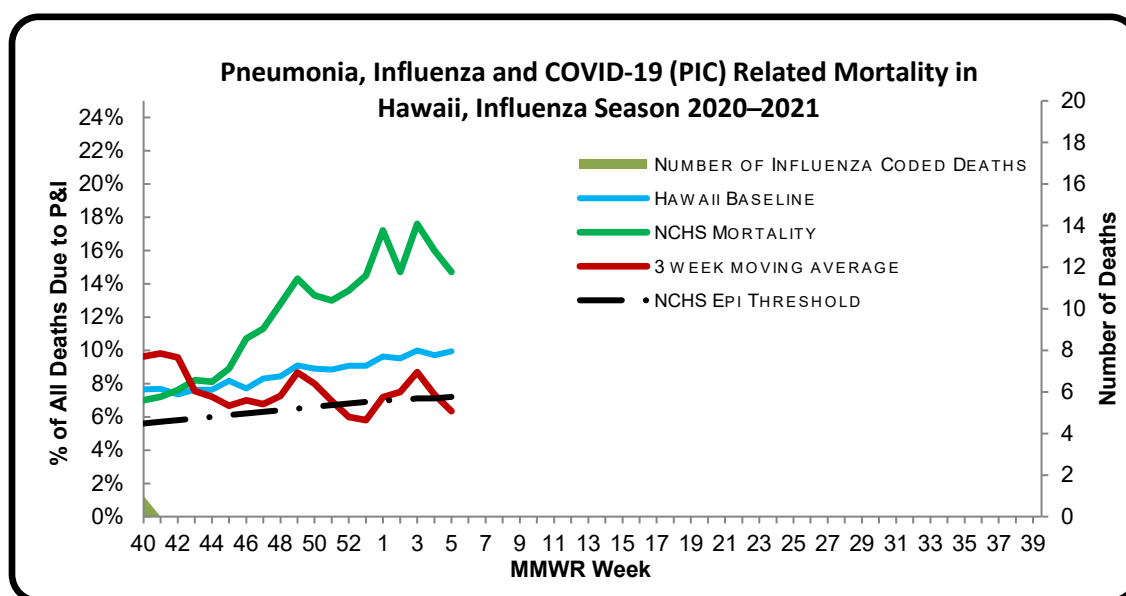


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For week 5 of the current influenza season:

- *5.4% of all deaths that occurred in Hawaii during week 5 were related to pneumonia or influenza (P&I)<sup>14</sup>. For the current season (season to date: 7.4%), there have been 3,957 deaths from any cause, 294 of which were due to P&I.*
- *The P&I rate was lower than the historical baseline in Hawaii<sup>15</sup> (i.e., outside the 95% confidence interval).*
- *The Hawaii P&I rate was lower than the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>16</sup> (14.7%) (i.e., outside the 95% confidence interval) and comparable to the national epidemic threshold (7.2%) (i.e., inside the 95% confidence interval) for week 5.*



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 5. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 5. (2020–2021 season total: 1).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.



**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### **A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *One human infection with a novel influenza A virus, H1N1v (0), H3N2v (1), and H1N2v (0), has been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 5.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*

#### **B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **December 9, 2020**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	



# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 6: FEBRUARY 7, 2021–FEBRUARY 13, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 6

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.3%	Lower than the previous week. Lower than Hawaii's historical baseline, lower than the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 2 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Comparable to the previous week. This number means that many, if not all, of the 100% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 1)	1.0%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	11.8%	Comparable to Hawaii's historical baseline, comparable to the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See **appendix 2 for interpretation of MMWR weeks**. Data reported will begin on week 40, the traditional start date of flu season.

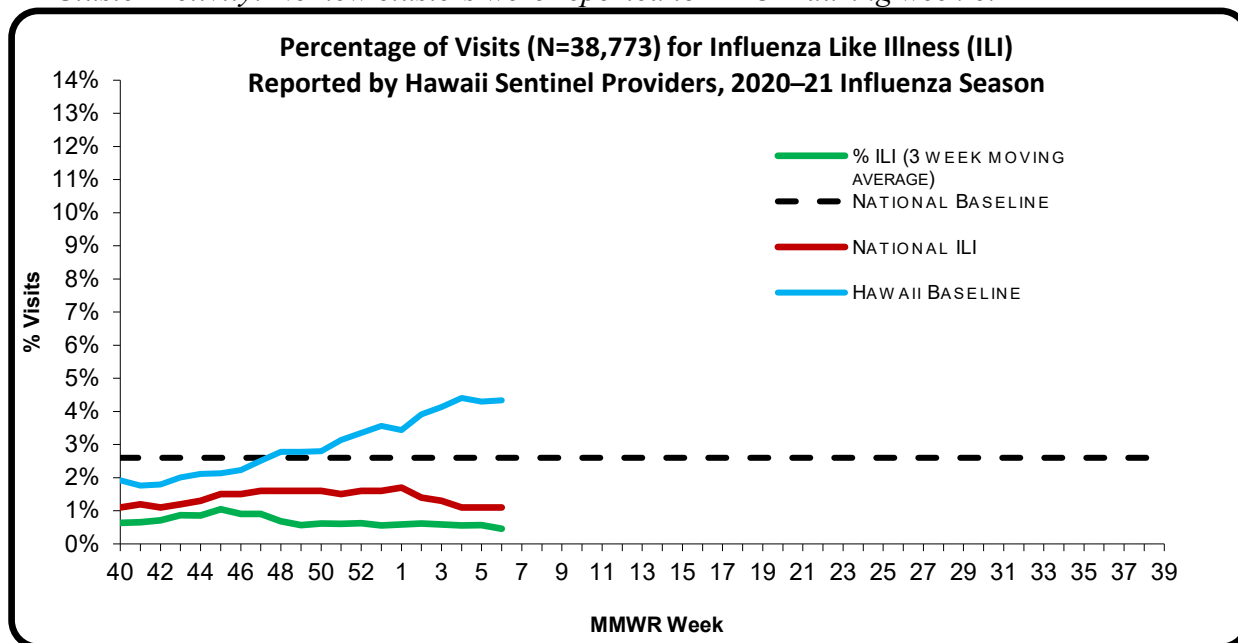
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 6 of the current influenza season:

- **0.3%** (season to date: **0.7%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were lower than the historical baseline in Hawaii<sup>3,4</sup> (i.e., outside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.1%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 6.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

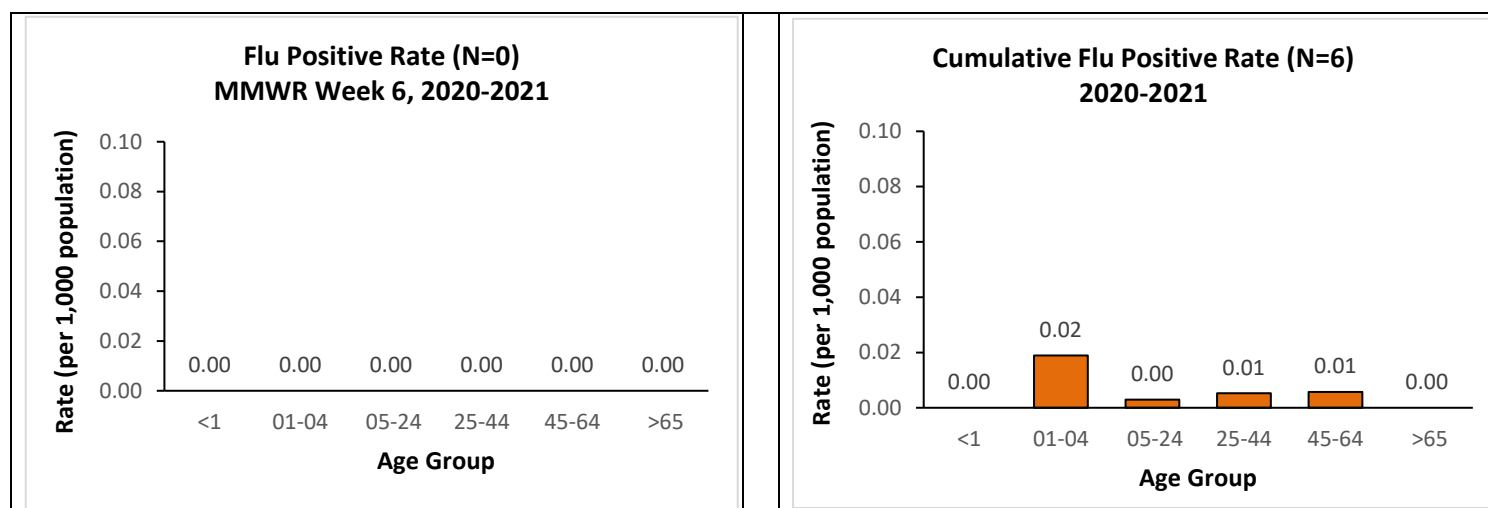
### A. INFLUENZA:

- The following reflects laboratory findings for week 6 of the 2020–21 influenza season:
  - A total of **393** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 7,507 tested [0.1% positive])
    - 48 (12.2%) were screened only by rapid antigen tests with no confirmatory testing.
    - 345 (87.8%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 393 (100.0%) were negative.

Influenza type	Current week 6 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	6 (100.0)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	0 (0.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



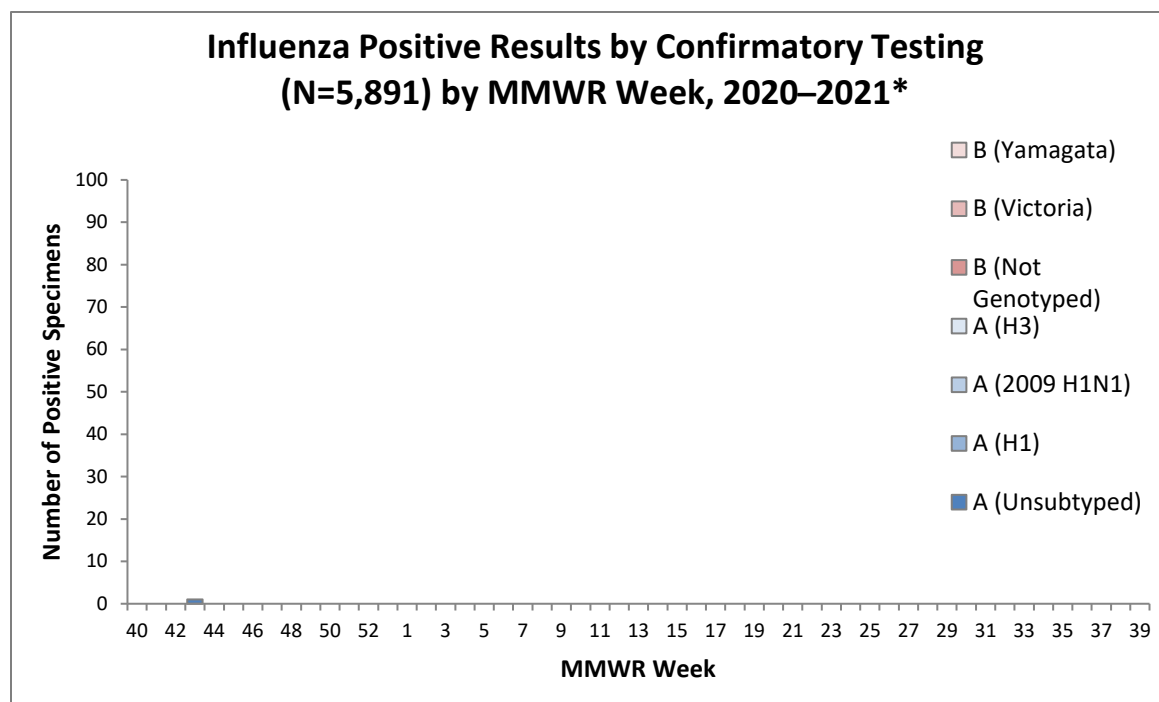
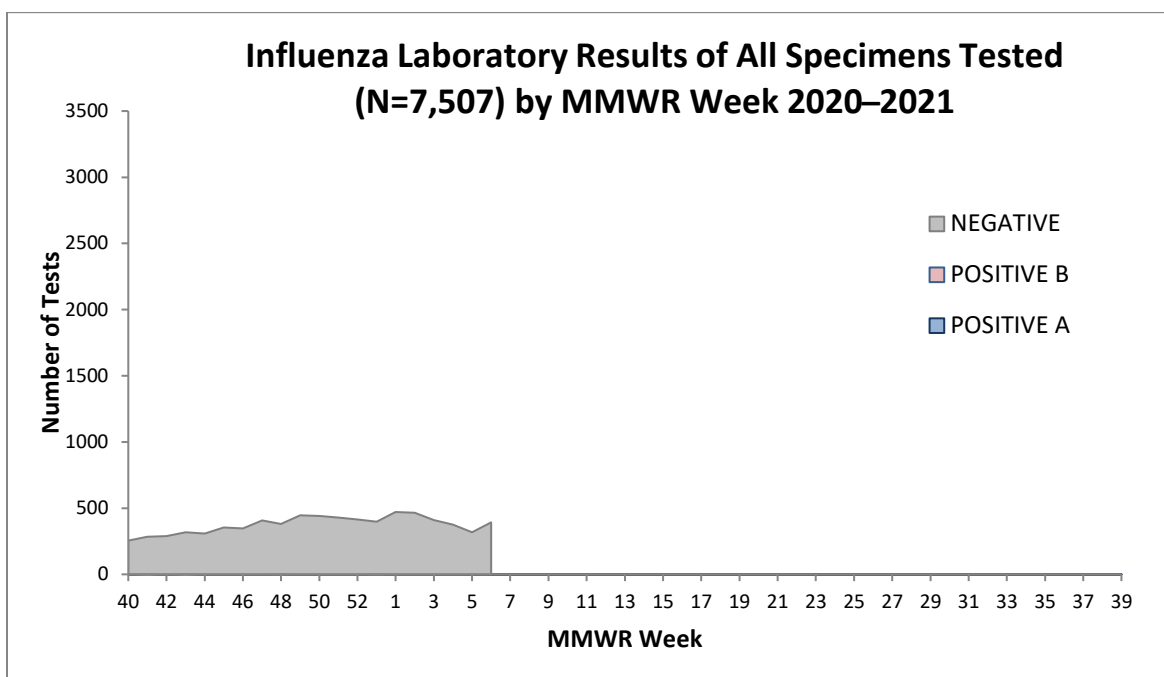
<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.

## 2. LABORATORY TESTING

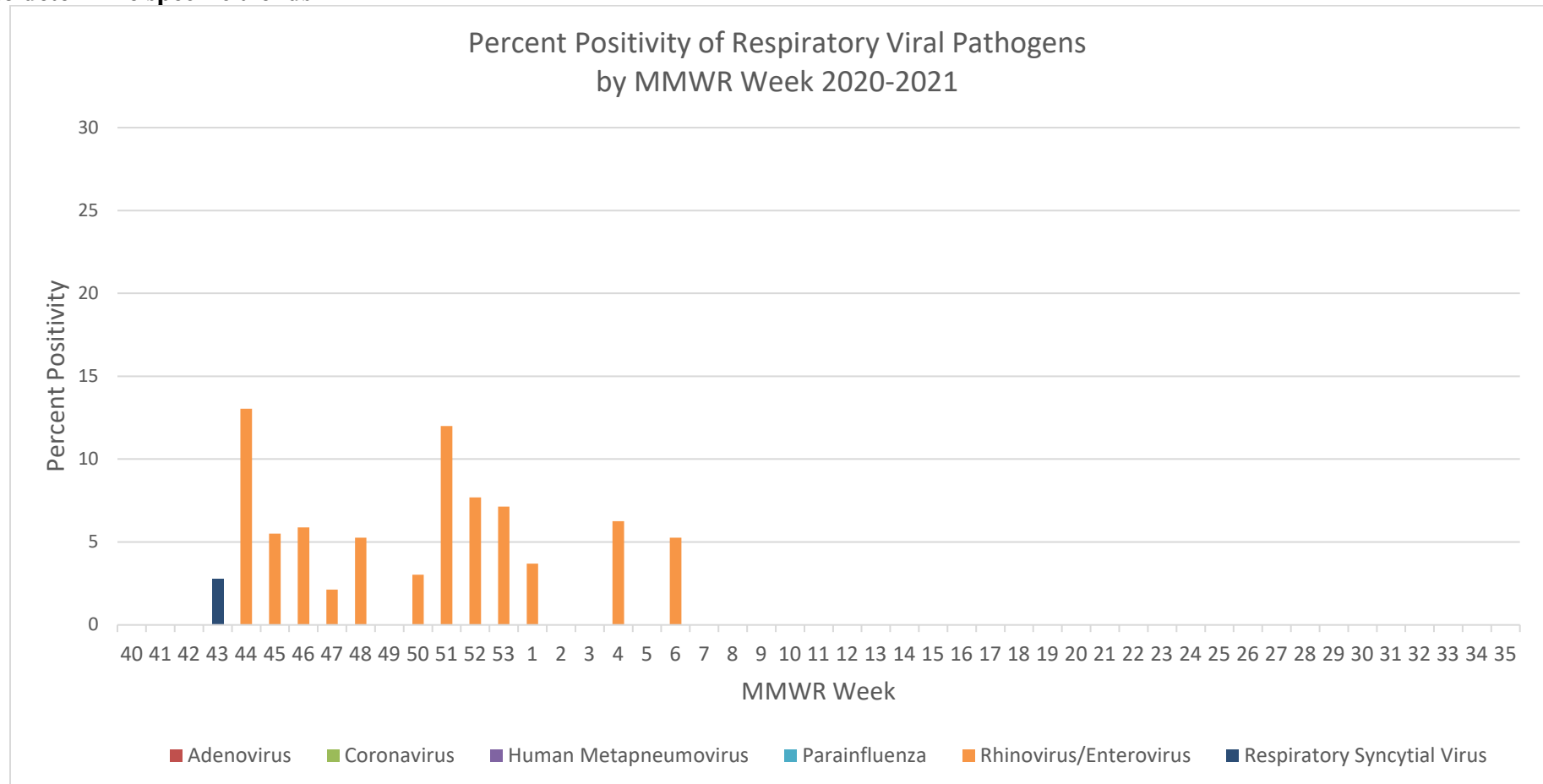
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.



**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 6<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

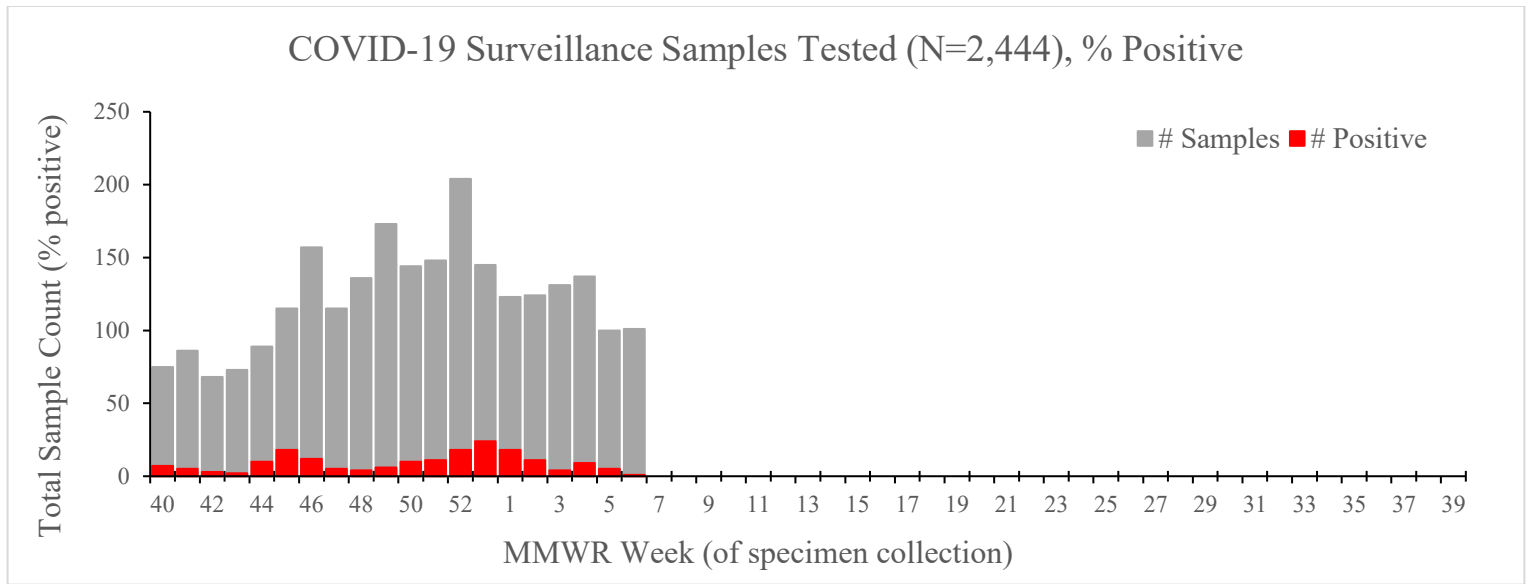
- *COVID-19 geographic spread: Regional*<sup>12</sup>
  - *A total of 100 surveillance specimens have been tested statewide for COVID-19 (positive: 1 [1.0%]).*
  - *Season to date: A total of 2,444 surveillance specimens have been tested for COVID-19 (positive: 182 [7.4%]).*
  - *64 specimens have been tested at SLD*<sup>13</sup>.

Season to date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	139	5.8	0-17	468	3.4
Honolulu	1,855	8.4	18-64	1,177	10.0
Kauai	73	0.0	65+	799	6.0
Maui	298	5.0			
Unknown	79	3.8			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

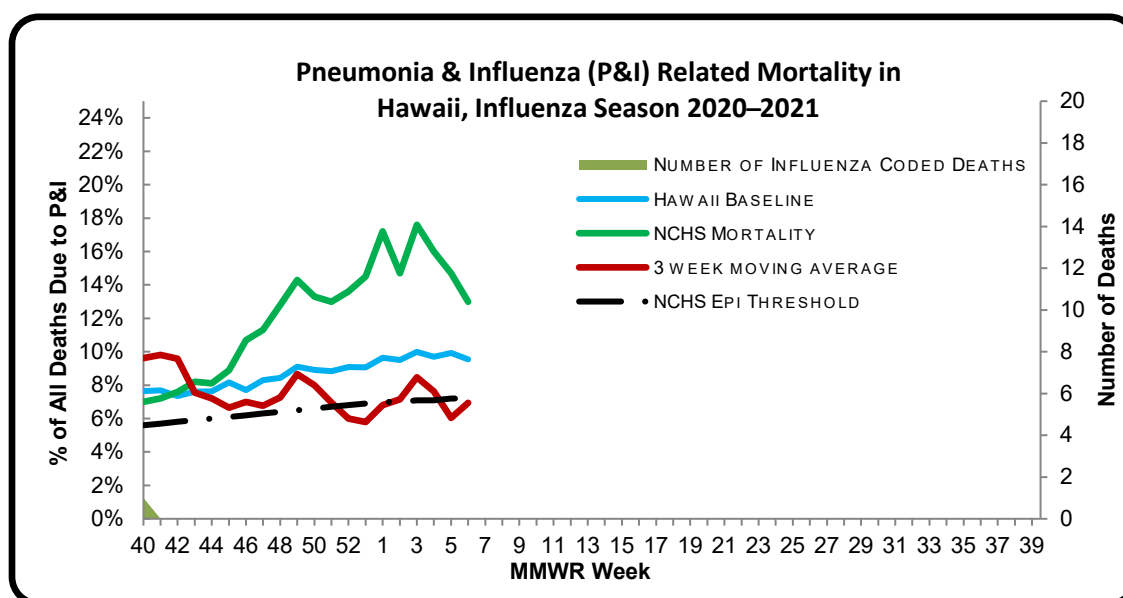


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For week 6 of the current influenza season:

- **11.8%** of all deaths that occurred in Hawaii during week 6 were related to pneumonia or influenza (P&I)<sup>14</sup>. For the current season (season to date: 7.4%), there have been 4,125 deaths from any cause, 304 of which were due to P&I.
- The P&I rate was comparable to the historical baseline in Hawaii<sup>15</sup> (i.e., inside the 95% confidence interval).
- The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>16</sup> (13.0%) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (7.2%) (i.e., inside the 95% confidence interval) for week 6.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 6. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 6. (2020-2021 season total: 1).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### **A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *One human infection with a novel influenza A virus, H1N1v (0), H3N2v (1), and H1N2v (0), has been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 6.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*

#### **B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **December 9, 2020**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	





# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 7: FEBRUARY 14, 2021–FEBRUARY 20, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 7

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.2%	Lower than the previous week. Lower than Hawaii's historical baseline, lower than the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 2 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Comparable to the previous week. This number means that many, if not all, of the 100% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 1)	5.6%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	4.0%	Lower than Hawaii's historical baseline, comparable to the national epidemic threshold and lower than the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week 40, the traditional start date of flu season.

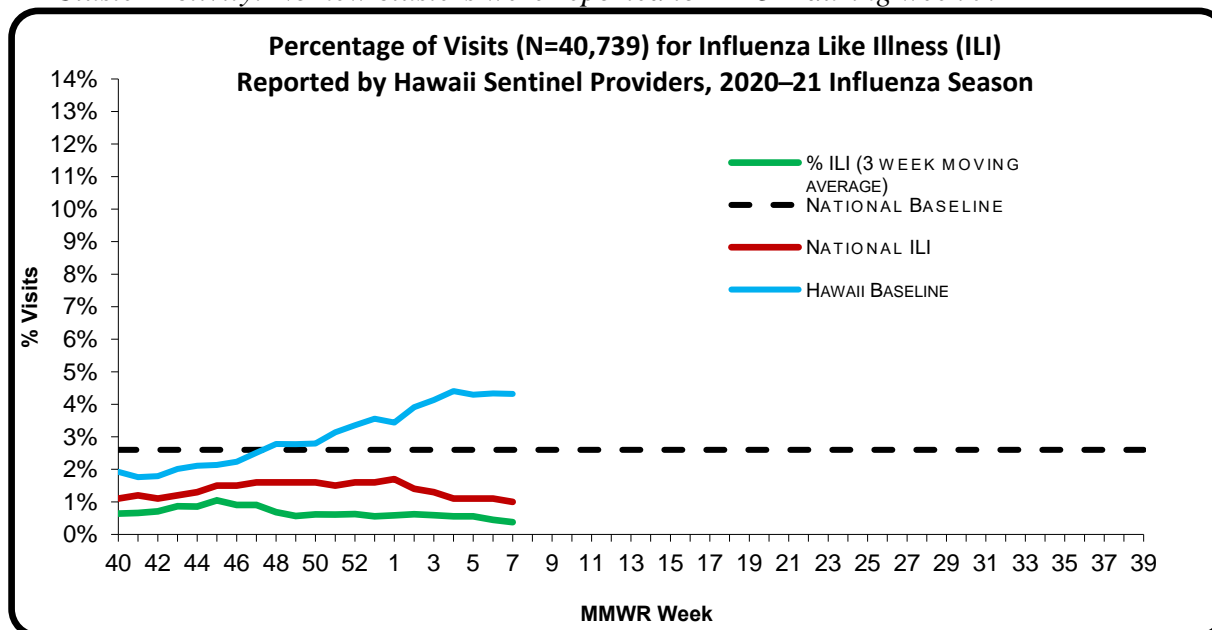
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For **week 7** of the current influenza season:

- **0.2%** (season to date: **0.7%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were lower than the historical baseline in Hawaii<sup>3,4</sup> (i.e., outside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.0%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 7.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

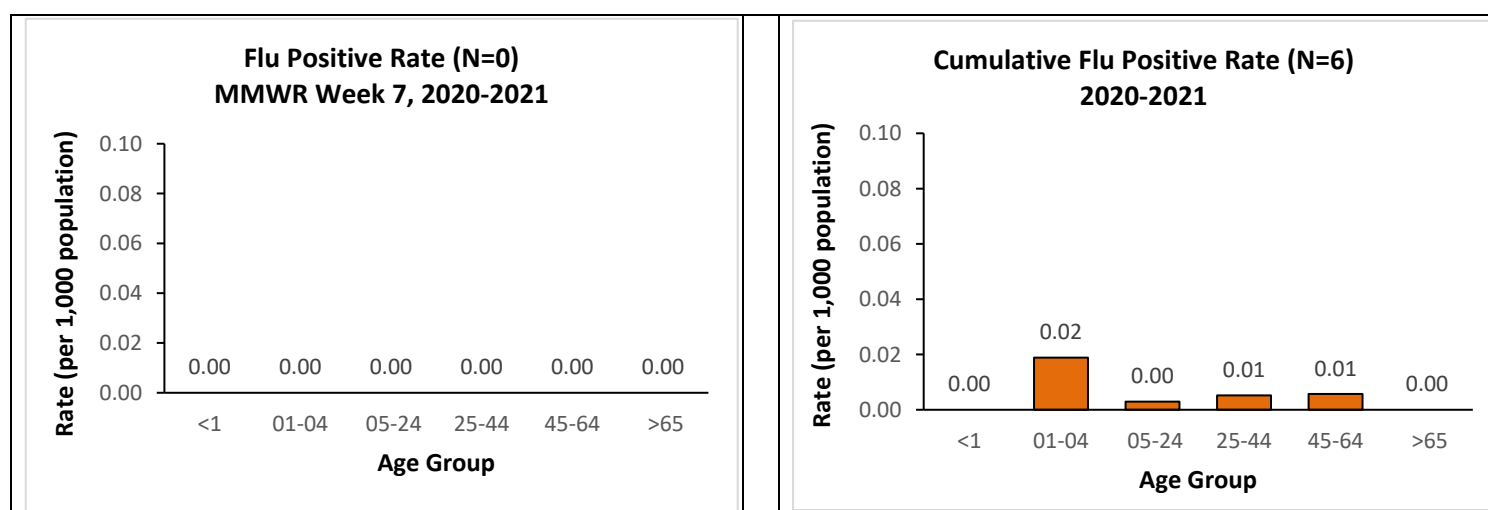
### A. INFLUENZA:

- The following reflects laboratory findings for week 7 of the 2020–21 influenza season:
  - A total of **298** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 7,805 tested [0.1% positive])
    - 71 (23.8%) were screened only by rapid antigen tests with no confirmatory testing.
    - 227 (76.2%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 298 (100.0%) were negative.

Influenza type	Current week 7 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	6 (100.0)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	0 (0.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



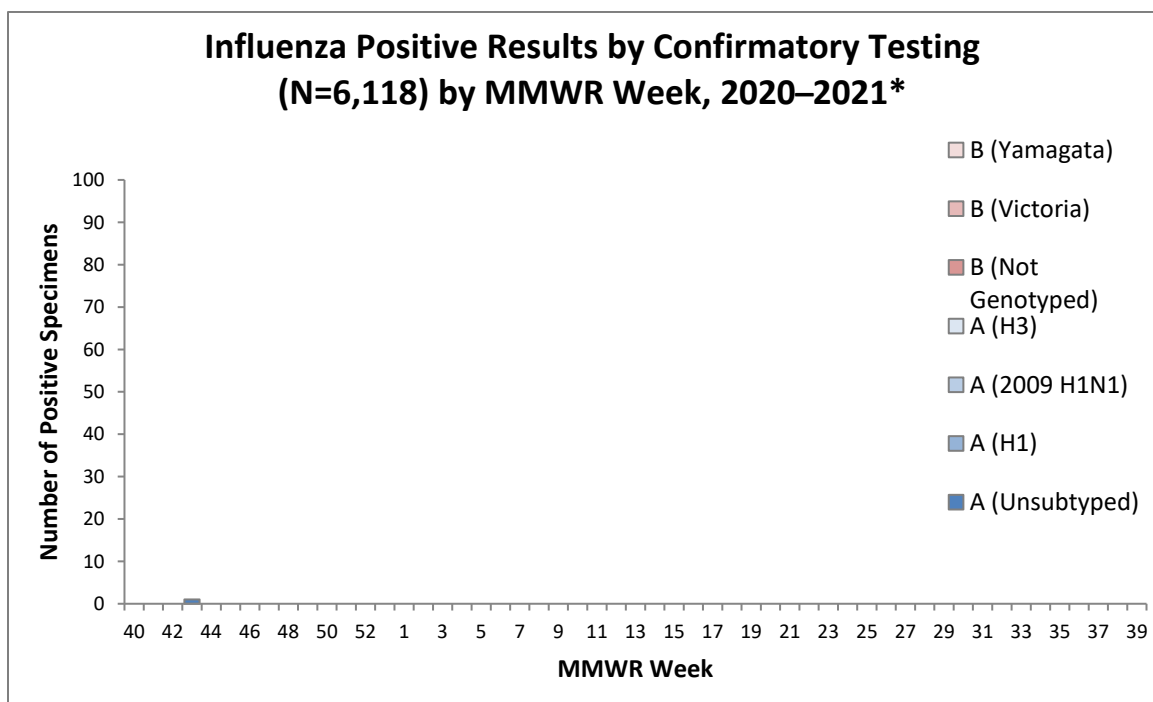
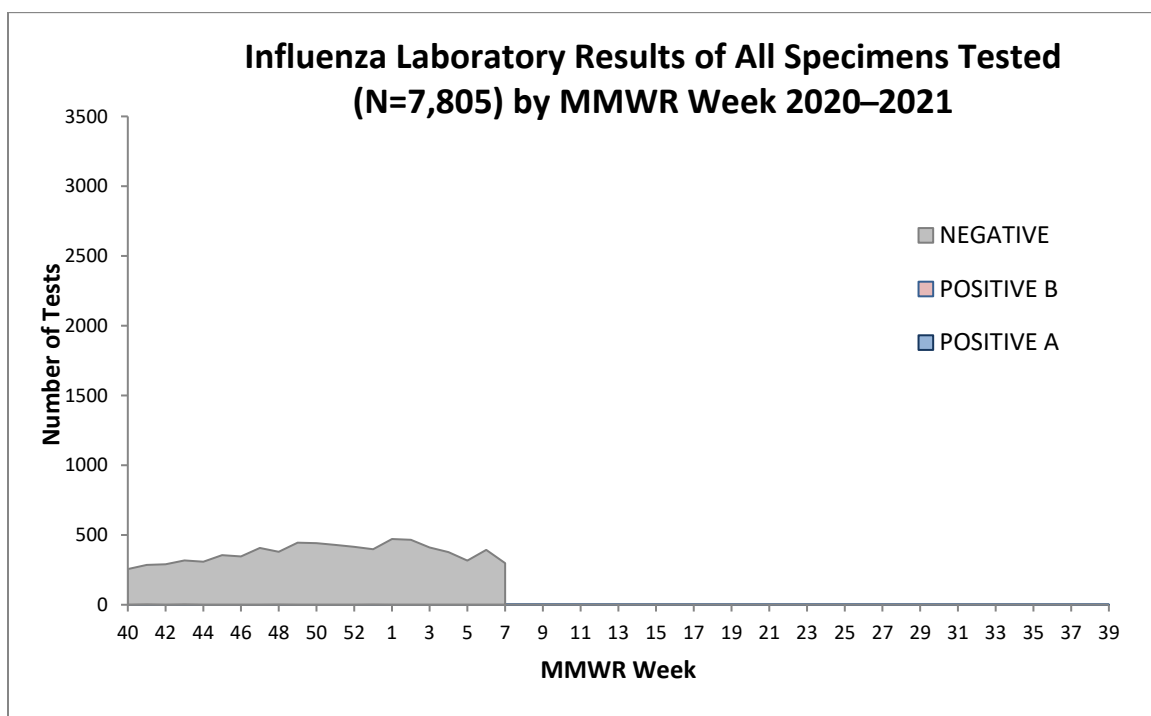
<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.

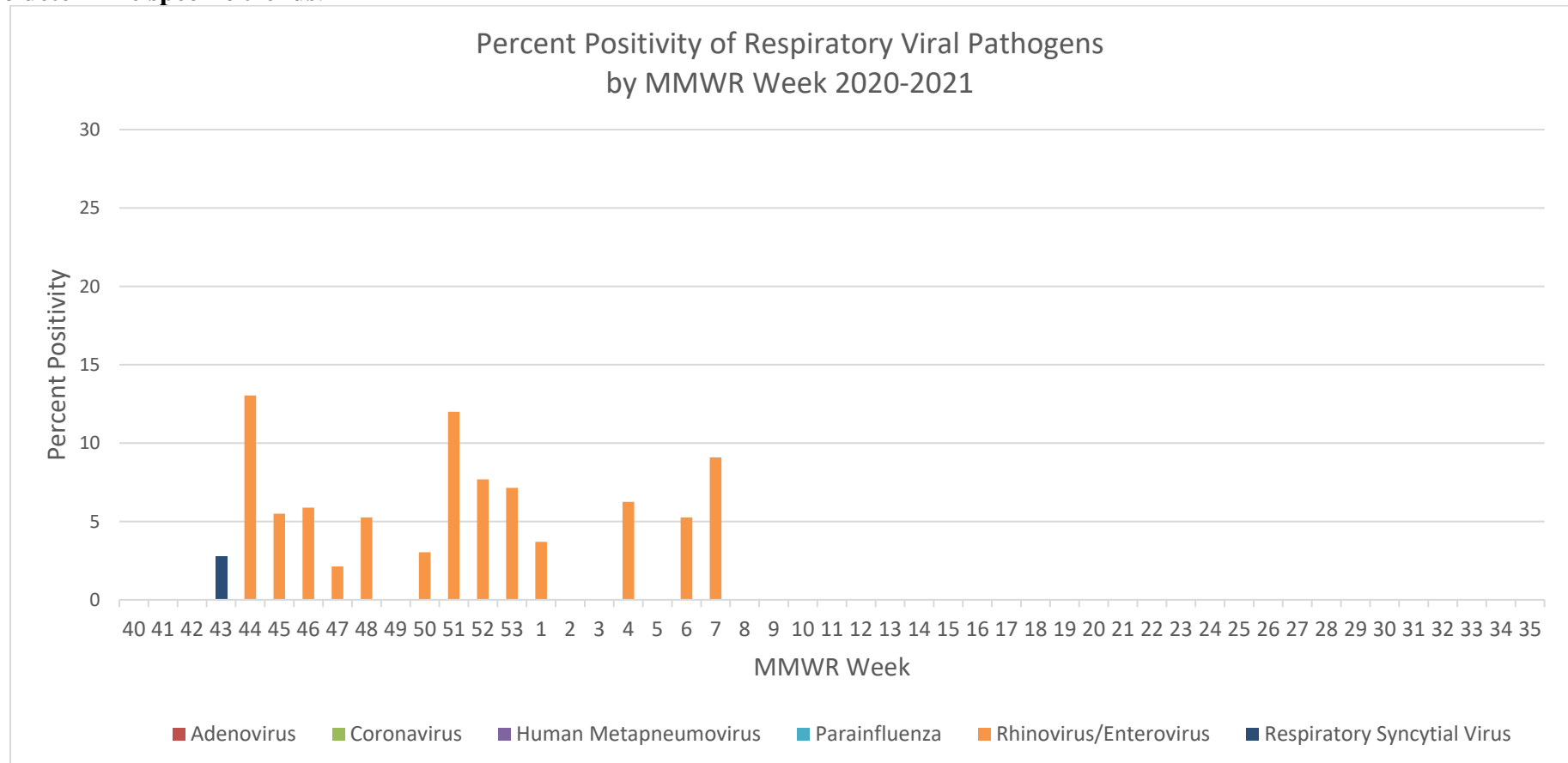
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 7<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

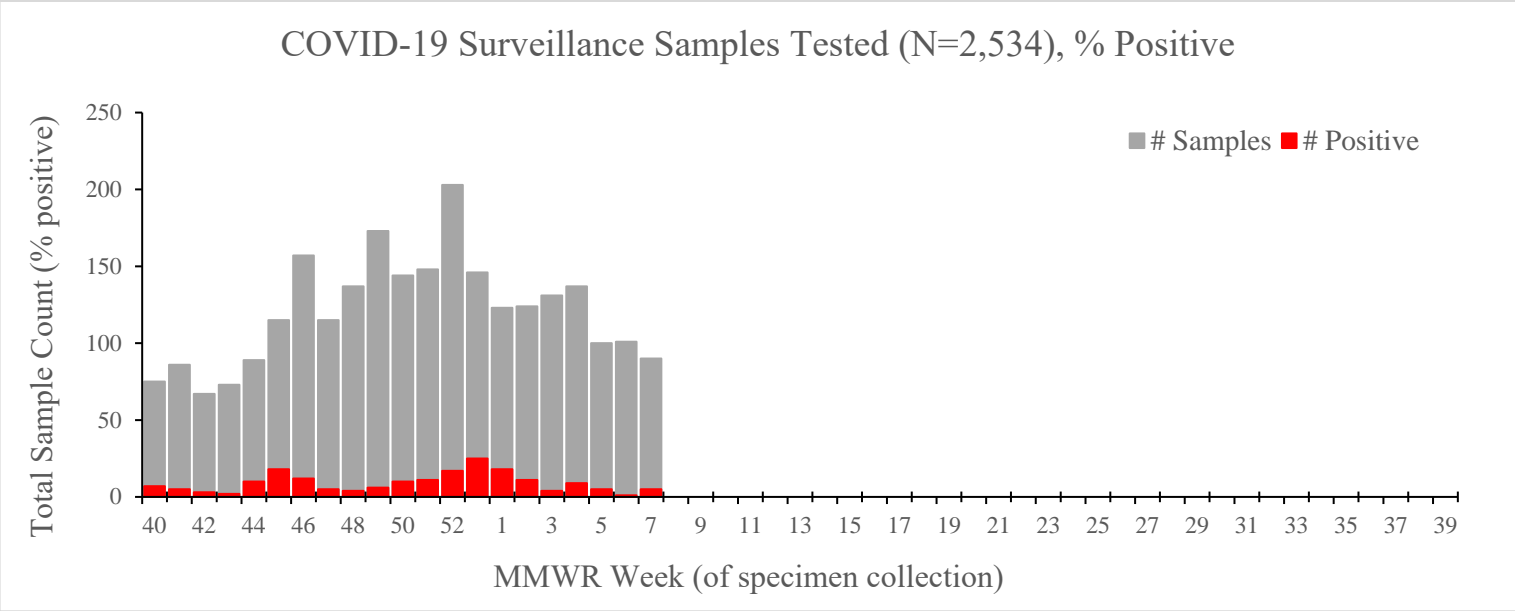
- *COVID-19 geographic spread: Regional*<sup>12</sup>
  - A total of **90** surveillance specimens have been tested statewide for COVID-19 (positive: 5 [5.6%]).
  - Season to date: A total of **2,534** surveillance specimens have been tested for COVID-19 (positive: 187 [7.4%]).
  - 64 specimens have been tested at SLD<sup>13</sup>.

Season to date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	139	5.8	0-17	482	3.3
Honolulu	1,921	8.2	18-64	1,220	9.9
Kauai	73	0.0	65+	832	6.0
Maui	321	5.9			
Unknown	80	3.8			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

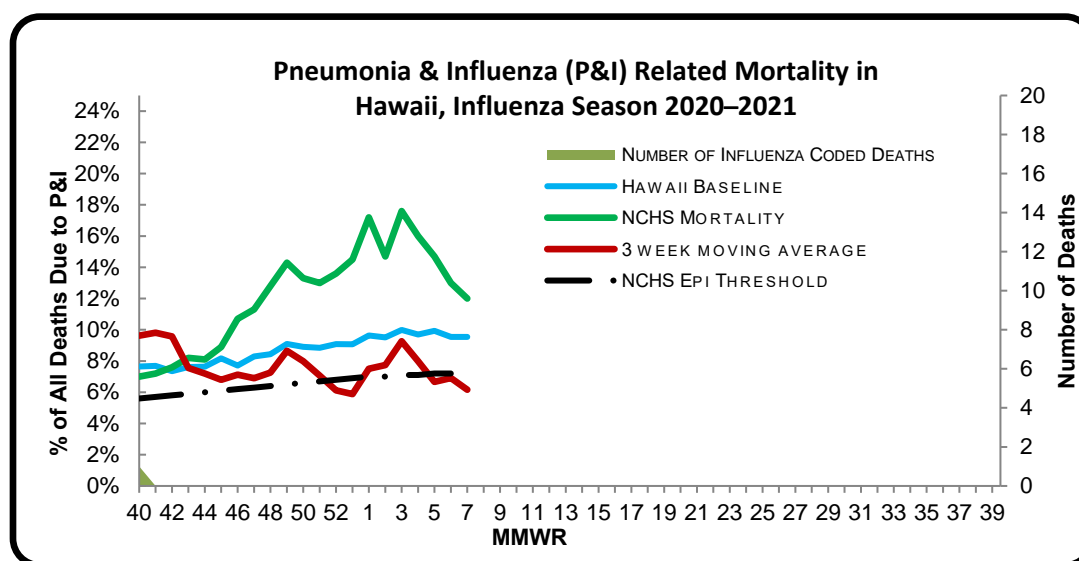


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 7** of the current influenza season:

- **4.0%** of all deaths that occurred in Hawaii during week 7 were related to pneumonia or influenza (P&I)<sup>14</sup>. For the current season (season to date: **7.6%**), there have been 4,439 deaths from any cause, 336 of which were due to P&I.
- The P&I rate was lower than the historical baseline in Hawaii<sup>15</sup> (i.e., outside the 95% confidence interval).
- The Hawaii P&I rate was lower than the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>16</sup> (**12.0%**) (i.e., outside the 95% confidence interval) and comparable to the national epidemic threshold (**7.2%**) (i.e., inside the 95% confidence interval) for week 7.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 7. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 7. (2020–2021 season total: 1).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.



**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

**A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *One human infection with a novel influenza A virus, H1N1v (0), H3N2v (1), and H1N2v (0), has been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 7.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*

**B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **December 9, 2020**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

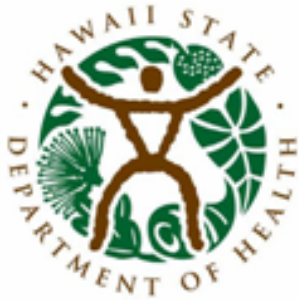
For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	



# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 8: FEBRUARY 21, 2021–FEBRUARY 27, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 8

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.6%	Higher than the previous week. Lower than Hawaii's historical baseline, comparable to the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 2 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Comparable to the previous week. This number means that many, if not all, of the 100% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 1)	5.6%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	2.1%	Lower than Hawaii's historical baseline, lower than to the national epidemic threshold and lower than the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See **appendix 2 for interpretation of MMWR weeks**. Data reported will begin on week 40, the traditional start date of flu season.

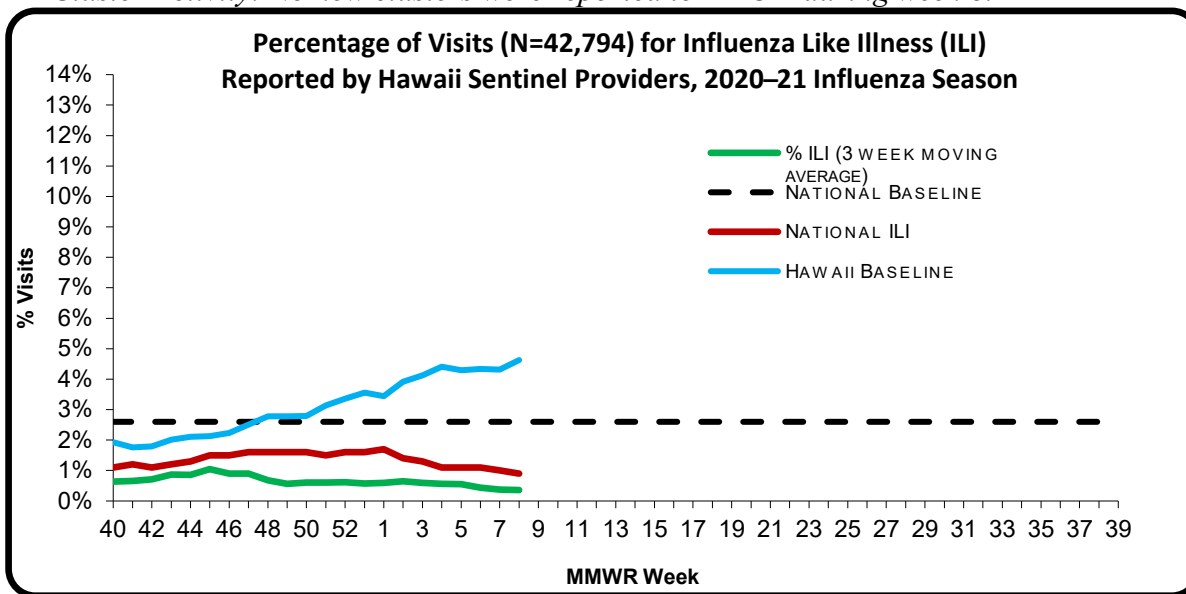
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 8 of the current influenza season:

- **0.6%** (season to date: **0.7%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were lower than the historical baseline in Hawaii<sup>3,4</sup> (i.e., outside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and comparable to the national ILI rate (**0.9%**) (i.e., inside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 8.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

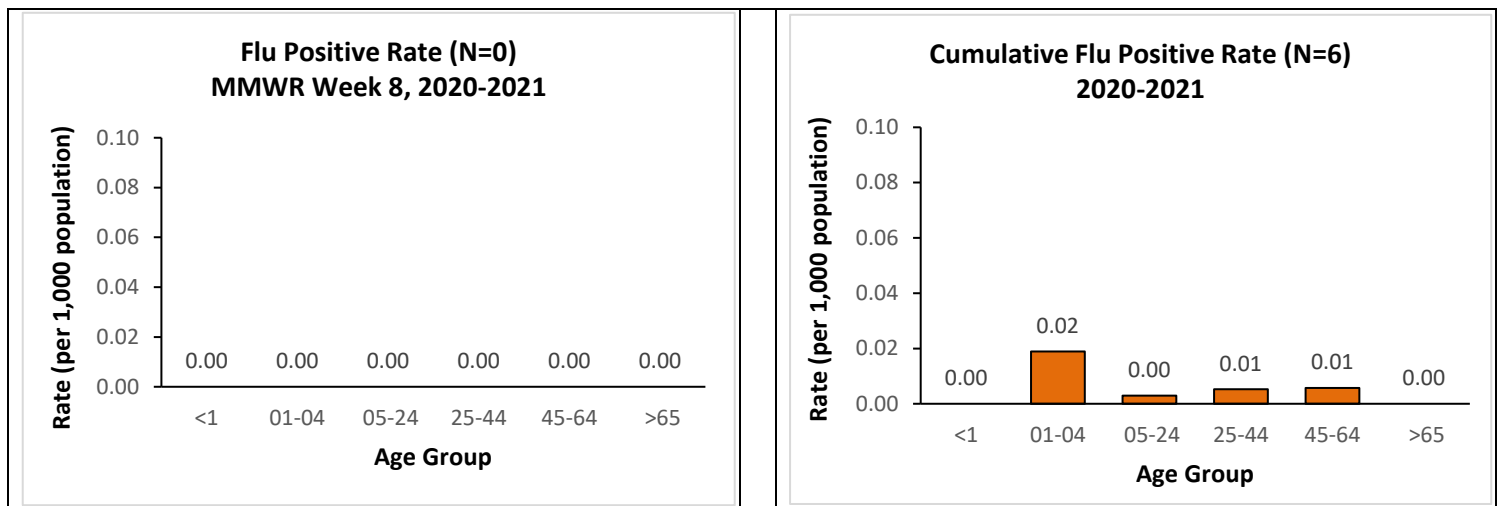
### A. INFLUENZA:

- The following reflects laboratory findings for week 8 of the 2020–21 influenza season:
  - A total of **285** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 8,095 tested [0.1% positive])
    - 49 (17.2%) were screened only by rapid antigen tests with no confirmatory testing.
    - 236 (82.8%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 285 (100.0%) were negative.

Influenza type	Current week 8 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	6 (100.0)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	0 (0.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



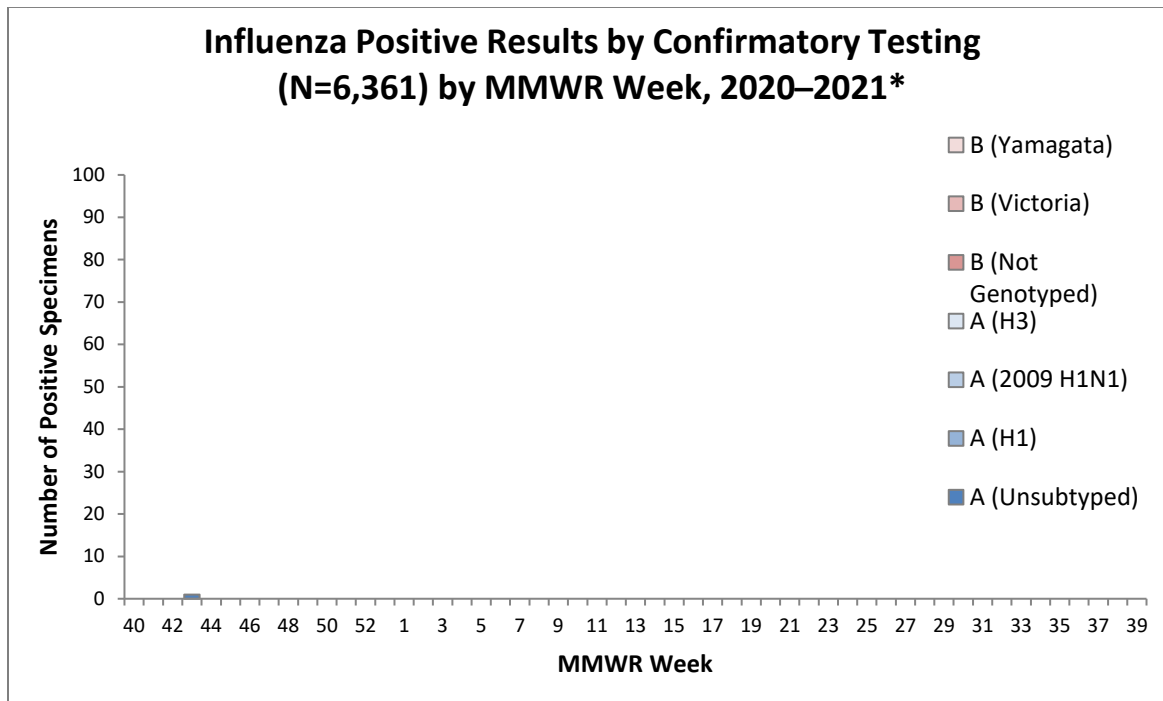
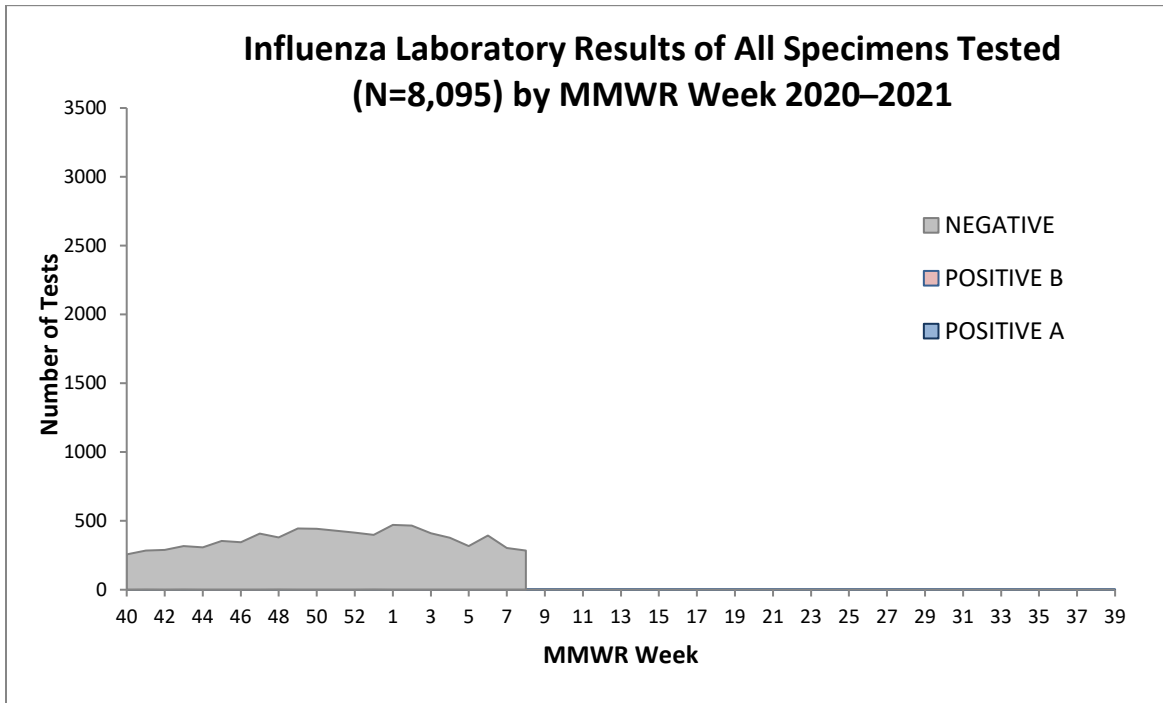
<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.

## 2. LABORATORY TESTING

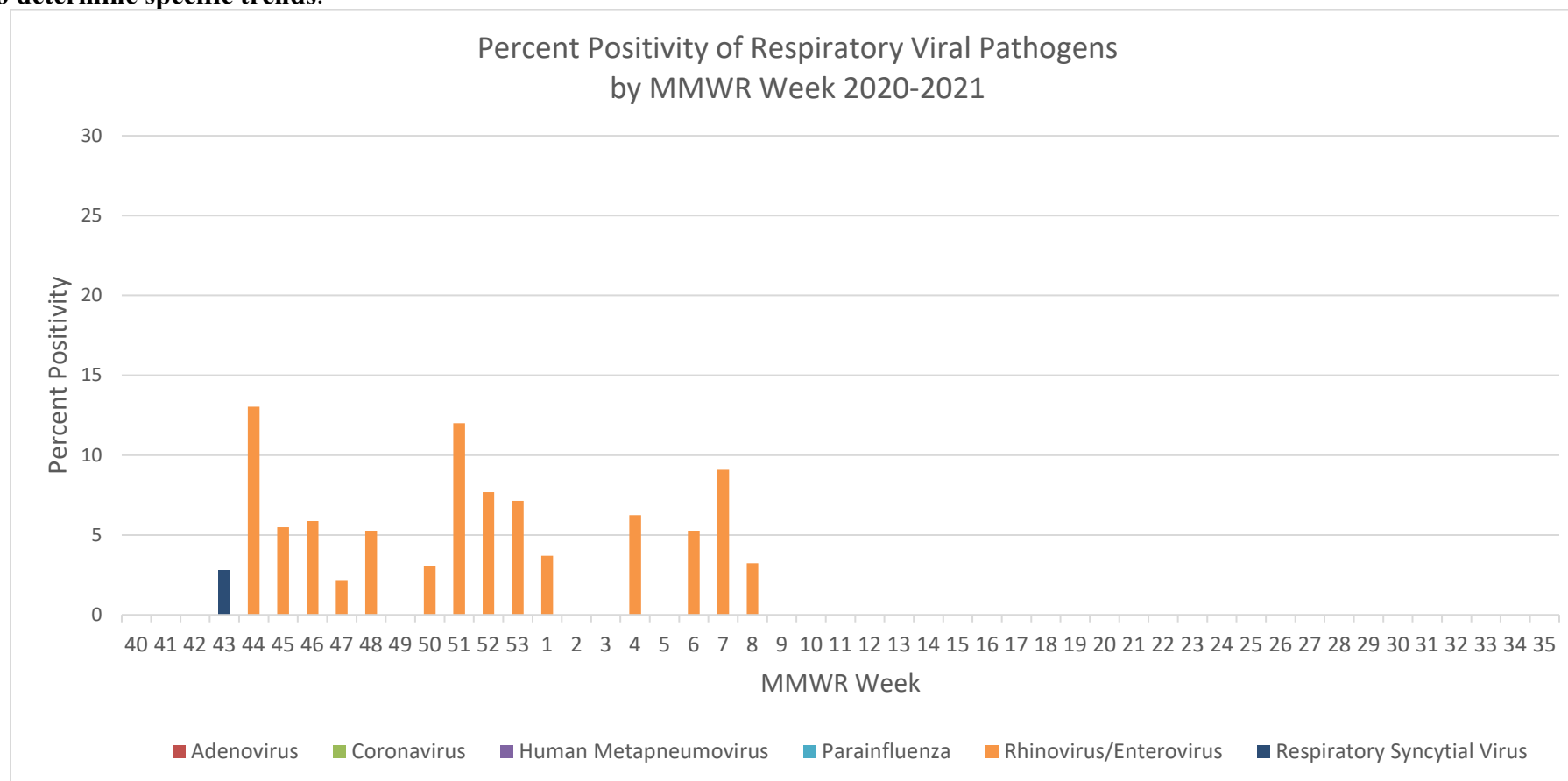
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.



**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 8<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>12</sup>

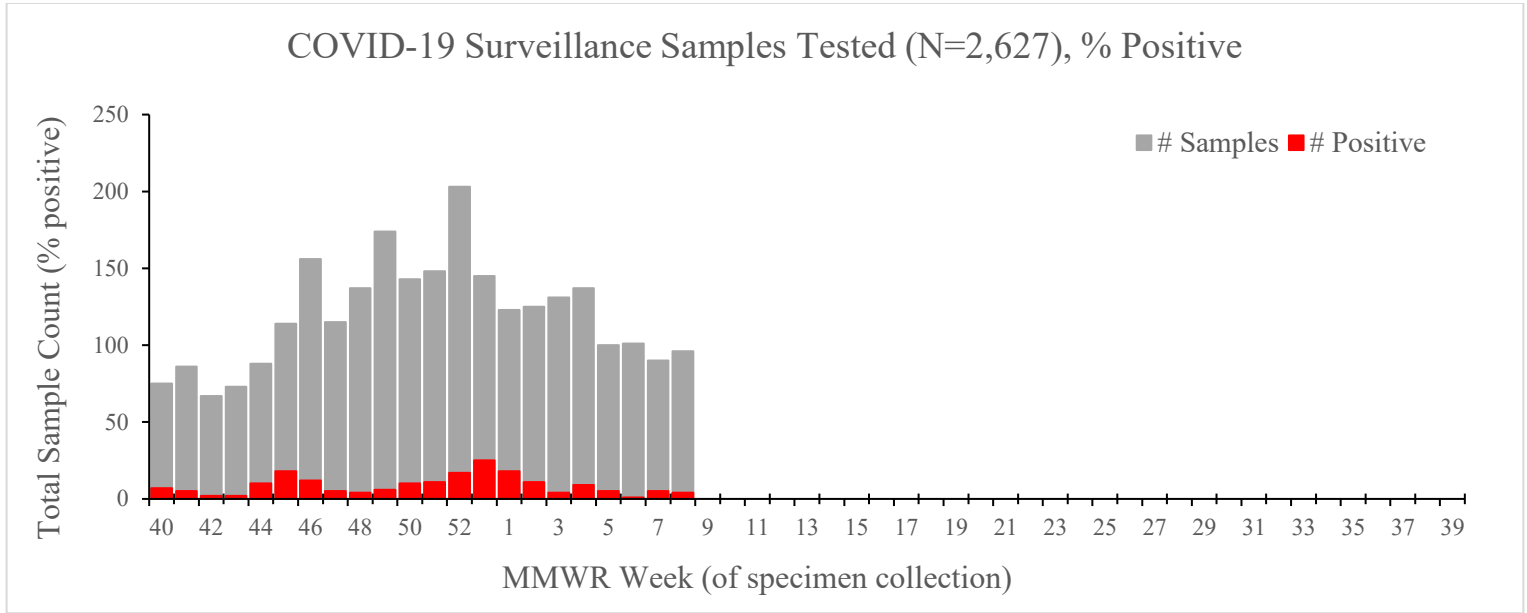
- *A total of 96 surveillance specimens have been tested statewide for COVID-19 (positive: 4 [4.2%]).*
- *Season to date: A total of 2,627 surveillance specimens have been tested for COVID-19 (positive: 191 [7.3%]).*
- *63 specimens have been tested at SLD*<sup>13</sup>.

Season to date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	140	5.7	0-17	500	3.2
Honolulu	2,000	8.0	18-64	1,258	9.9
Kauai	73	0.0	65+	869	5.9
Maui	331	6.3			
Unknown	83	3.6			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

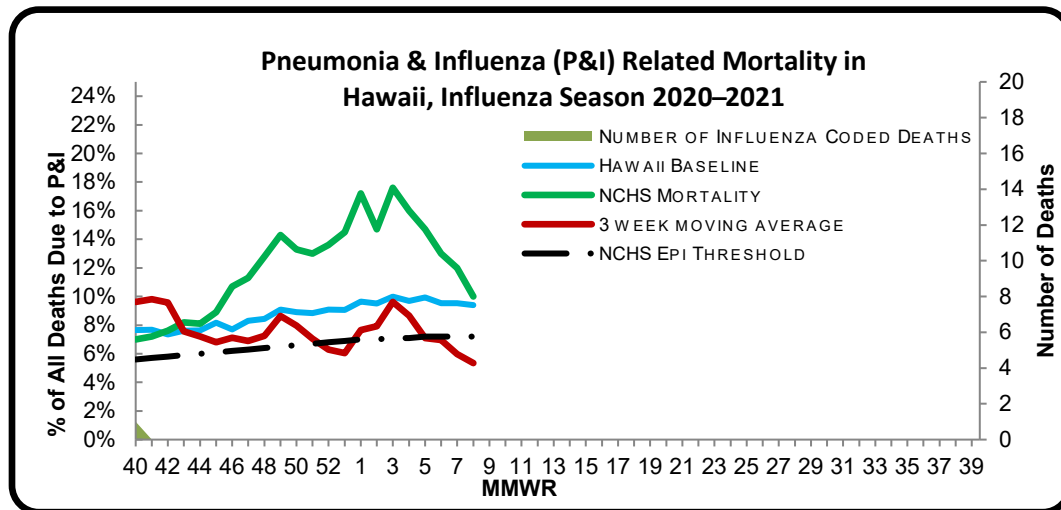


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For week 8 of the current influenza season:

- 2.1% of all deaths that occurred in Hawaii during week 8 were related to pneumonia or influenza (P&I)<sup>14</sup>. For the current season (season to date: 7.5%), there have been 4,728 deaths from any cause, 353 of which were due to P&I.
- The P&I rate was lower than the historical baseline in Hawaii<sup>15</sup> (i.e., outside the 95% confidence interval).
- The Hawaii P&I rate was lower than the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>16</sup> (10.0%) (i.e., outside the 95% confidence interval) and lower than the national epidemic threshold (7.2%) (i.e., outside the 95% confidence interval) for week 8.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 8. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 8. (2020-2021 season total: 1).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### **A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *One human infection with a novel influenza A virus, H1N1v (0), H3N2v (1), and H1N2v (0), has been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 8.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*

#### **B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **December 9, 2020**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	





# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 9: FEBRUARY 28, 2021–MARCH 6, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 9

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	1.0%	Higher than the previous week. Lower than Hawaii's historical baseline, comparable to the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 2 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Comparable to the previous week. This number means that many, if not all, of the 100% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 1)	5.6%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	3.7%	Lower than Hawaii's historical baseline, comparable to the national epidemic threshold and lower than the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See **appendix 2 for interpretation of MMWR weeks**. Data reported will begin on week 40, the traditional start date of flu season.

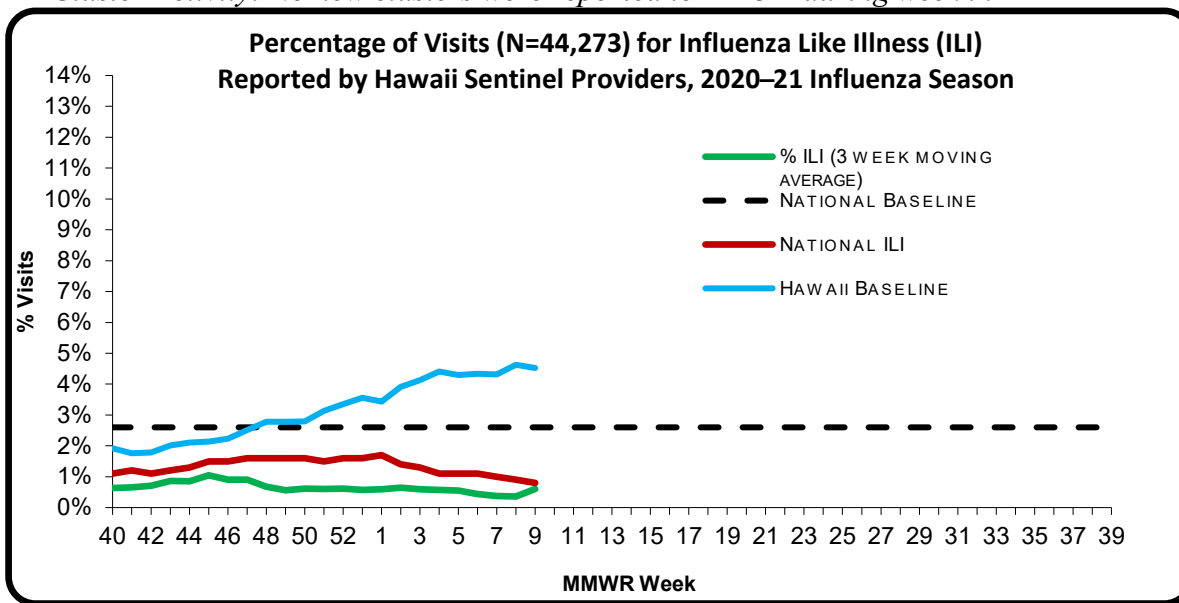
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 9 of the current influenza season:

- **1.0%** (season to date: **0.7%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were lower than the historical baseline in Hawaii<sup>3,4</sup> (i.e., outside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and comparable to the national ILI rate (**0.8%**) (i.e., inside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 9.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

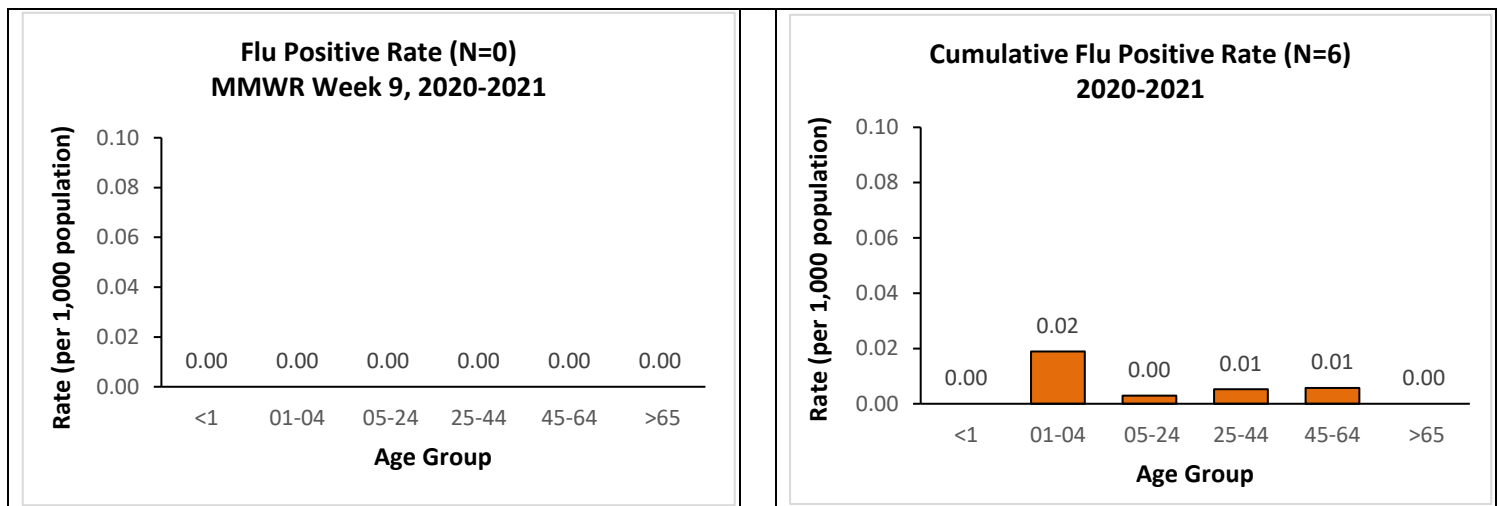
### A. INFLUENZA:

- The following reflects laboratory findings for week 9 of the 2020–21 influenza season:
  - A total of **260** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 8,355 tested [0.1% positive])
    - 56 (21.5%) were screened only by rapid antigen tests with no confirmatory testing.
    - 204 (78.5%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 260 (100.0%) were negative.

Influenza type	Current week 9 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	6 (100.0)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	0 (0.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



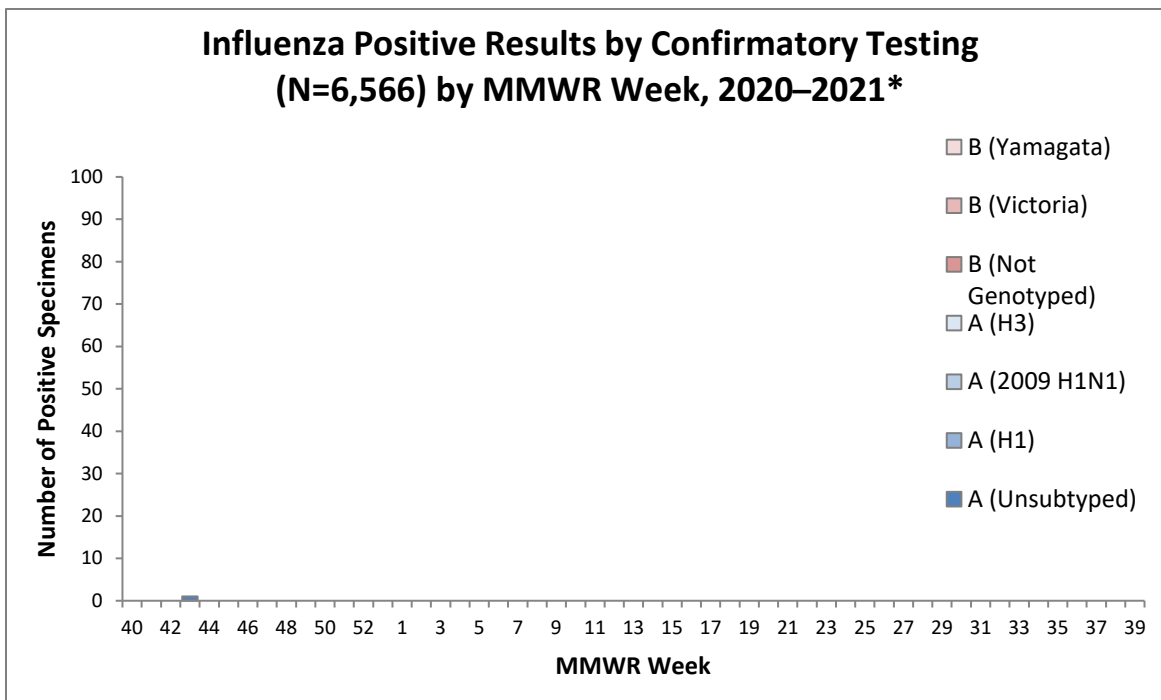
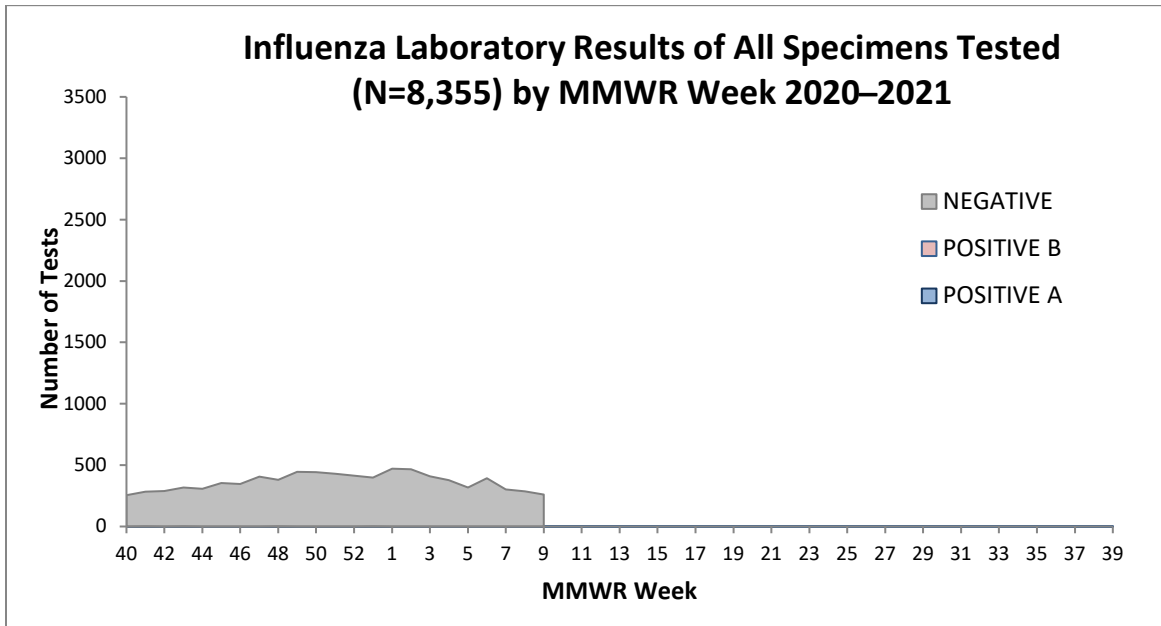
<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.

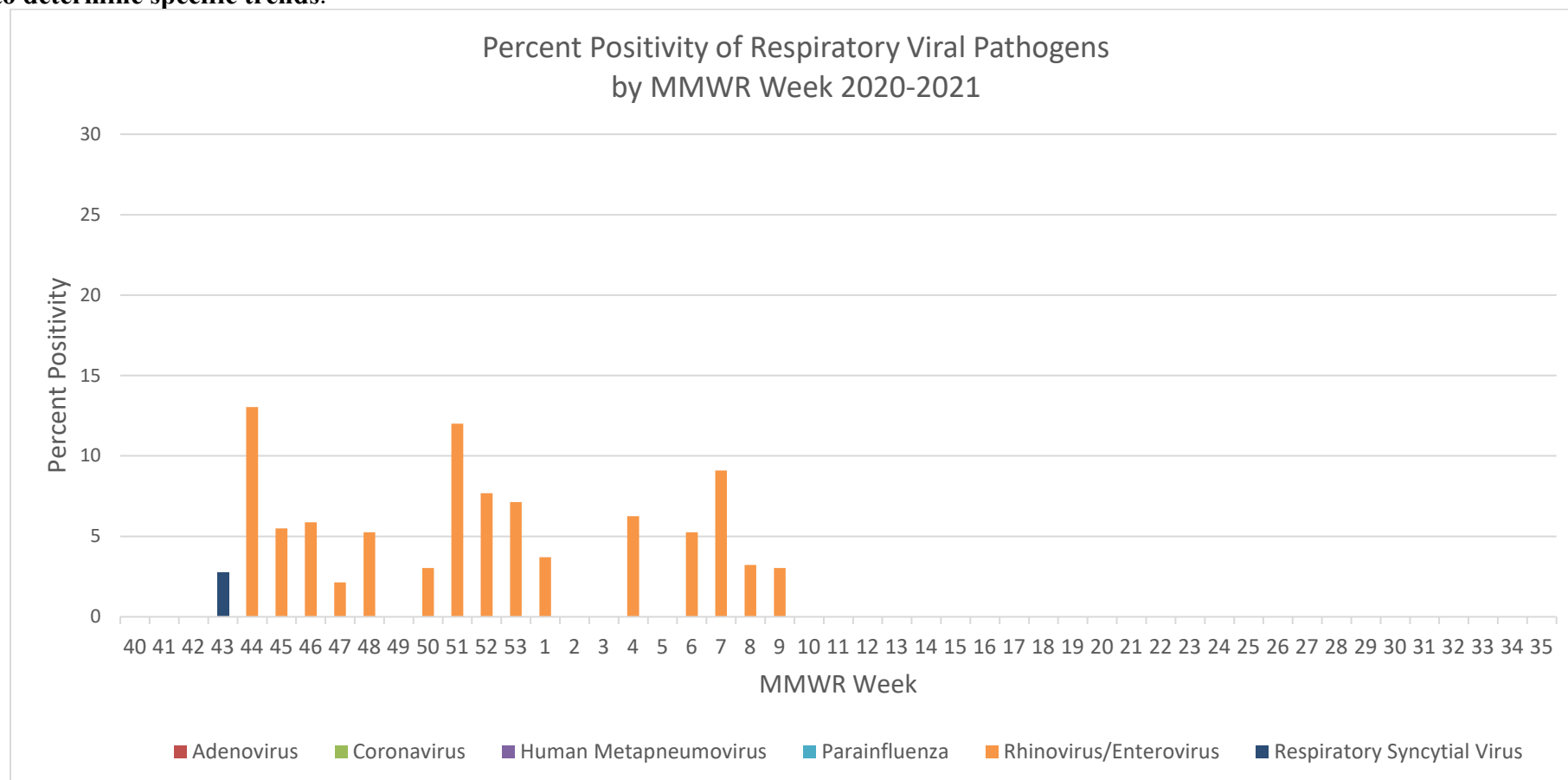
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 9<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional<sup>12</sup>*

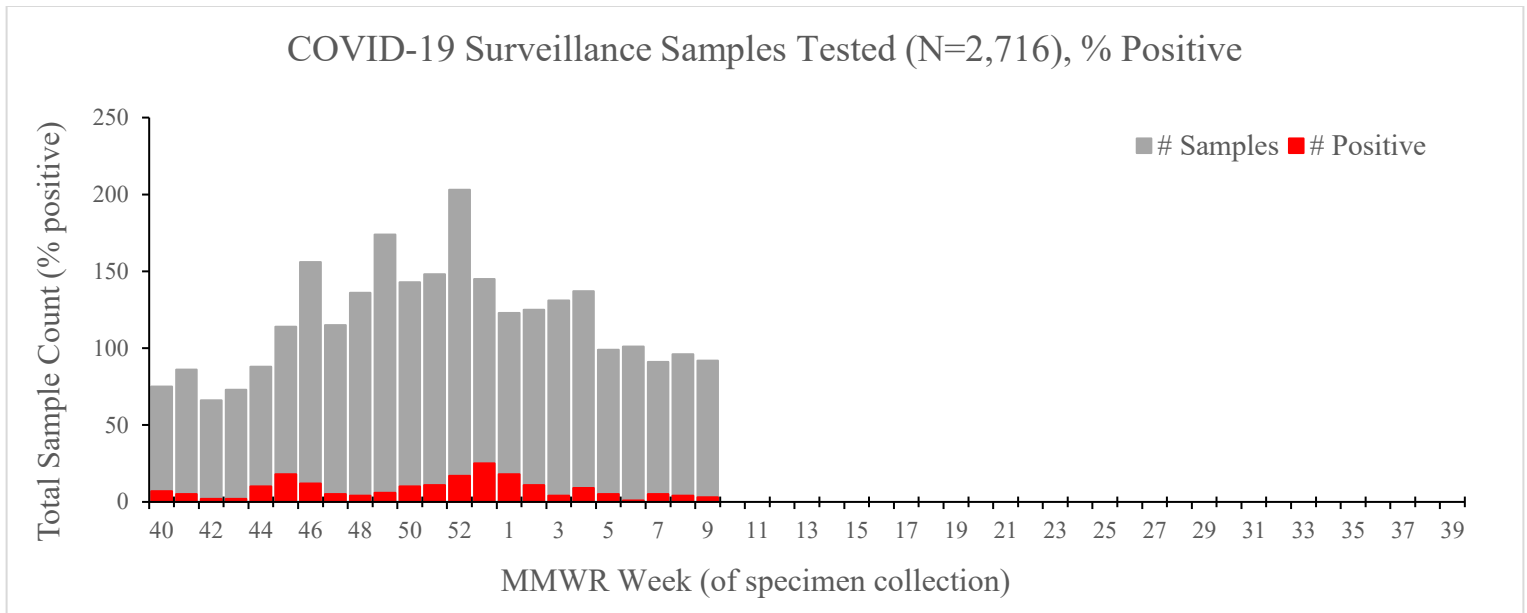
- *A total of 92 surveillance specimens have been tested statewide for COVID-19 (positive: 3 [3.3%]).*
- *Season to date: A total of 2,716 surveillance specimens have been tested for COVID-19 (positive: 194 [7.1%]).*
- *63 specimens have been tested at SLD<sup>13</sup>.*

Season to date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	146	6.2	0-17	516	2.9
Honolulu	2,069	7.8	18-64	1,302	9.8
Kauai	76	0.0	65+	898	5.7
Maui	338	6.2			
Unknown	87	3.5			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

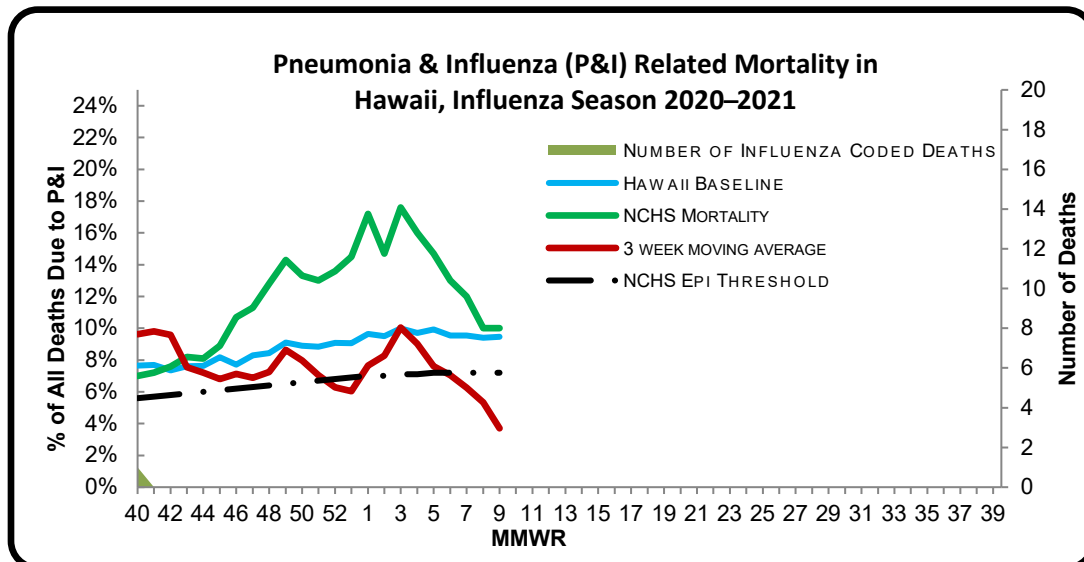


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 9** of the current influenza season:

- **3.7%** of all deaths that occurred in Hawaii during week 9 were related to pneumonia or influenza (P&I)<sup>14</sup>. For the current season (season to date: **7.4%**), there have been 4,967 deaths from any cause, 368 of which were due to P&I.
- The P&I rate was lower than the historical baseline in Hawaii<sup>15</sup> (i.e., outside the 95% confidence interval).
- The Hawaii P&I rate was lower than the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>16</sup> (**10.0%**) (i.e., outside the 95% confidence interval) and comparable to the national epidemic threshold (**7.2%**) (i.e., inside the 95% confidence interval) for week 9.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 9. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 9. (2020–2021 season total: 1).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.



**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

**A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *One human infection with a novel influenza A virus, H1N1v (0), H3N2v (1), and H1N2v (0), has been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 9.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*

**B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **December 9, 2020**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

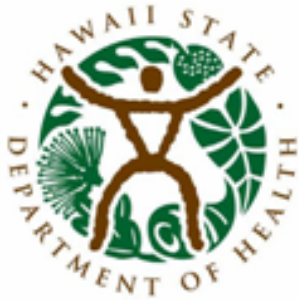
For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	



# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 10: MARCH 7, 2021–MARCH 13, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 10 2021).

### REPORT SNAPSHOT FOR WEEK 10

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.1%	Lower than the previous week. Lower than Hawaii's historical baseline, lower than the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 2 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.4%	Higher than the previous week. This number means that many, if not all, of the 100% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 1)	5.6%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	2.1%	Lower than Hawaii's historical baseline, lower than the national epidemic threshold and lower than the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See **appendix 2 for interpretation of MMWR weeks**. Data reported will begin on week 40, the traditional start date of flu season.

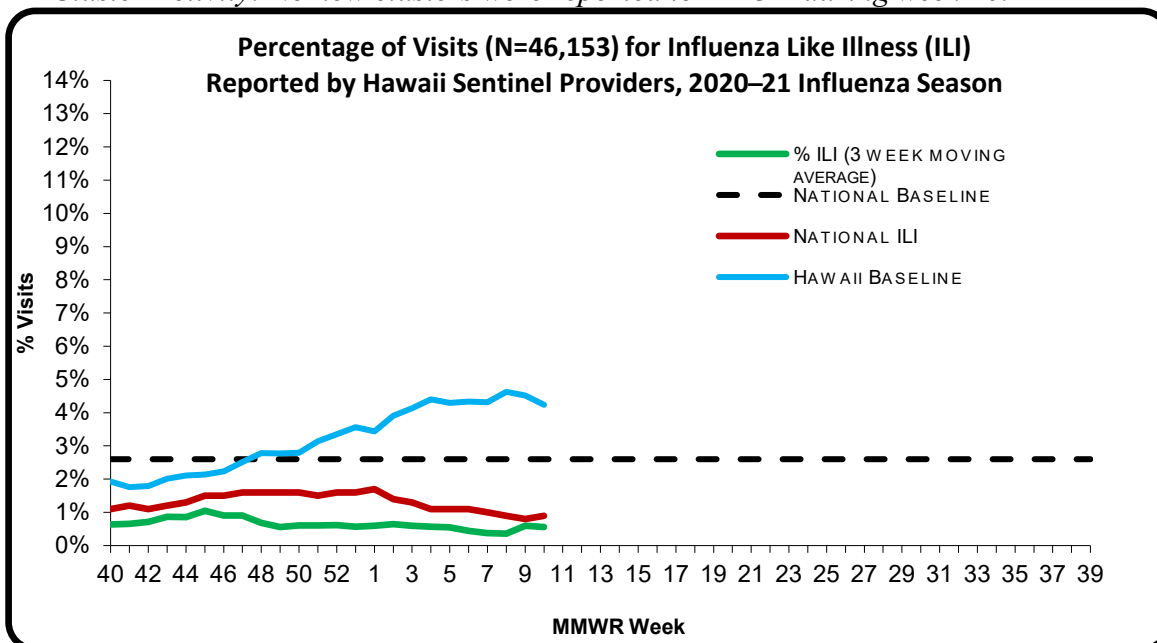
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 10 of the current influenza season:

- **0.1 %** (season to date: **0.7%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were lower than the historical baseline in Hawaii<sup>3,4</sup> (i.e., outside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**0.9%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 10.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

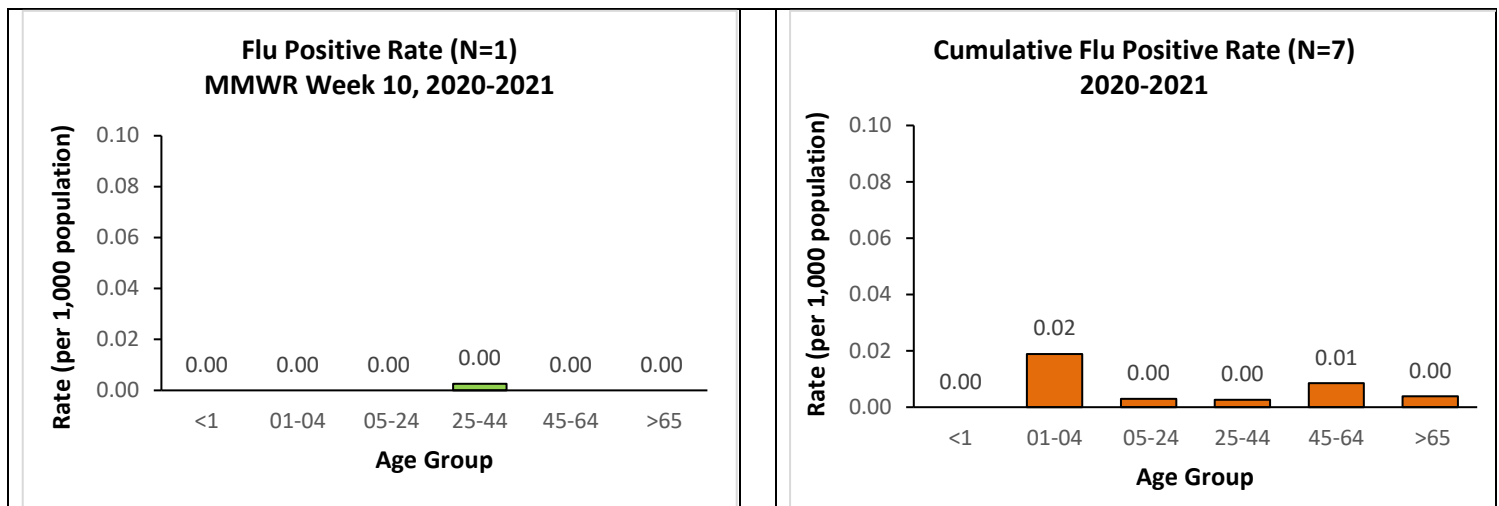
### A. INFLUENZA:

- The following reflects laboratory findings for week 10 of the 2020–21 influenza season:
  - A total of **257** specimens have been tested statewide for influenza viruses (positive: **1** [**0.4%**]). (Season to date: 8,611 tested [**0.1%** positive])
    - 53 (20.6%) were screened only by rapid antigen tests with no confirmatory testing.
    - 204 (79.4%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 256 (99.6%) were negative.

Influenza type	Current week 10 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	1 (100.0)	6 (85.7)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	1 (14.3)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



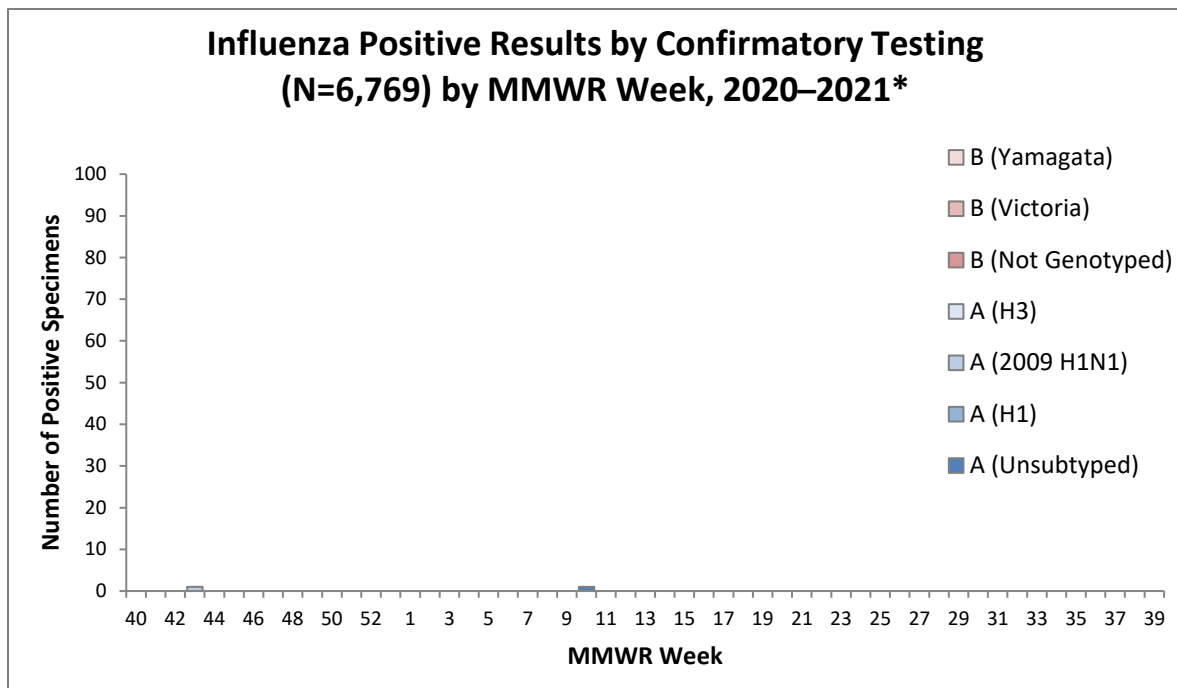
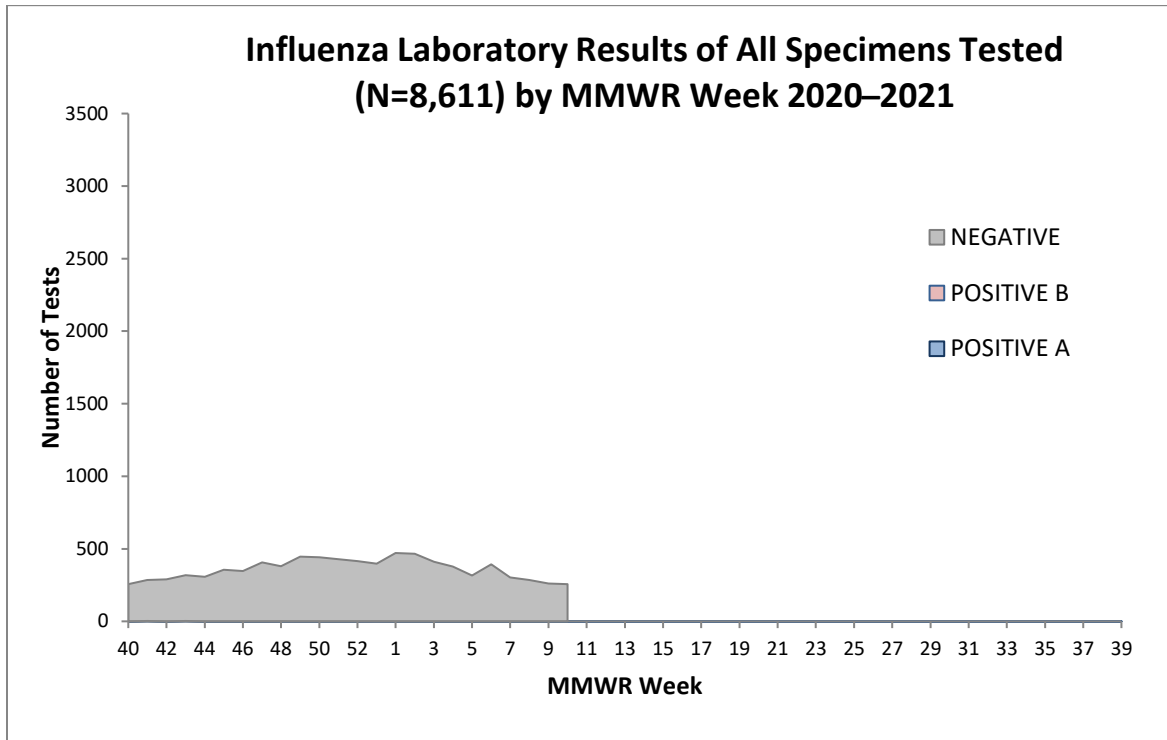
<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.

## 2. LABORATORY TESTING

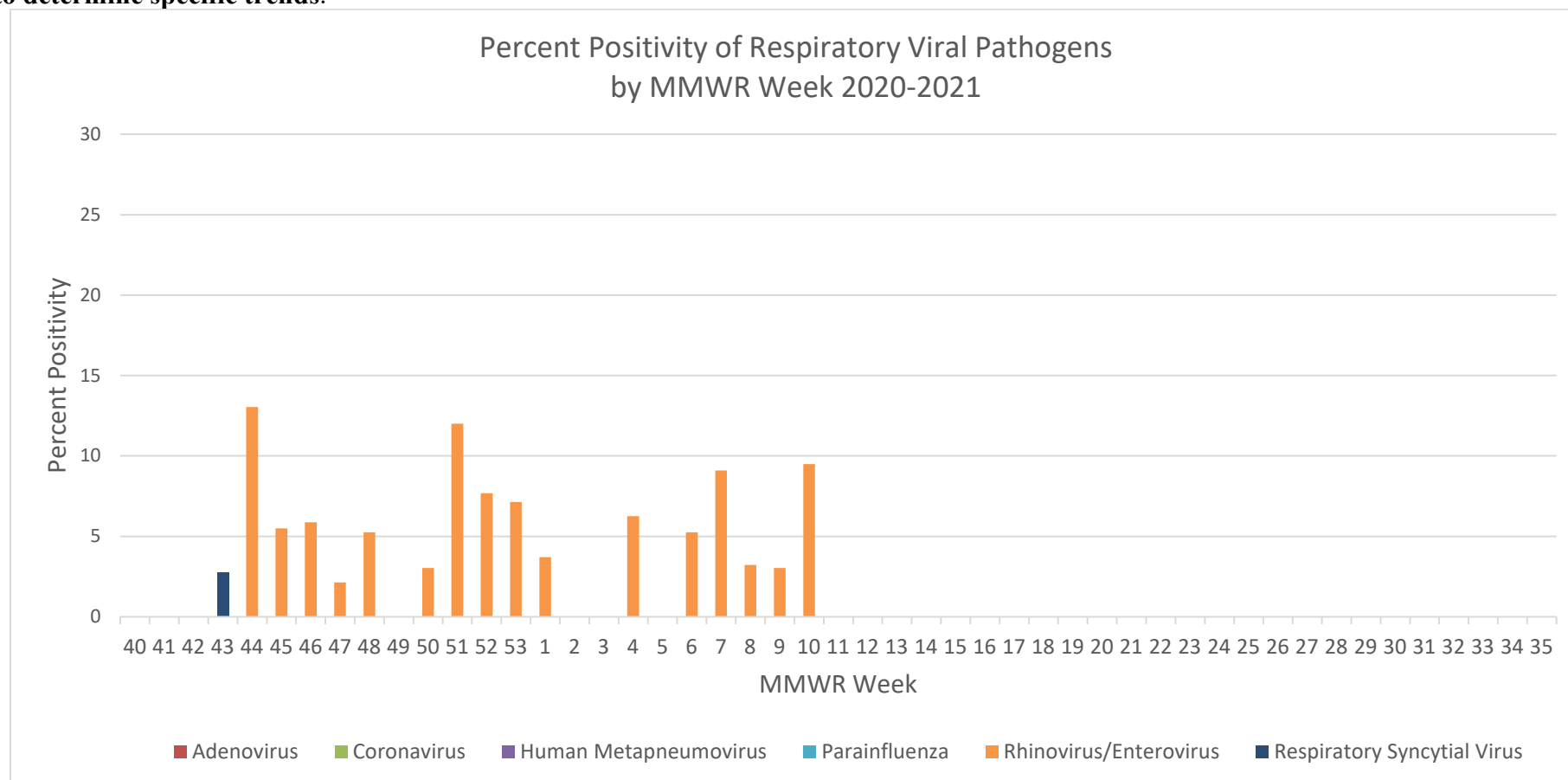
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.



**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 10<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>12</sup>

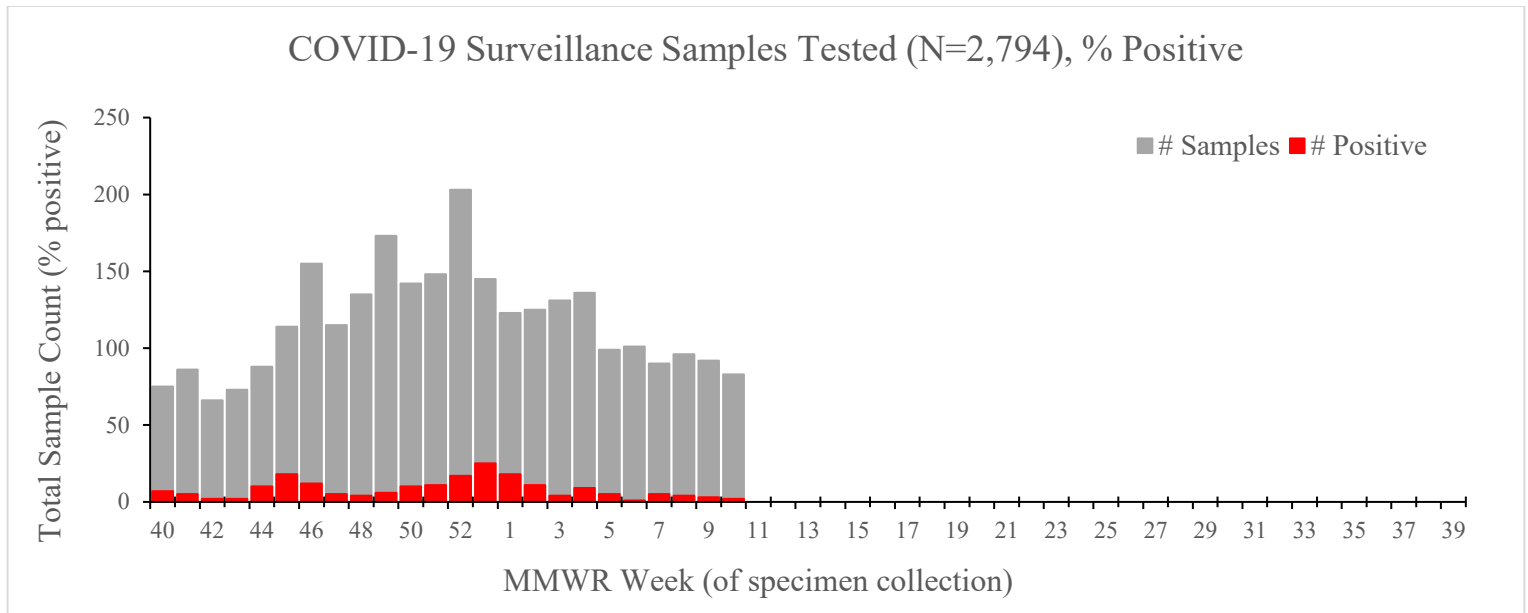
- *A total of 83 surveillance specimens have been tested statewide for COVID-19 (positive: 2 [2.4%]).*
- *Season to date: A total of 2,794 surveillance specimens have been tested for COVID-19 (positive: 196 [7.0%]).*
- *63 specimens have been tested at SLD*<sup>13</sup>.

Season to date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	150	6.0	0-17	527	2.9
Honolulu	2,130	7.6	18-64	1,334	9.7
Kauai	79	0.0	65+	933	5.6
Maui	346	6.4			
Unknown	89	3.4			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

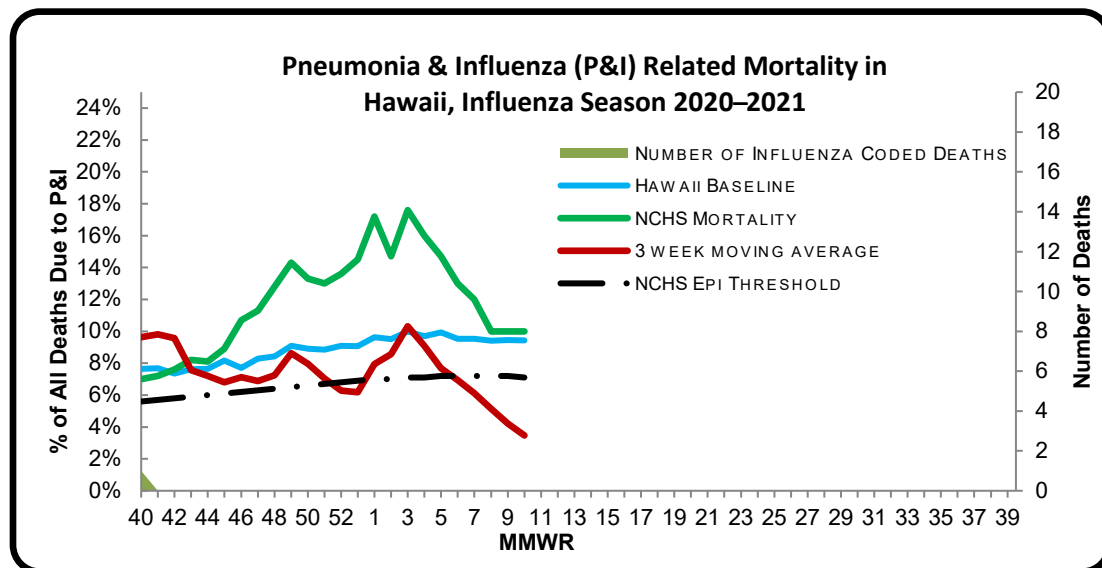


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 10** of the current influenza season:

- *2.1% of all deaths that occurred in Hawaii during week 10 were related to pneumonia or influenza (P&I)<sup>14</sup>. For the current season (season to date: 7.3%), there have been 5,224 deaths from any cause, 382 of which were due to P&I.*
- *The P&I rate was lower than the historical baseline in Hawaii<sup>15</sup> (i.e., outside the 95% confidence interval).*
- *The Hawaii P&I rate was lower than the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>16</sup> (10.0%) (i.e., outside the 95% confidence interval) and lower than the national epidemic threshold (7.1%) (i.e., outside the 95% confidence interval) for week 10.*



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 10. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 10. (2020–2021 season total: 1).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

**A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *One human infection with a novel influenza A virus, H1N1v (0), H3N2v (1), and H1N2v (0), has been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 10.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*

**B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **December 9, 2020**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	





# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 11: MARCH 14, 2021–MARCH 20, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 11 2021).

### REPORT SNAPSHOT FOR WEEK 11

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.4%	Higher than the previous week. Lower than Hawaii's historical baseline, lower than the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 2 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.4%	Comparable to the previous week. This number means that many, if not all, of the 99.6% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 1)	2.9%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	5.2%	Lower than Hawaii's historical baseline, comparable to the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See **appendix 2 for interpretation of MMWR weeks**. Data reported will begin on week 40, the traditional start date of flu season.

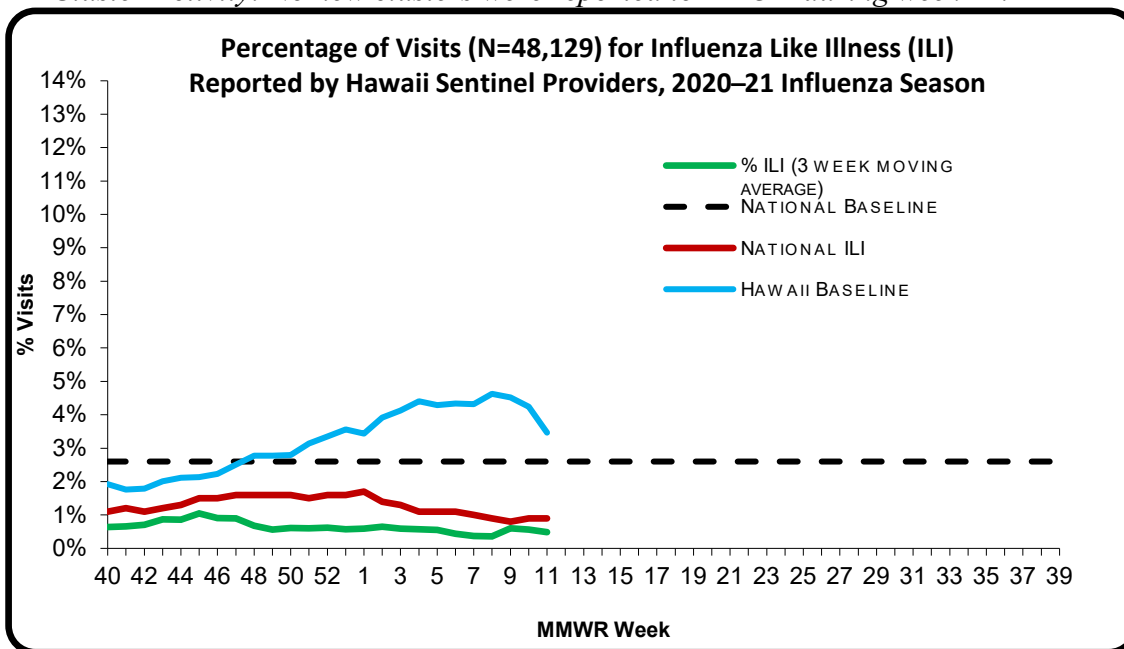
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 11 of the current influenza season:

- **0.4 %** (season to date: **0.6%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were lower than the historical baseline in Hawaii<sup>3,4</sup> (i.e., outside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**0.9%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 11.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

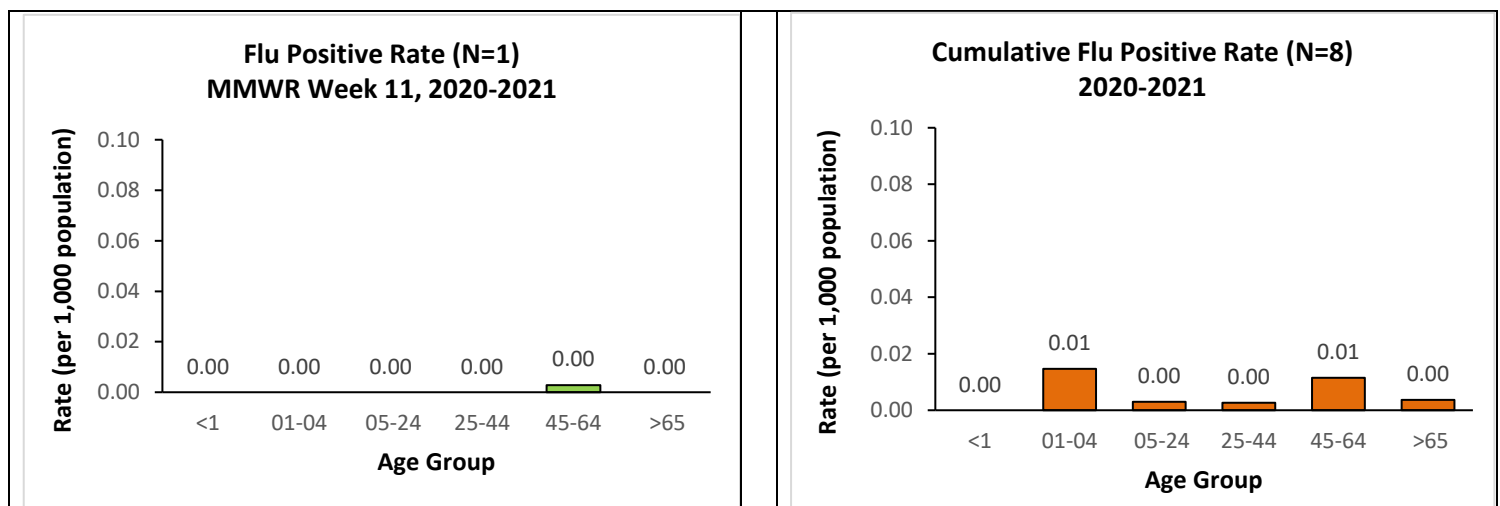
### A. INFLUENZA:

- The following reflects laboratory findings for week 11 of the 2020–21 influenza season:
  - A total of 276 specimens have been tested statewide for influenza viruses (positive: 1 [0.4%]). (Season to date: 8,884 tested [0.1% positive])
    - 54 (19.6%) were screened only by rapid antigen tests with no confirmatory testing.
    - 222 (80.4%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 275 (99.6%) were negative.

Influenza type	Current week 11 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	1 (100.0)	7 (87.5)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	1 (12.5)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



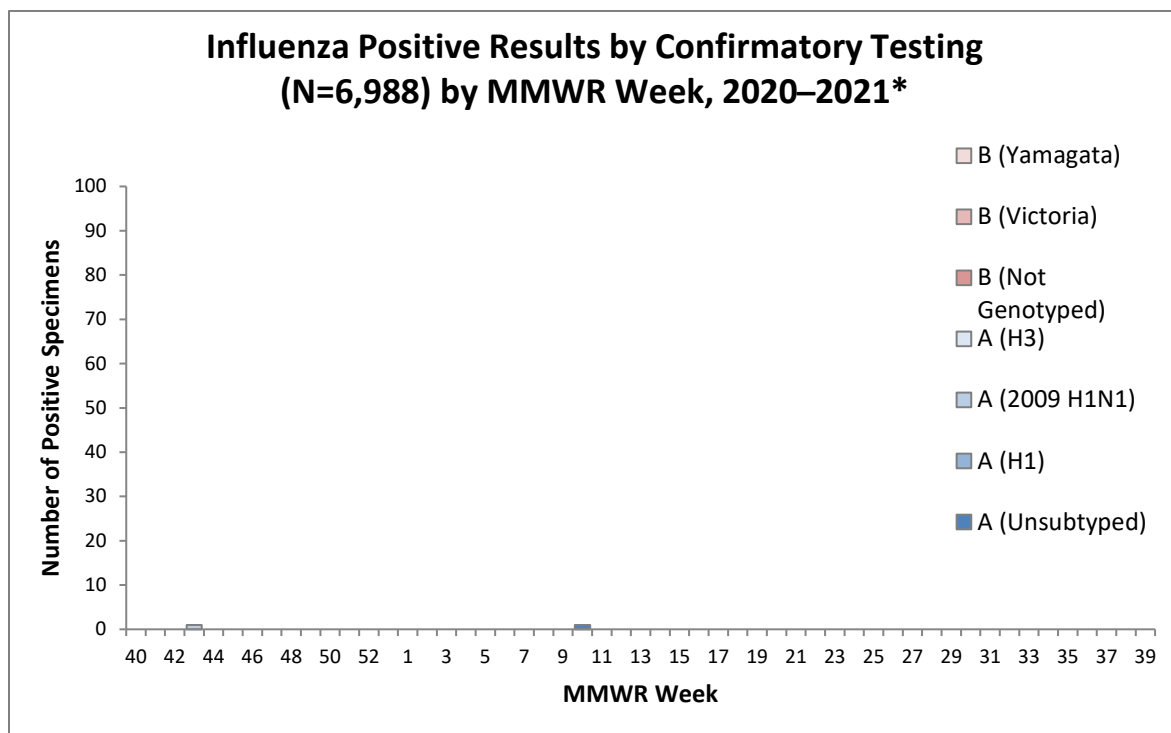
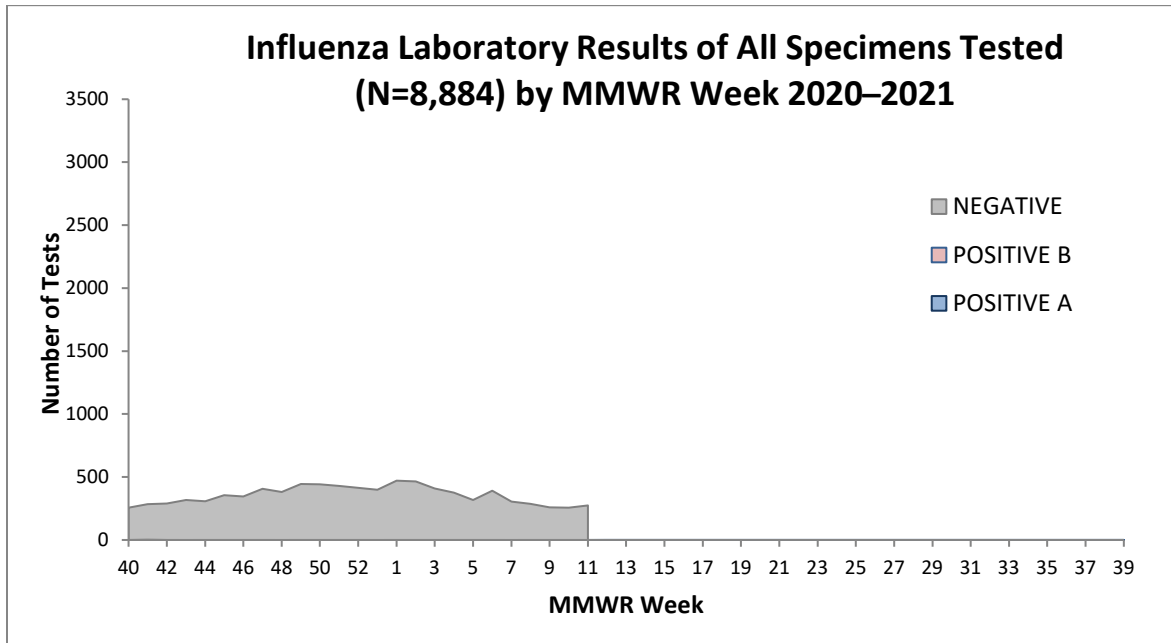
<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.

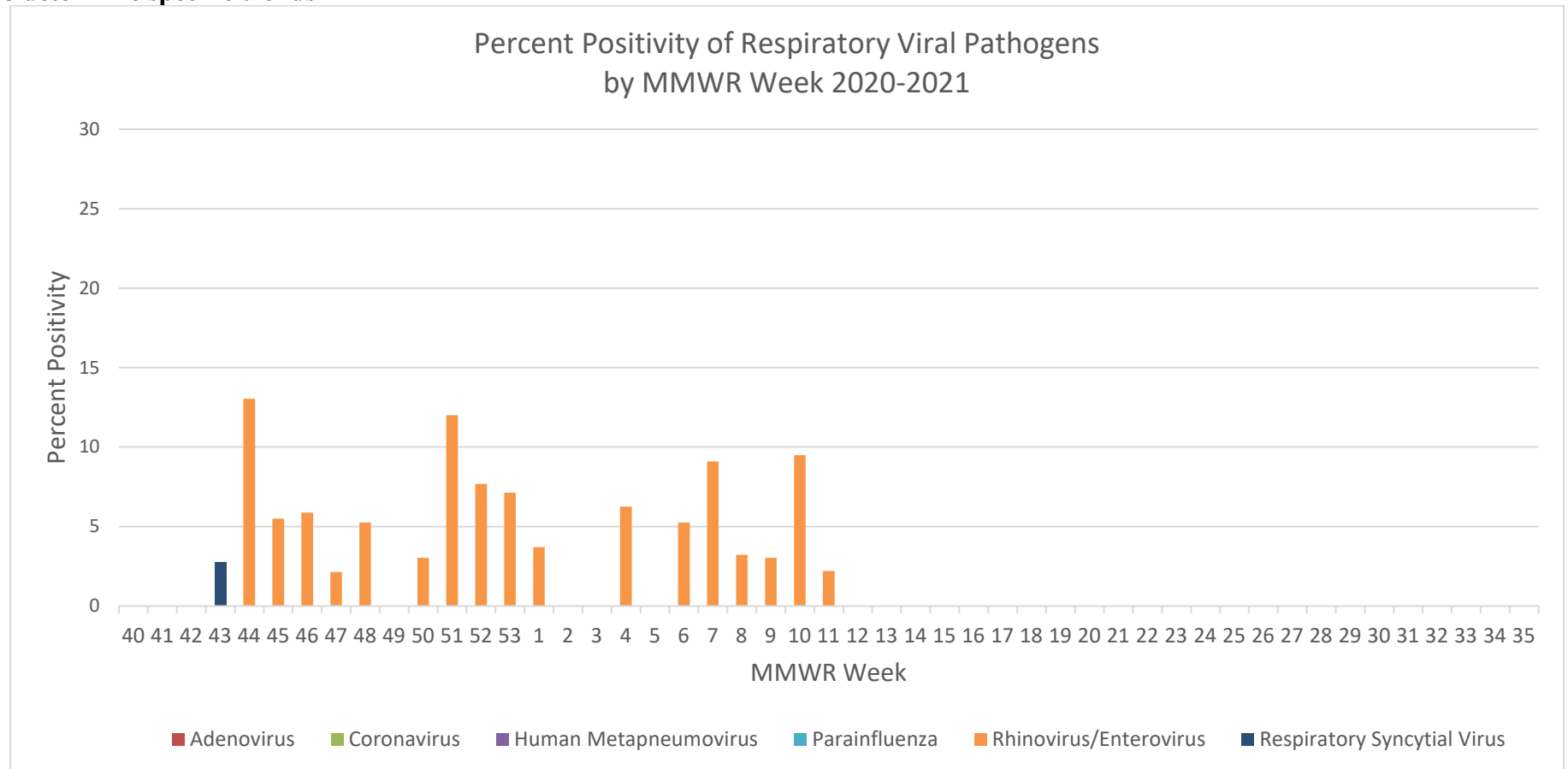
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 11<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

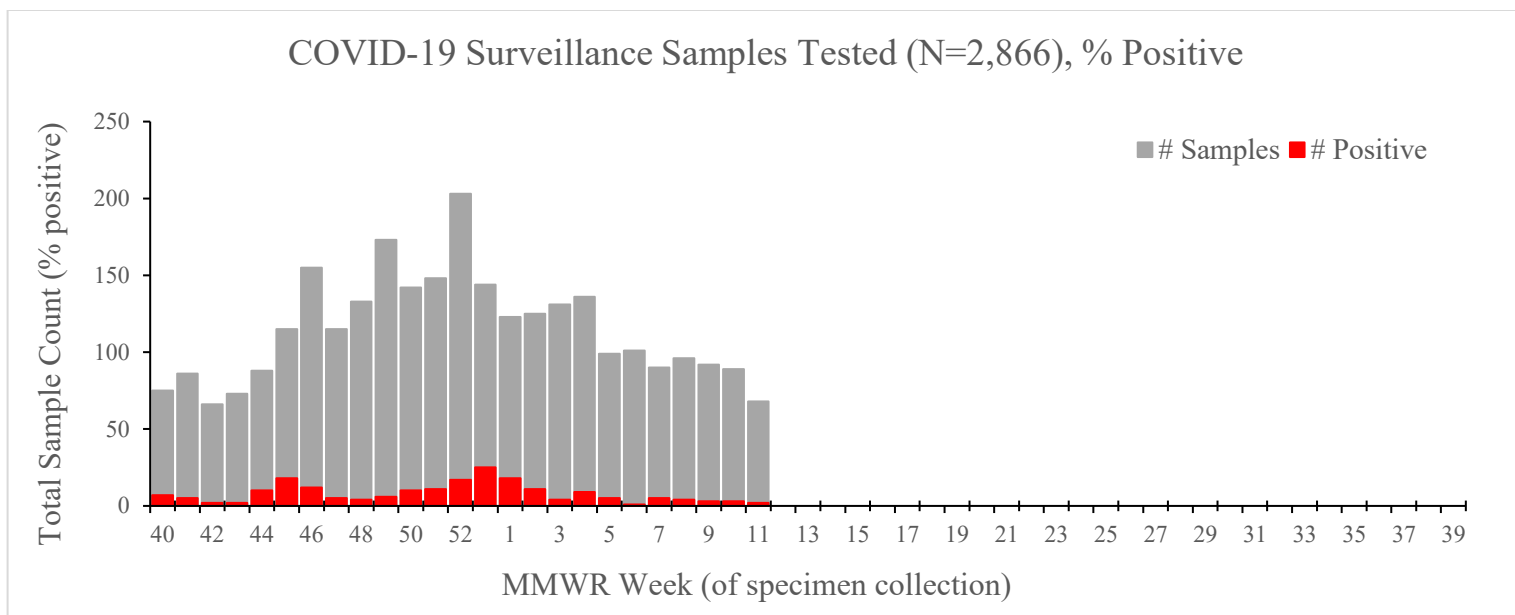
- *COVID-19 geographic spread: Regional*<sup>12</sup>
  - *A total of 69 surveillance specimens have been tested statewide for COVID-19 (positive: 2 [2.9%]).*
  - *Season to date: A total of 2,866 surveillance specimens have been tested for COVID-19 (positive: 199 [6.9%]).*
  - *64 specimens have been tested at SLD*<sup>13</sup>.

Season to date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	153	5.9	0-17	538	2.8
Honolulu	2,185	7.5	18-64	1,368	9.6
Kauai	80	0.0	65+	960	5.5
Maui	359	6.4			
Unknown	89	3.4			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

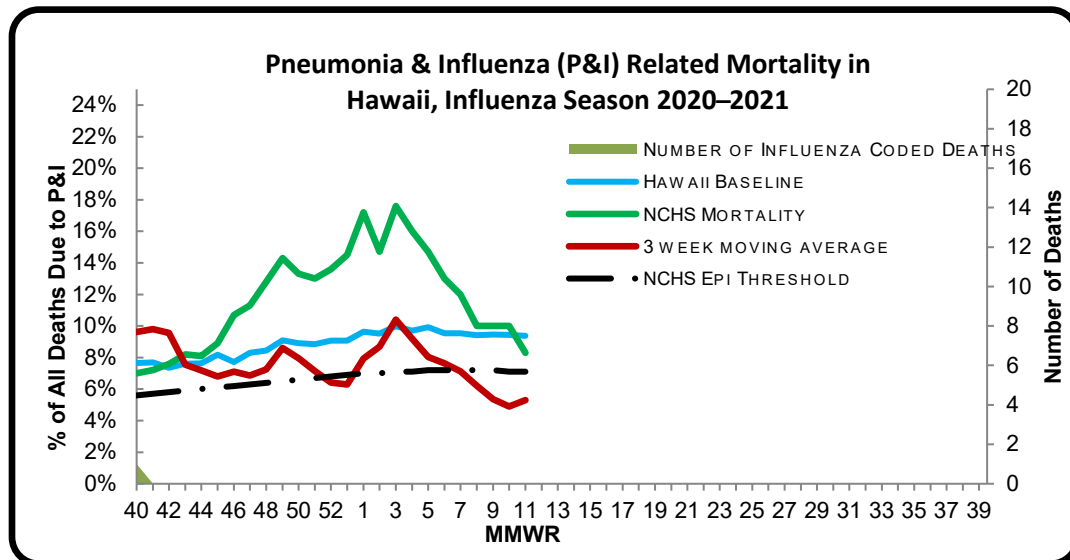


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 11** of the current influenza season:

- **5.2%** of all deaths that occurred in Hawaii during week 11 were related to pneumonia or influenza (P&I)<sup>14</sup>. For the current season (season to date: **7.4%**), there have been 5,649 deaths from any cause, 418 of which were due to P&I.
- The P&I rate was lower than the historical baseline in Hawaii<sup>15</sup> (i.e., outside the 95% confidence interval).
- The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>16</sup> (**8.3%**) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (**7.1%**) (i.e., inside the 95% confidence interval) for week 11.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 11. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 11. (2020-2021 season total: 1).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.



**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### A. VARIANT VIRUSES:

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *One human infection with a novel influenza A virus, H1N1v (0), H3N2v (2), and H1N2v (0), has been reported during the 2020–2021 influenza season.*
  - *One new human infection with a novel influenza A H3N2v virus was reported to CDC during week 11.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*

#### B. AVIAN (OR BIRD) INFLUENZA:

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **January 29, 2021**. Since the last update, four new laboratory-confirmed human cases of influenza A(H5N6) virus infection were reported to WHO from China. These cases had exposure to domestic live

poultry and live poultry markets prior to illness. Three of the four cases were hospitalized, and one resulted in death. The fourth case had mild illness and recovered. Eight laboratory-confirmed human cases of influenza A(H9N2) virus infection were reported to WHO from China. All eight cases had mild illness and recovered. The cases had exposure history to live poultry.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

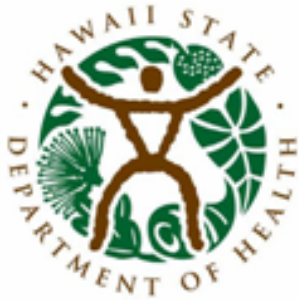
For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	



# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 12: MARCH 21, 2021–MARCH 27, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 12 2021).

### REPORT SNAPSHOT FOR WEEK 12

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	1.0%	Higher than the previous week. Lower than Hawaii's historical baseline, comparable to the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 2 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.4%	Comparable to the previous week. This number means that many, if not all, of the 99.6% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 1)	3.3%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	2.3%	Lower than Hawaii's historical baseline, Lower than national epidemic threshold and lower than NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See appendix 2 for interpretation of MMWR weeks. Data reported will begin on week 40, the traditional start date of flu season.

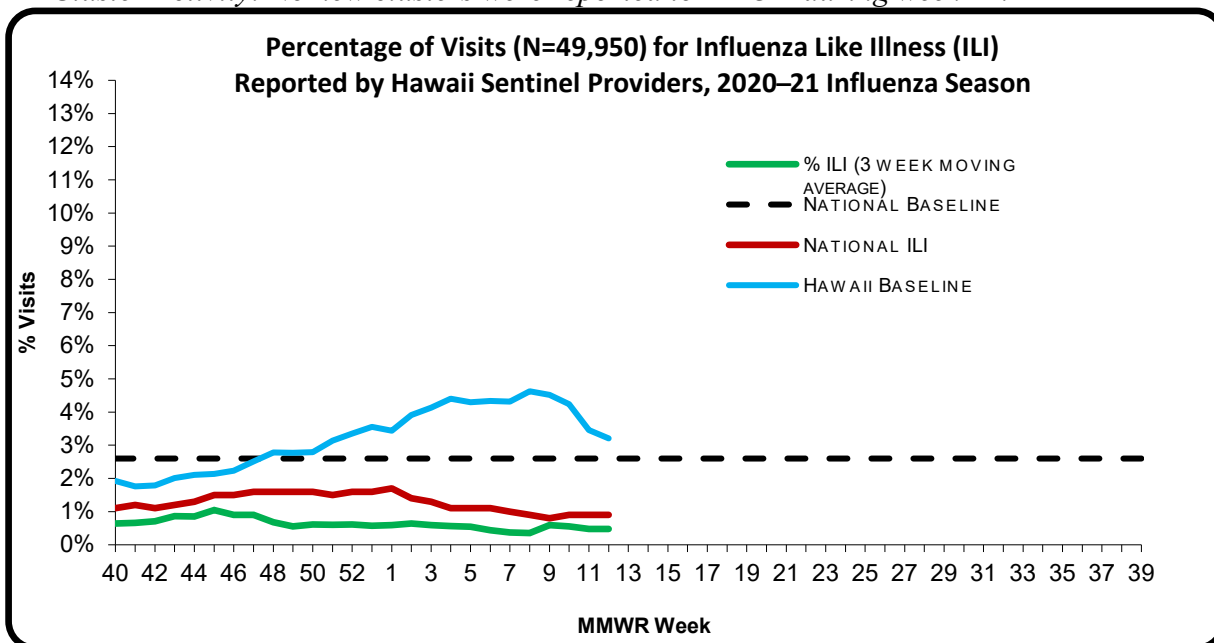
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 12 of the current influenza season:

- **1.0 %** (season to date: **0.7%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were lower than the historical baseline in Hawaii<sup>3,4</sup> (i.e., outside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and comparable to the national ILI rate (**0.9%**) (i.e., inside the 95% confidence interval).
- ILI activity level: *Minimal*<sup>6</sup>
- Geographic Spread: *Sporadic Activity*<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 12.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

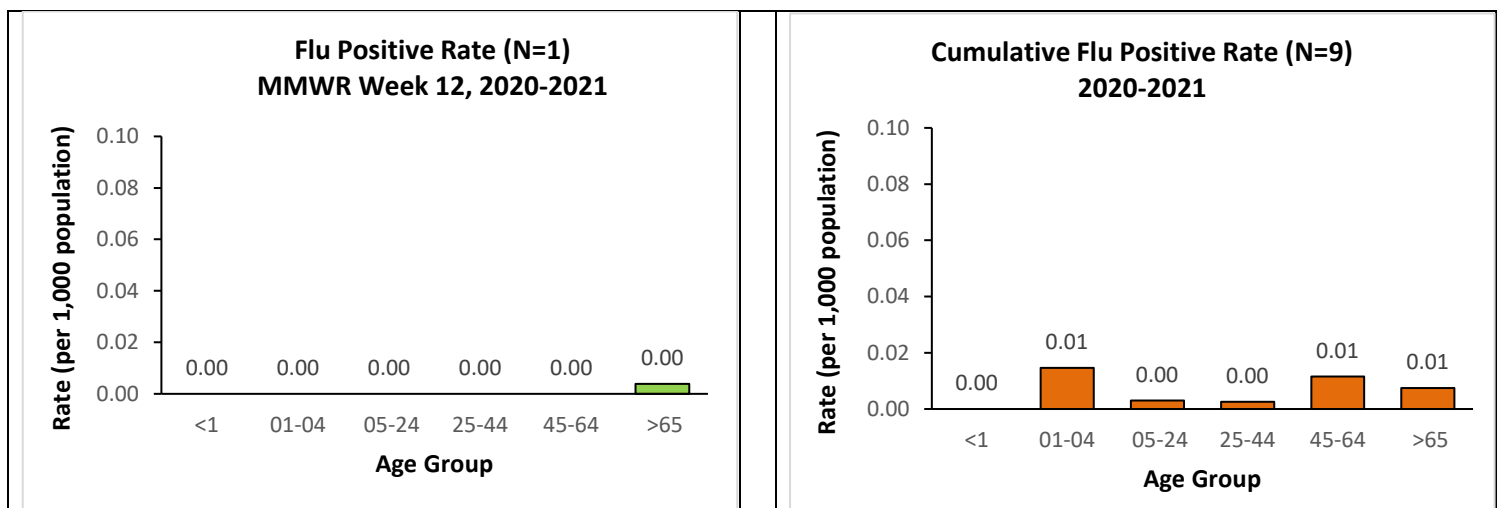
### A. INFLUENZA:

- The following reflects laboratory findings for week 12 of the 2020–21 influenza season:
  - A total of **281** specimens have been tested statewide for influenza viruses (positive: 1 [0.4%]). (Season to date: 9,165 tested [0.1% positive])
    - 69 (24.6%) were screened only by rapid antigen tests with no confirmatory testing.
    - 212 (75.4%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 280 (99.6%) were negative.

Influenza type	Current week 12 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	1 (100.0)	8 (88.9)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	1 (11.1)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

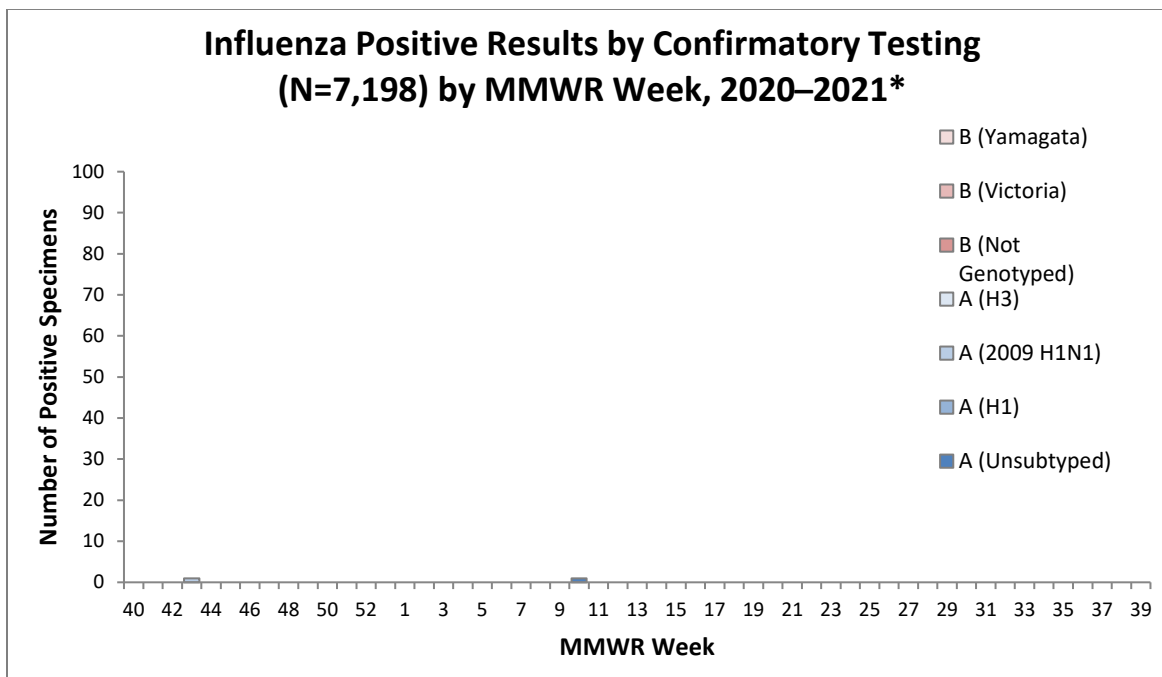
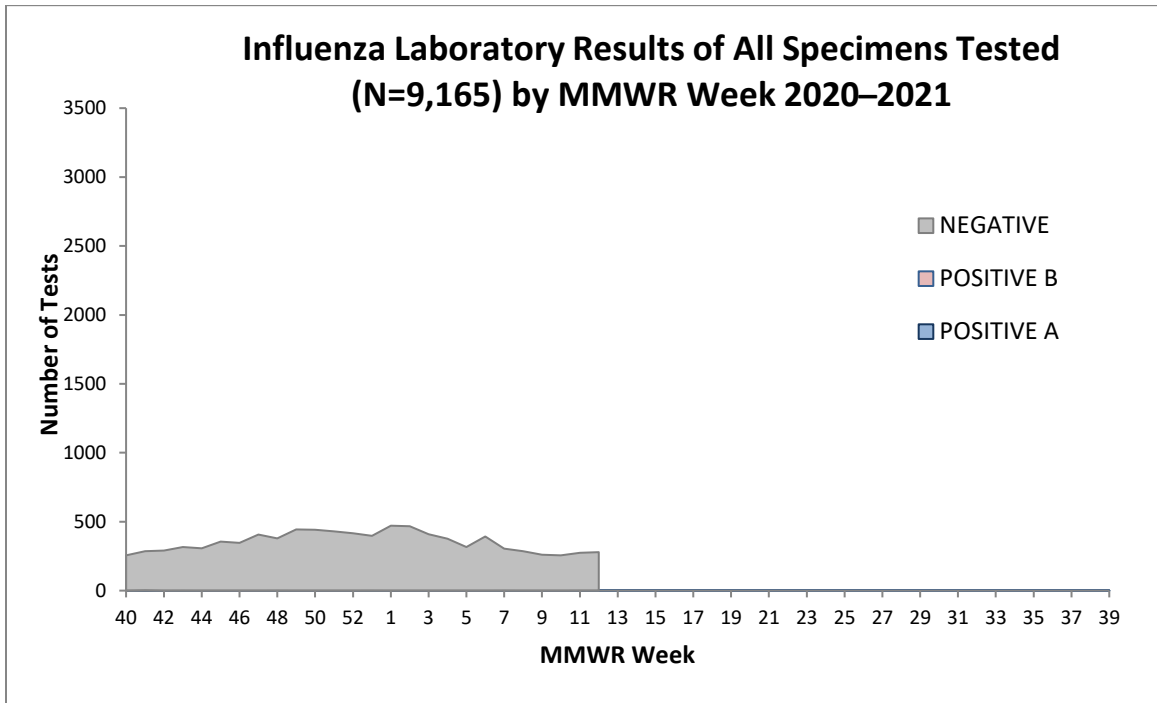
<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.



## 2. LABORATORY TESTING

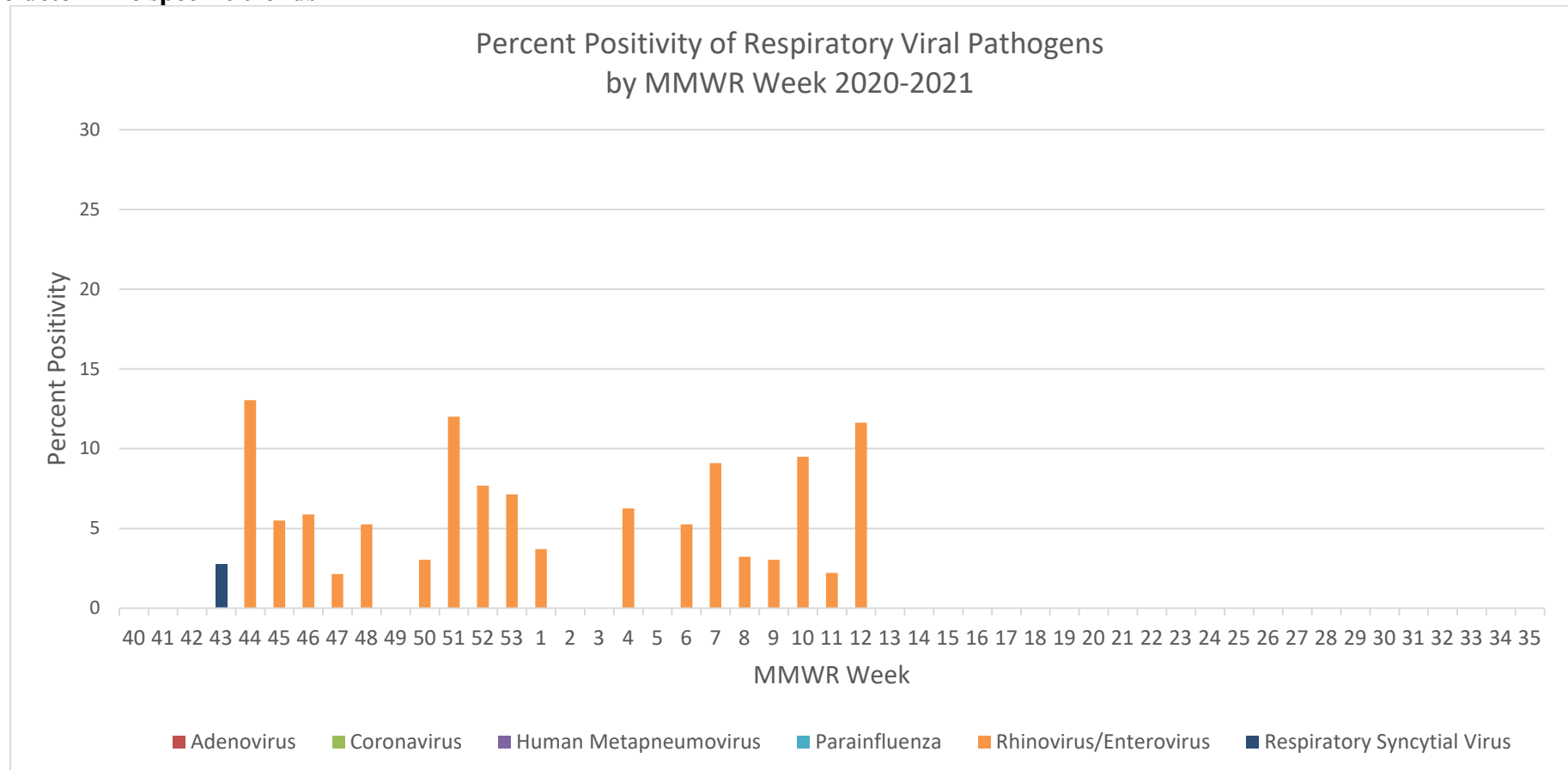
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.



**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 12<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

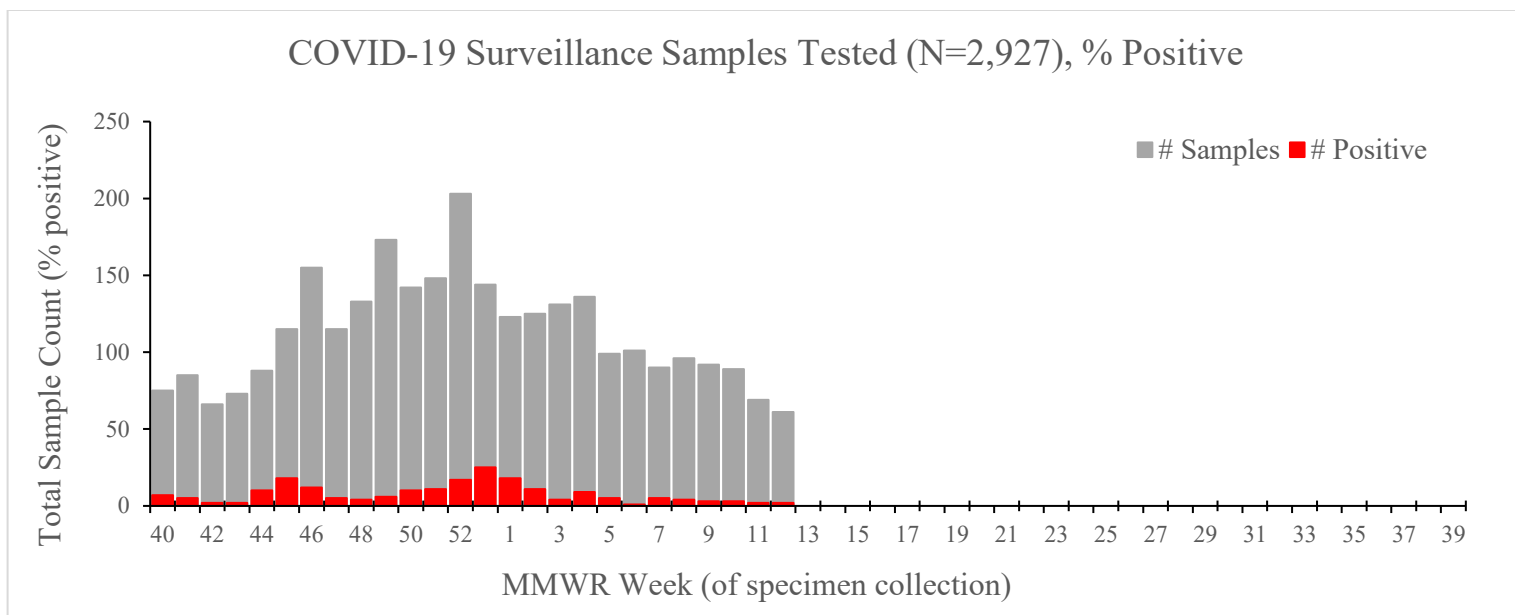
- *COVID-19 geographic spread: Regional*<sup>12</sup>
  - *A total of 61 surveillance specimens have been tested statewide for COVID-19 (positive: 2 [3.3%]).*
  - *Season to date: A total of 2,927 surveillance specimens have been tested for COVID-19 (positive: 201 [6.9%]).*
  - *64 specimens have been tested at SLD*<sup>13</sup>.

Season to date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	153	5.9	0-17	547	2.7
Honolulu	2,236	7.4	18-64	1,398	9.5
Kauai	82	0.0	65+	982	5.4
Maui	365	6.3			
Unknown	91	4.4			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

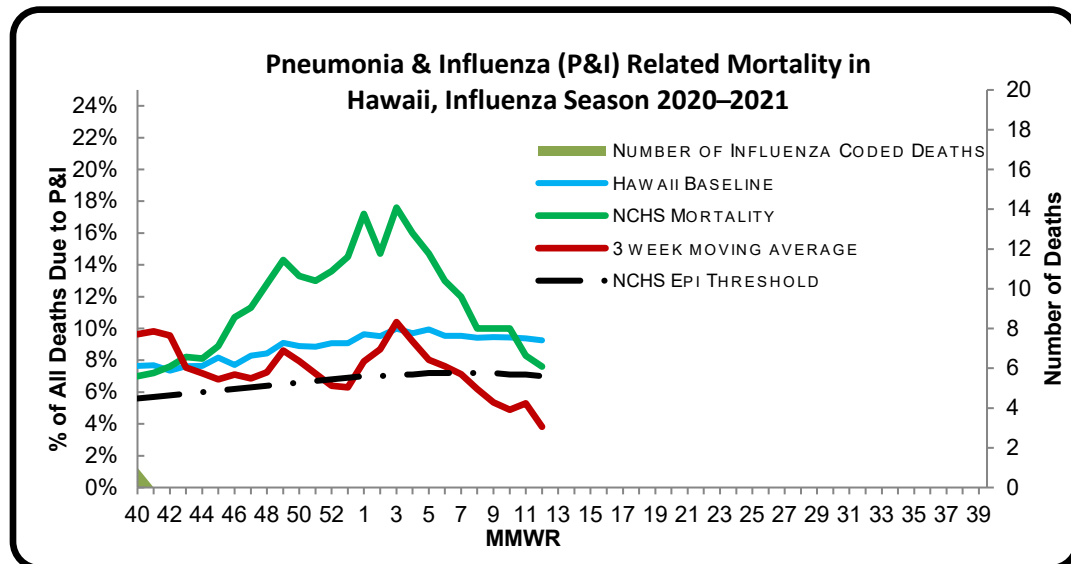


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 12** of the current influenza season:

- *2.3% of all deaths that occurred in Hawaii during week 12 were related to pneumonia or influenza (P&I)<sup>14</sup>. For the current season (season to date: 7.3%), there have been 5,735 deaths from any cause, 420 of which were due to P&I.*
- *The P&I rate was lower than the historical baseline in Hawaii<sup>15</sup> (i.e., outside the 95% confidence interval).*
- *The Hawaii P&I rate was lower than the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>16</sup> (7.6%) (i.e., outside the 95% confidence interval) and lower than the national epidemic threshold (7.0%) (i.e., outside the 95% confidence interval) for week 12.*



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 12. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 12. (2020–2021 season total: 1).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### **A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *One human infection with a novel influenza A virus, H1N1v (0), H3N2v (2), and H1N2v (0), has been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 12.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*

#### **B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **January 29, 2021**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	





# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 13: MARCH 28, 2021–APRIL 3, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 13 2021).

### REPORT SNAPSHOT FOR WEEK 13

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.5%	Lower than the previous week. Lower than Hawaii's historical baseline, lower than national ILI rate, and lower than national baseline.
Number of ILI clusters reported to HDOH	0	There have been 2 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Lower than the previous week. This number means that many, if not all, of the 100.0% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 13)	9.2%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	3.5%	Lower than Hawaii's historical baseline, comparable to the national epidemic threshold and lower than NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See appendix 2 for interpretation of MMWR weeks. Data reported will begin on week 40, the traditional start date of flu season.

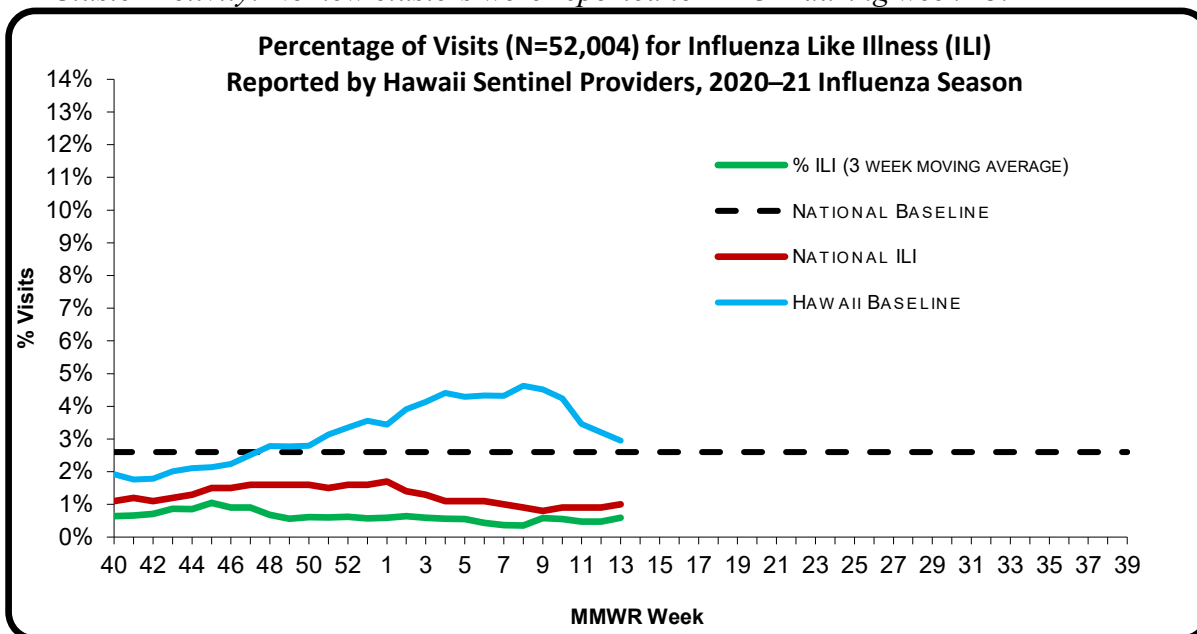
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 13 of the current influenza season:

- **0.5%** (season to date: **0.6%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were lower than the historical baseline in Hawaii<sup>3,4</sup> (i.e., outside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.0%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 13.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

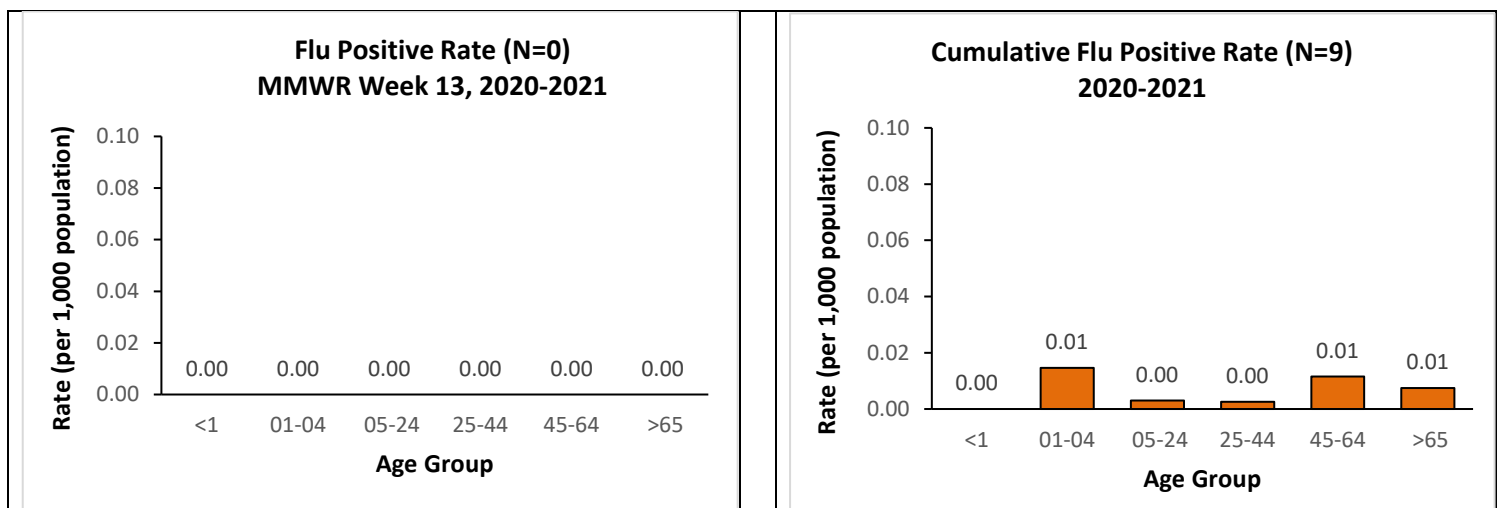
### A. INFLUENZA:

- The following reflects laboratory findings for week 13 of the 2020–21 influenza season:
  - A total of **268** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 9,434 tested [0.1% positive])
    - 51 (19.0%) were screened only by rapid antigen tests with no confirmatory testing.
    - 217 (81.0%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 268 (100.0%) were negative.

Influenza type	Current week 13 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	8 (88.9)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	1 (11.1)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



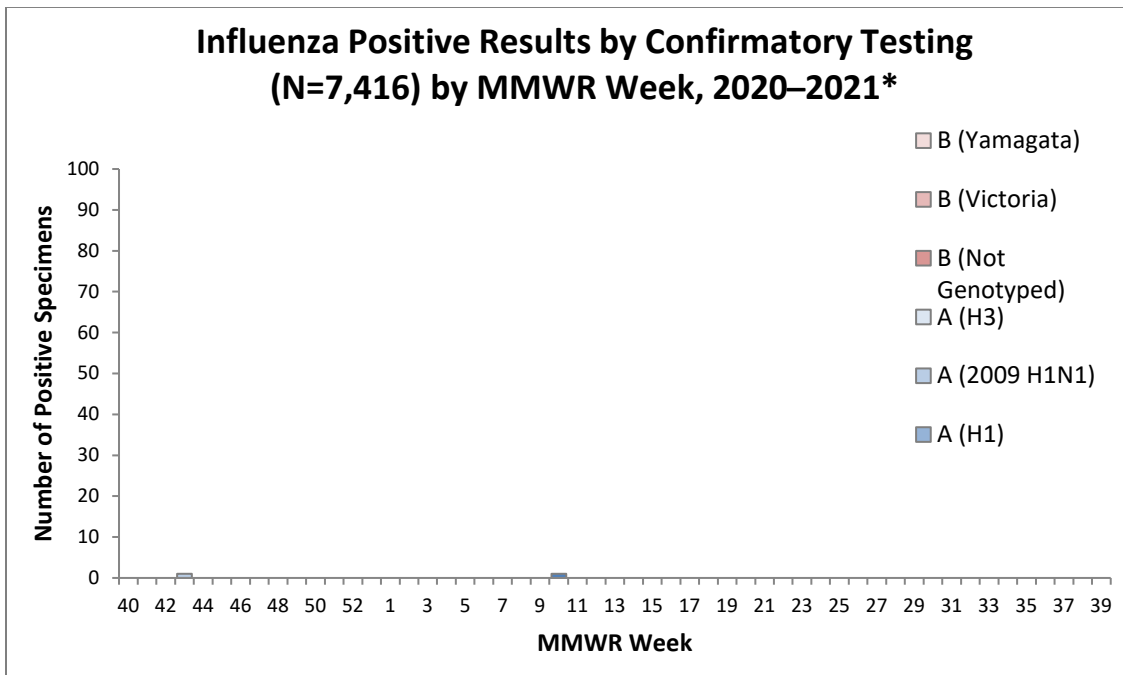
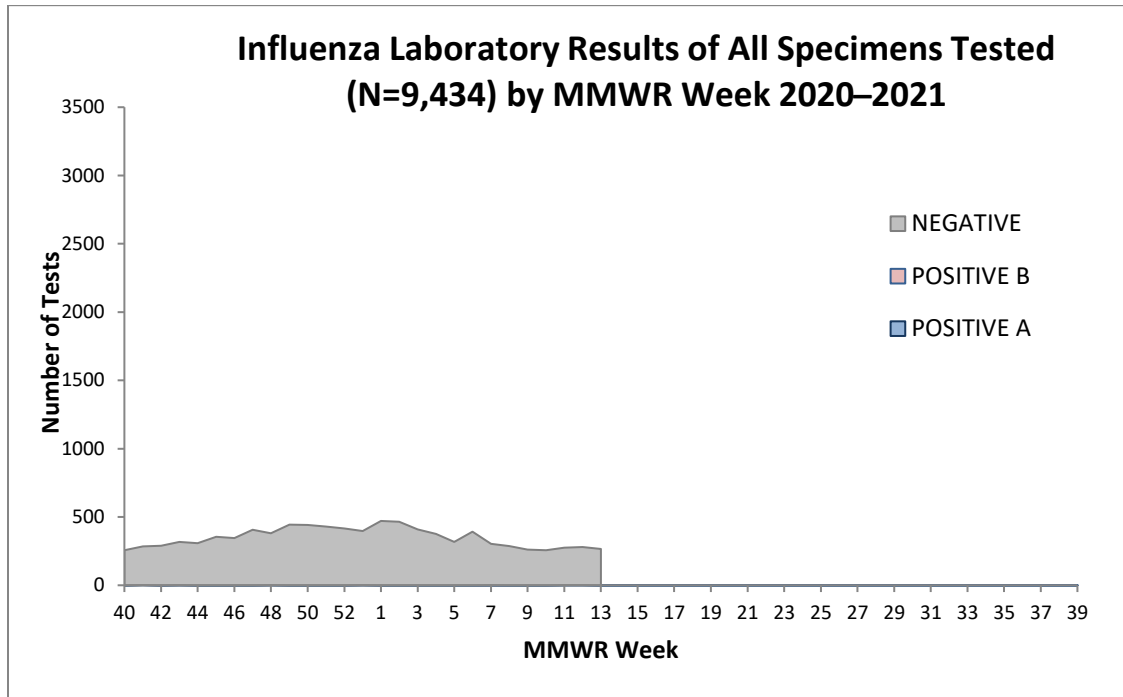
<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.

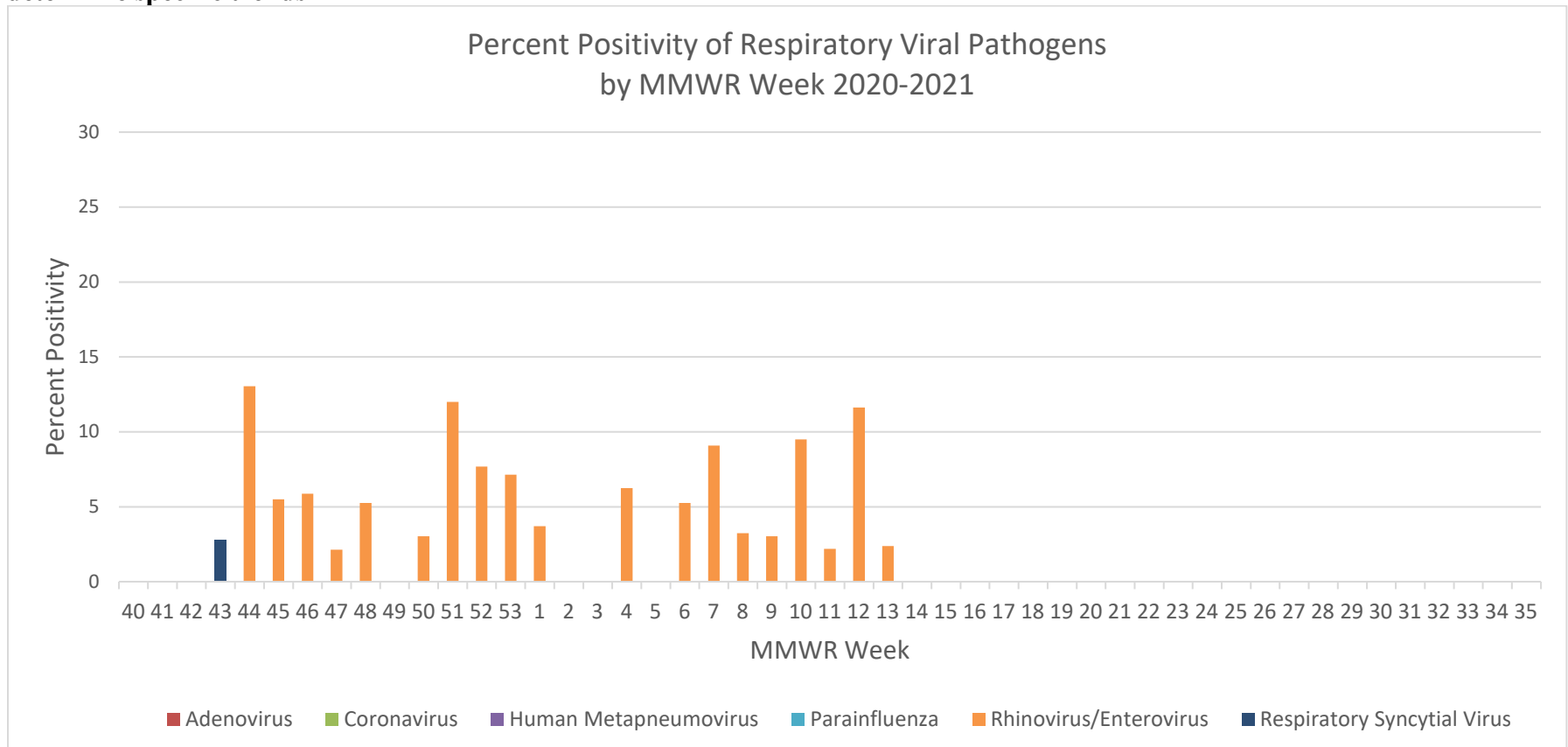
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 13<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>12</sup>

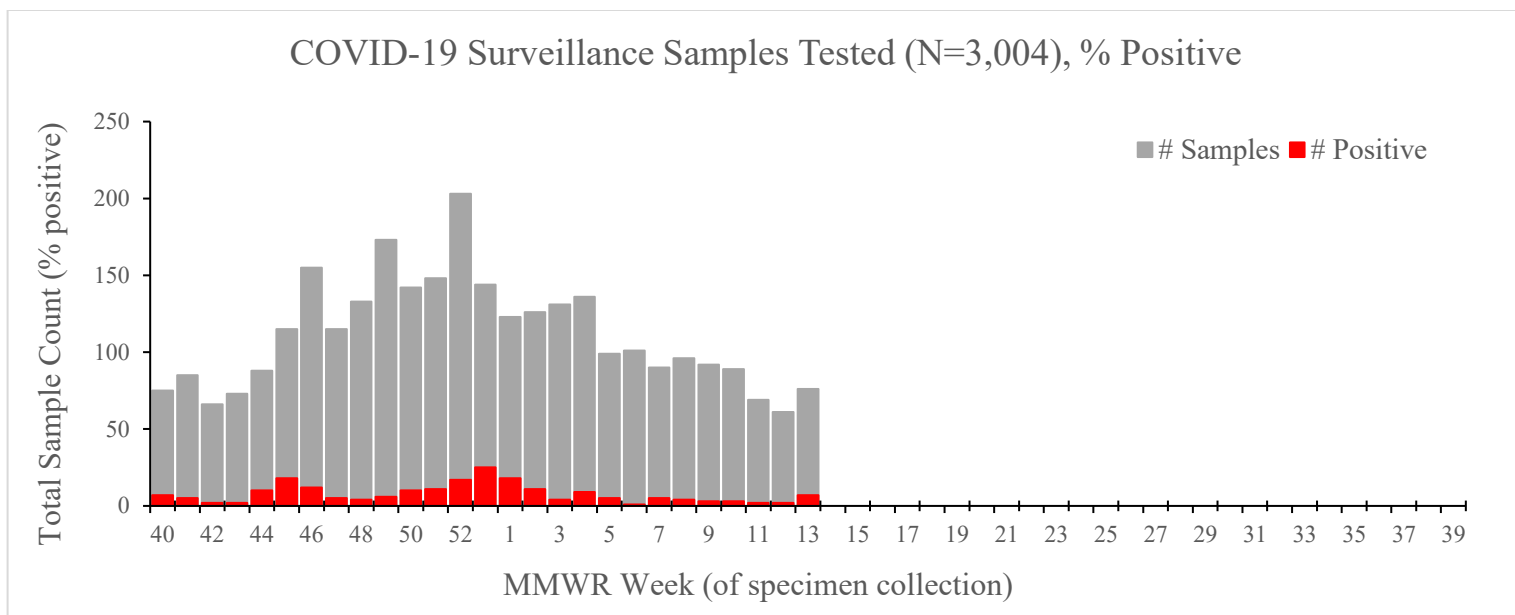
- *A total of 76 surveillance specimens have been tested statewide for COVID-19 (positive: 7 [9.2%]).*
- *Season to date: A total of 3,004 surveillance specimens have been tested for COVID-19 (positive: 208 [6.9%]).*
- *64 specimens have been tested at SLD*<sup>13</sup>.

Season to date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	154	5.8	0-17	560	2.7
Honolulu	2,300	7.5	18-64	1,438	9.5
Kauai	83	0.0	65+	1,006	5.6
Maui	375	6.1			
Unknown	92	4.4			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

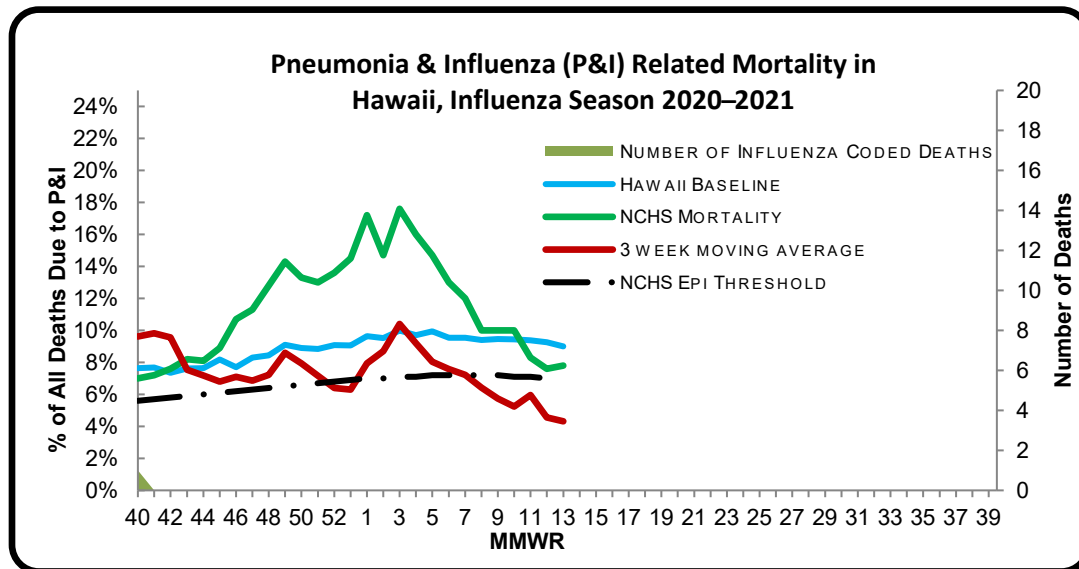


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 13** of the current influenza season:

- *3.5% of all deaths that occurred in Hawaii during week 13 were related to pneumonia or influenza (P&I)<sup>14</sup>. For the current season (season to date: 7.3%), there have been 5,970 deaths from any cause, 435 of which were due to P&I.*
- *The P&I rate was lower than the historical baseline in Hawaii<sup>15</sup> (i.e., outside the 95% confidence interval).*
- *The Hawaii P&I rate was lower than the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>16</sup> (7.8%) (i.e., outside the 95% confidence interval) and comparable to the national epidemic threshold (7.0%) (i.e., inside the 95% confidence interval) for week 13.*



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 13. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 13. (2020–2021 season total: 1).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.



**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### **A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *Two human infections with novel influenza A virus, H1N1v (0), H3N2v (2), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 13.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*

#### **B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **January 29, 2021**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

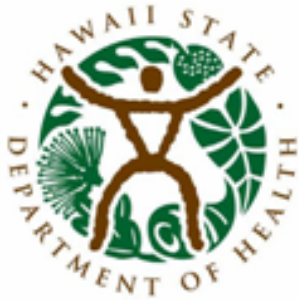
For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	



# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 14: APRIL 4, 2021–APRIL 10, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 14 2021).

### REPORT SNAPSHOT FOR WEEK 14

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.6%	Higher than the previous week. Comparable to the Hawaii's historical baseline, lower than national ILI rate, and lower than national baseline.
Number of ILI clusters reported to HDOH	0	There have been 2 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Same than the previous week. This number means that many, if not all, of the 100.0% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 14)	14.3%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	4.6%	Comparable to the Hawaii's historical baseline, comparable to the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See appendix 2 for interpretation of MMWR weeks. Data reported will begin on week 40, the traditional start date of flu season.

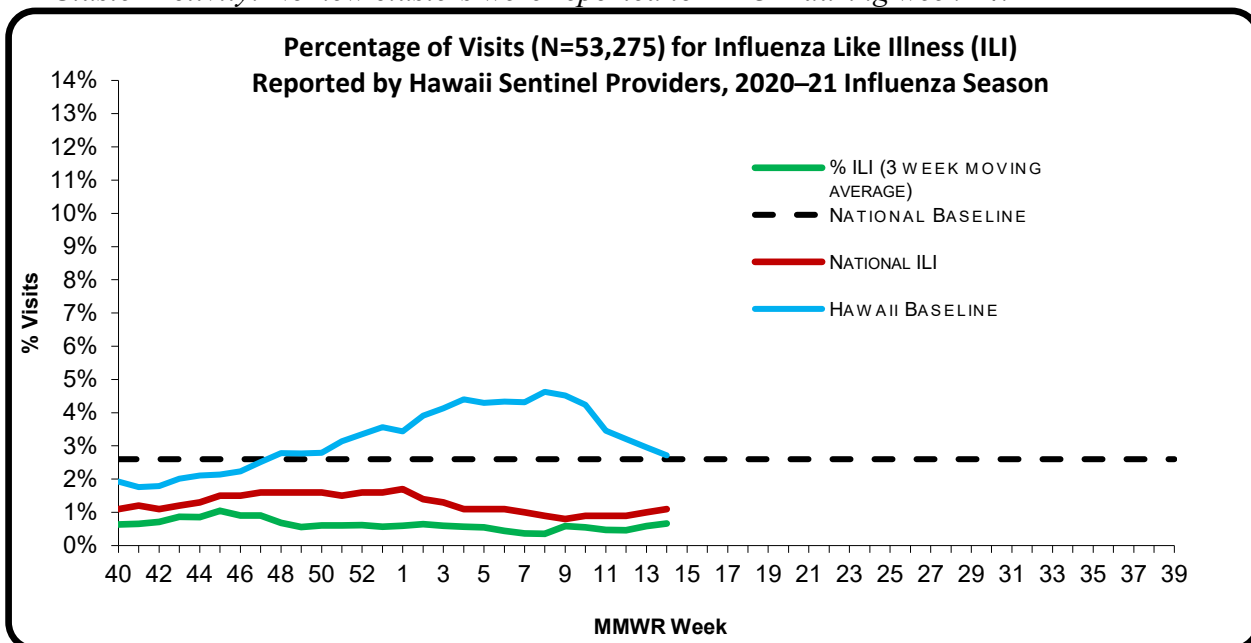
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 14 of the current influenza season:

- **0.6%** (season to date: **0.6%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.1%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 14.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

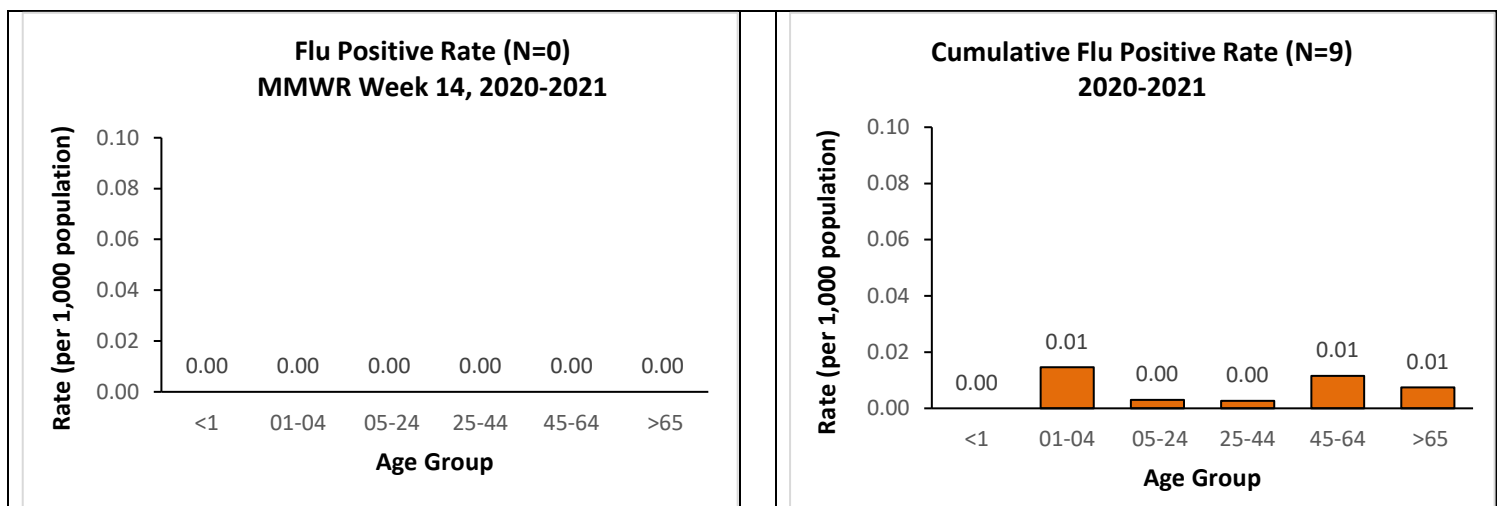
### A. INFLUENZA:

- The following reflects laboratory findings for week 14 of the 2020–21 influenza season:
  - A total of **236** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 9,680 tested [0.1% positive])
    - 47 (19.9%) were screened only by rapid antigen tests with no confirmatory testing.
    - 189 (80.1%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 236 (100.0%) were negative.

Influenza type	Current week 14 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	8 (88.9)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	1 (11.1)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

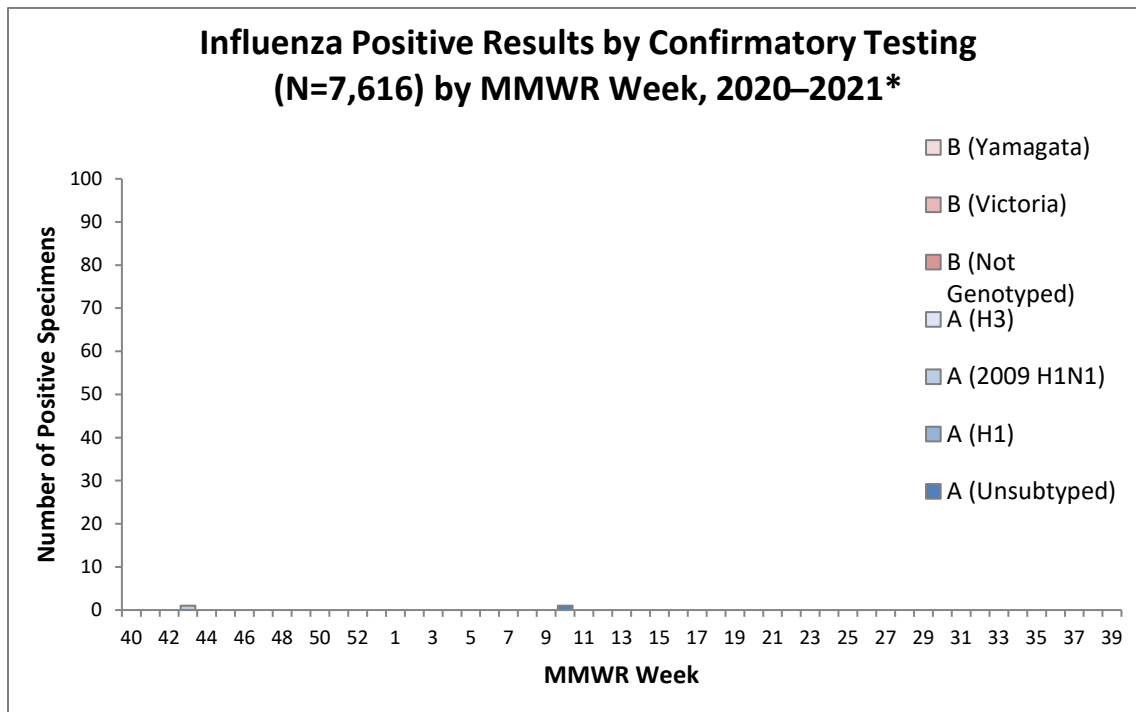
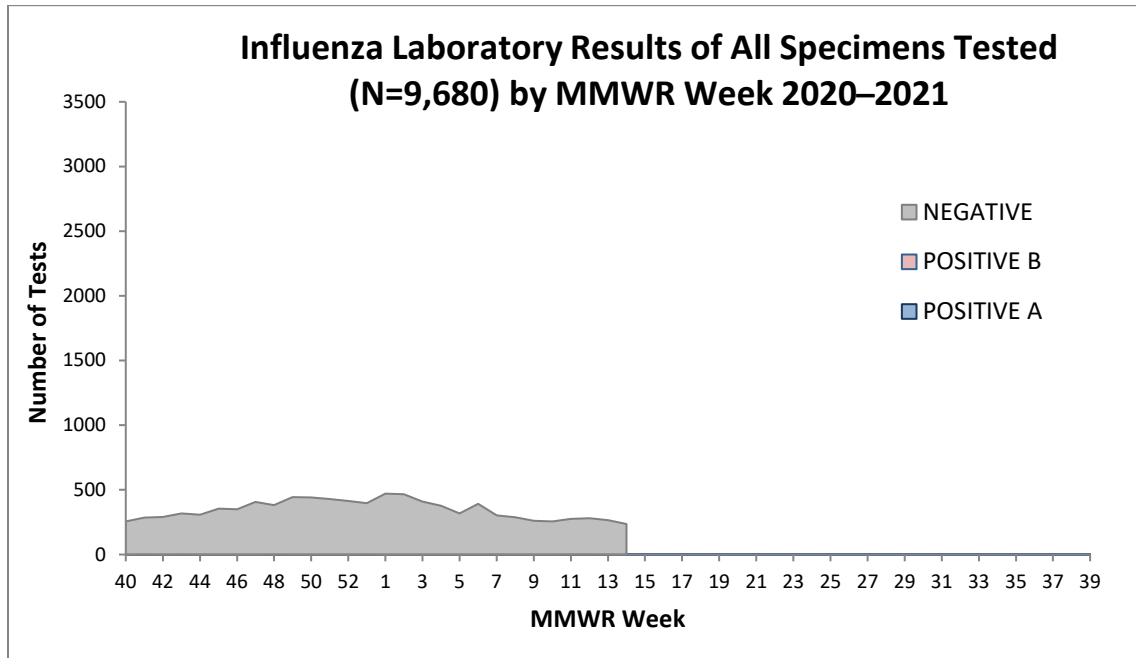
<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.



## 2. LABORATORY TESTING

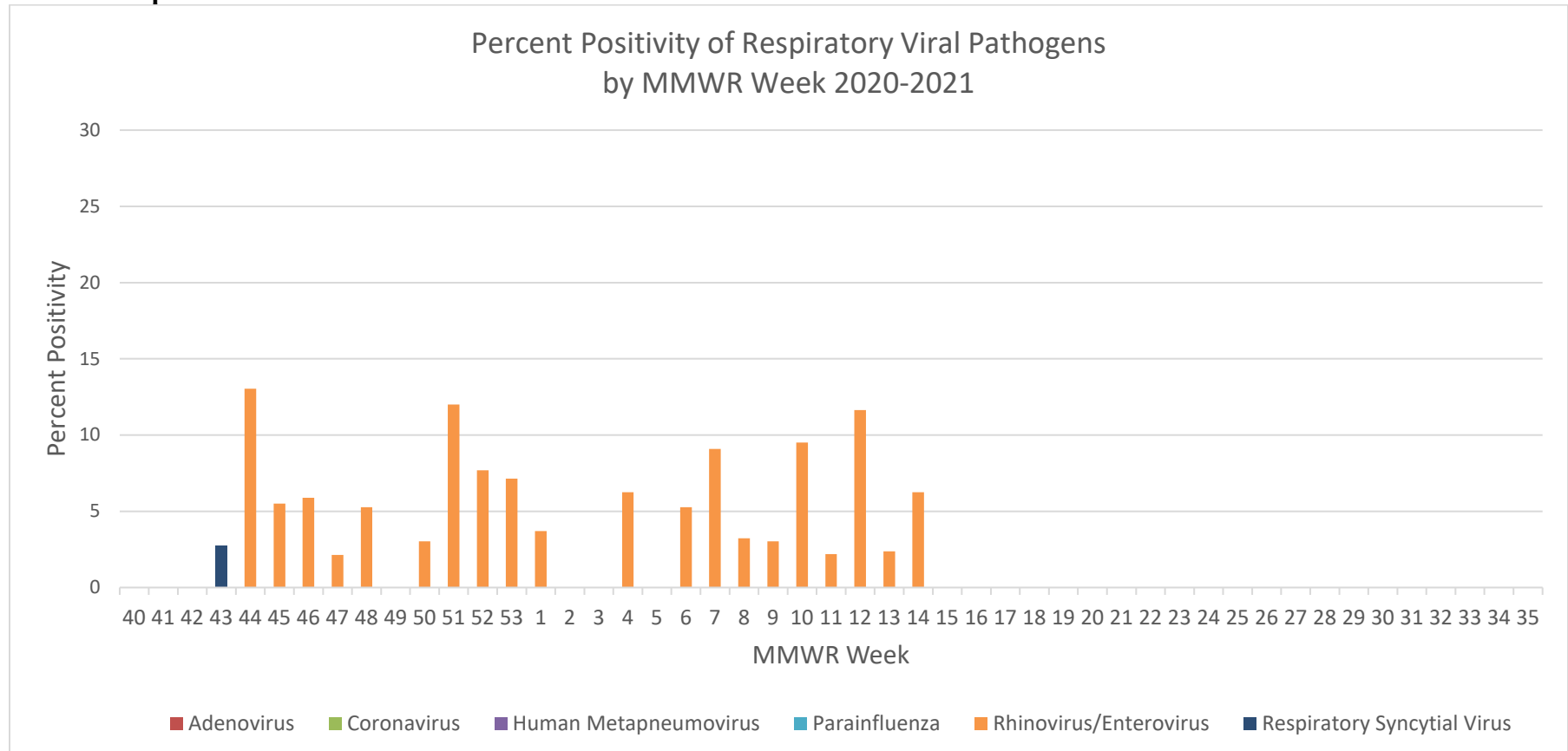
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.



**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 14<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

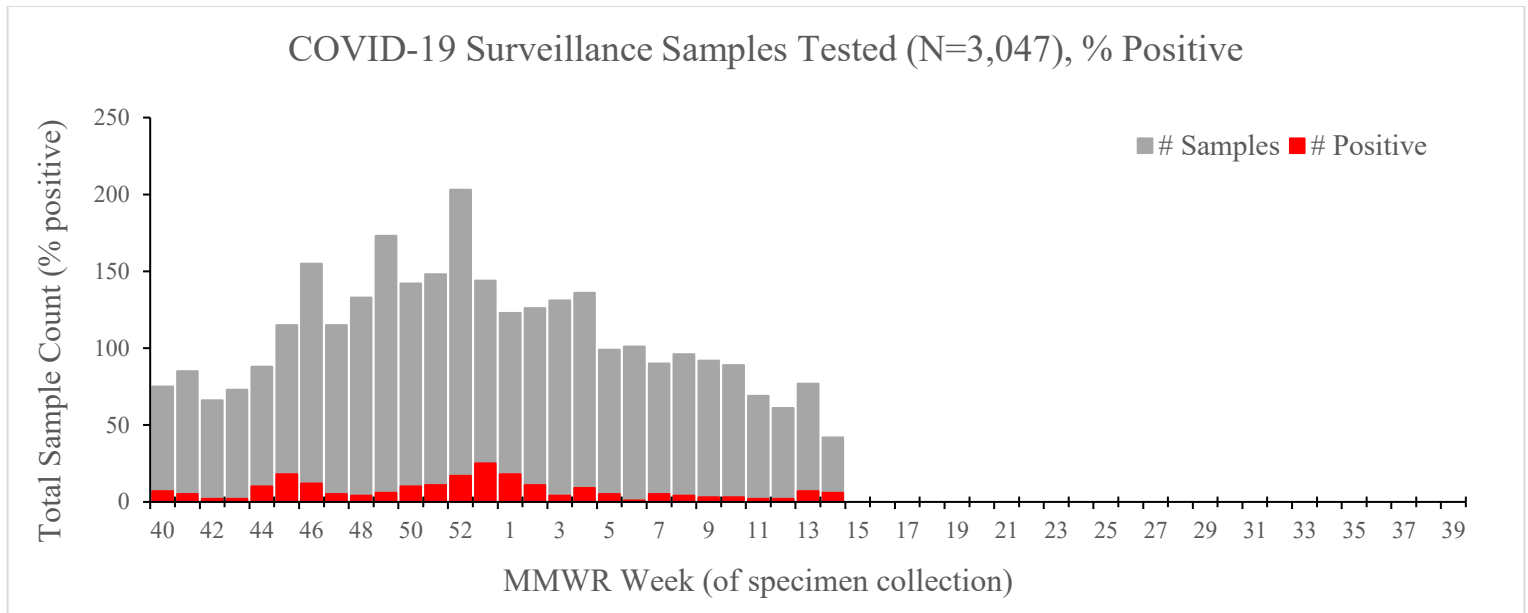
- *COVID-19 geographic spread: Regional*<sup>12</sup>
  - *A total of 42 surveillance specimens have been tested statewide for COVID-19 (positive: 6 [14.3%]).*
  - *Season to date: A total of 3,047 surveillance specimens have been tested for COVID-19 (positive: 214 [7.0%]).*
  - *64 specimens have been tested at SLD*<sup>13</sup>.

Season to date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	154	5.8	0-17	570	2.8
Honolulu	2,333	7.6	18-64	1,459	9.7
Kauai	83	0.0	65+	1,018	5.6
Maui	383	6.3			
Unknown	94	4.3			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

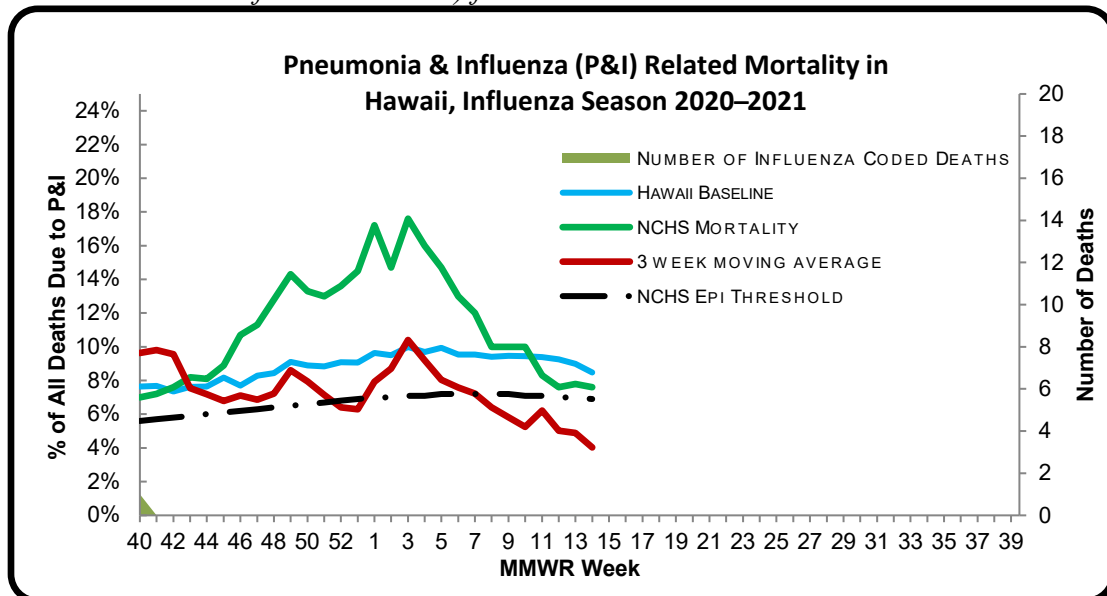


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 14** of the current influenza season:

- **4.6%** of all deaths that occurred in Hawaii during week 14 were related to pneumonia or influenza (P&I)<sup>14</sup>. For the current season (season to date: **7.2%**), there have been 6,216 deaths from any cause, 449 of which were due to P&I.
- The P&I rate was comparable to the historical baseline in Hawaii<sup>15</sup> (i.e., inside the 95% confidence interval).
- The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>16</sup> (**7.6%**) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (**6.9%**) (i.e., inside the 95% confidence interval) for week 14.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 14. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 14. (2020-2021 season total: 1).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### **A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *One human infection with novel influenza A virus, H1N1v (0), H3N2v (1), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 14.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*

#### **B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **January 29, 2021**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

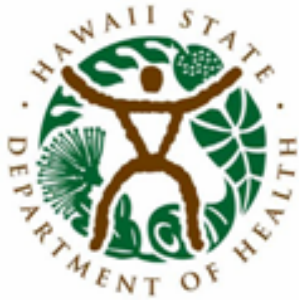
<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	





# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 15: APRIL 11, 2021–APRIL 17, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 15 2021).

### REPORT SNAPSHOT FOR WEEK 15

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.2%	Lower than the previous week. Lower than the Hawaii's historical baseline, lower than national ILI rate, and lower than national baseline.
Number of ILI clusters reported to HDOH	0	There have been 2 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Comparable to the previous week. This number means that many, if not all, of the 100.0% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 15)	7.4%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	9.3%	Comparable to the Hawaii's historical baseline, comparable to the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See appendix 2 for interpretation of MMWR weeks. Data reported will begin on week 40, the traditional start date of flu season.

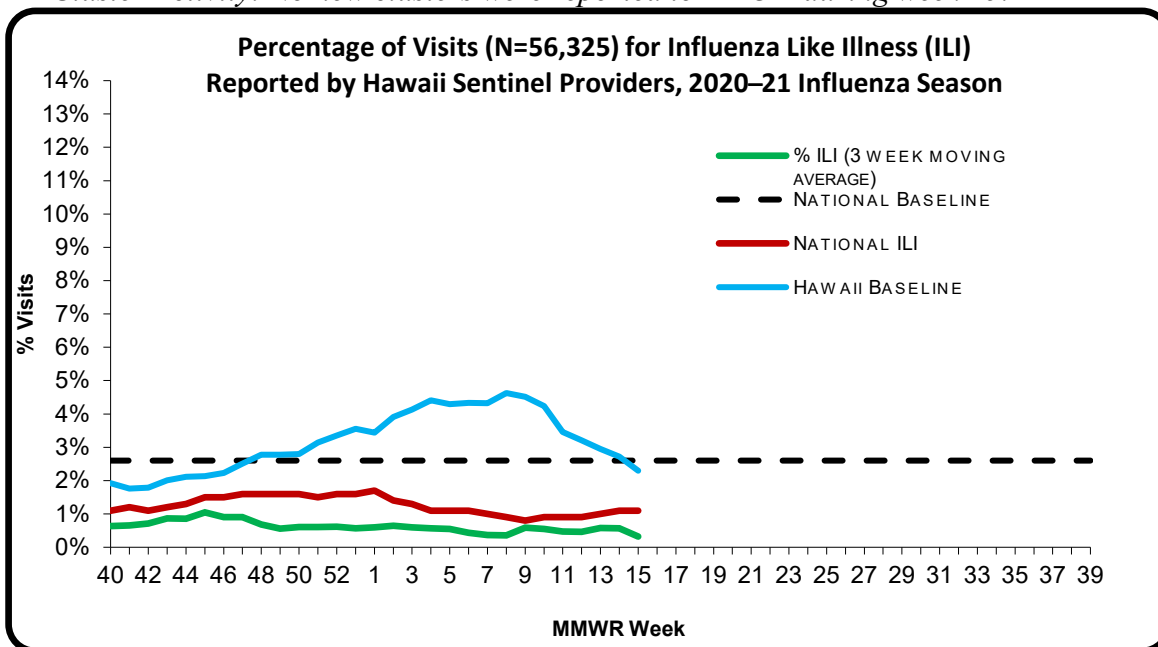
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 15 of the current influenza season:

- **0.2%** (season to date: **0.6%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were lower than the historical baseline in Hawaii<sup>3,4</sup> (i.e., outside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.1%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 15.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

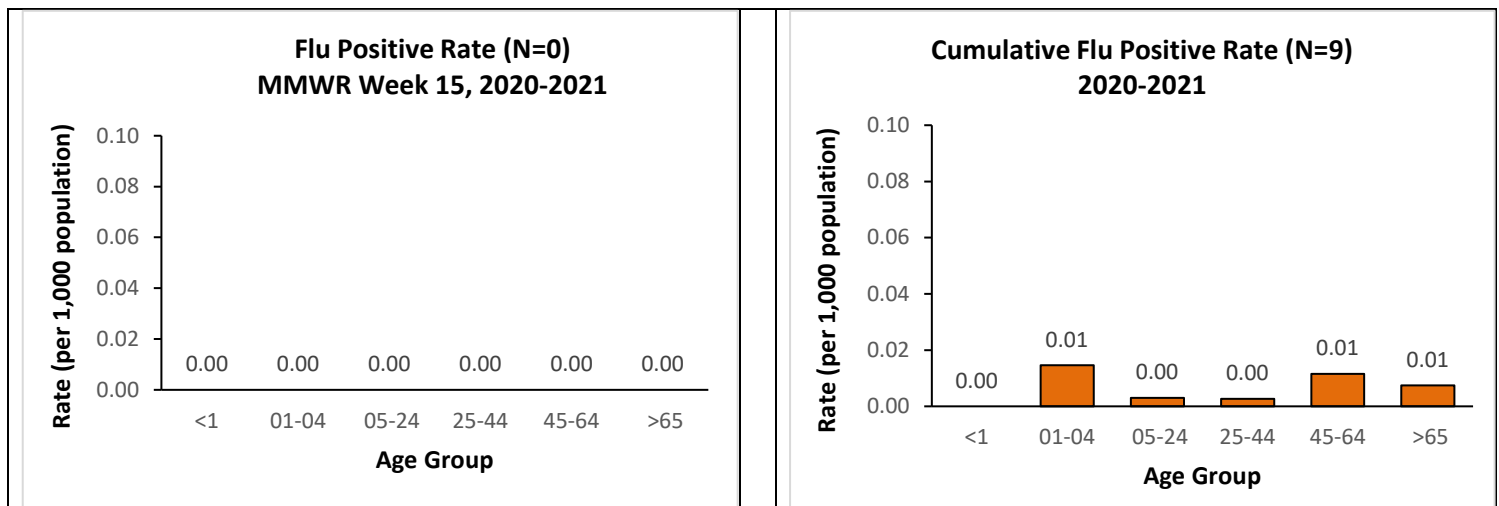
### A. INFLUENZA:

- The following reflects laboratory findings for week 15 of the 2020–21 influenza season:
  - A total of 278 specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 9,962 tested [0.1% positive])
    - 55 (19.8%) were screened only by rapid antigen tests with no confirmatory testing.
    - 223 (80.2%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 278 (100.0%) were negative.

Influenza type	Current week 15 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	8 (88.9)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	1 (11.1)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



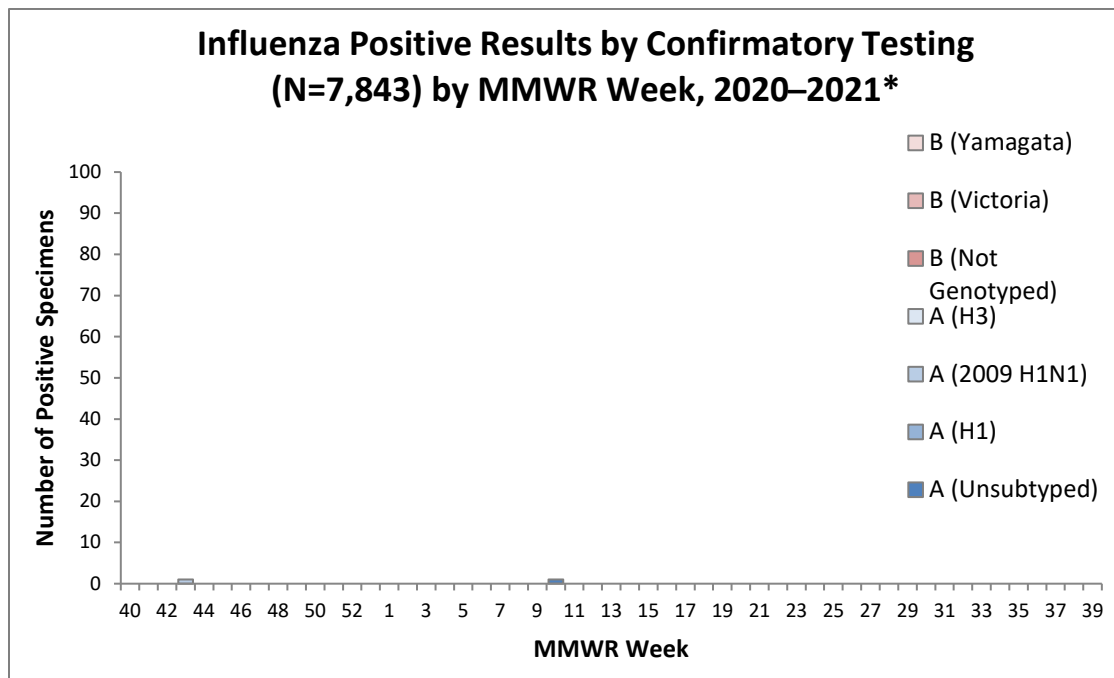
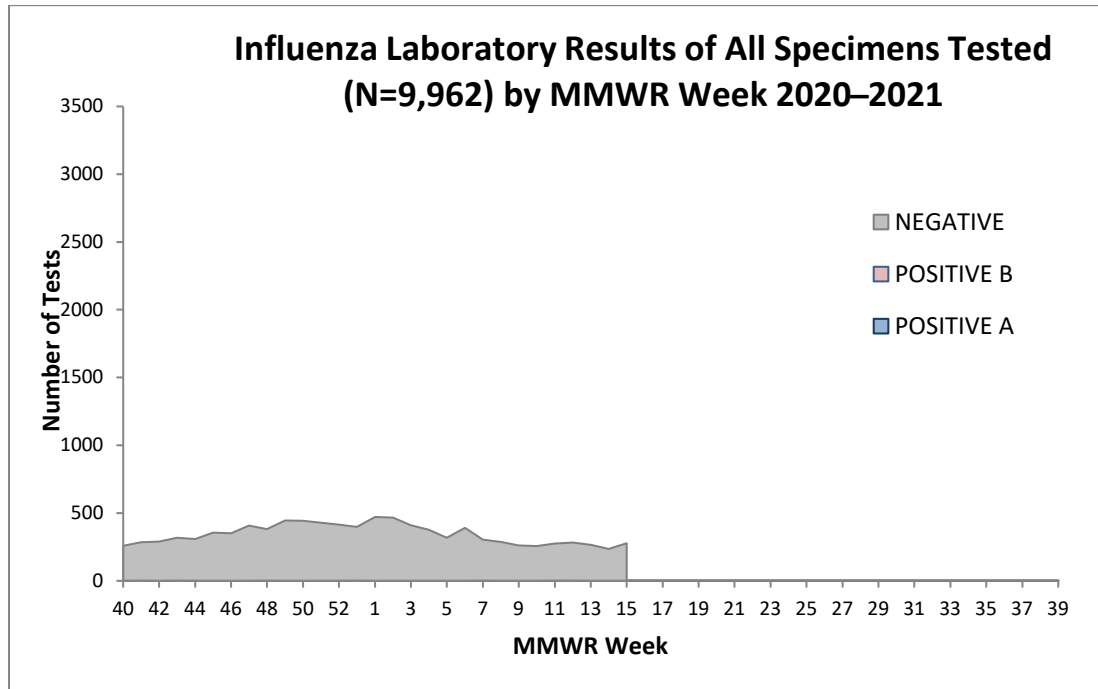
<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.

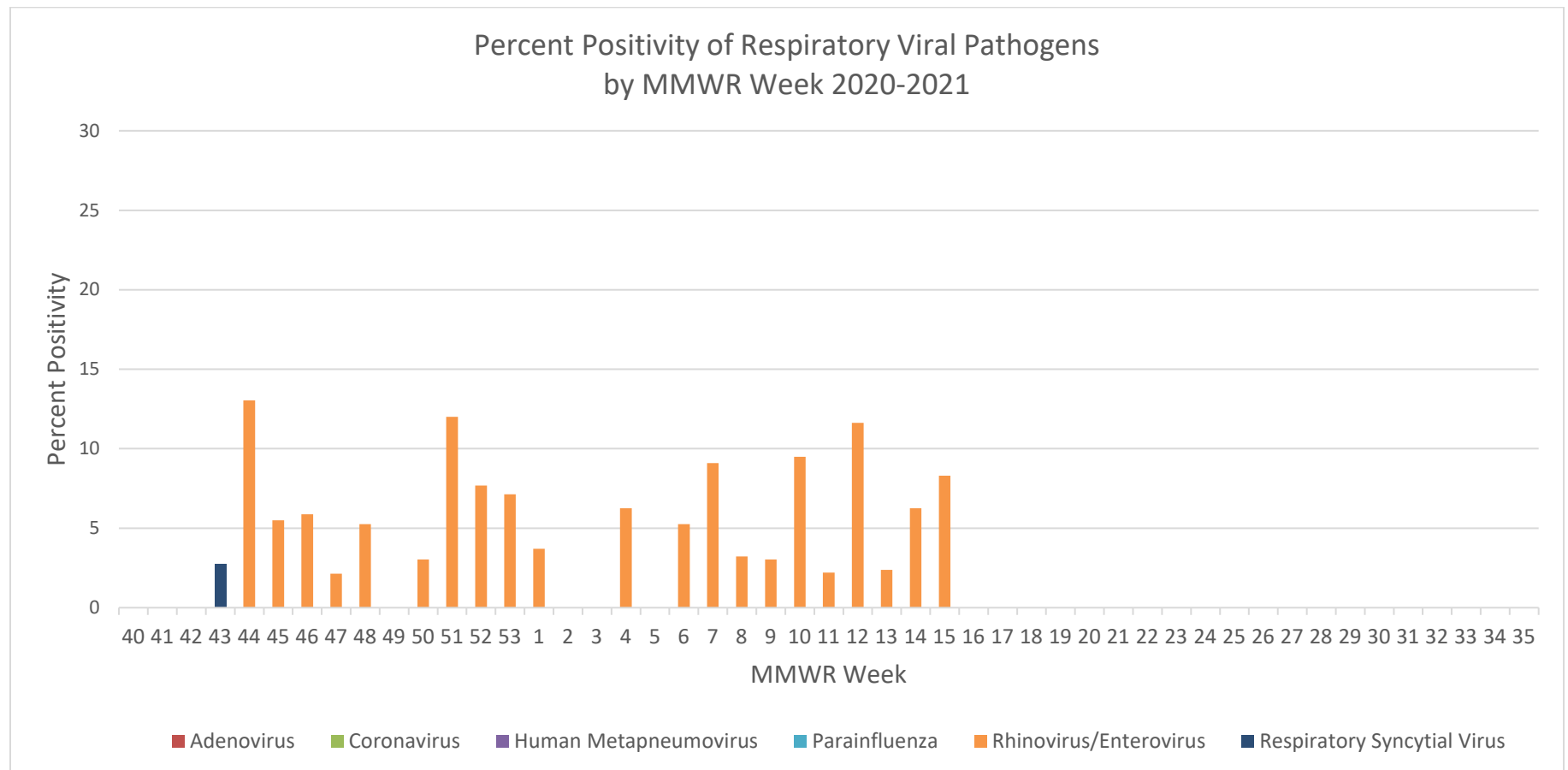
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 15<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

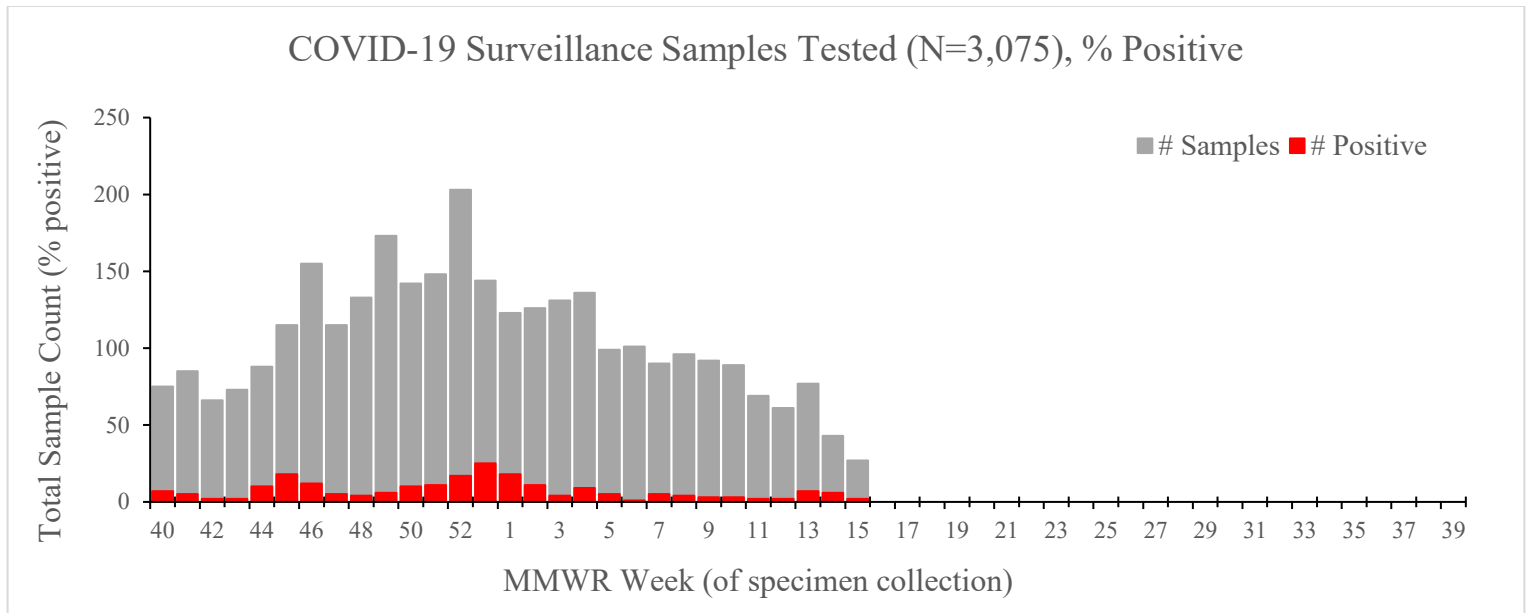
- *COVID-19 geographic spread: Regional*<sup>12</sup>
  - *A total of 27 surveillance specimens have been tested statewide for COVID-19 (positive: 2 [7.4%]).*
  - *Season to date: A total of 3,075 surveillance specimens have been tested for COVID-19 (positive: 216 [7.0%]).*
  - *66 specimens have been tested at SLD*<sup>13</sup>.

Season to Date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	156	6.4	0-17	578	2.8
Honolulu	2,351	7.6	18-64	1,470	9.7
Kauai	83	0.0	65+	1,027	5.6
Maui	386	6.2			
Unknown	99	4.0			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

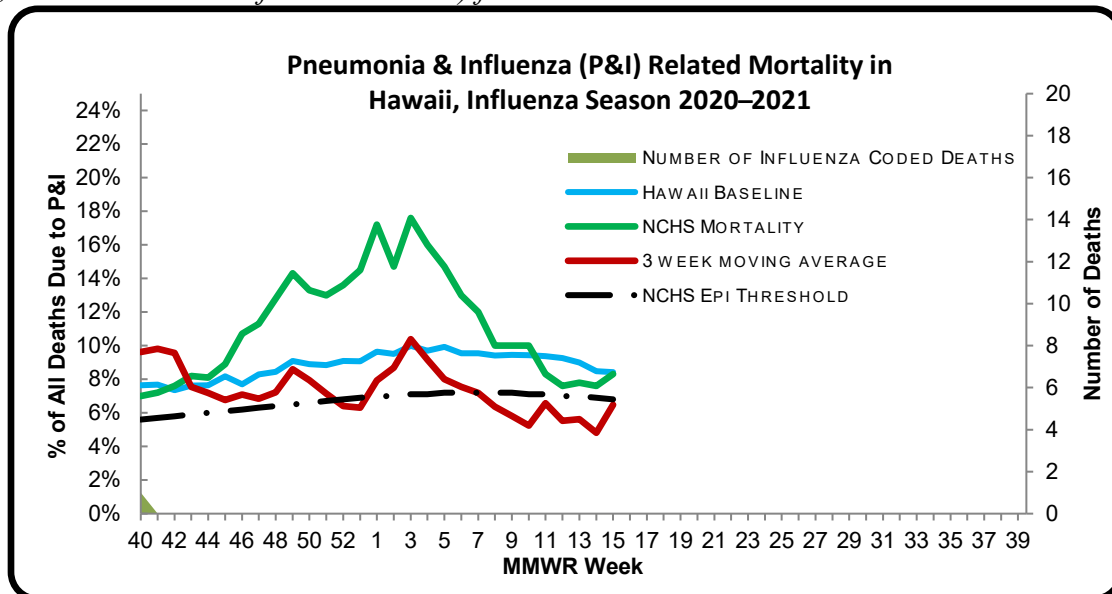


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For week 15 of the current influenza season:

- **9.3%** of all deaths that occurred in Hawaii during week 15 were related to pneumonia or influenza (P&I)<sup>14</sup>. For the current season (season to date: 7.3%), there have been 6,631 deaths from any cause, 482 of which were due to P&I.
- The P&I rate was comparable to the historical baseline in Hawaii<sup>15</sup> (i.e., inside the 95% confidence interval).
- The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>16</sup> (8.3%) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (6.8%) (i.e., inside the 95% confidence interval) for week 15.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 15. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 15. (2020-2021 season total: 1).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.



**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

**A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *One human infection with novel influenza A virus, H1N1v (0), H3N2v (1), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 15.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*

**B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **January 29, 2021**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

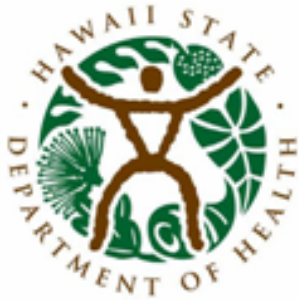
For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	



# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 16: APRIL 18, 2021–APRIL 24, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 16 2021).

### REPORT SNAPSHOT FOR WEEK 16

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.9%	Higher than the previous week. Comparable to Hawaii's historical baseline, comparable to the national ILI rate, and lower than national baseline.
Number of ILI clusters reported to HDOH	0	There have been 2 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.3%	Higher than the previous week. This number means that many, if not all, of the 99.7% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 16)	11.4%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	7.3%	Comparable to Hawaii's historical baseline, comparable to the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See appendix 2 for interpretation of MMWR weeks. Data reported will begin on week 40, the traditional start date of flu season.

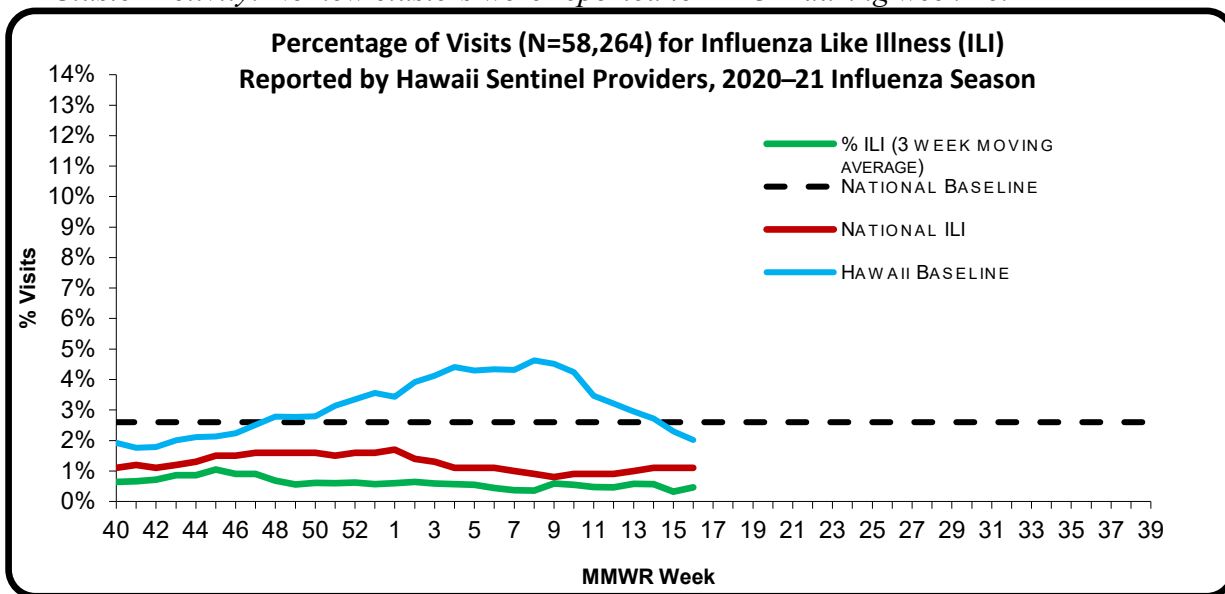
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 16 of the current influenza season:

- **0.9%** (season to date: **0.6%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and comparable to the national ILI rate (**1.1%**) (i.e., inside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 16.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

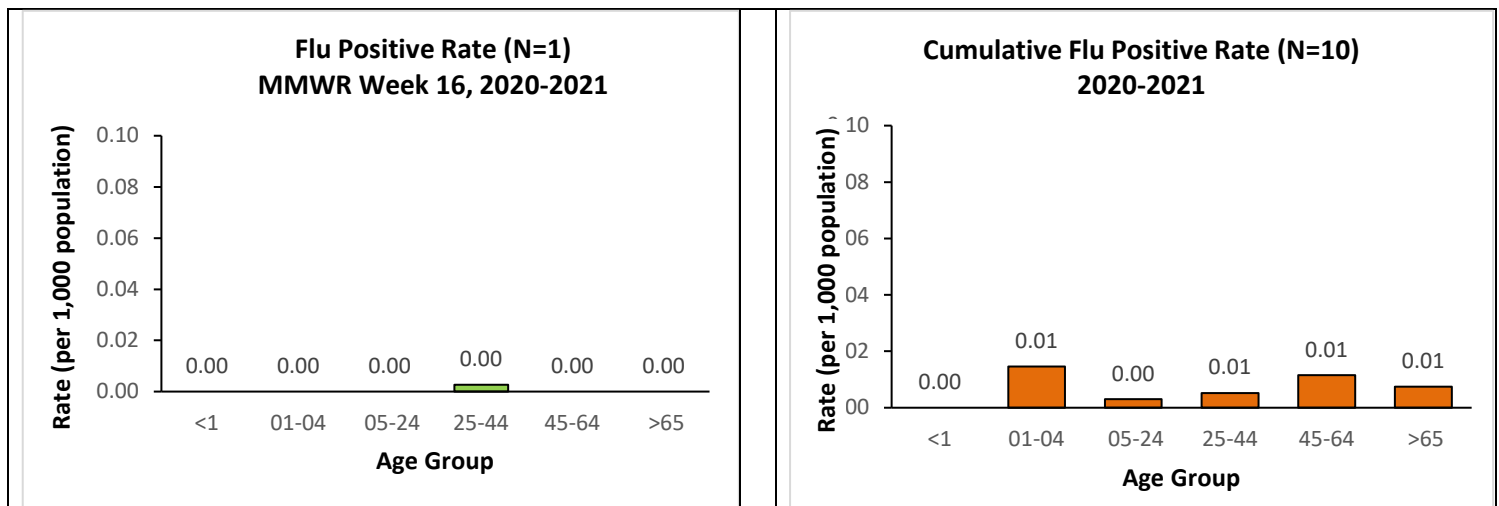
### A. INFLUENZA:

- The following reflects laboratory findings for week 16 of the 2020–21 influenza season:
  - A total of 337 specimens have been tested statewide for influenza viruses (positive: 1 [0.3%]). (Season to date: 10,299 tested [0.1% positive])
    - 64 (19.0%) were screened only by rapid antigen tests with no confirmatory testing.
    - 273 (81.0%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 336 (99.7%) were negative.

Influenza type	Current week 16 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	8 (80.0)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	1 (100.0)	2 (20.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

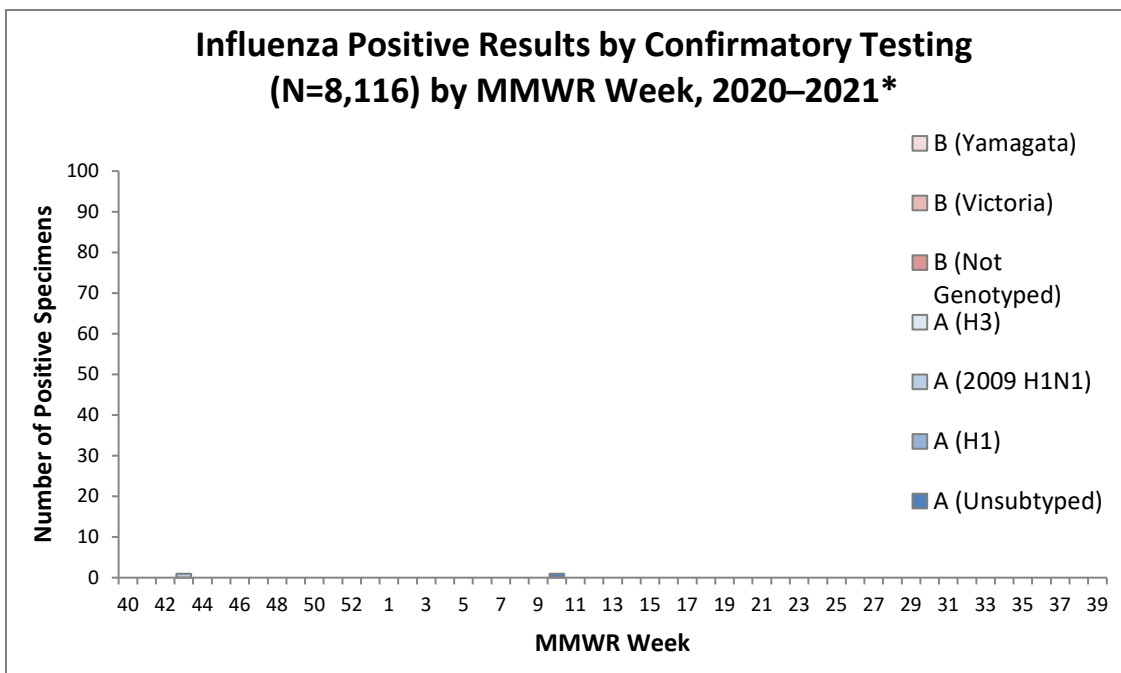
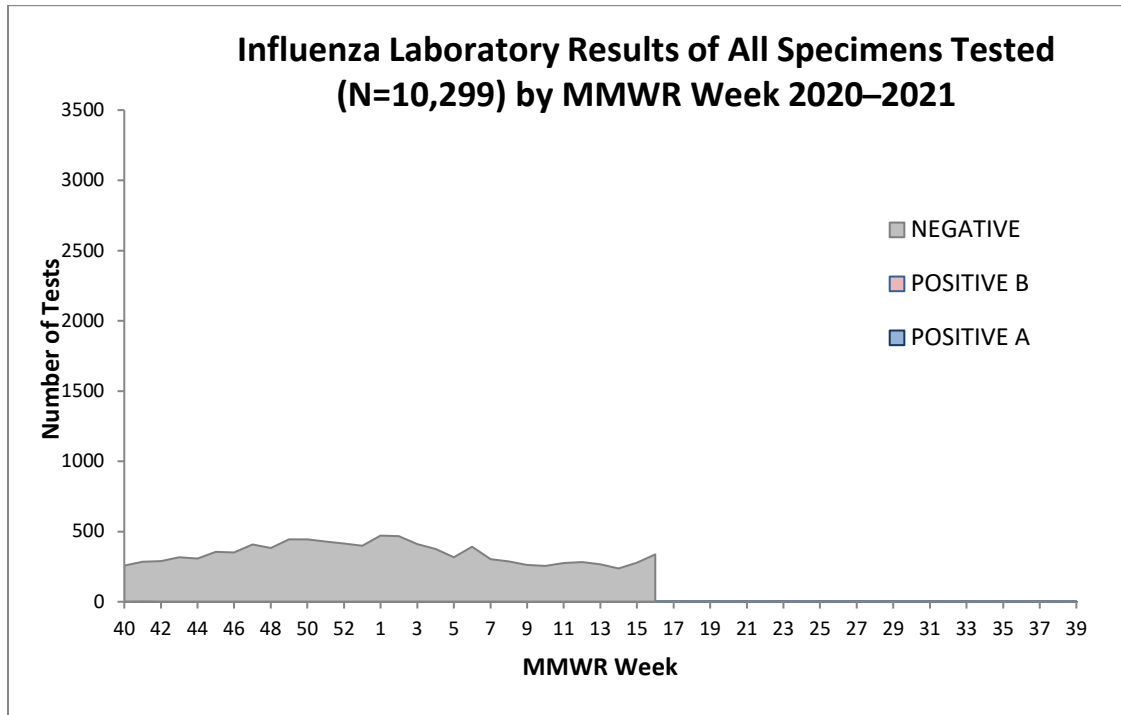
<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.



## 2. LABORATORY TESTING

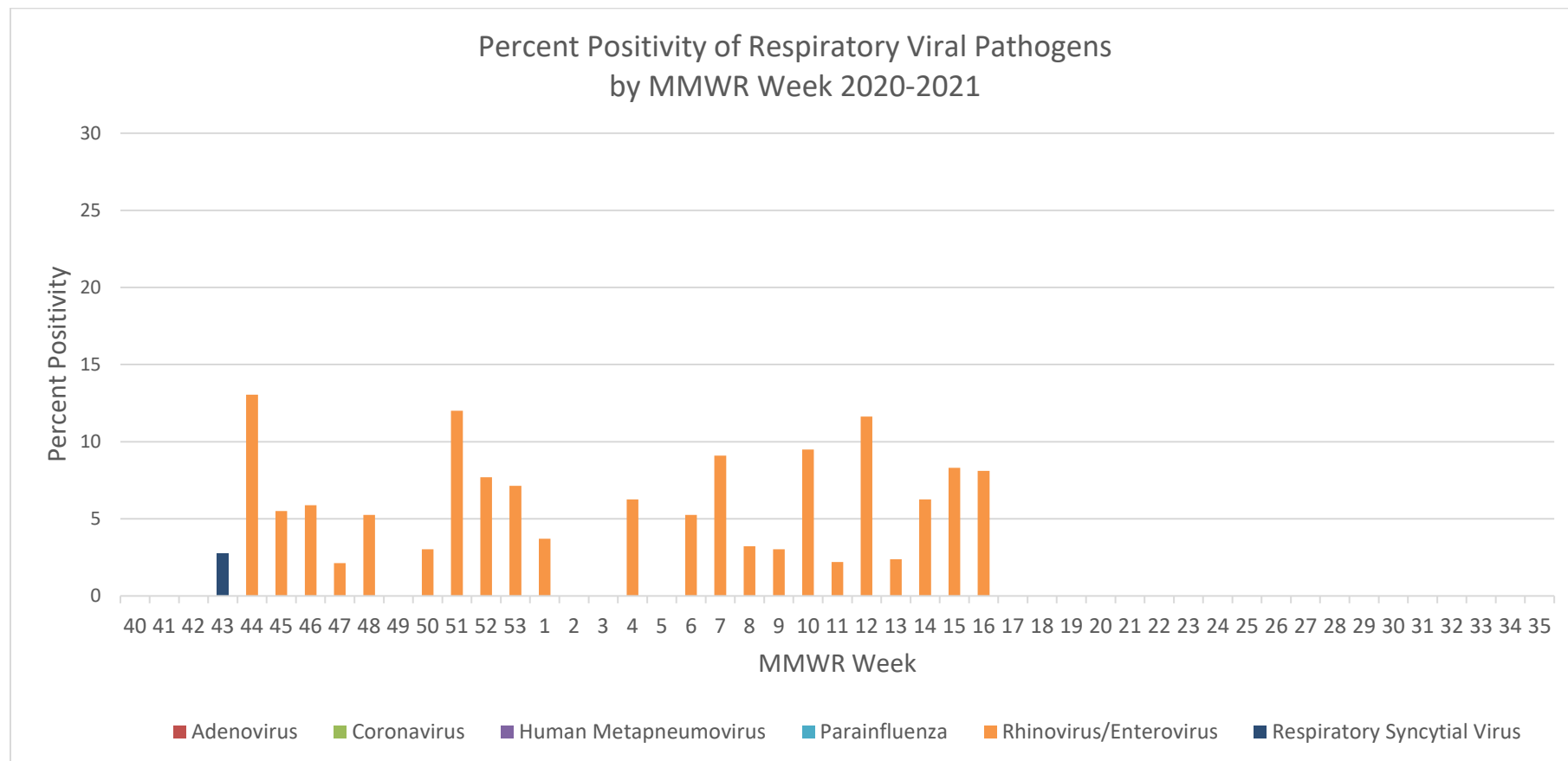
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.



**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 16<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

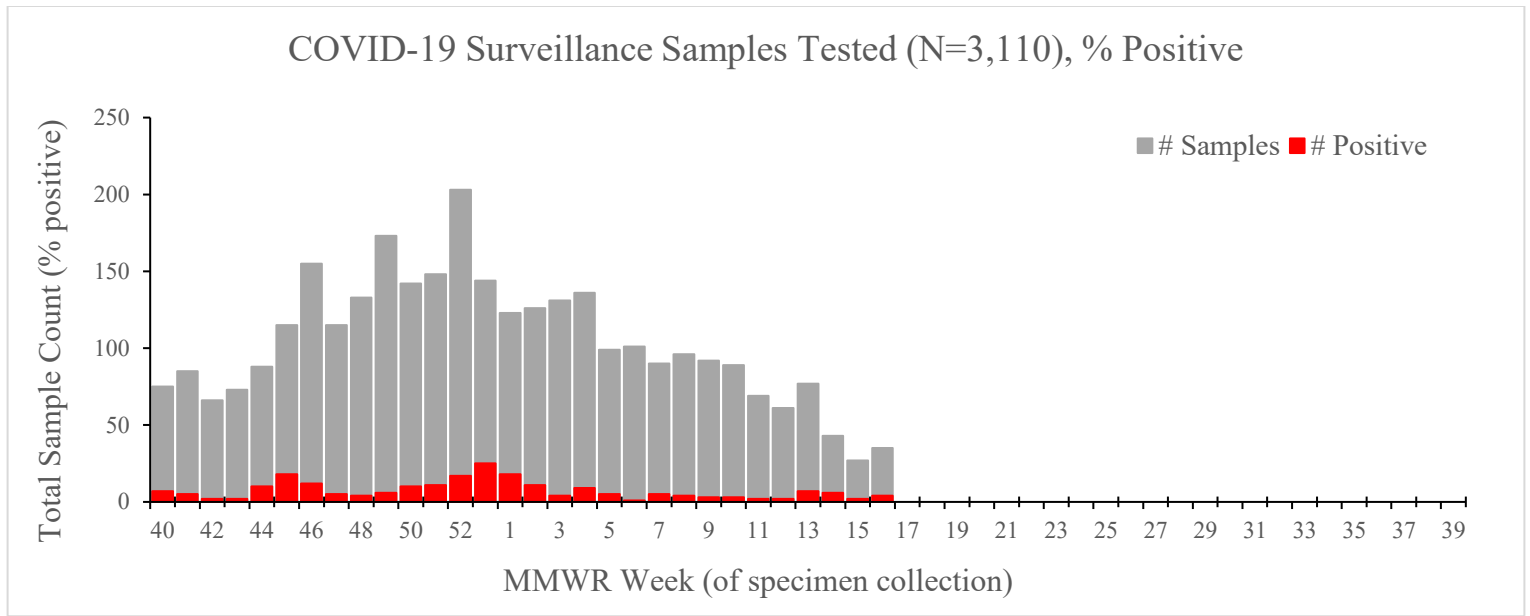
- *COVID-19 geographic spread: Regional*<sup>12</sup>
  - *A total of 35 surveillance specimens have been tested statewide for COVID-19 (positive: 4 [11.4%]).*
  - *Season to date: A total of 3,110 surveillance specimens have been tested for COVID-19 (positive: 220 [7.1%]).*
  - *67 specimens have been tested at SLD*<sup>13</sup>.

Season to Date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	156	6.4	0-17	581	2.8
Honolulu	2,381	7.6	18-64	1,495	9.8
Kauai	86	1.2	65+	1,034	5.5
Maui	388	6.2			
Unknown	99	4.0			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

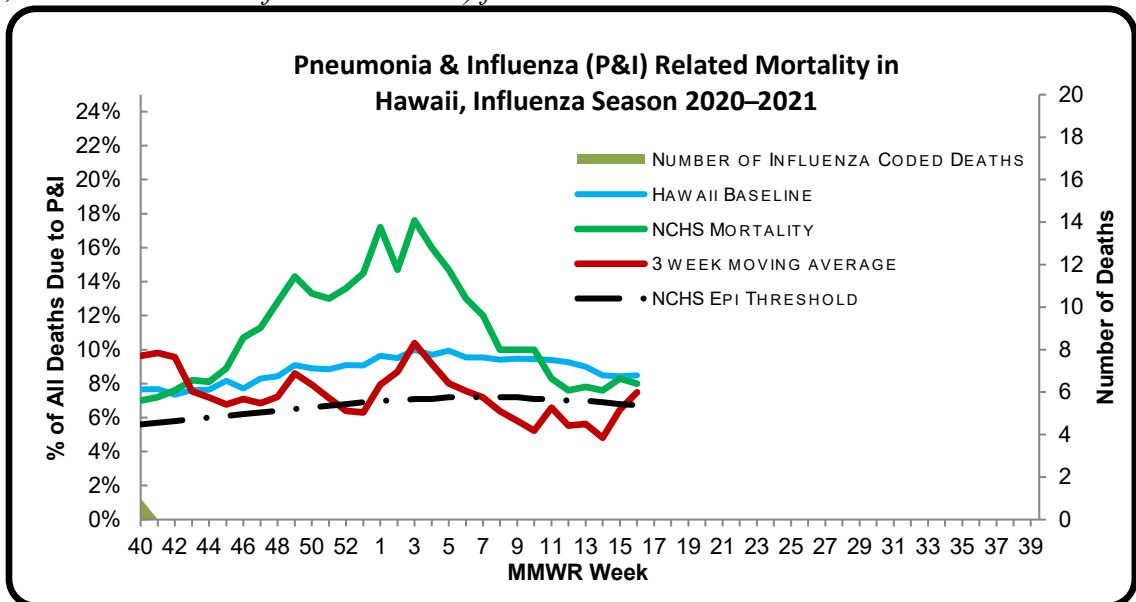


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 16** of the current influenza season:

- *7.3% of all deaths that occurred in Hawaii during week 16 were related to pneumonia or influenza (P&I)<sup>14</sup>. For the current season (season to date: 7.3%), there have been 6,727 deaths from any cause, 489 of which were due to P&I.*
- *The P&I rate was comparable to the historical baseline in Hawaii<sup>15</sup> (i.e., inside the 95% confidence interval).*
- *The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>16</sup> (8.0%) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (6.7%) (i.e., inside the 95% confidence interval) for week 16.*



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 16. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 16. (2020–2021 season total: 1).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### A. VARIANT VIRUSES:

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *One human infection with novel influenza A virus, H1N1v (0), H3N2v (1), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 16.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*

#### B. AVIAN (OR BIRD) INFLUENZA:

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **January 29, 2021**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	





# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 17: APRIL 25, 2021–MAY 01, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 17 2021).

### REPORT SNAPSHOT FOR WEEK 17

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	1.1%	Higher than the previous week. Comparable to Hawaii's historical baseline, comparable to the national ILI rate, and lower than national baseline.
Number of ILI clusters reported to HDOH	1	There have been 3 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.7%	Higher than the previous week. This number means that many, if not all, of the 99.3% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 17)	6.9%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	7.1%	Comparable to Hawaii's historical baseline, comparable to the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See **appendix 2 for interpretation of MMWR weeks**. Data reported will begin on week 40, the traditional start date of flu season.

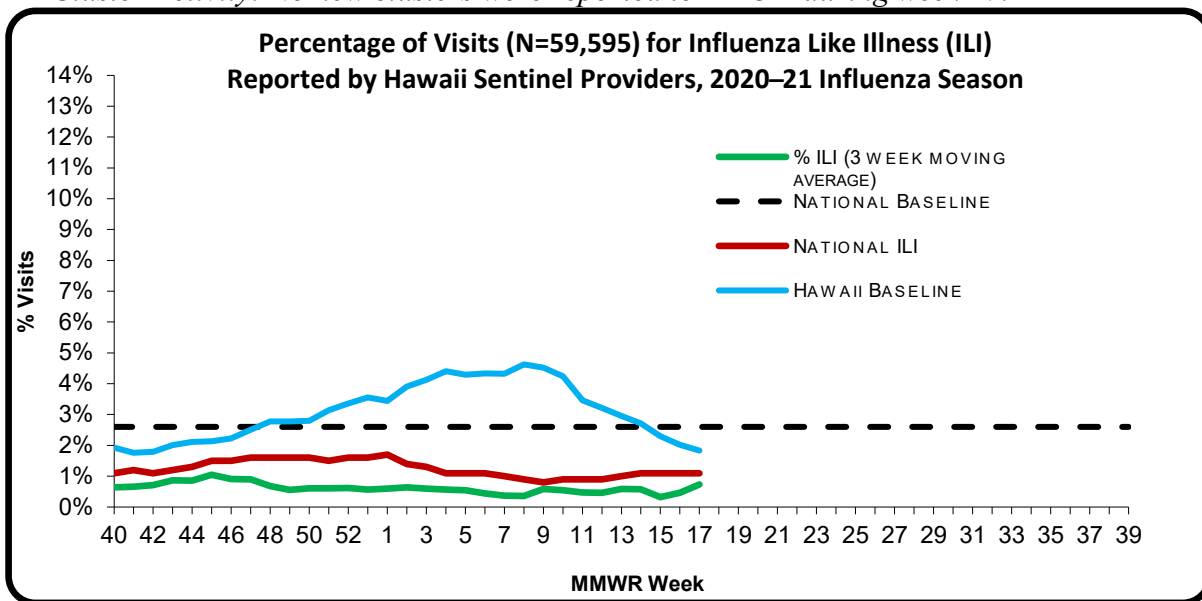
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 17 of the current influenza season:

- **1.1%** (season to date: **0.6%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and comparable to the national ILI rate (**1.1%**) (i.e., inside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: No new clusters were reported to HDOH during week 17.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

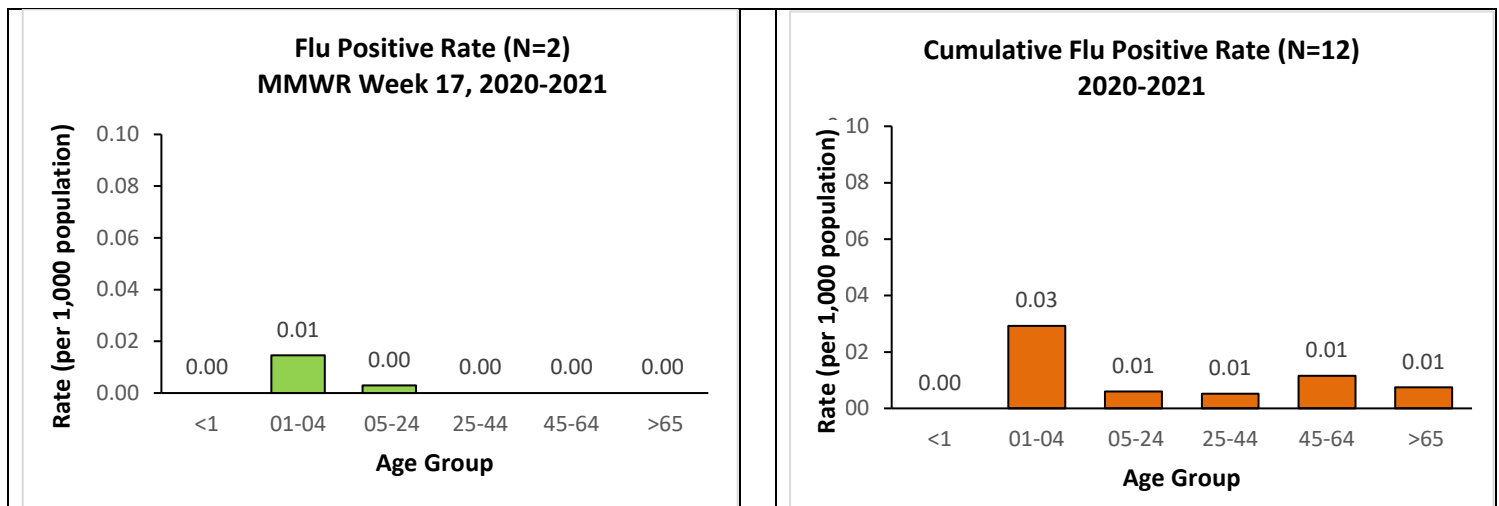
### A. INFLUENZA:

- The following reflects laboratory findings for week 17 of the 2020–21 influenza season:
  - A total of **303** specimens have been tested statewide for influenza viruses (positive: 2 [**0.7%**]). (Season to date: 10,602 tested [**0.1%** positive])
    - 57 (18.8%) were screened only by rapid antigen tests with no confirmatory testing.
    - 246 (81.2%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 301 (99.3%) were negative.

Influenza type	Current week 17 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	1 (50.0)	9 (75.0)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	1 (50.0)	3 (25.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



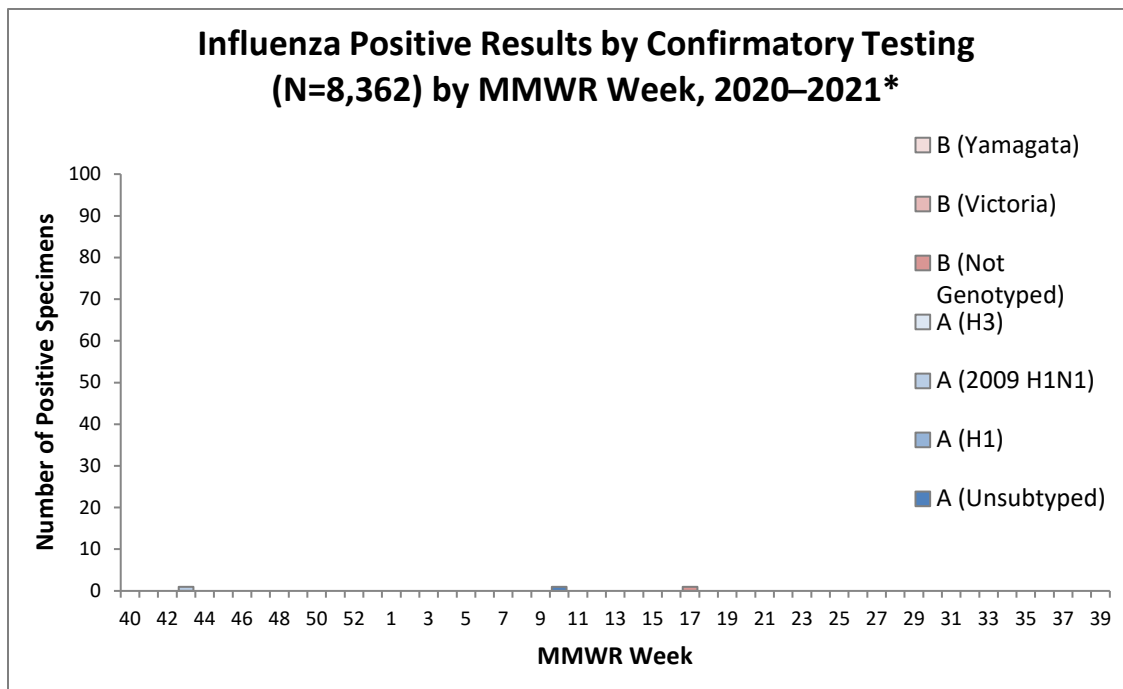
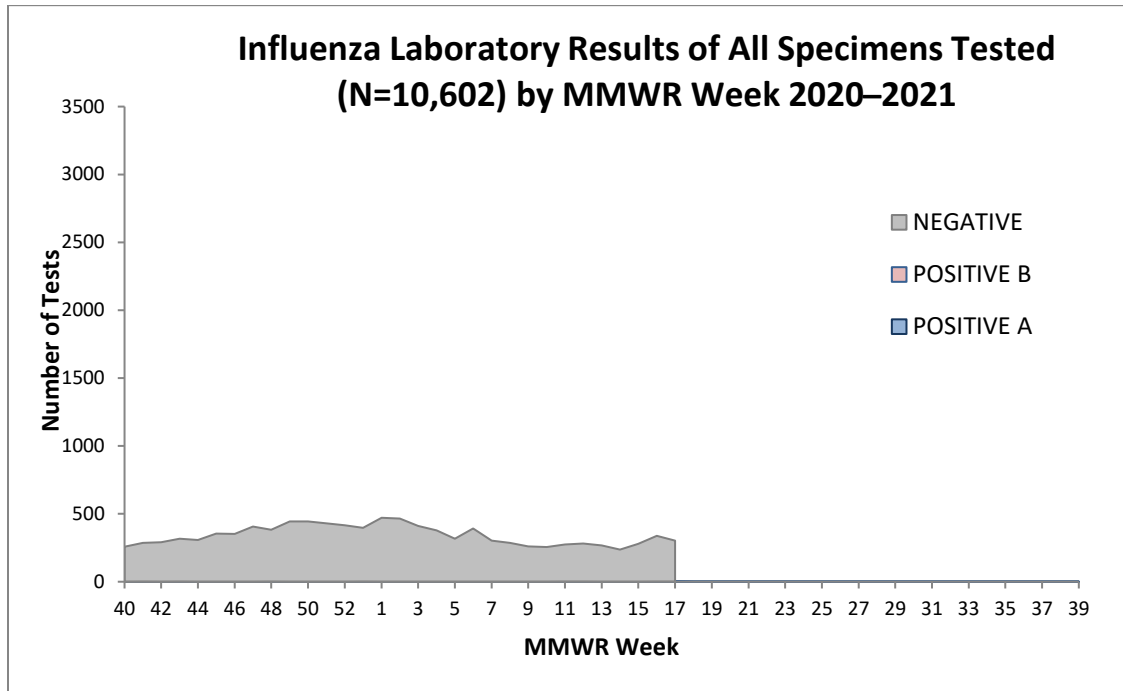
<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.

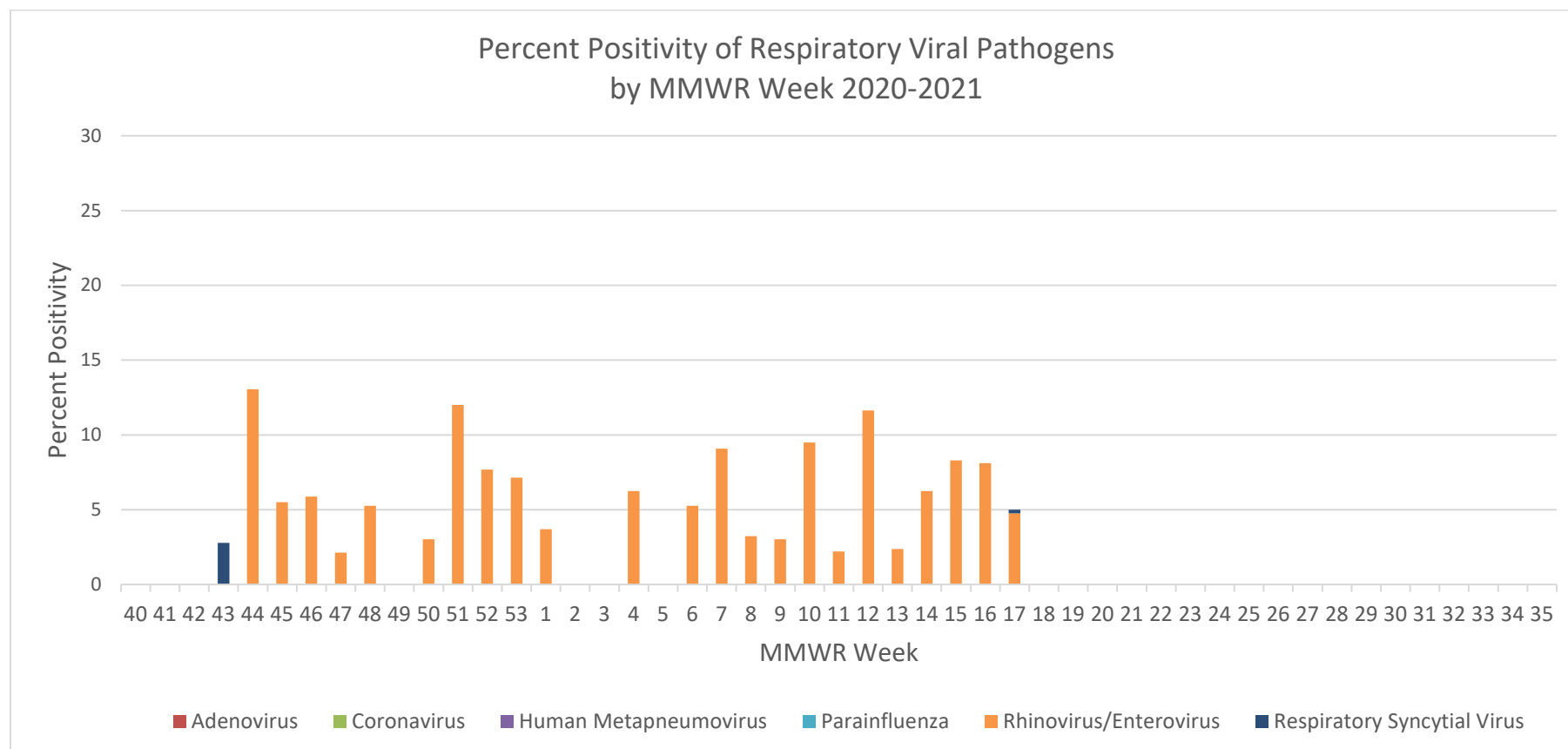
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 17<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

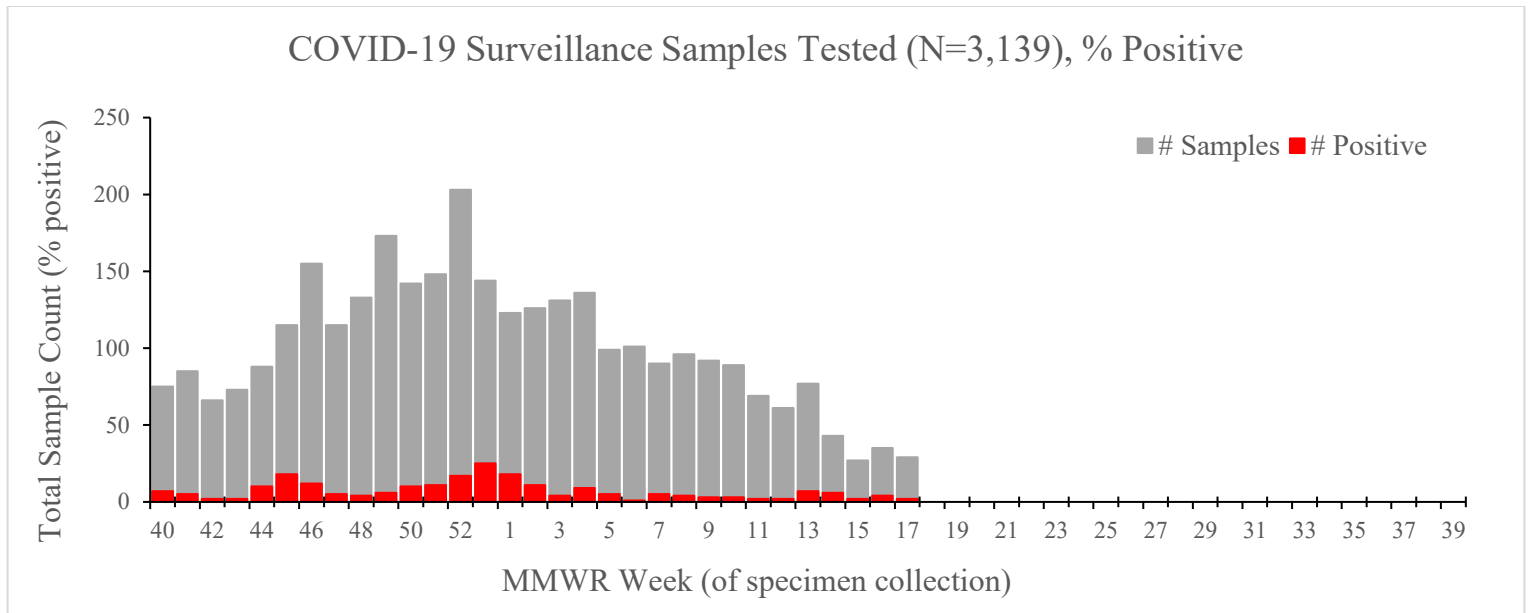
- *COVID-19 geographic spread: Regional*<sup>12</sup>
  - *A total of 29 surveillance specimens have been tested statewide for COVID-19 (positive: 2 [6.9%]).*
  - *Season to date: A total of 3,139 surveillance specimens have been tested for COVID-19 (positive: 222 [7.1%]).*
  - *67 specimens have been tested at SLD*<sup>13</sup>.

Season to Date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	159	6.3	0-17	585	2.7
Honolulu	2,401	7.6	18-64	1,513	9.8
Kauai	87	1.2	65+	1,041	5.6
Maui	391	6.1			
Unknown	101	4.0			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

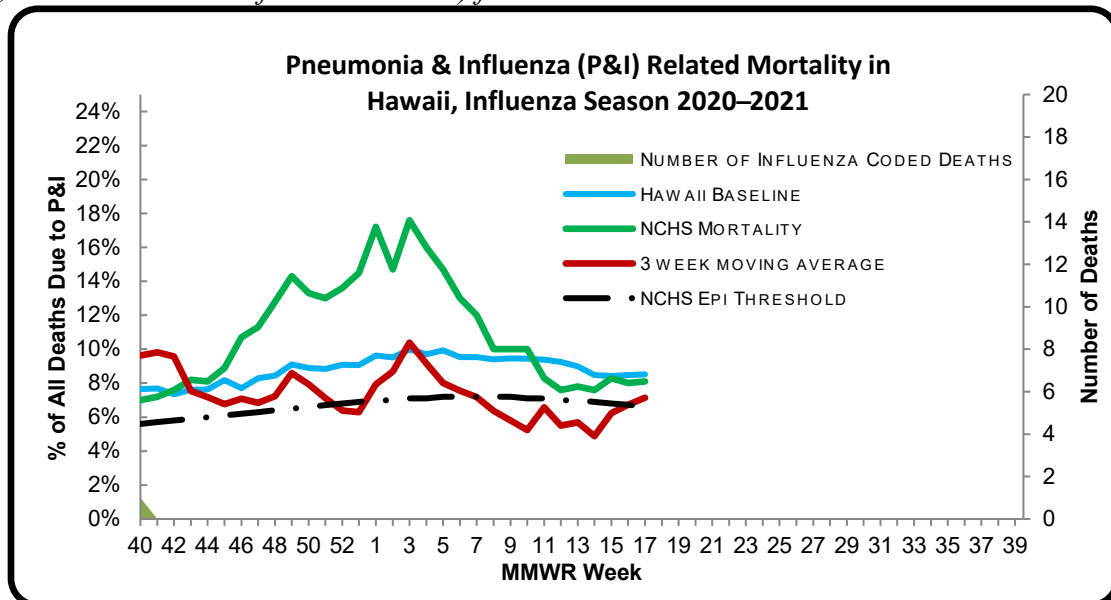


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 17** of the current influenza season:

- *7.1% of all deaths that occurred in Hawaii during week 17 were related to pneumonia or influenza (P&I)<sup>14</sup>. For the current season (season to date: 7.2%), there have been 6,961 deaths from any cause, 502 of which were due to P&I.*
- *The P&I rate was comparable to the historical baseline in Hawaii<sup>15</sup> (i.e., inside the 95% confidence interval).*
- *The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>16</sup> (8.1%) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (6.6%) (i.e., inside the 95% confidence interval) for week 17.*



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 17. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 17. (2020–2021 season total: 1).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.



**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### **A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *One human infection with novel influenza A virus, H1N1v (0), H3N2v (1), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 17.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*

#### **B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **January 29, 2021**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	



# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 18: MAY 02, 2021–MAY 08, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 18 2021).

### REPORT SNAPSHOT FOR WEEK 18

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.5%	Lower than the previous week. Comparable to Hawaii's historical baseline, lower than the national ILI rate, and lower than national baseline.
Number of ILI clusters reported to HDOH	1	There have been 4 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Lower than the previous week. This number means that many, if not all, of the 100.0% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 18)	11.8%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	7.0%	Comparable to Hawaii's historical baseline, comparable to the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See appendix 2 for interpretation of MMWR weeks. Data reported will begin on week 40, the traditional start date of flu season.

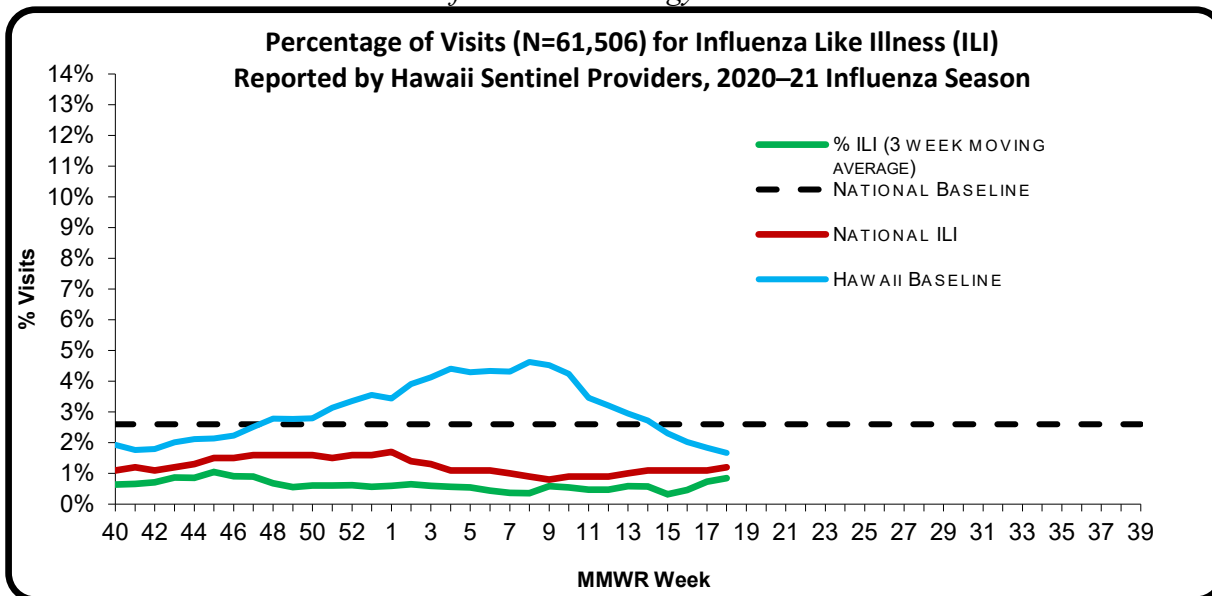
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 18 of the current influenza season:

- **0.5%** (season to date: **0.6%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.2%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: One cluster was reported to HDOH during week 18. This cluster occurred at a school on Oahu. The cluster included cases of unknown etiology.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

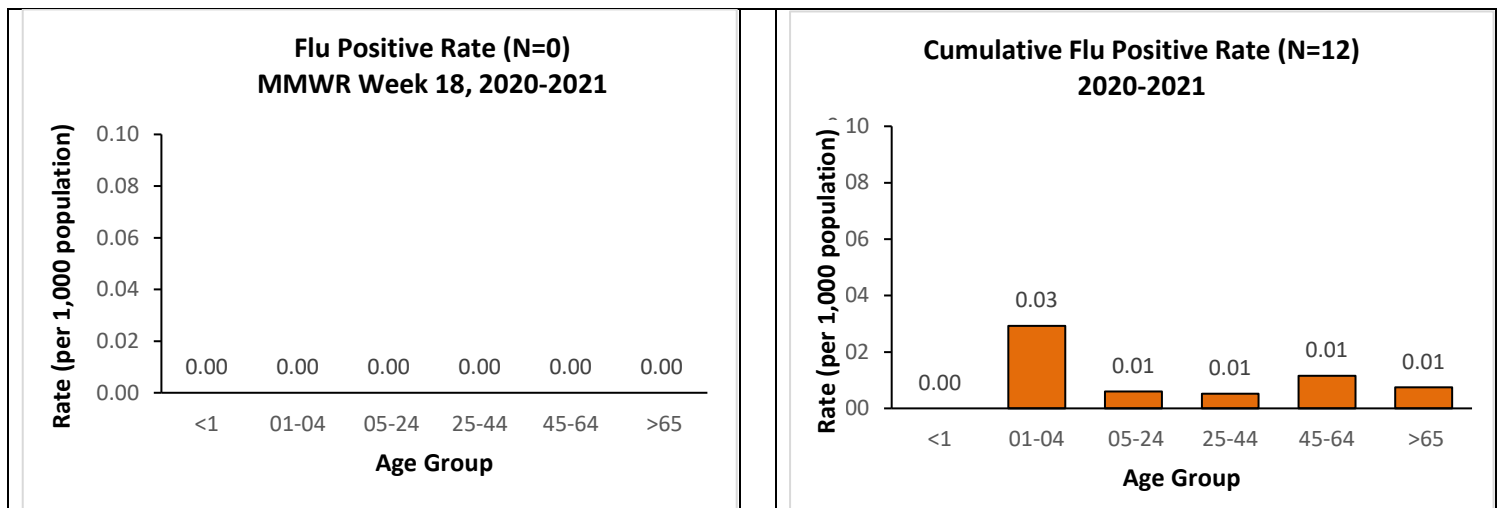
### A. INFLUENZA:

- The following reflects laboratory findings for week 18 of the 2020–21 influenza season:
  - A total of **287** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 10,889 tested [0.1% positive])
    - 56 (19.5%) were screened only by rapid antigen tests with no confirmatory testing.
    - 231 (80.5%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 287 (100.0%) were negative.

Influenza type	Current week 18 (%)	Season to date (%)
Influenza A (H1) <sup>9</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	9 (75.0)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	3 (25.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>10</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

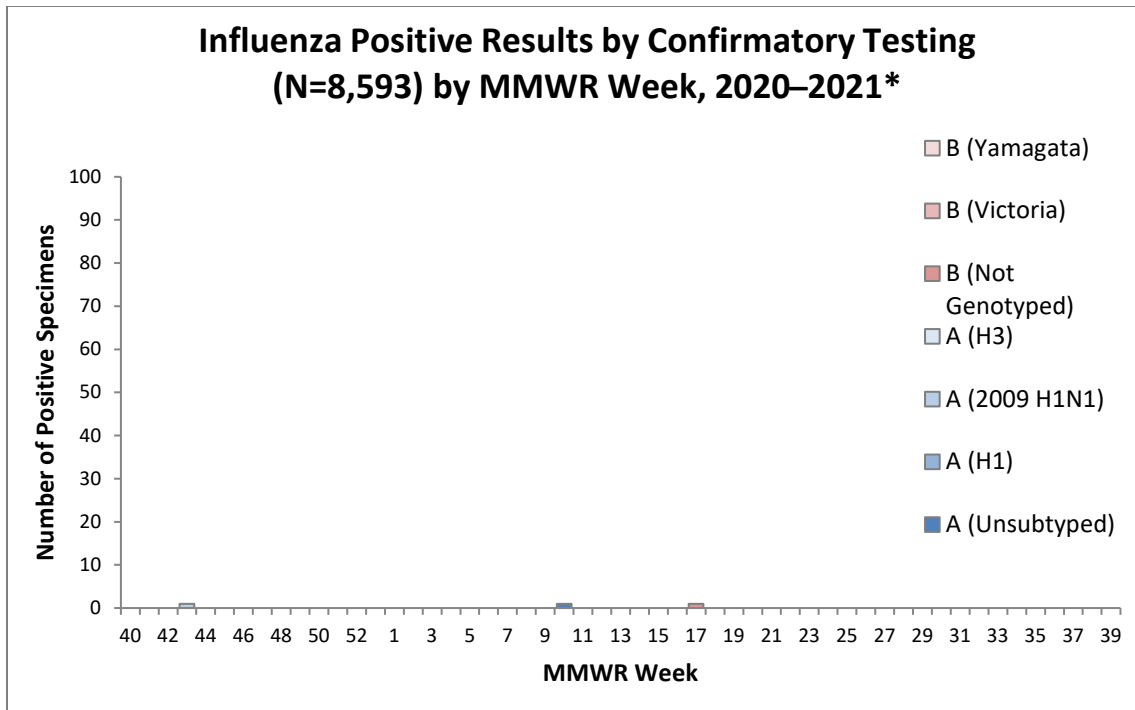
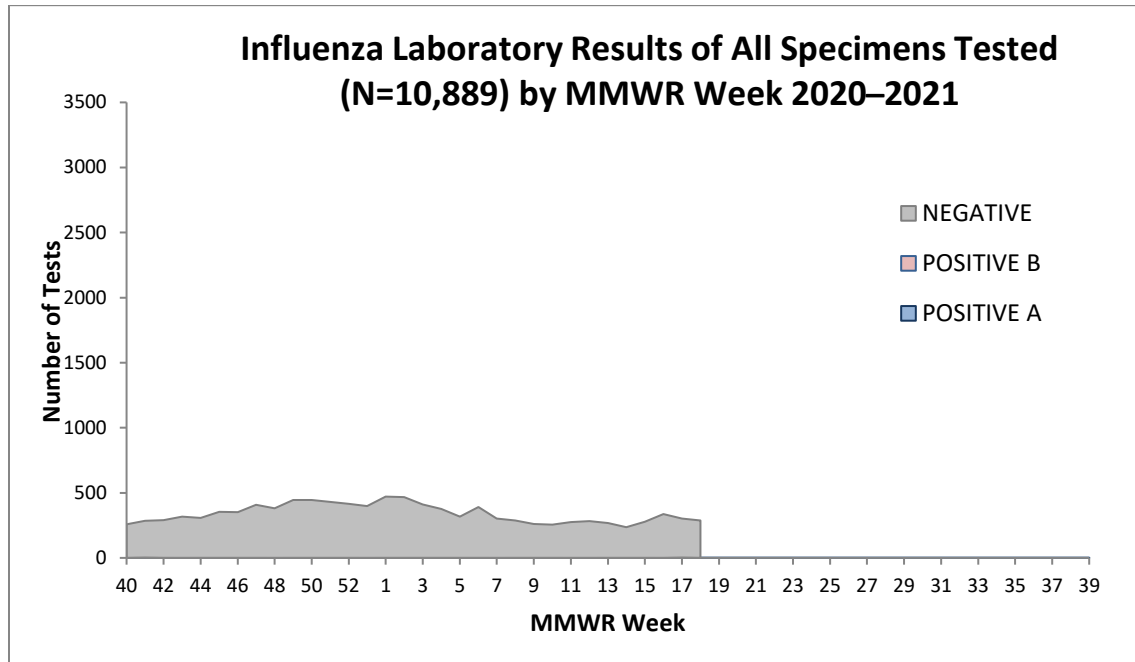
<sup>9</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>10</sup> This represents an estimate of population-based rates based on available data.



## 2. LABORATORY TESTING

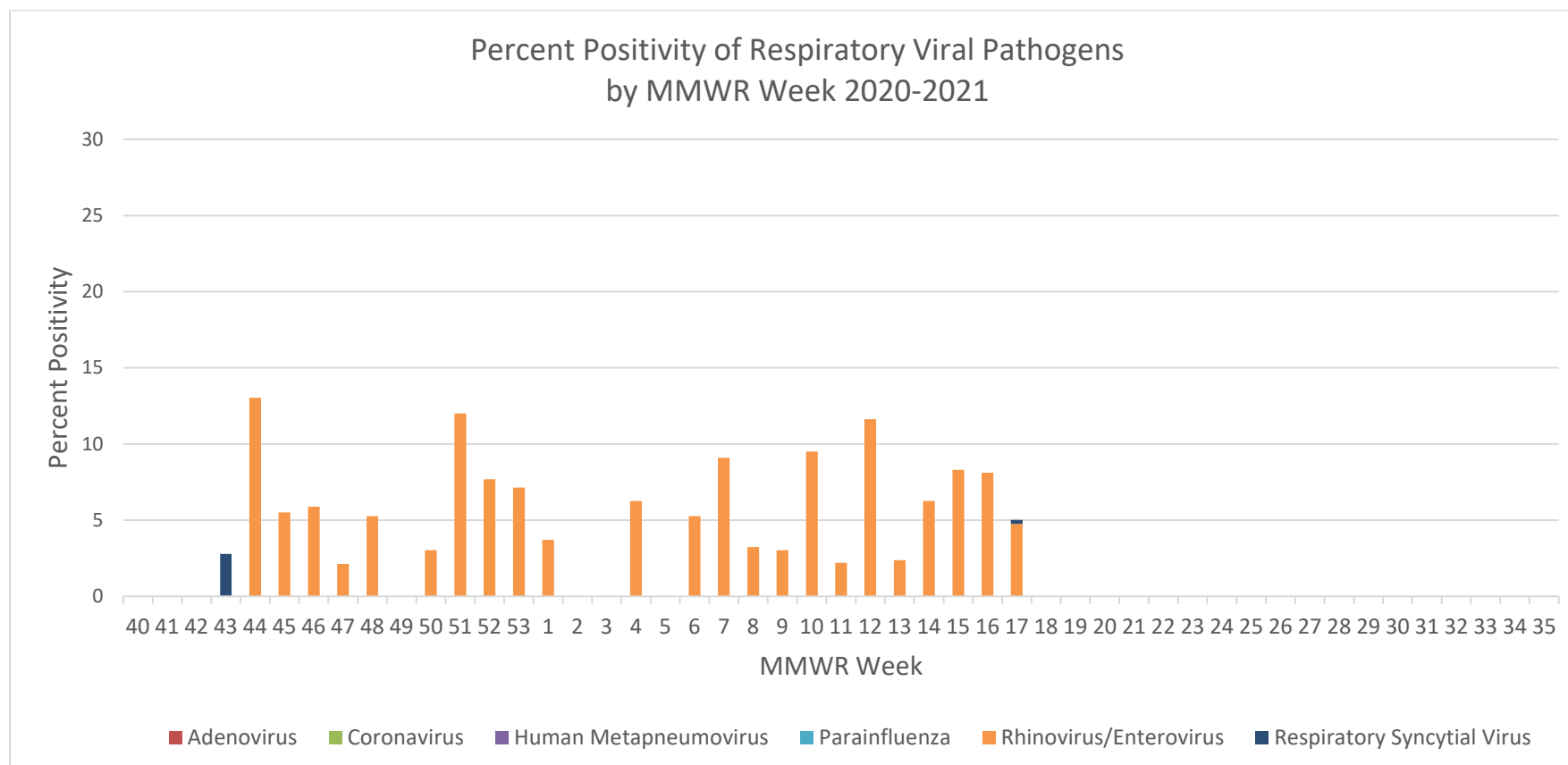
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.



**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 18<sup>11</sup> of the 2020–21 influenza/respiratory disease season:

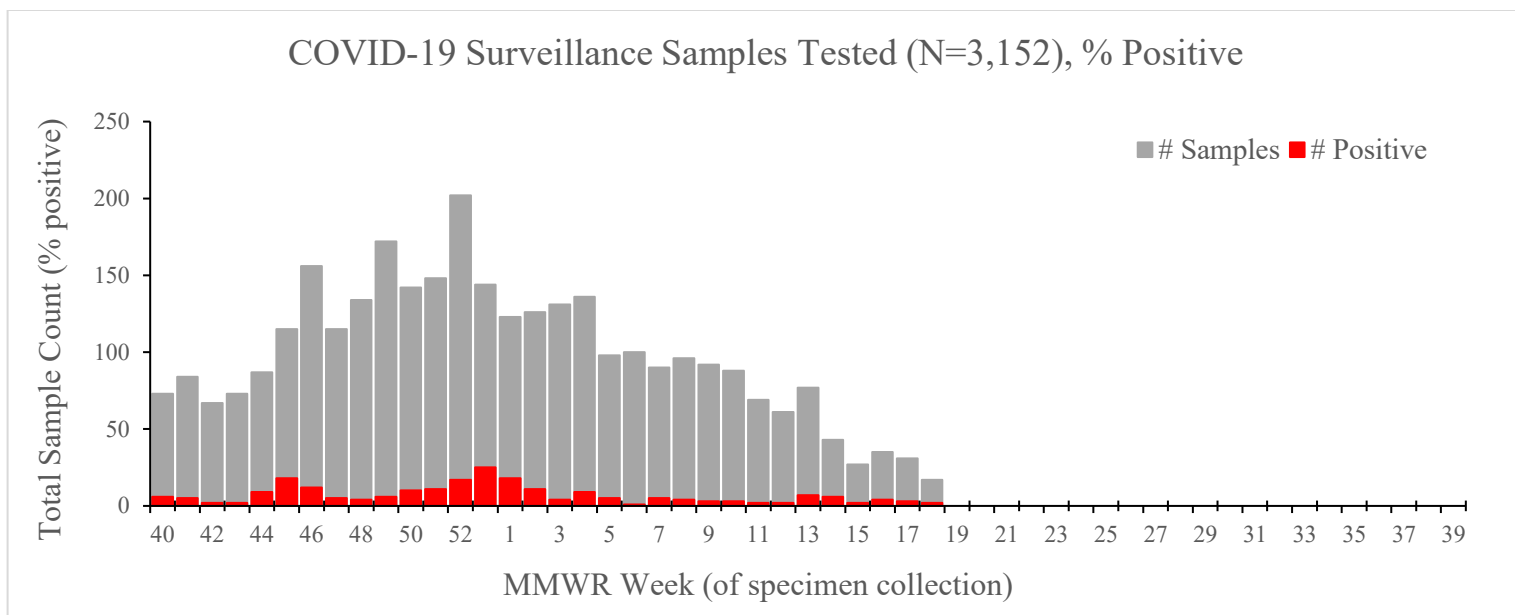
- *COVID-19 geographic spread: Regional*<sup>12</sup>
  - *A total of 17 surveillance specimens have been tested statewide for COVID-19 (positive: 2 [11.8%]).*
  - *Season to date: A total of 3,152 surveillance specimens have been tested for COVID-19 (positive: 223 [7.1%]).*
  - *71 specimens have been tested at SLD*<sup>13</sup>.

Season to Date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	161	6.2	0-17	586	2.7
Honolulu	2,407	7.6	18-64	1,524	9.7
Kauai	89	1.1	65+	1,042	5.7
Maui	394	6.1			
Unknown	101	4.0			

<sup>11</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>12</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>13</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

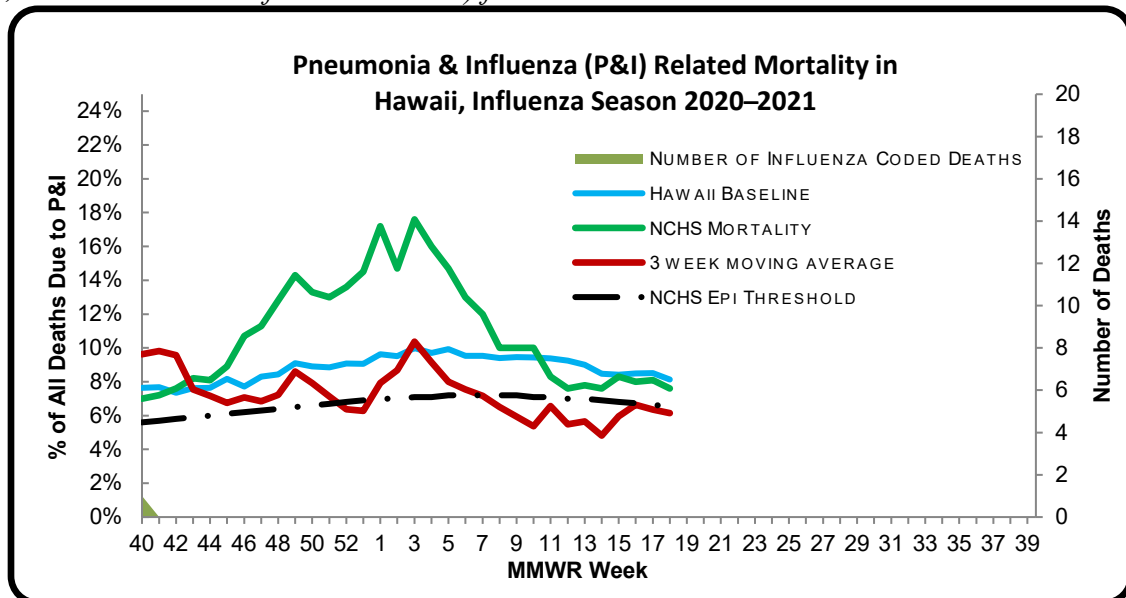


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For week 18 of the current influenza season:

- 7.0% of all deaths that occurred in Hawaii during week 18 were related to pneumonia or influenza (P&I)<sup>14</sup>. For the current season (season to date: 7.2%), there have been 7,198 deaths from any cause, 515 of which were due to P&I.
- The P&I rate was comparable to the historical baseline in Hawaii<sup>15</sup> (i.e., inside the 95% confidence interval).
- The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>16</sup> (7.6%) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (6.5%) (i.e., inside the 95% confidence interval) for week 18.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>17</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 18. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 18. (2020-2021 season total: 1).

<sup>14</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>16</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>17</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### A. VARIANT VIRUSES:

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *One human infection with novel influenza A virus, H1N1v (0), H3N2v (1), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 18.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*

#### B. AVIAN (OR BIRD) INFLUENZA:

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **January 29, 2021**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

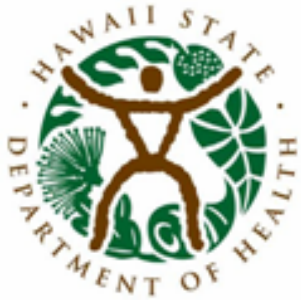
<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	





# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 19: MAY 09, 2021–MAY 15, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 19 2021).

### REPORT SNAPSHOT FOR WEEK 19

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.8%	Higher than the previous week. Comparable to Hawaii's historical baseline, comparable to the national ILI rate, and lower than national baseline.
Number of ILI clusters reported to HDOH	1	There have been 5 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.4%	Higher than the previous week. This number means that many, if not all, of the 99.6% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 19)	0.0%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	6.1%	Comparable to Hawaii's historical baseline, comparable to the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See **appendix 2 for interpretation of MMWR weeks**. Data reported will begin on week 40, the traditional start date of flu season.

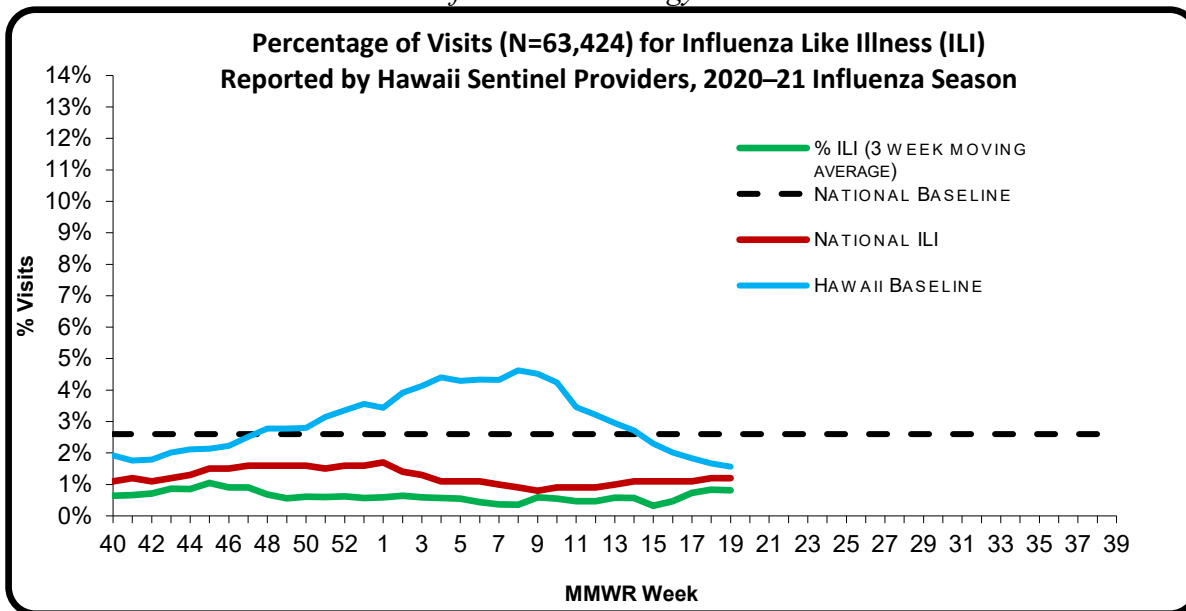
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 19 of the current influenza season:

- **0.8%** (season to date: **0.6%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and comparable to the national ILI rate (**1.2%**) (i.e., inside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: One cluster was reported to HDOH during week 19. This cluster occurred at a school on Oahu. The cluster included cases of unknown etiology.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

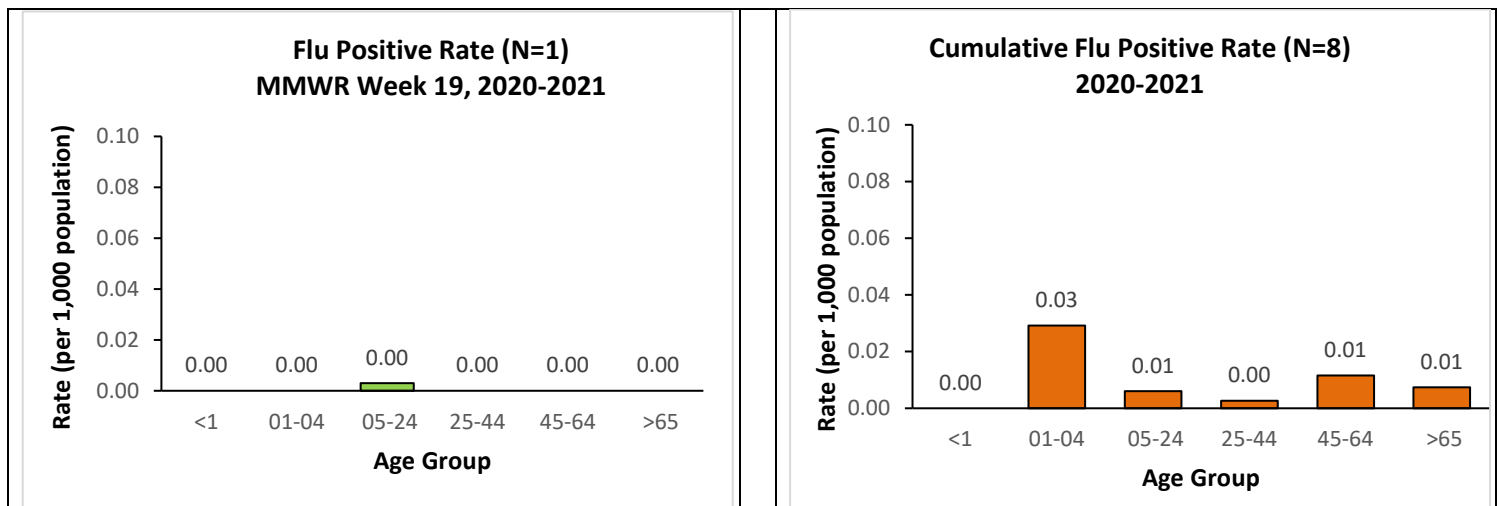
### A. INFLUENZA:

- The following reflects laboratory findings for week 19 of the 2020–21 influenza season:
  - A total of 274 specimens have been tested statewide for influenza viruses (positive: 1 [0.4%]). (Season to date: 11,164 tested [0.1% positive])
    - 44 (16.1%) were screened only by rapid antigen tests with no confirmatory testing.
    - 230 (83.9%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 273 (99.6%) were negative.

Influenza type	Current week 19 (%)	Season to date (%) <sup>9</sup>
Influenza A (H1) <sup>10</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	1 (100.0)	7 (87.5)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	1 (12.5)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>11</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

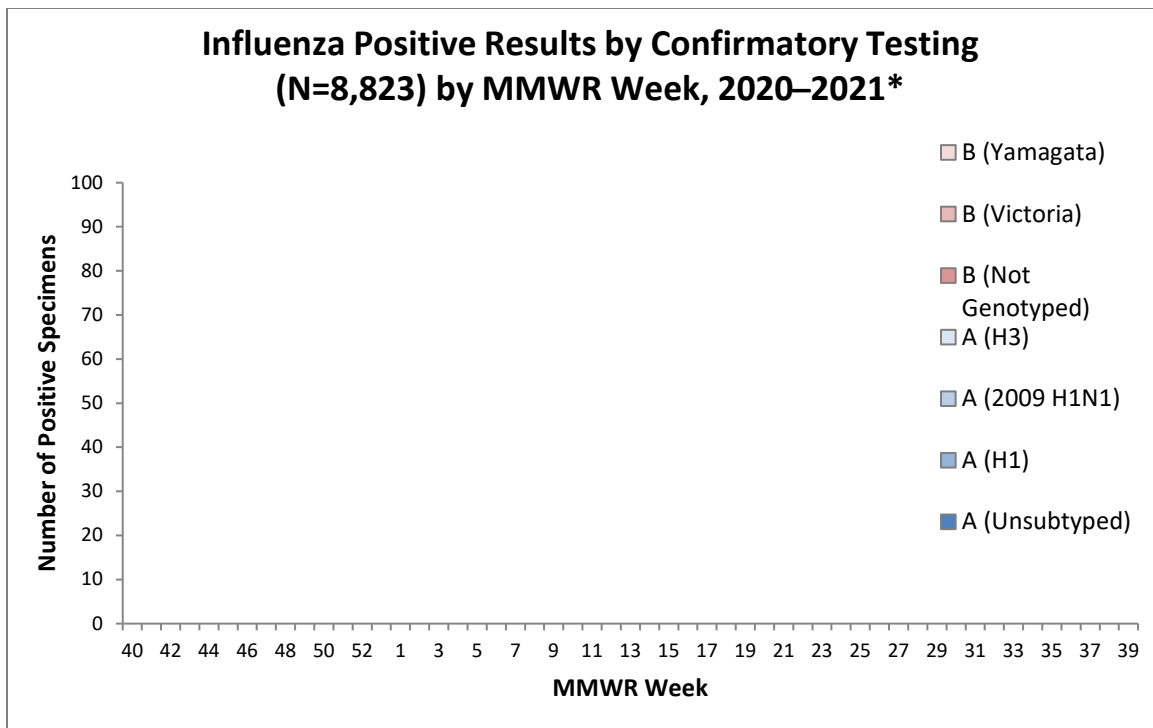
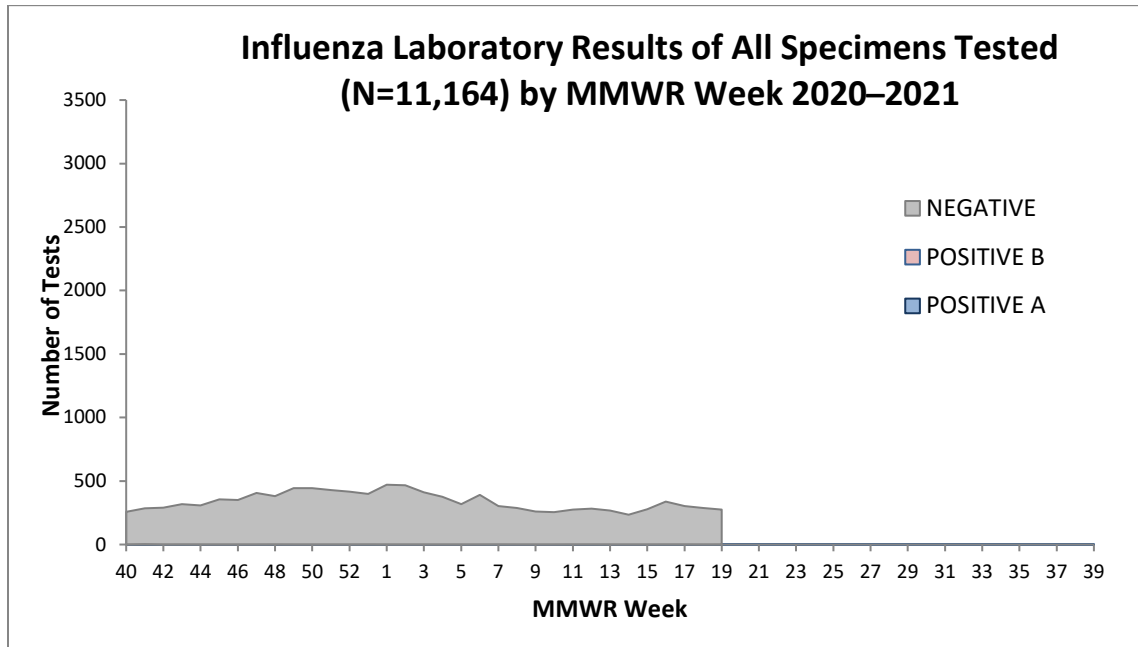
<sup>9</sup> Laboratory confirmed negative influenza test have been withdrawn from the season to date count.

<sup>10</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>11</sup> This represents an estimate of population-based rates based on available data.

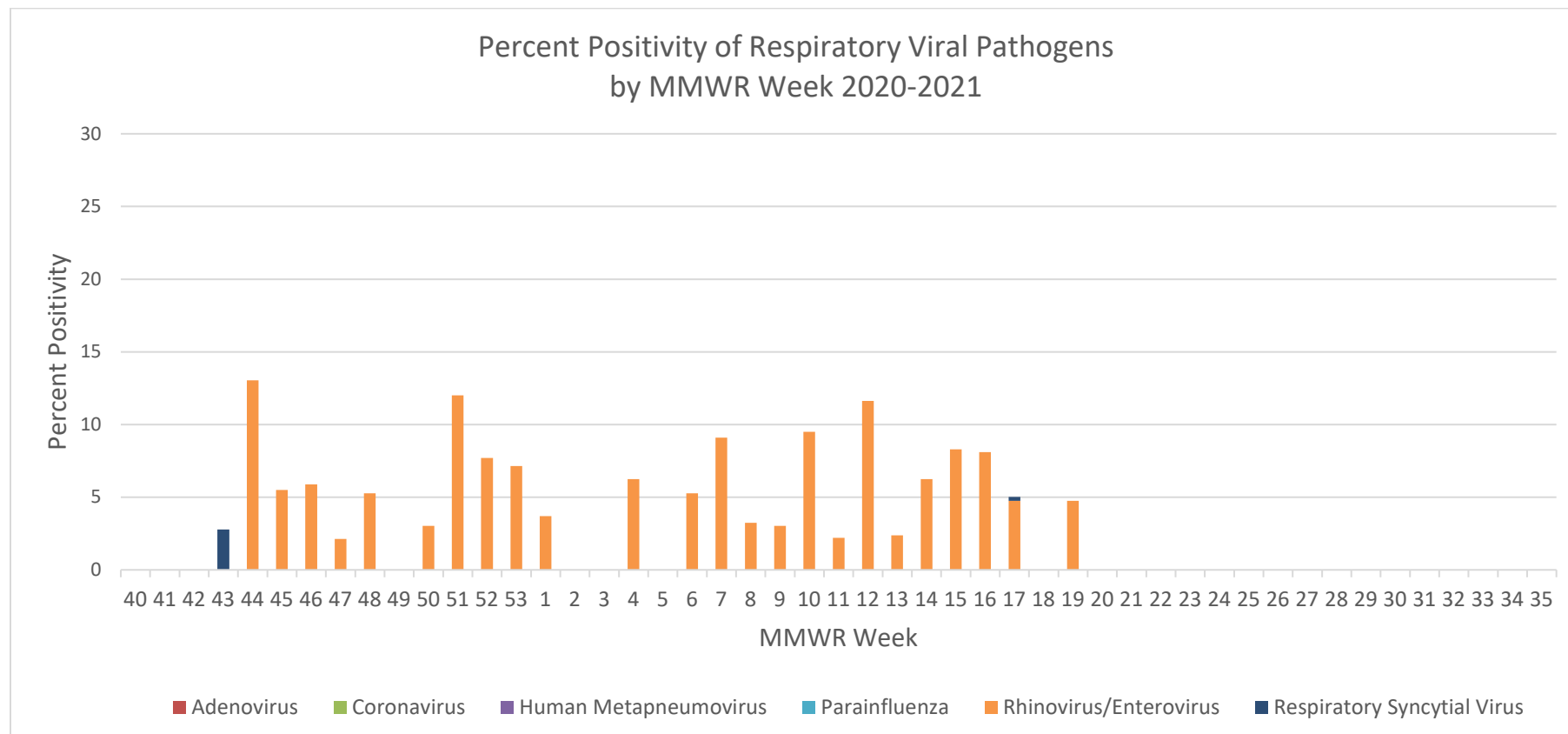
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 19<sup>12</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>13</sup>

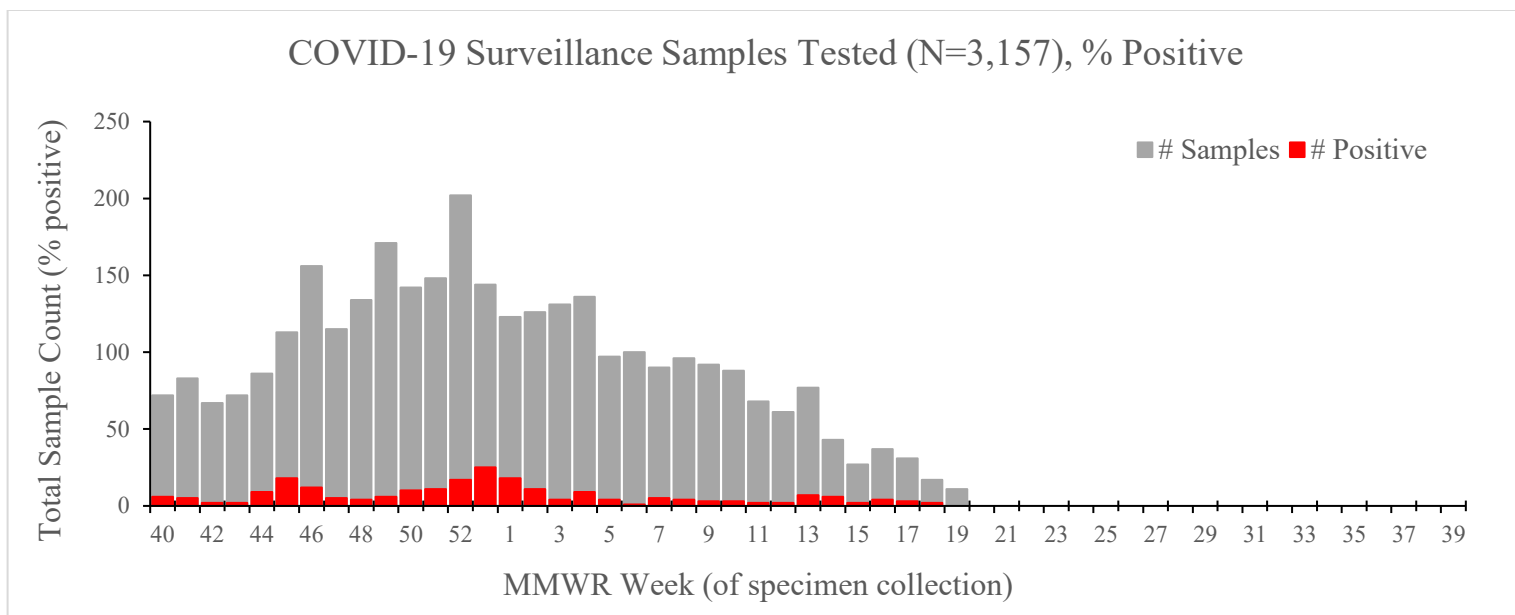
- *A total of 11 surveillance specimens have been tested statewide for COVID-19 (positive:0 [0.0%]).*
- *Season to date: A total of 3,157 surveillance specimens have been tested for COVID-19 (positive: 223 [7.1%]).*
- *70 specimens have been tested at SLD*<sup>14</sup>.

Season to Date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	162	6.2	0-17	588	2.7
Honolulu	2,410	7.6	18-64	1,525	9.7
Kauai	90	1.1	65+	1,044	5.7
Maui	394	6.1			
Unknown	101	4.0			

<sup>12</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>13</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>14</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

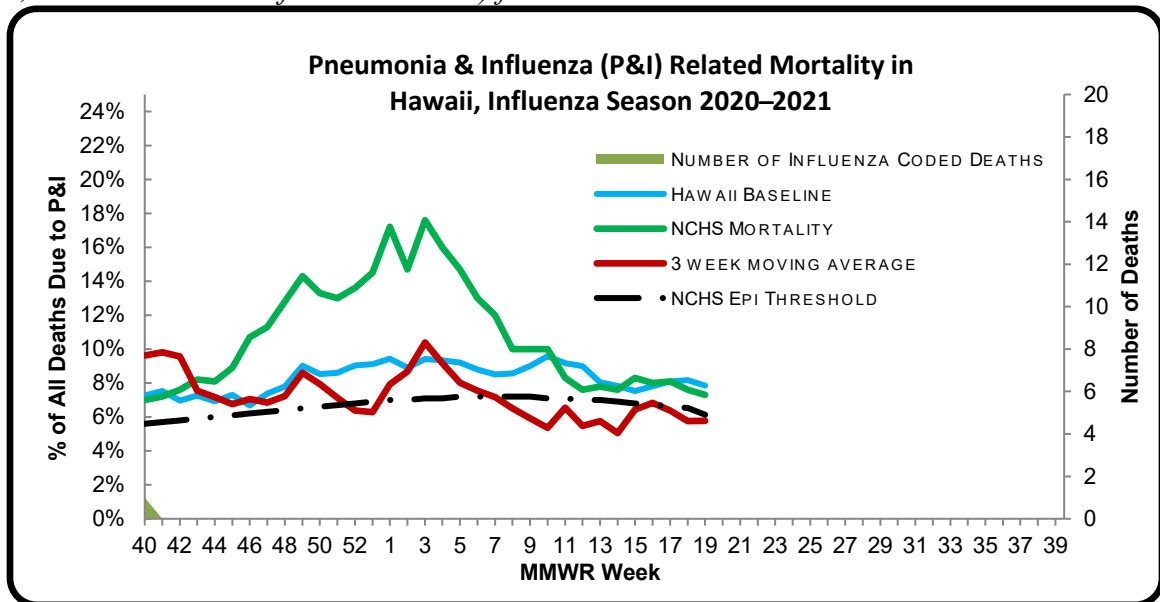


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 19** of the current influenza season:

- **6.1%** of all deaths that occurred in Hawaii during week 19 were related to pneumonia or influenza (P&I)<sup>15</sup>. For the current season (season to date: **7.1%**), there have been 7,475 deaths from any cause, 533 of which were due to P&I.
- The P&I rate was comparable to the historical baseline in Hawaii<sup>16</sup> (i.e., inside the 95% confidence interval).
- The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>17</sup> (7.3%) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (6.1%) (i.e., inside the 95% confidence interval) for week 19.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>18</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 19. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 19. (2020–2021 season total: 1).

<sup>15</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>16</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>17</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>18</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.



**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### **A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *One human infection with novel influenza A virus, H1N1v (0), H3N2v (1), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 19.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*

#### **B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **January 29, 2021**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	



# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 20: MAY 16, 2021–MAY 22, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 20 2021).

### REPORT SNAPSHOT FOR WEEK 20

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.9%	Higher than the previous week. Comparable to Hawaii's historical baseline, comparable to the national ILI rate, and lower than national baseline.
Number of ILI clusters reported to HDOH	1	There have been 6 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.2%	Lower than the previous week. This number means that many, if not all, of the 99.8% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 20)	17.6%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	2.3%	Lower than the Hawaii's historical baseline, lower than the national epidemic threshold and lower than the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See **appendix 2 for interpretation of MMWR weeks**. Data reported will begin on week 40, the traditional start date of flu season.

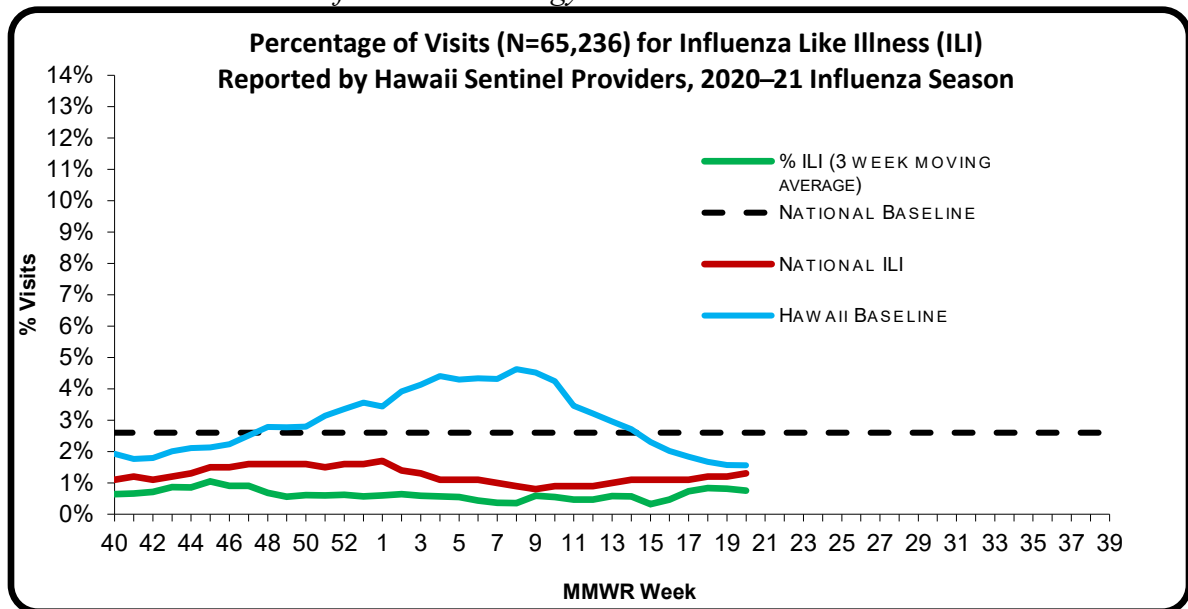
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 20 of the current influenza season:

- **0.9%** (season to date: **0.6%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and comparable to the national ILI rate (**1.3%**) (i.e., inside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: One cluster was reported to HDOH during week 20. This cluster occurred at a school on Oahu. The cluster included cases of unknown etiology.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

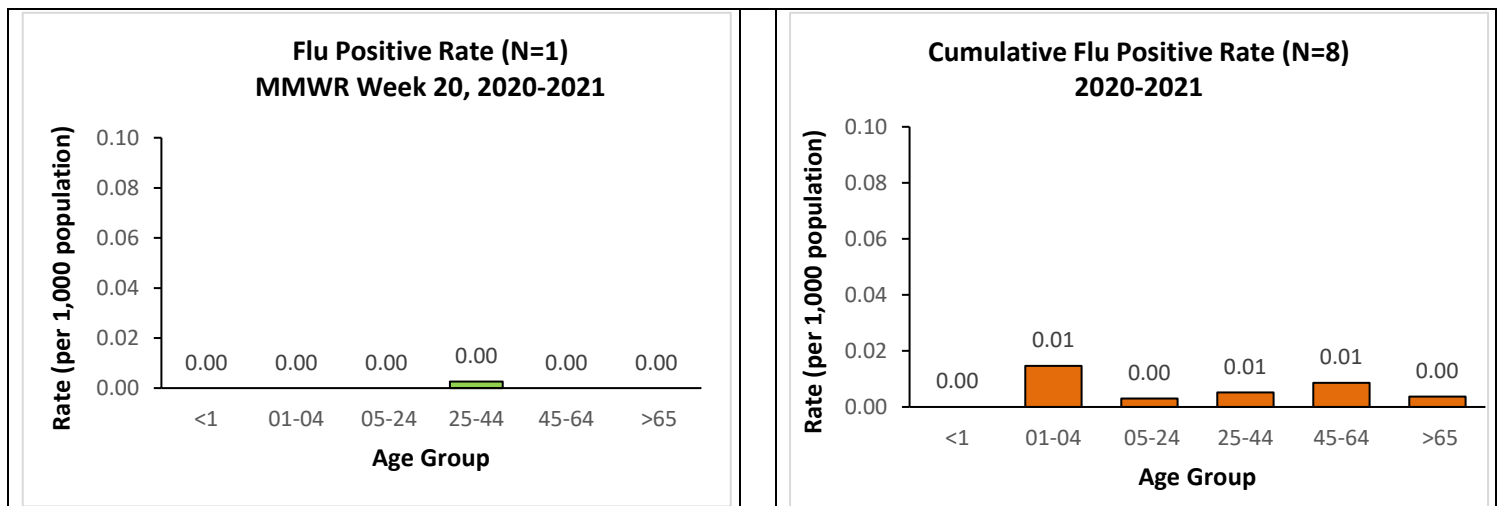
### A. INFLUENZA:

- The following reflects laboratory findings for week 20 of the 2020–21 influenza season:
  - A total of **400** specimens have been tested statewide for influenza viruses (positive: 1 [0.2%]). (Season to date: 11,563 tested [0.1% positive])
    - 46 (11.5%) were screened only by rapid antigen tests with no confirmatory testing.
    - 354 (88.5%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 399 (99.8%) were negative.

Influenza type	Current week 20 (%)	Season to date (%) <sup>9</sup>
Influenza A (H1) <sup>10</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	1 (100.0)	7 (87.5)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	1 (12.5)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>11</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> Laboratory confirmed negative influenza test have been withdrawn from the season to date count.

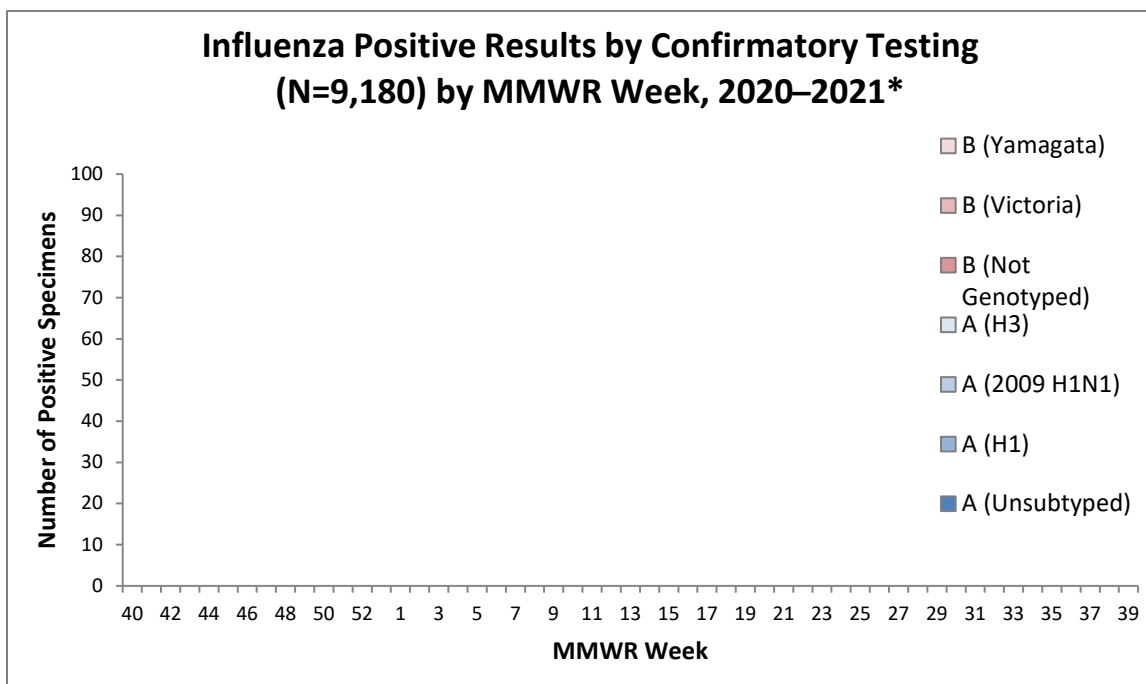
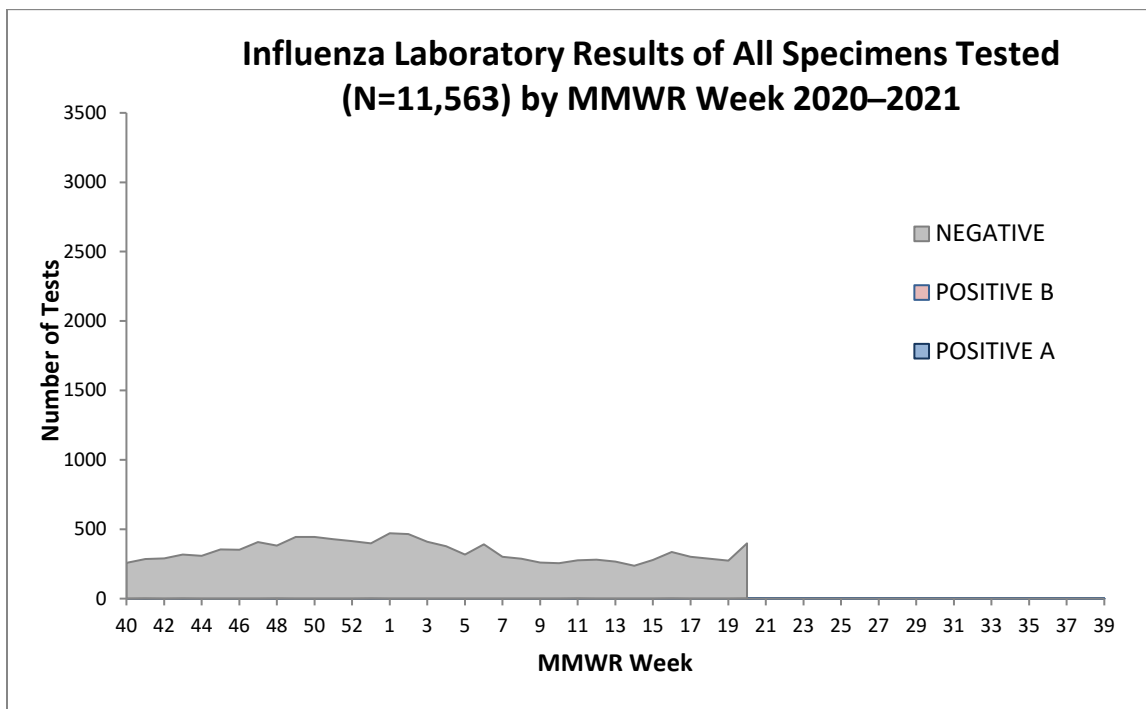
<sup>10</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>11</sup> This represents an estimate of population-based rates based on available data.



## 2. LABORATORY TESTING

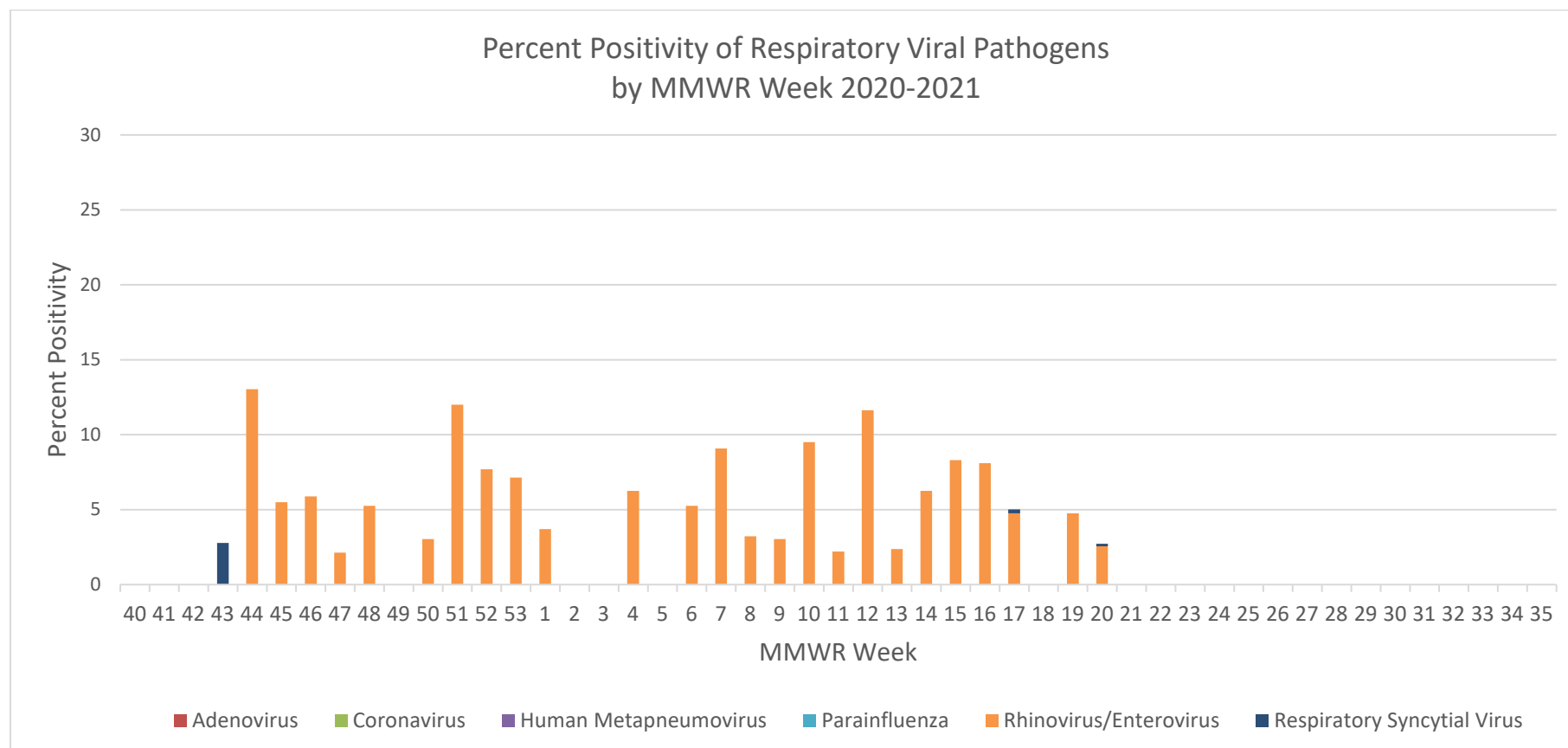
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.



**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 20<sup>12</sup> of the 2020–21 influenza/respiratory disease season:

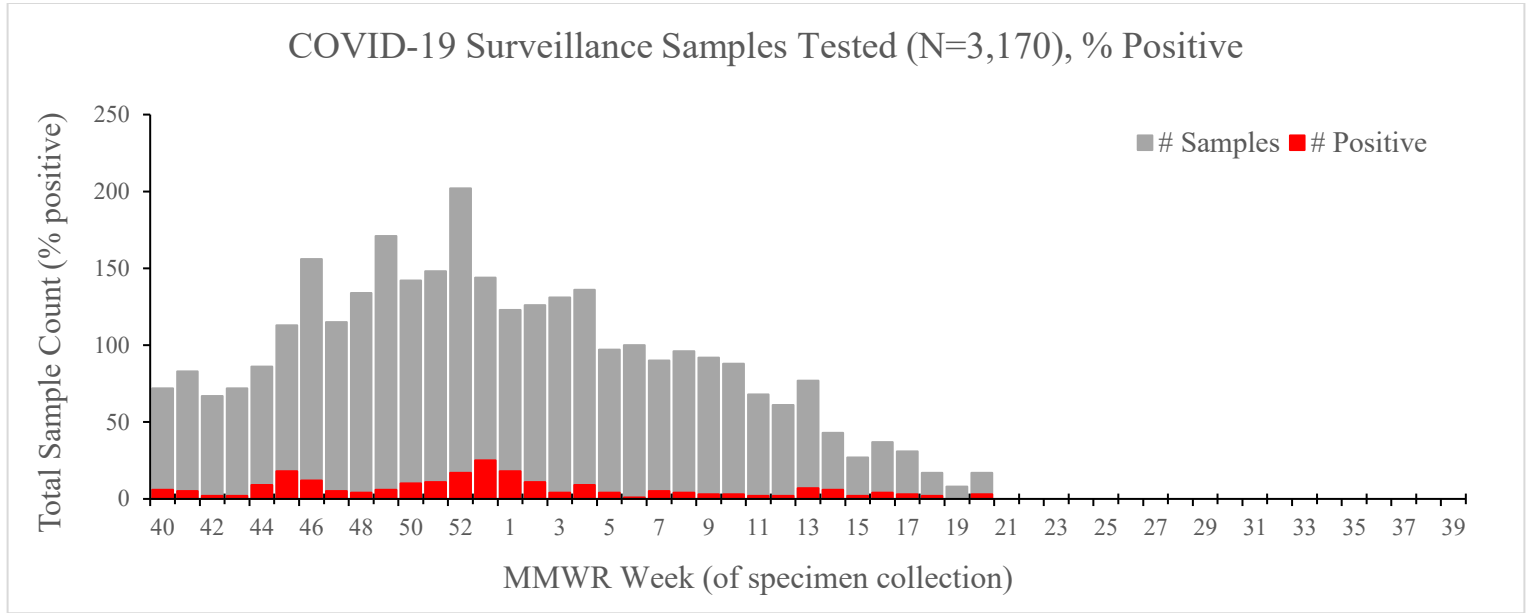
- *COVID-19 geographic spread: Regional*<sup>13</sup>
  - *A total of 17 surveillance specimens have been tested statewide for COVID-19 (positive: 3 [17.6%]).*
  - *Season to date: A total of 3,170 surveillance specimens have been tested for COVID-19 (positive: 225 [7.1%]).*
  - *70 specimens have been tested at SLD*<sup>14</sup>.

Season to Date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	165	6.1	0-17	591	2.7
Honolulu	2,418	7.7	18-64	1,533	9.8
Kauai	92	2.2	65+	1,046	5.6
Maui	394	6.1			
Unknown	101	4.0			

<sup>12</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>13</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>14</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

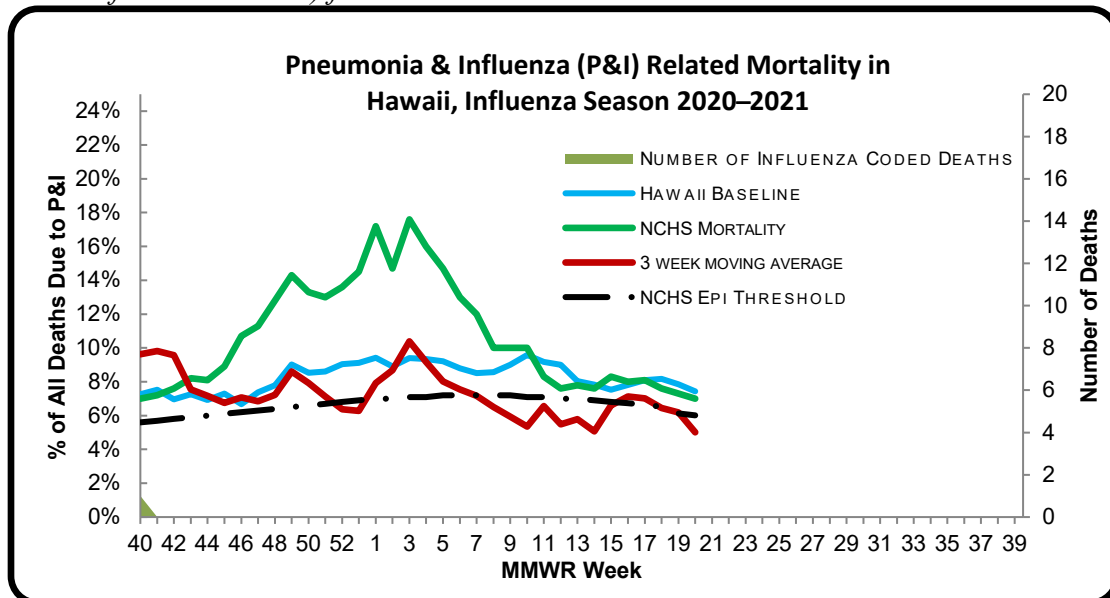


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For week 20 of the current influenza season:

- 2.3% of all deaths that occurred in Hawaii during week 20 were related to pneumonia or influenza (P&I)<sup>15</sup>. For the current season (season to date: 7.1%), there have been 7,694 deaths from any cause, 548 of which were due to P&I.
- The P&I rate was lower than the historical baseline in Hawaii<sup>16</sup> (i.e., outside the 95% confidence interval).
- The Hawaii P&I rate was lower than the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>17</sup> (7.0%) (i.e., outside the 95% confidence interval) and lower than the national epidemic threshold (6.0%) (i.e., outside the 95% confidence interval) for week 20.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>18</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 20. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 20. (2020-2021 season total: 1).

<sup>15</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>16</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>17</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>18</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### **A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *One human infection with novel influenza A virus, H1N1v (0), H3N2v (1), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 20.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*

#### **B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **January 29, 2021**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

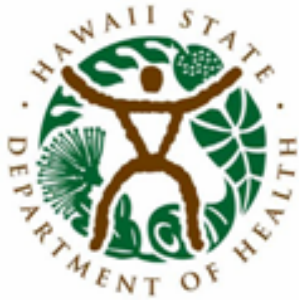
<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	





# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 21: MAY 23, 2021–MAY 29, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 21

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.7%	Lower than the previous week. Comparable to Hawaii's historical baseline, comparable to the national ILI rate, and lower than national baseline.
Number of ILI clusters reported to HDOH	0	There have been 6 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Lower than the previous week. This number means that many, if not all, of the 100.0% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 21)	10.0%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	3.8%	Lower than the Hawaii's historical baseline, comparable to the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See appendix 2 for interpretation of MMWR weeks. Data reported will begin on week 40, the traditional start date of flu season.

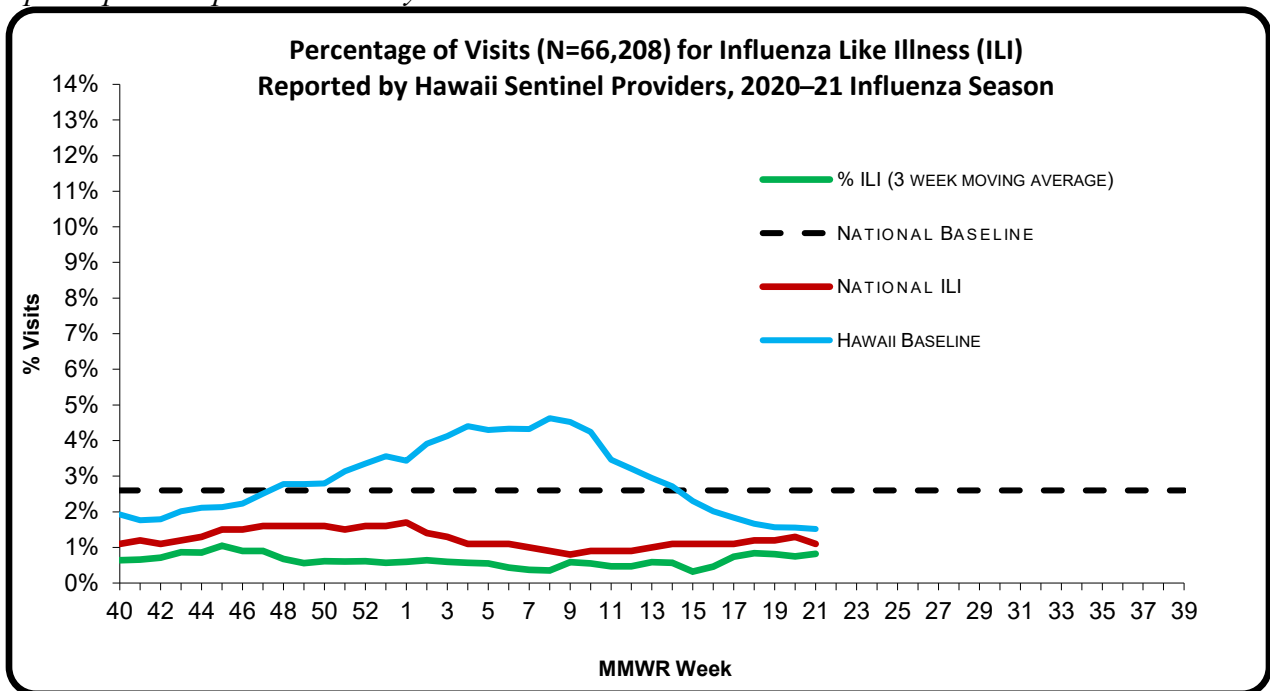
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 21 of the current influenza season:

- **0.7%** (season to date: **0.6%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and comparable to the national ILI rate (**1.1%**) (i.e., inside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

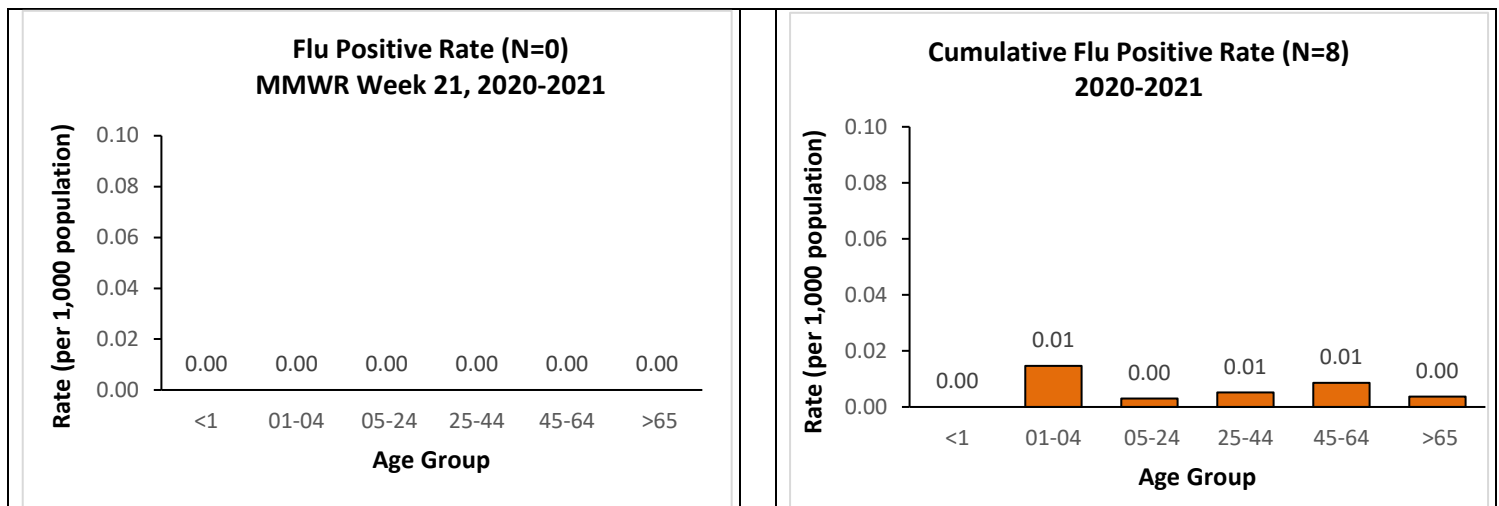
### A. INFLUENZA:

- The following reflects laboratory findings for week 21 of the 2020–21 influenza season:
  - A total of **1015** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 12,578 tested [0.1% positive])
    - 44 (4.3%) were screened only by rapid antigen tests with no confirmatory testing.
    - 971 (95.7%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 1015 (100.0%) were negative.

Influenza type	Current week 21 (%)	Season to date (%) <sup>9</sup>
Influenza A (H1) <sup>10</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	7 (87.5)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	1 (12.5)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>11</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

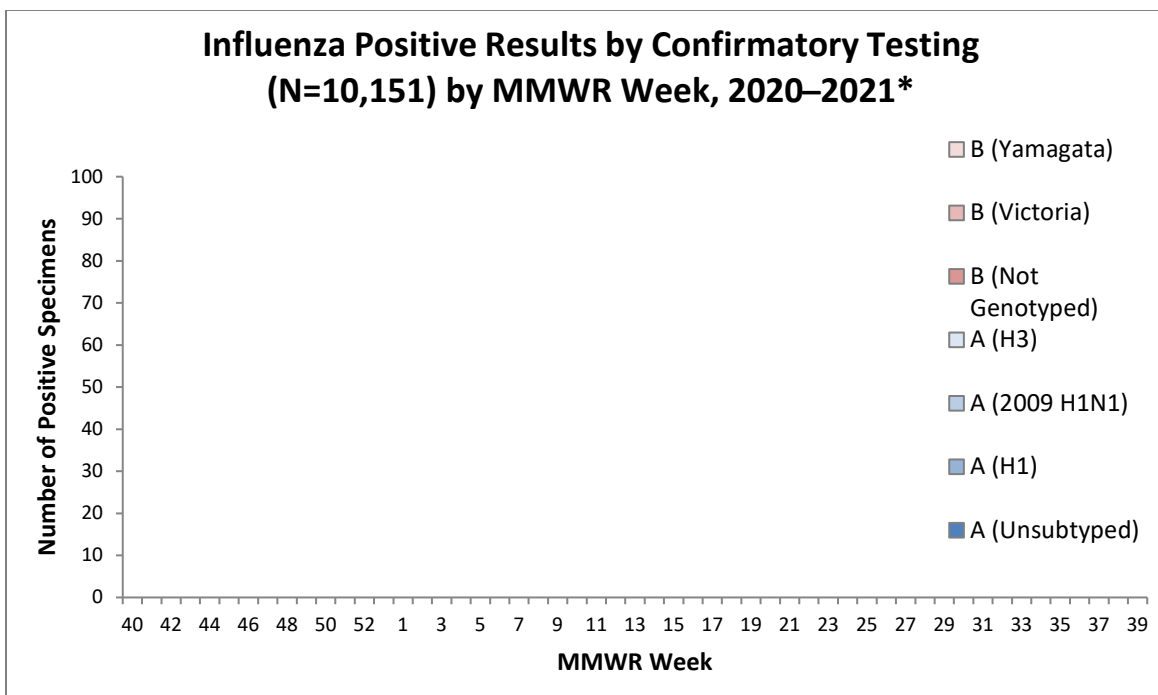
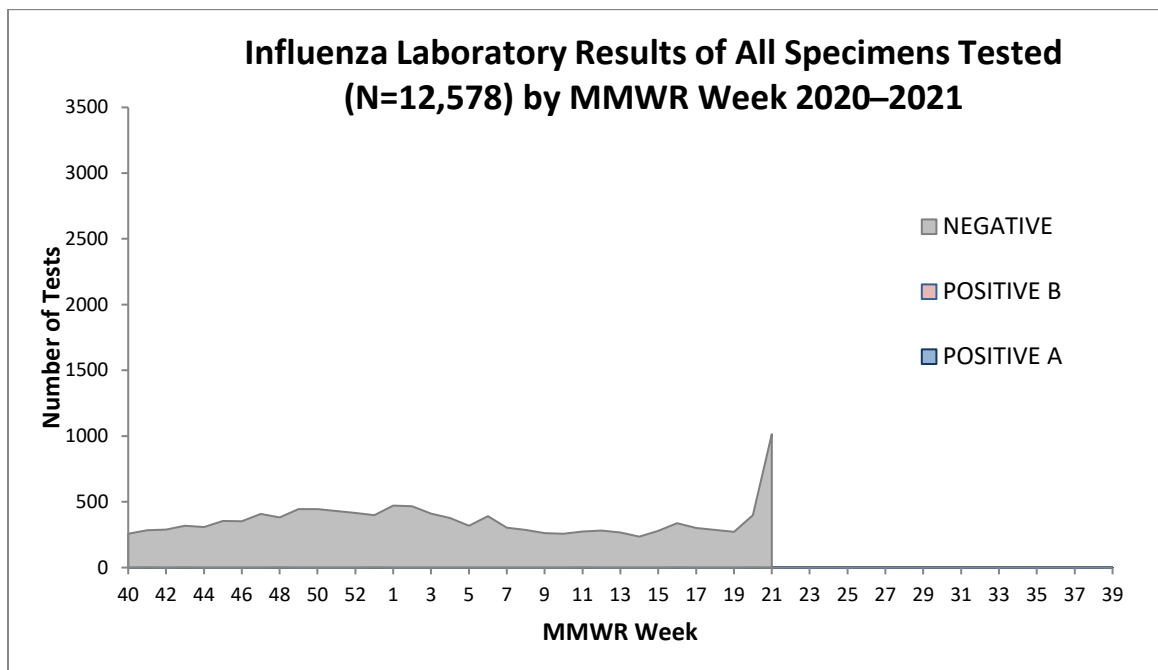
<sup>9</sup> Laboratory confirmed negative influenza test have been withdrawn from the season to date count.

<sup>10</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>11</sup> This represents an estimate of population-based rates based on available data.

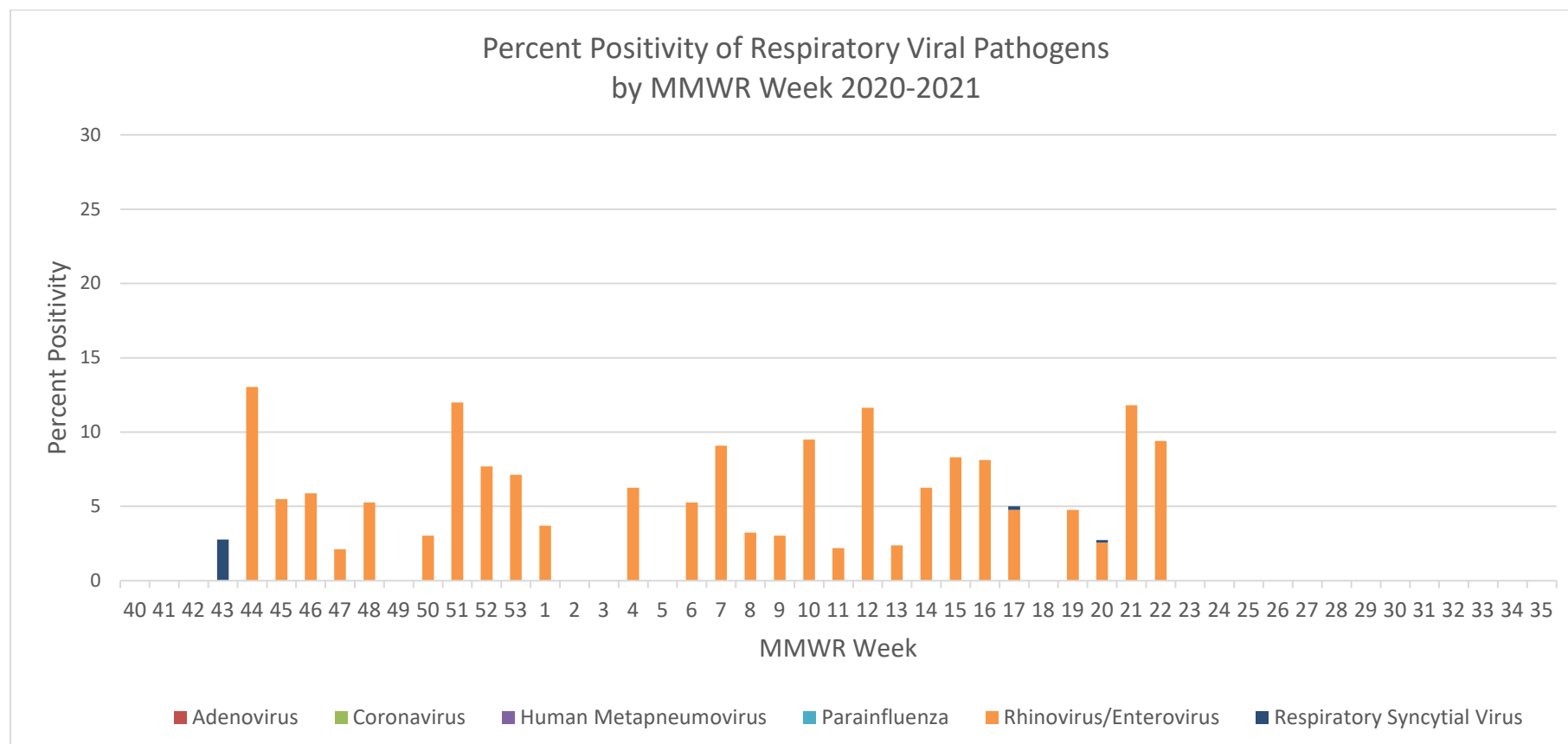
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 21<sup>12</sup> of the 2020–21 influenza/respiratory disease season:

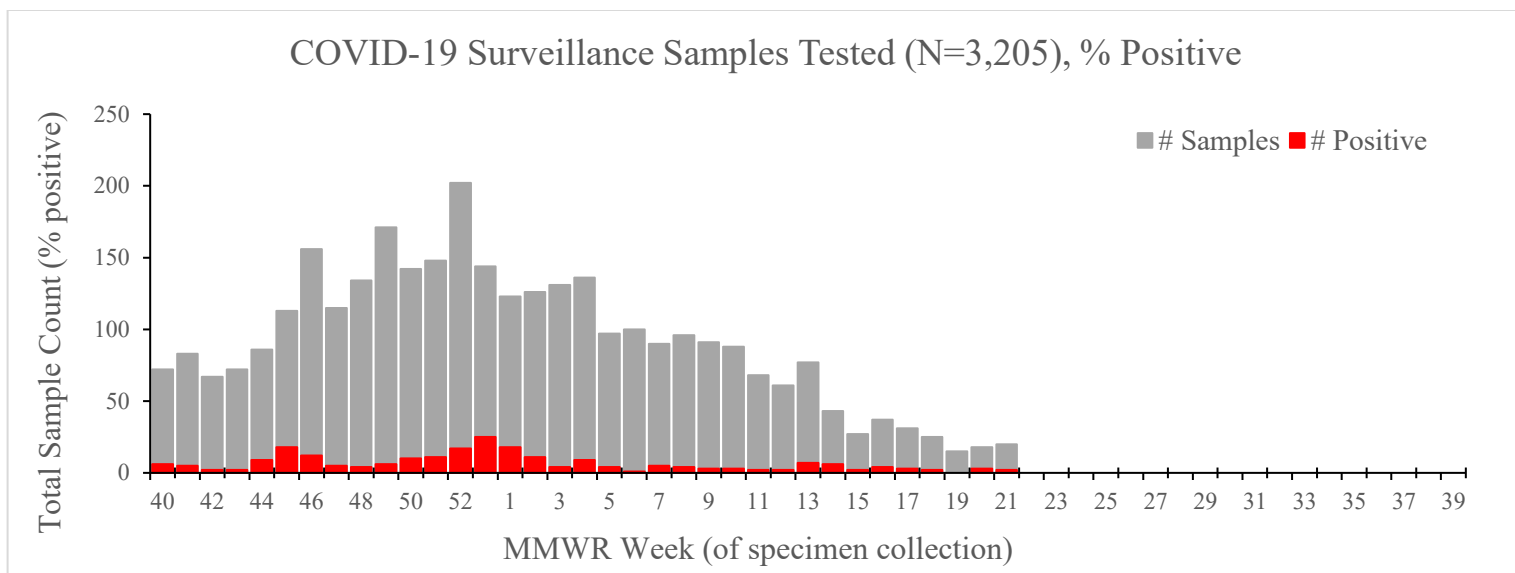
- *COVID-19 geographic spread: Regional*<sup>13</sup>
  - *A total of 20 surveillance specimens have been tested statewide for COVID-19 (positive: 2 [10.0%]).*
  - *Season to date: A total of 3,205 surveillance specimens have been tested for COVID-19 (positive: 227 [7.1%]).*
  - *70 specimens have been tested at SLD*<sup>14</sup>.

Season to Date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	166	6.0	0-17	595	2.7
Honolulu	2,443	7.7	18-64	1,558	9.8
Kauai	96	2.1	65+	1,052	5.6
Maui	398	6.0			
Unknown	102	3.9			

<sup>12</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>13</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>14</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

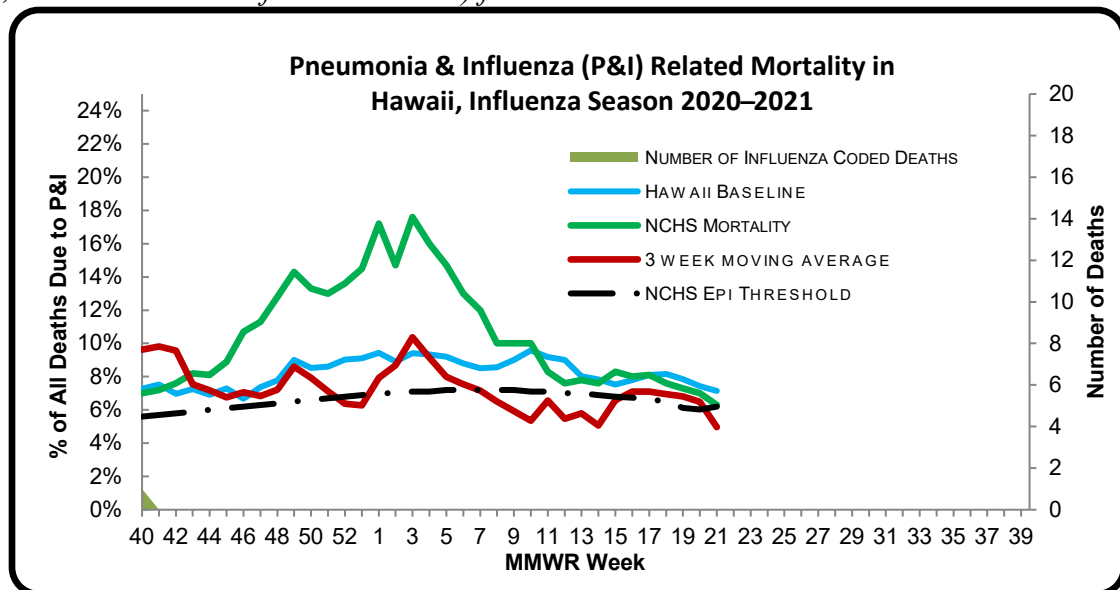


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For week 21 of the current influenza season:

- **3.8%** of all deaths that occurred in Hawaii during week 21 were related to pneumonia or influenza (P&I)<sup>15</sup>. For the current season (season to date: 7.2%), there have been 7,900 deaths from any cause, 565 of which were due to P&I.
- The P&I rate was lower than the historical baseline in Hawaii<sup>16</sup> (i.e., outside the 95% confidence interval).
- The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>17</sup> (6.3%) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (6.2%) (i.e., inside the 95% confidence interval) for week 21.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>18</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 21. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 21. (2020–2021 season total: 1).

<sup>15</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>16</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>17</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>18</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.



**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### A. VARIANT VIRUSES:

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *Two human infection with novel influenza A virus, H1N1v (1), H3N2v (1), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *One new human infection with novel influenza A viruses were reported to CDC during week 21.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *Two human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Germany during the 2020-2021 influenza season.*

#### B. AVIAN (OR BIRD) INFLUENZA:

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total

number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts (here), which were last updated on **May 11, 2021**. Since the last update, 1 new laboratory confirmed human case of influenza (H9N2) virus infection was reported to WHO from China. The case had mild illness and recovered. There was no clear history of live poultry exposure prior to the illness onset.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	



# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 22: MAY 30, 2021–JUNE 5, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 22

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.7%	Comparable to the previous week. Comparable to Hawaii's historical baseline, lower than national ILI rate, and lower than national baseline.
Number of ILI clusters reported to HDOH	0	There have been 6 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.1%	Higher than the previous week. This number means that many, if not all, of the 99.9% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 22)	7.7%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	6.3%	Comparable to the Hawaii's historical baseline, comparable to the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See **appendix 2 for interpretation of MMWR weeks**. Data reported will begin on week 40, the traditional start date of flu season.

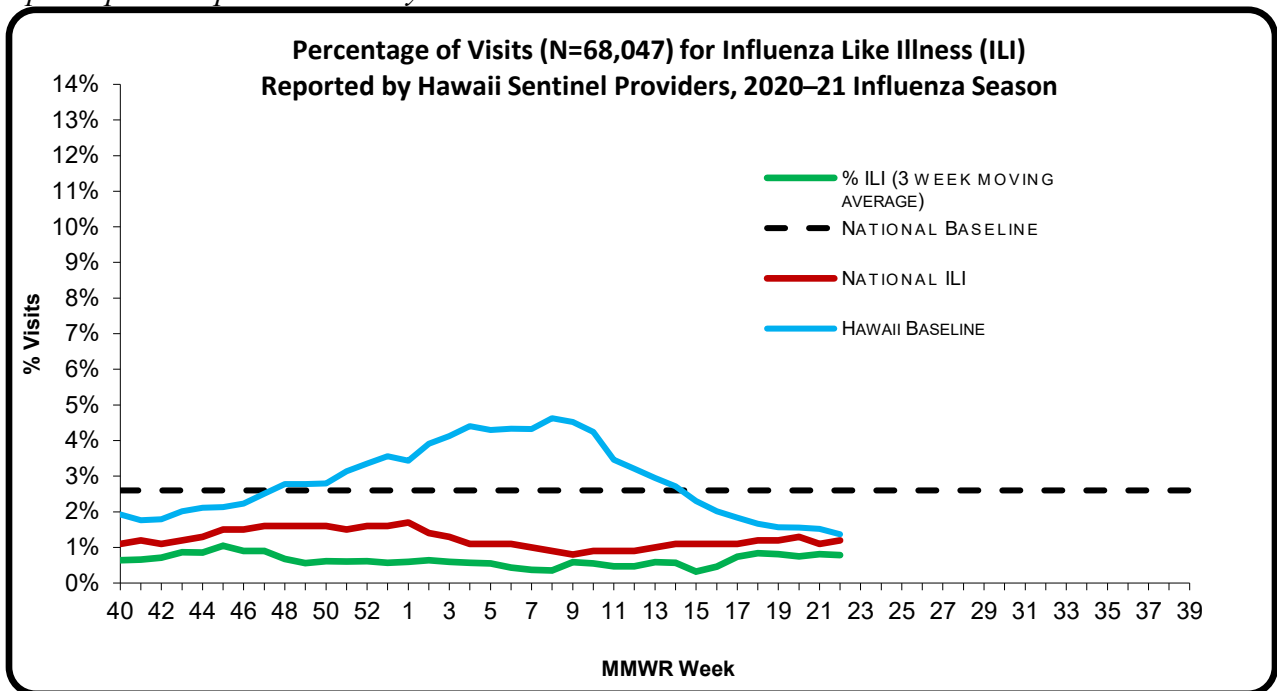
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 22 of the current influenza season:

- **0.7%** (season to date: **0.6%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.2%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

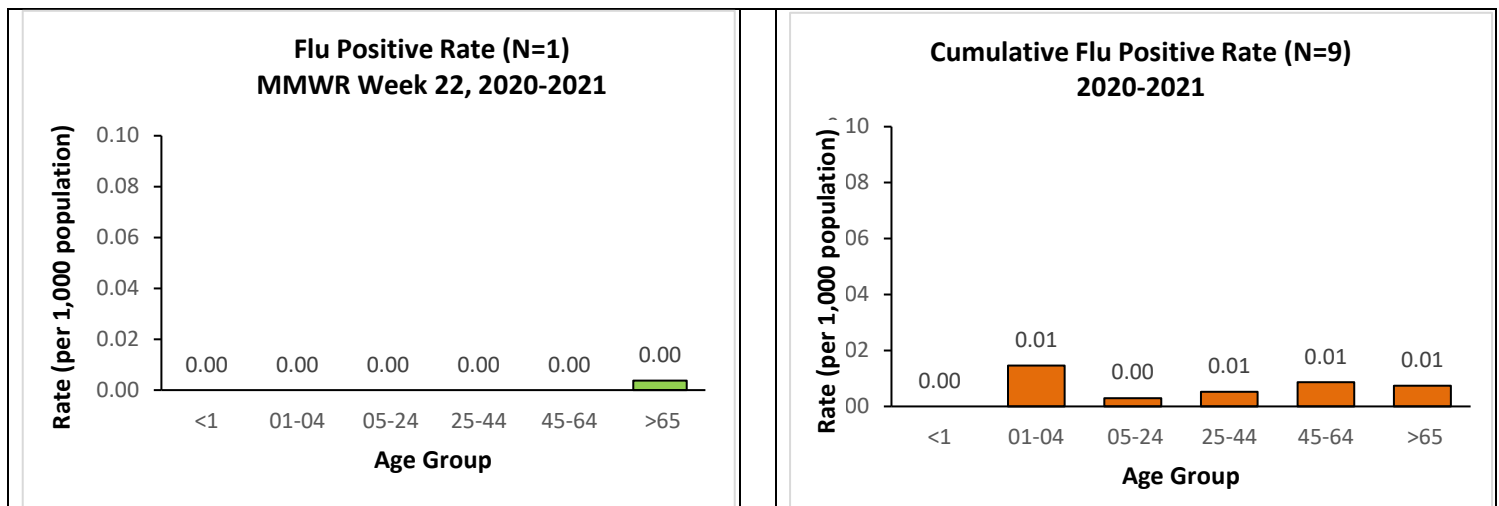
### A. INFLUENZA:

- The following reflects laboratory findings for week 22 of the 2020–21 influenza season:
  - A total of **1033** specimens have been tested statewide for influenza viruses (positive: 1 [0.1%]). (Season to date: 13,613 tested [0.1% positive])
    - 46 (4.5%) were screened only by rapid antigen tests with no confirmatory testing.
    - 987 (95.5%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 1032 (99.9%) were negative.

Influenza type	Current week 22 (%)	Season to date (%) <sup>9</sup>
Influenza A (H1) <sup>10</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	1 (100.0)	8 (88.9)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	1 (11.1)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>11</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> Laboratory confirmed negative influenza test have been withdrawn from the season to date count.

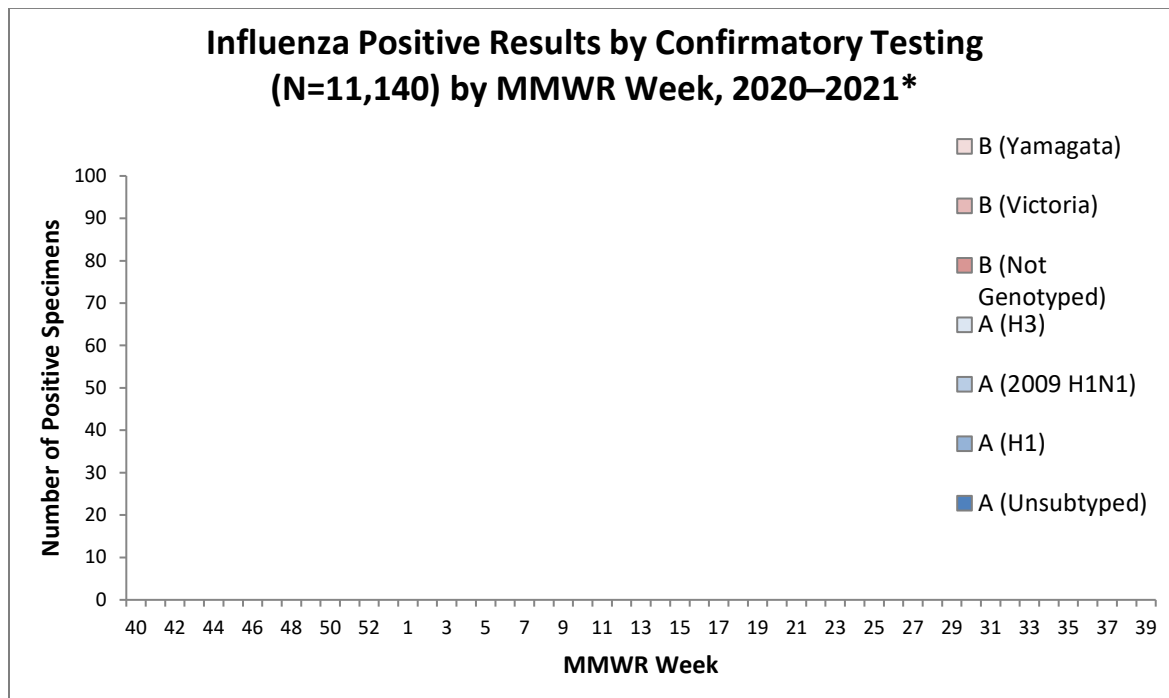
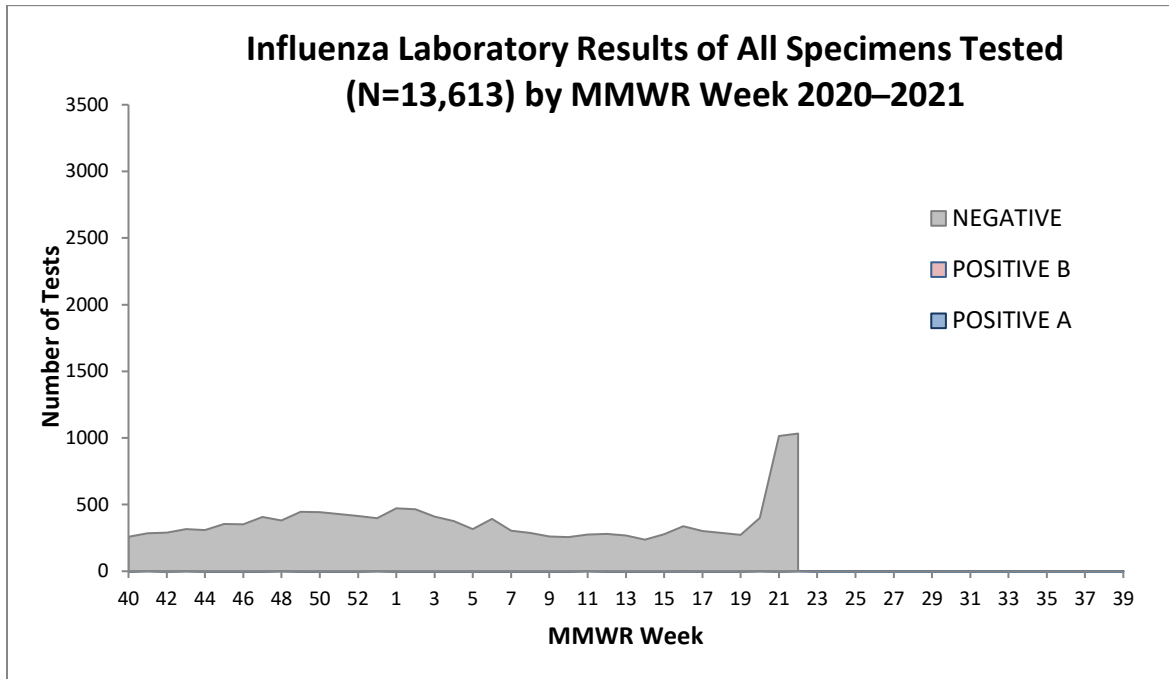
<sup>10</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>11</sup> This represents an estimate of population-based rates based on available data.



## 2. LABORATORY TESTING

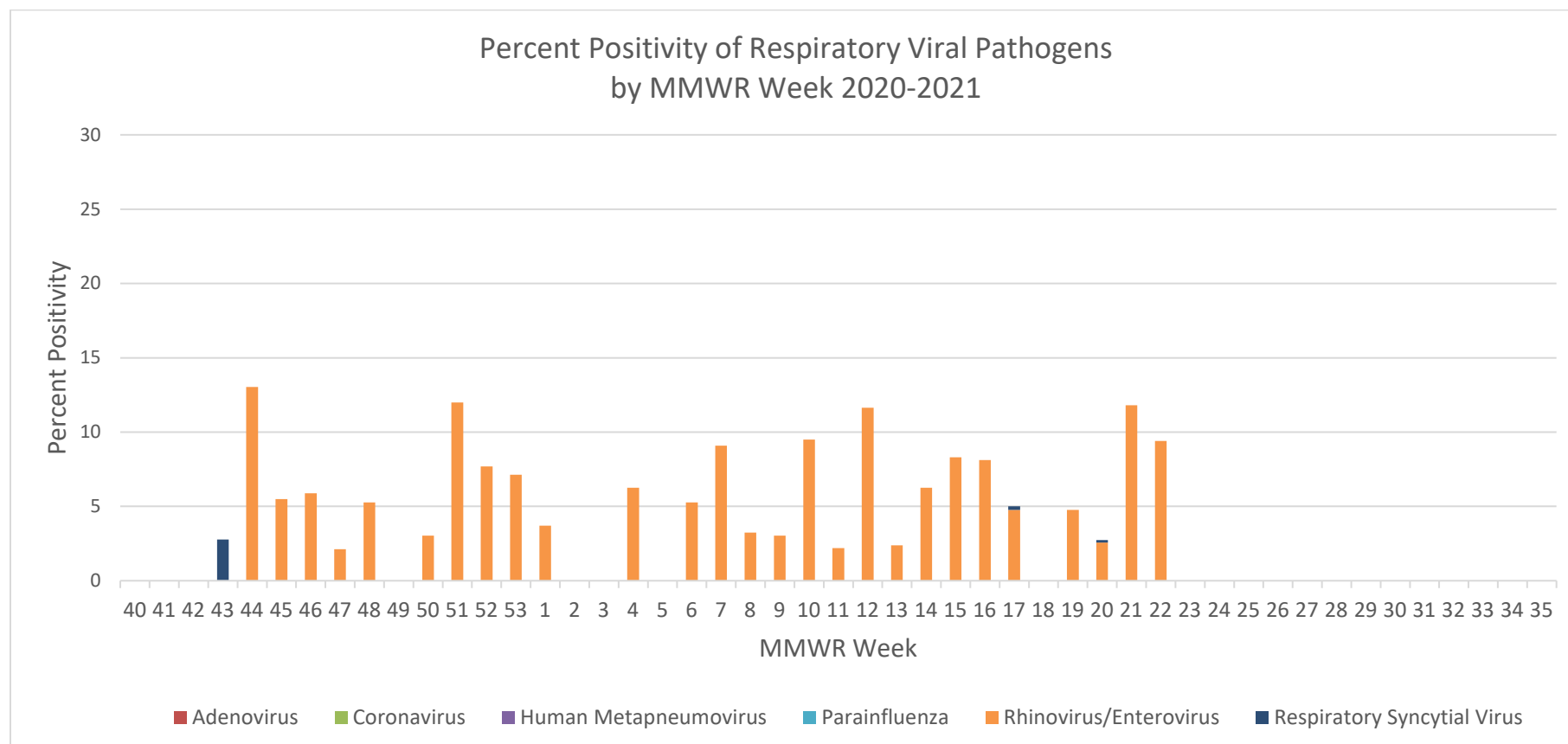
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.



**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 22<sup>12</sup> of the 2020–21 influenza/respiratory disease season:

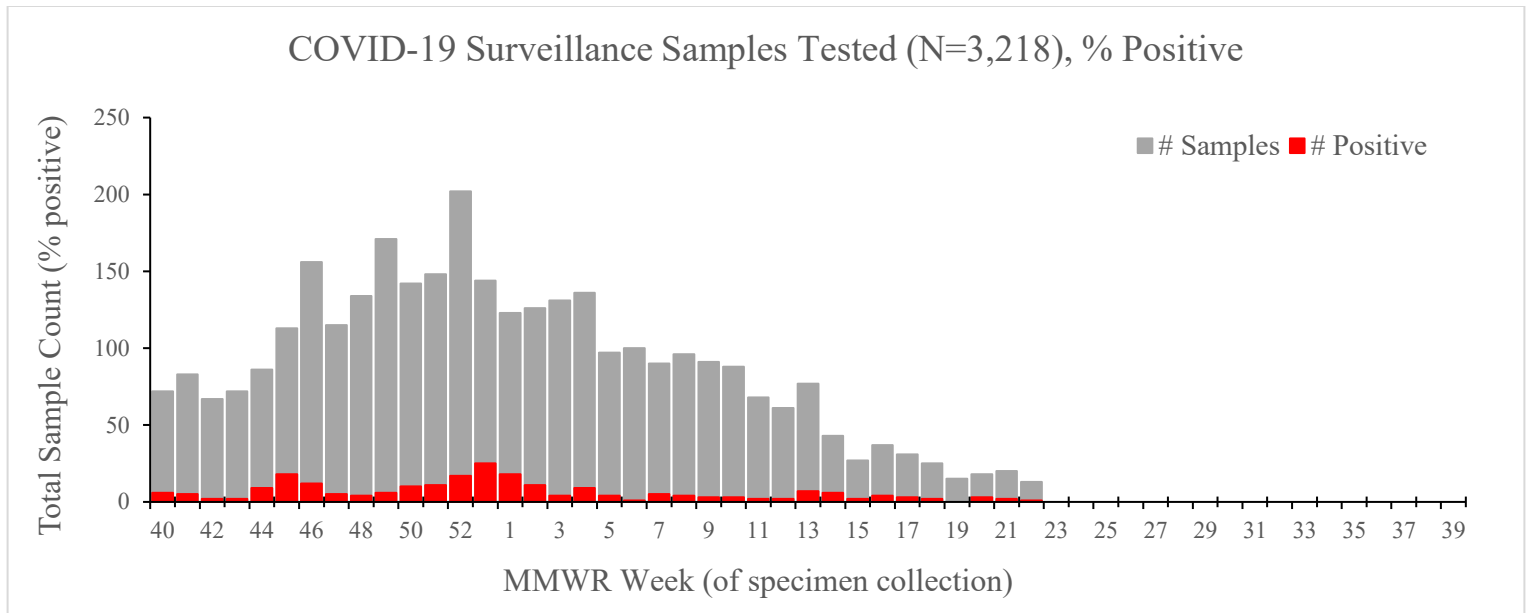
- *COVID-19 geographic spread: Regional*<sup>13</sup>
  - *A total of 13 surveillance specimens have been tested statewide for COVID-19 (positive: 1 [7.7%]).*
  - *Season to date: A total of 3,218 surveillance specimens have been tested for COVID-19 (positive: 228 [7.1%]).*
  - *70 specimens have been tested at SLD*<sup>14</sup>.

Season to Date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	168	6.0	0-17	594	2.7
Honolulu	2,453	7.7	18-64	1,567	9.7
Kauai	96	2.1	65+	1,057	5.7
Maui	398	6.0			
Unknown	103	3.9			

<sup>12</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>13</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>14</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

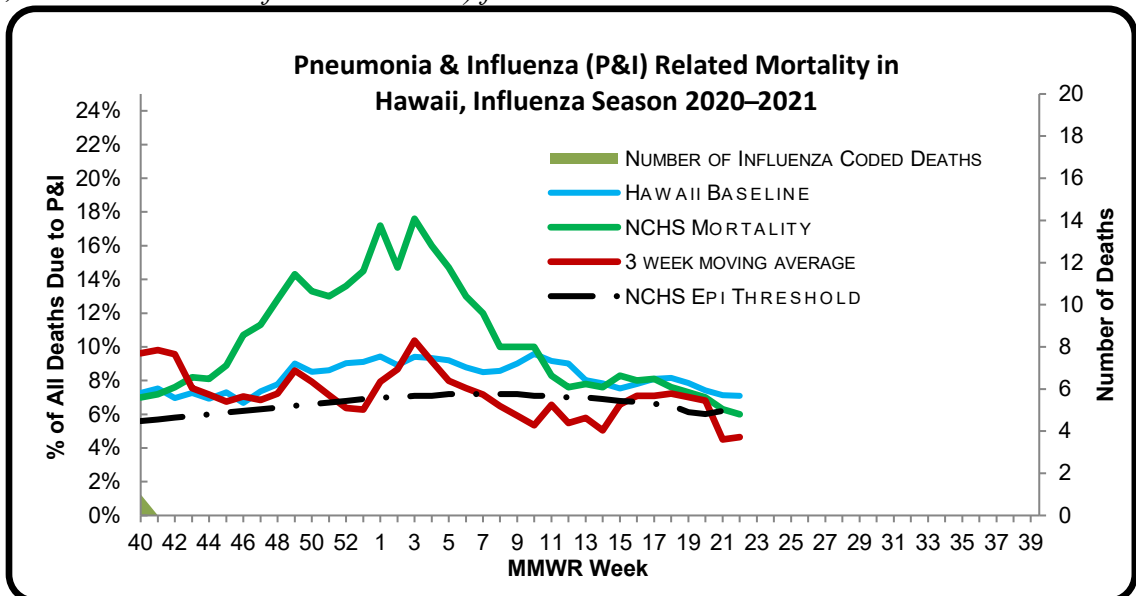


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For week 22 of the current influenza season:

- **6.3%** of all deaths that occurred in Hawaii during week 22 were related to pneumonia or influenza (P&I)<sup>15</sup>. For the current season (season to date: **7.1%**), there have been 8,099 deaths from any cause, 575 of which were due to P&I.
- The P&I rate was comparable to the historical baseline in Hawaii<sup>16</sup> (i.e., inside the 95% confidence interval).
- The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>17</sup> (**6.0%**) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (**6.1%**) (i.e., inside the 95% confidence interval) for week 22.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>18</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 22. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 22. (2020-2021 season total: 1).

<sup>15</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>16</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>17</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>18</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### **A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *Two human infection with novel influenza A virus, H1N1v (1), H3N2v (1), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 22.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *Two human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Germany during the 2020-2021 influenza season.*

#### **B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more

information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **May 11, 2021**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	





# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 23: JUNE 6, 2021–JUNE 12, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 23

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.4%	Lower than the previous week. Comparable to Hawaii's historical baseline, lower than national ILI rate, and lower than national baseline.
Number of ILI clusters reported to HDOH	0	There have been 6 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Lower than the previous week. This number means that many, if not all, of the 100.0% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 23)	0.0%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	3.3%	Comparable to the Hawaii's historical baseline, comparable to the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See appendix 2 for interpretation of MMWR weeks. Data reported will begin on week 40, the traditional start date of flu season.

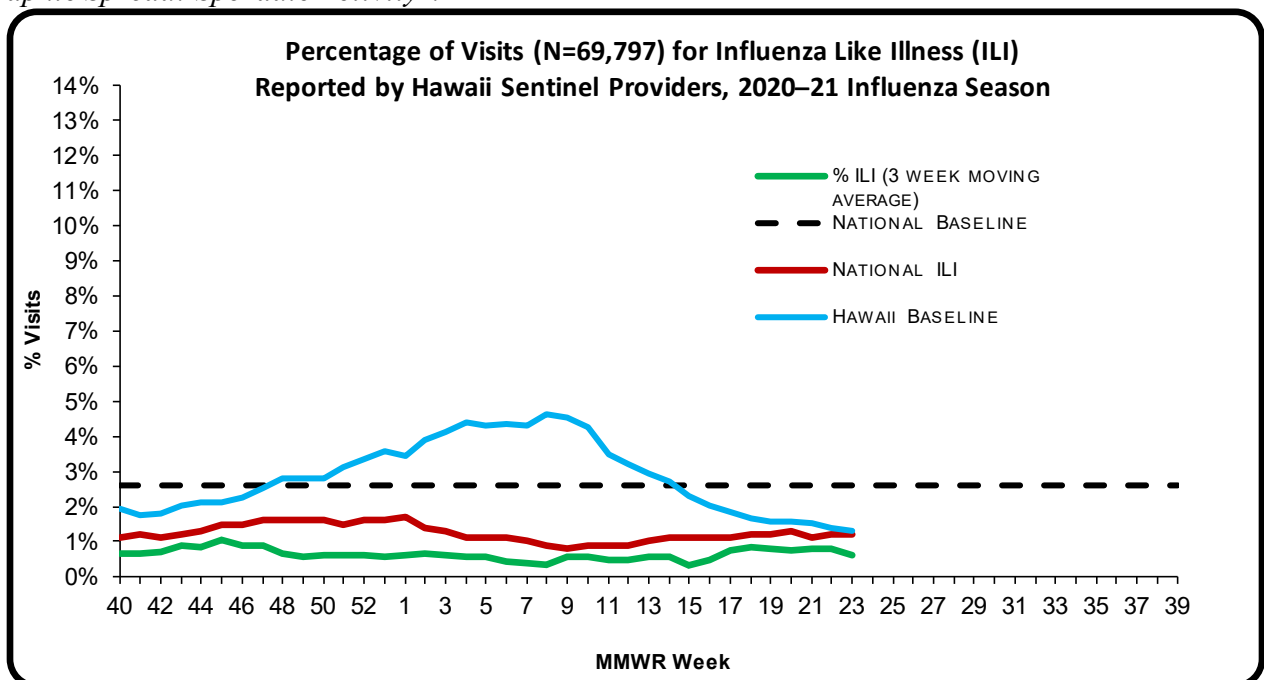
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 23 of the current influenza season:

- **0.4%** (season to date: **0.6%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.2%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1-3), low (levels 4-5), moderate (levels 6-7), and high (levels 8-10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

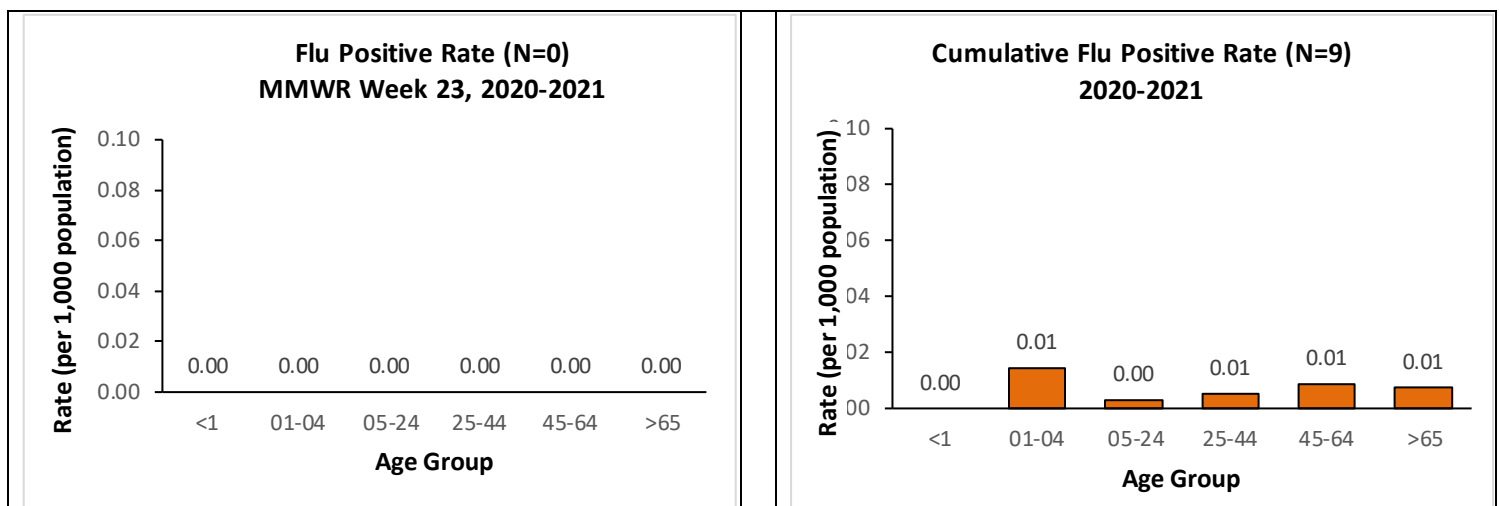
### A. INFLUENZA:

- The following reflects laboratory findings for week 23 of the 2020–21 influenza season:
  - A total of 977 specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 14,590 tested [0.1% positive])
    - 36 (3.7%) were screened only by rapid antigen tests with no confirmatory testing.
    - 941 (96.3%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 977 (100.0%) were negative.

Influenza type	Current week 23 (%)	Season to date (%) <sup>9</sup>
Influenza A (H1) <sup>10</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	8 (88.9)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	1 (11.1)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>11</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

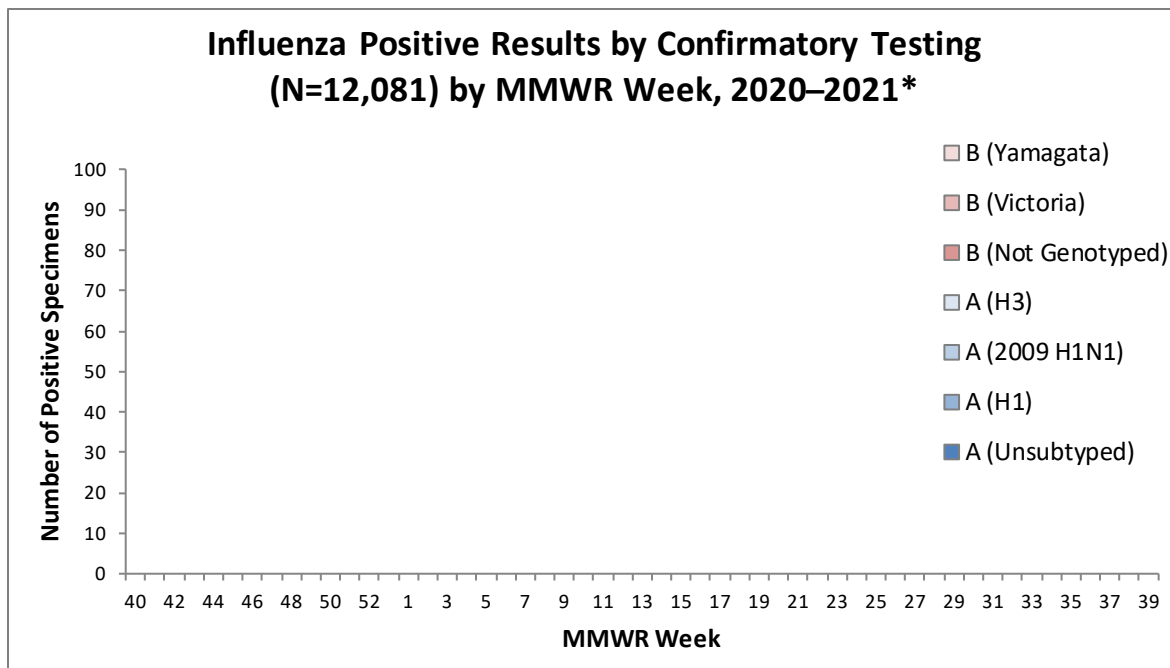
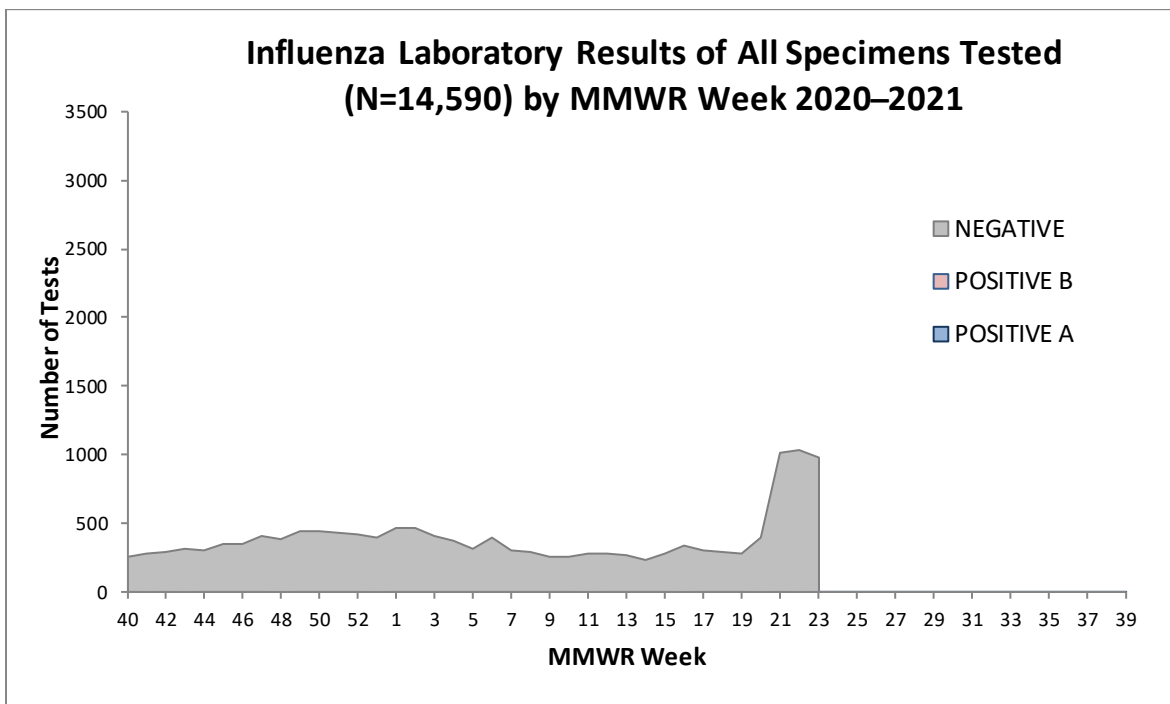
<sup>9</sup> Laboratory confirmed negative influenza test have been withdrawn from the season to date count.

<sup>10</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>11</sup> This represents an estimate of population-based rates based on available data.

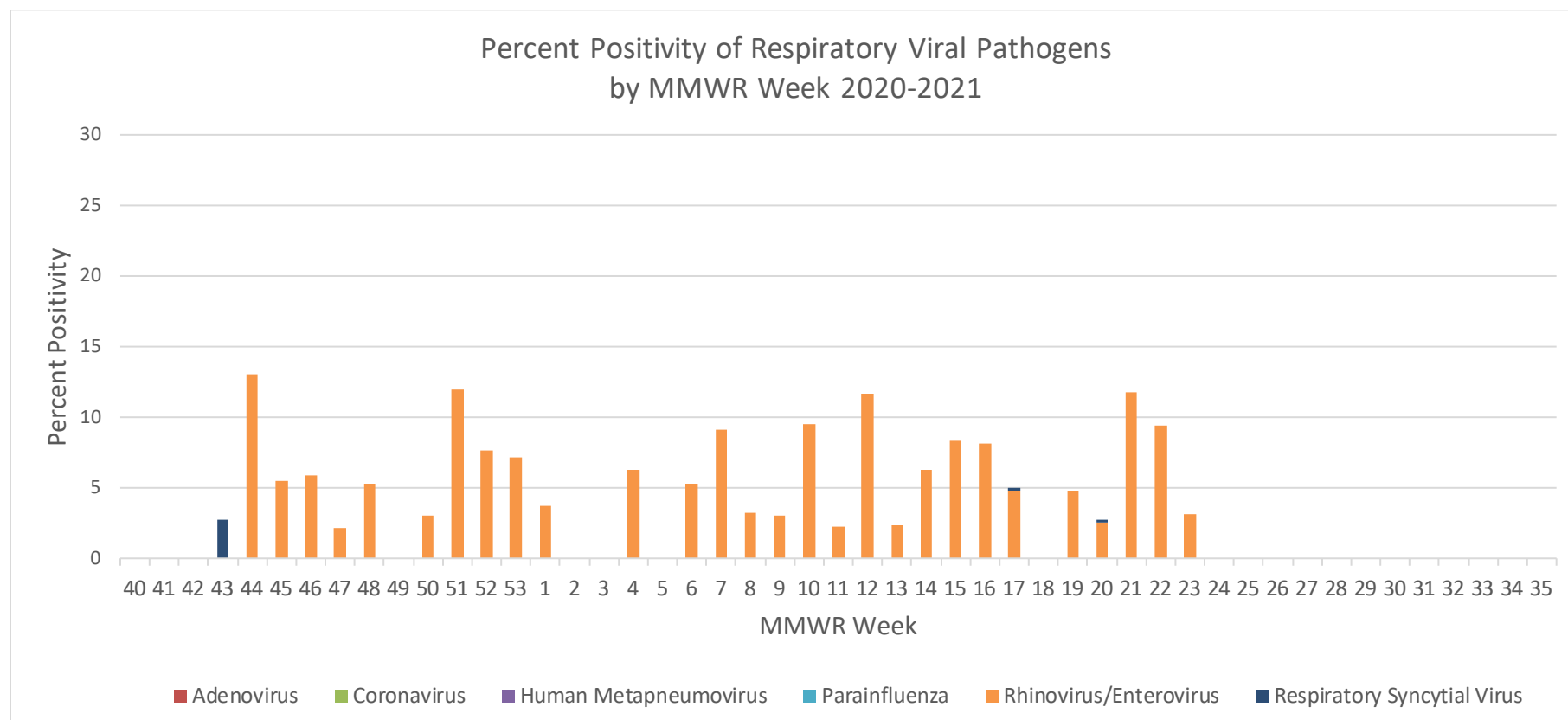
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 23<sup>12</sup> of the 2020–21 influenza/respiratory disease season:

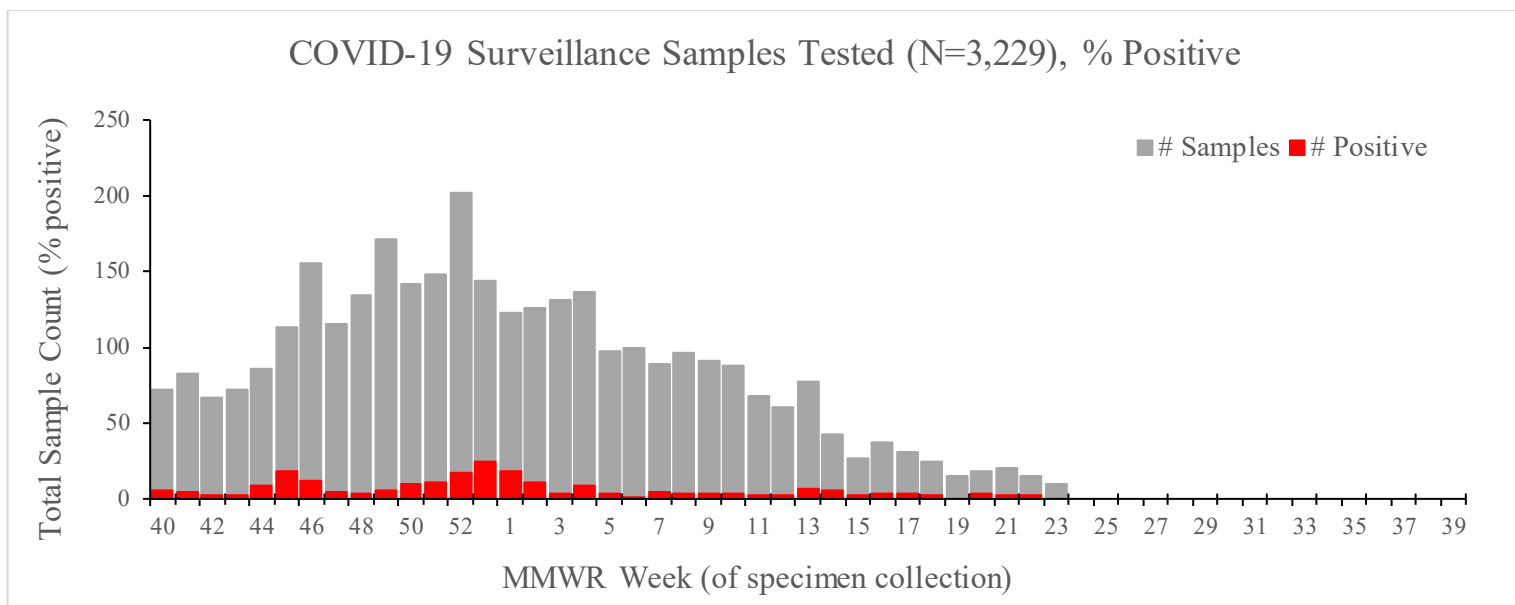
- *COVID-19 geographic spread: Regional*<sup>13</sup>
  - *A total of 10 surveillance specimens have been tested statewide for COVID-19 (positive: 0 [0.0%]).*
  - *Season to date: A total of 3,229 surveillance specimens have been tested for COVID-19 (positive: 229 [7.1%]).*
  - *72 specimens have been tested at SLD*<sup>14</sup>.

Season to Date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	168	6.0	0-17	593	2.7
Honolulu	2,462	7.7	18-64	1,572	9.8
Kauai	96	2.1	65+	1,064	5.7
Maui	399	6.0			
Unknown	104	4.8			

<sup>12</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>13</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>14</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

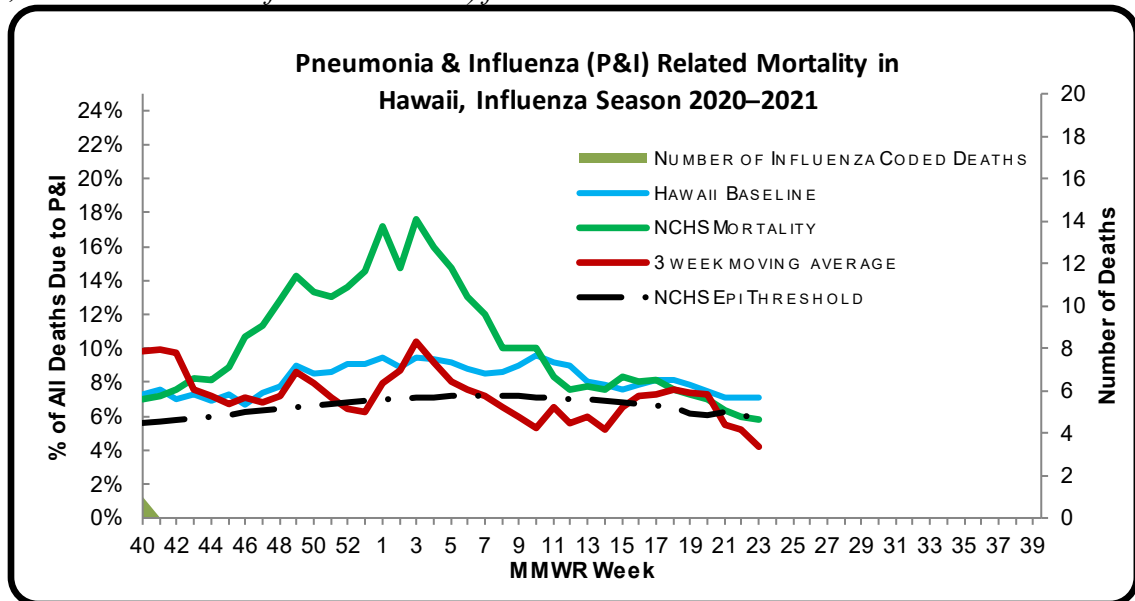


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 23** of the current influenza season:

- **3.3%** of all deaths that occurred in Hawaii during week 23 were related to pneumonia or influenza (P&I)<sup>15</sup>. For the current season (season to date: **7.1%**), there have been 8,479 deaths from any cause, 600 of which were due to P&I.
- The P&I rate was comparable to the historical baseline in Hawaii<sup>16</sup> (i.e., inside the 95% confidence interval).
- The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>17</sup> (**5.8%**) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (**5.9%**) (i.e., inside the 95% confidence interval) for week 23.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>18</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 23. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 23. (2020-2021 season total: 1).

<sup>15</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>16</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>17</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>18</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.



**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### A. VARIANT VIRUSES:

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *Two human infection with novel influenza A virus, H1N1v (1), H3N2v (1), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 23.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *Two human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Germany during the 2020-2021 influenza season.*

#### B. AVIAN (OR BIRD) INFLUENZA:

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total

number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **May 11, 2021**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

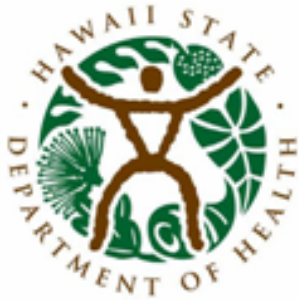
For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	



# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 24: JUNE 13, 2021–JUNE 19, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 24

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.5%	Higher than the previous week. Comparable to Hawaii's historical baseline, lower than national ILI rate, and lower than national baseline.
Number of ILI clusters reported to HDOH	0	There have been 6 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Comparable to the previous week. This number means that many, if not all, of the 100.0% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 24)	0.0%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	2.3%	Comparable to the Hawaii's historical baseline, lower than the national epidemic threshold and lower than the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week 40, the traditional start date of flu season.

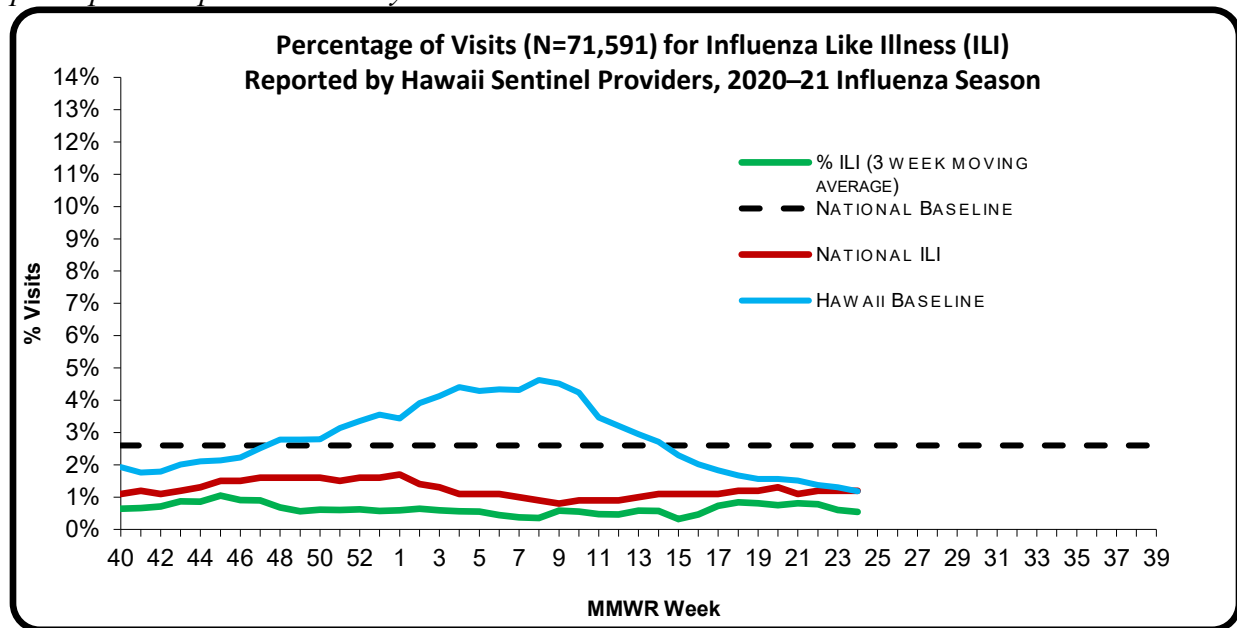
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 24 of the current influenza season:

- **0.5%** (season to date: **0.6%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.2%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

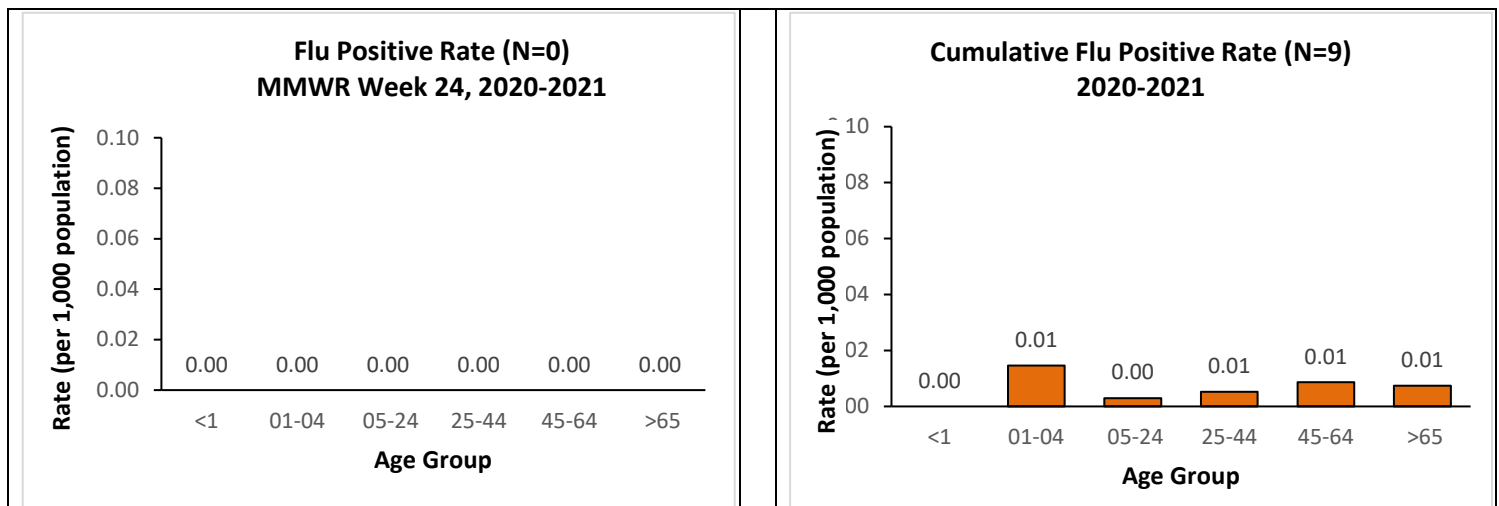
### A. INFLUENZA:

- The following reflects laboratory findings for week 24 of the 2020–21 influenza season:
  - A total of **1071** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 14,590 tested [0.1% positive])
    - 35 (3.3%) were screened only by rapid antigen tests with no confirmatory testing.
    - 1036 (96.7%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 1071 (100.0%) were negative.

Influenza type	Current week 24 (%)	Season to date (%) <sup>9</sup>
Influenza A (H1) <sup>10</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	8 (88.9)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	1 (11.1)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>11</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> Laboratory confirmed negative influenza test have been withdrawn from the season to date count.

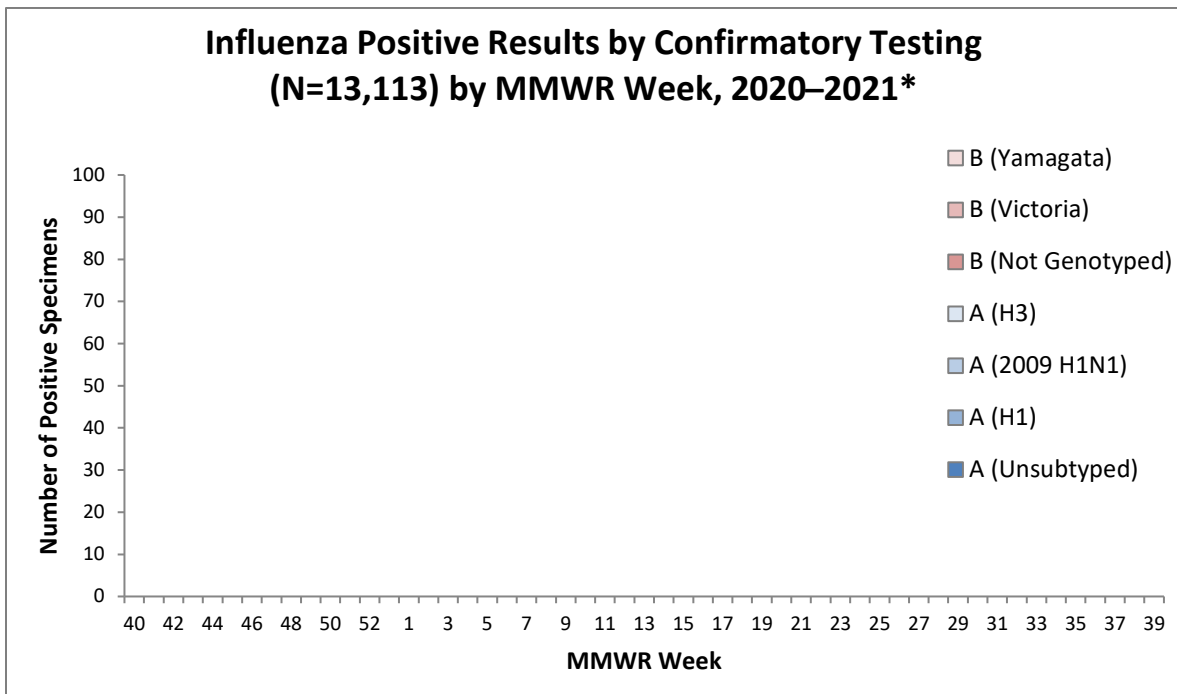
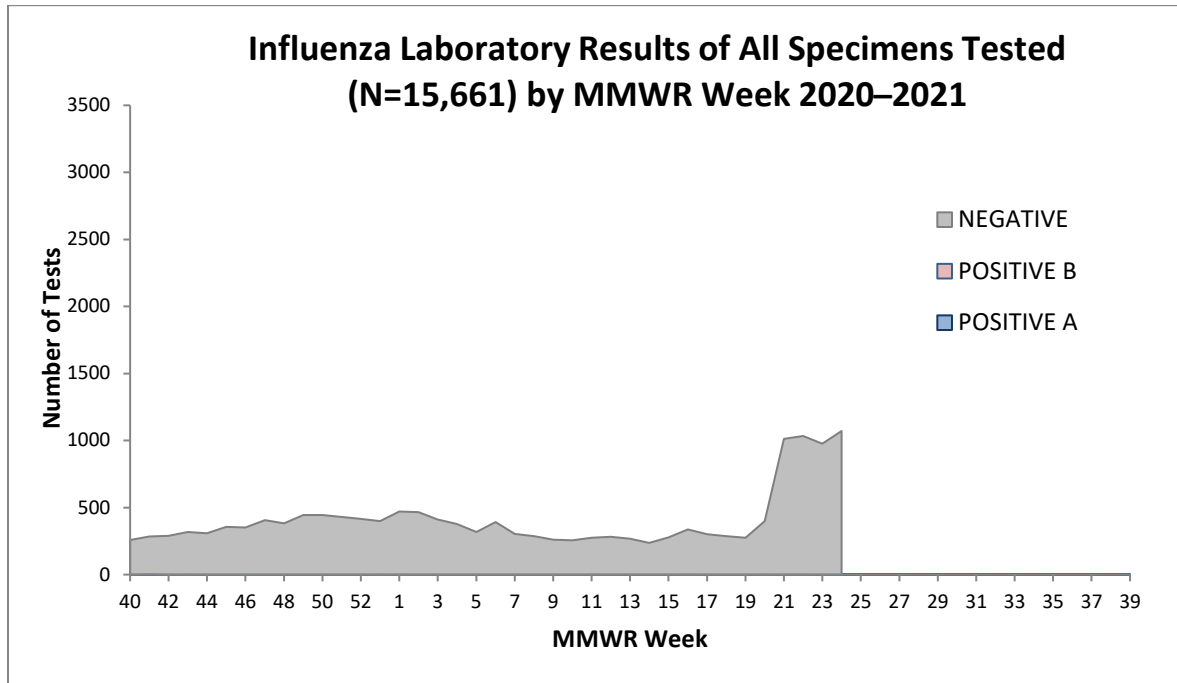
<sup>10</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>11</sup> This represents an estimate of population-based rates based on available data.



## 2. LABORATORY TESTING

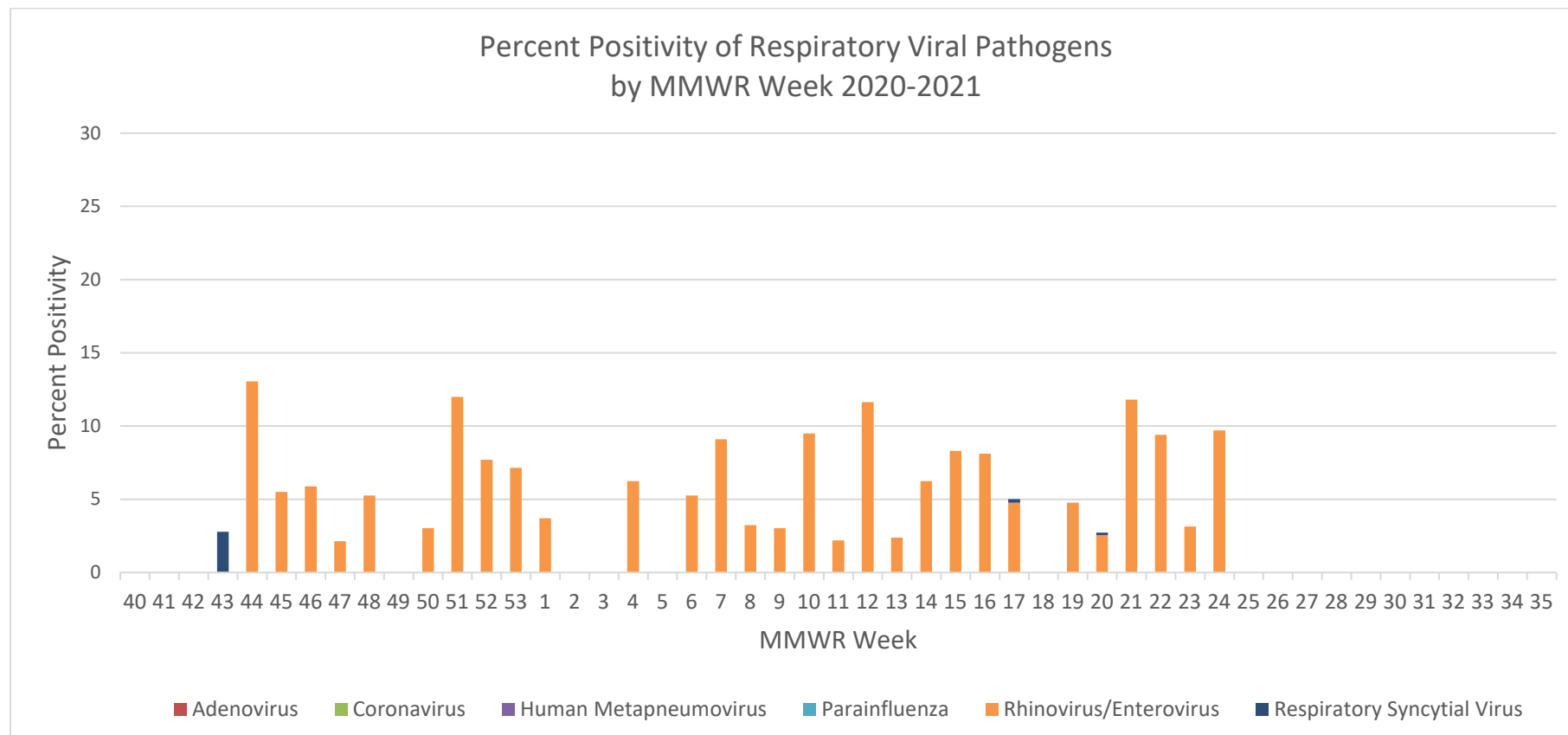
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.



**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 24<sup>12</sup> of the 2020–21 influenza/respiratory disease season:

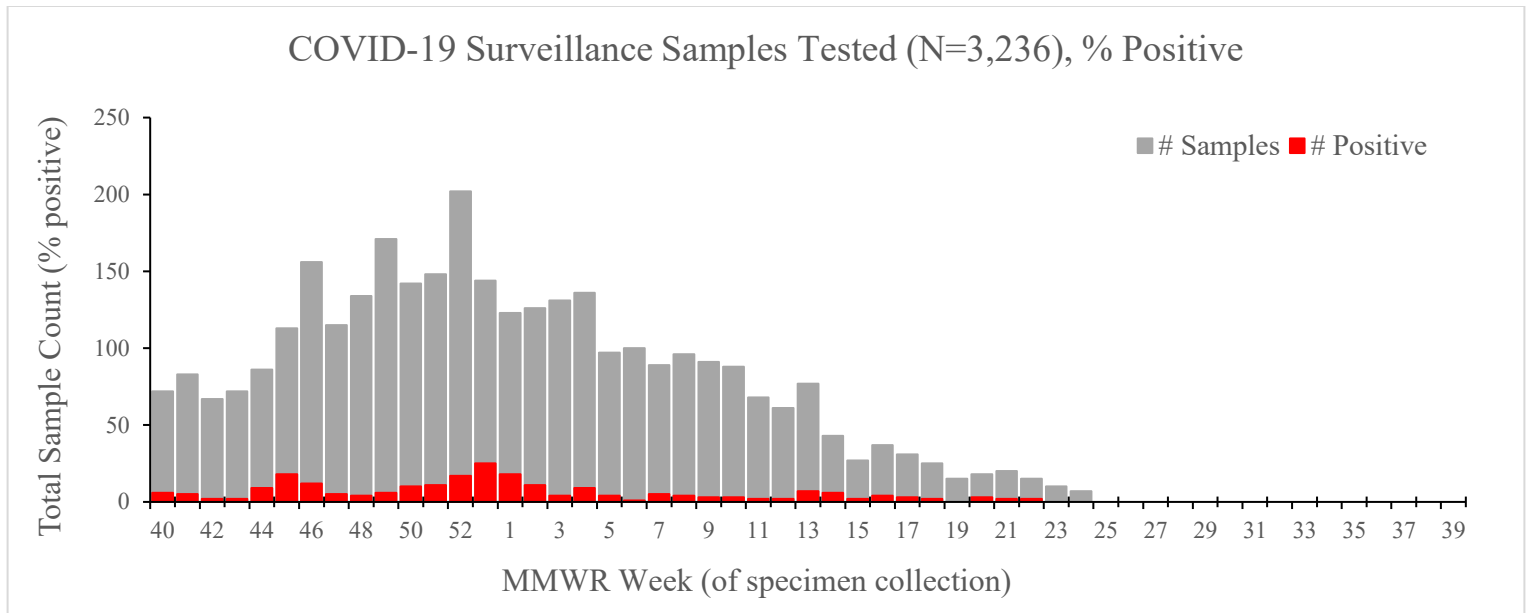
- *COVID-19 geographic spread: Regional*<sup>13</sup>
  - *A total of 7 surveillance specimens have been tested statewide for COVID-19 (positive:0 [0.0%]).*
  - *Season to date: A total of 3,236 surveillance specimens have been tested for COVID-19 (positive: 229 [7.1%]).*
  - *72 specimens have been tested at SLD*<sup>14</sup>.

Season to Date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	168	6.0	0-17	595	2.7
Honolulu	2,469	7.7	18-64	1,575	9.8
Kauai	96	2.1	65+	1,066	5.7
Maui	399	6.0			
Unknown	104	4.8			

<sup>12</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>13</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>14</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

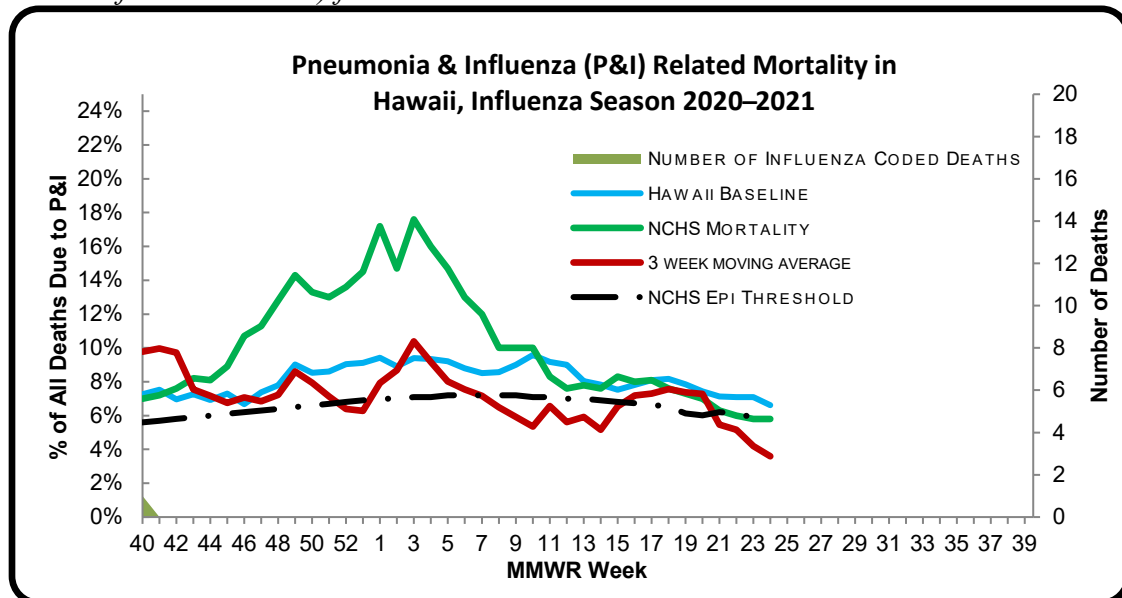


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For week 24 of the current influenza season:

- 2.3% of all deaths that occurred in Hawaii during week 24 were related to pneumonia or influenza (P&I)<sup>15</sup>. For the current season (season to date: 7.0%), there have been 8,567 deaths from any cause, 602 of which were due to P&I.
- The P&I rate was comparable to the historical baseline in Hawaii<sup>16</sup> (i.e., inside the 95% confidence interval).
- The Hawaii P&I rate was lower than the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>17</sup> (5.8%) (i.e., outside the 95% confidence interval) and lower than the national epidemic threshold (5.9%) (i.e., outside the 95% confidence interval) for week 24.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>18</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 24. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 24. (2020-2021 season total: 1).

<sup>15</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>16</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>17</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>18</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### **A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *Two human infection with novel influenza A virus, H1N1v (1), H3N2v (1), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 24.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *Two human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Germany during the 2020-2021 influenza season.*

#### **B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more

information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **May 11, 2021**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

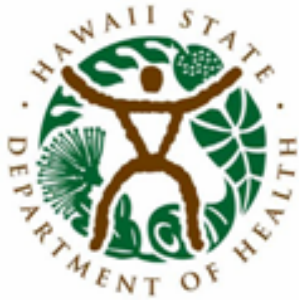
<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	





# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 25: JUNE 20, 2021–JUNE 26, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 25, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 25

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.5%	Comparable to the previous week. Comparable to Hawaii's historical baseline, lower than national ILI rate, and lower than national baseline.
Number of ILI clusters reported to HDOH	2	There have been 8 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Comparable to the previous week. This number means that many, if not all, of the 100.0% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 25)	0.0%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	6.3%	Comparable to the Hawaii's historical baseline, comparable to the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See appendix 2 for interpretation of MMWR weeks. Data reported will begin on week 40, the traditional start date of flu season.

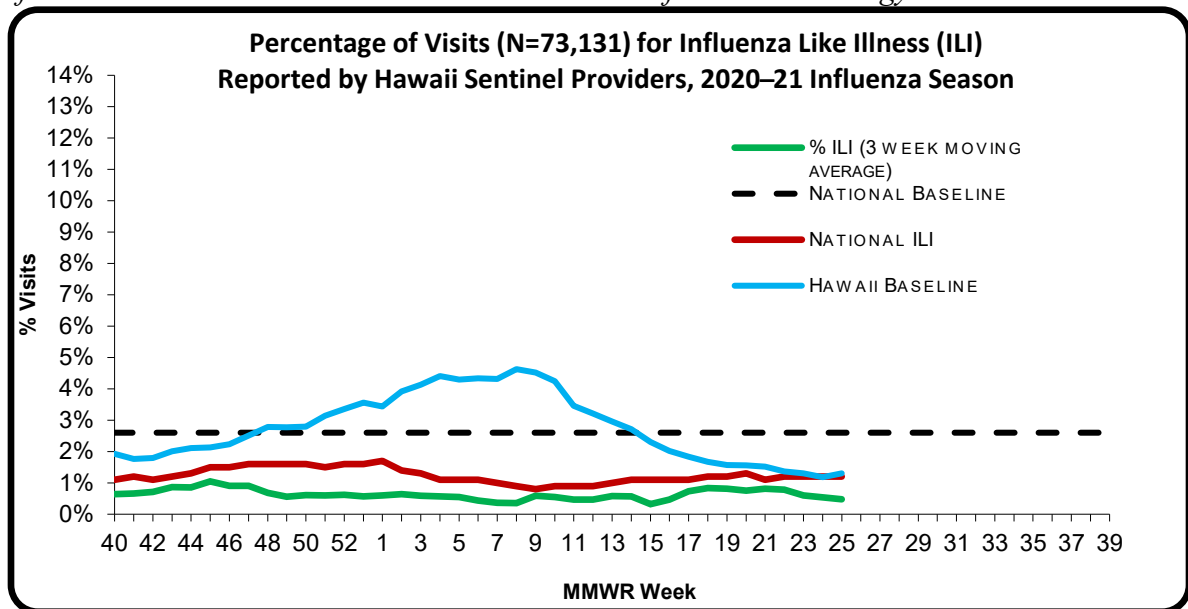
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 25 of the current influenza season:

- **0.5%** (season to date: **0.6%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.2%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.
- ILI Cluster Activity: Two clusters were reported to HDOH during week 25. These clusters occurred at long term care facilities on Oahu. These clusters included cases of unknown etiology.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

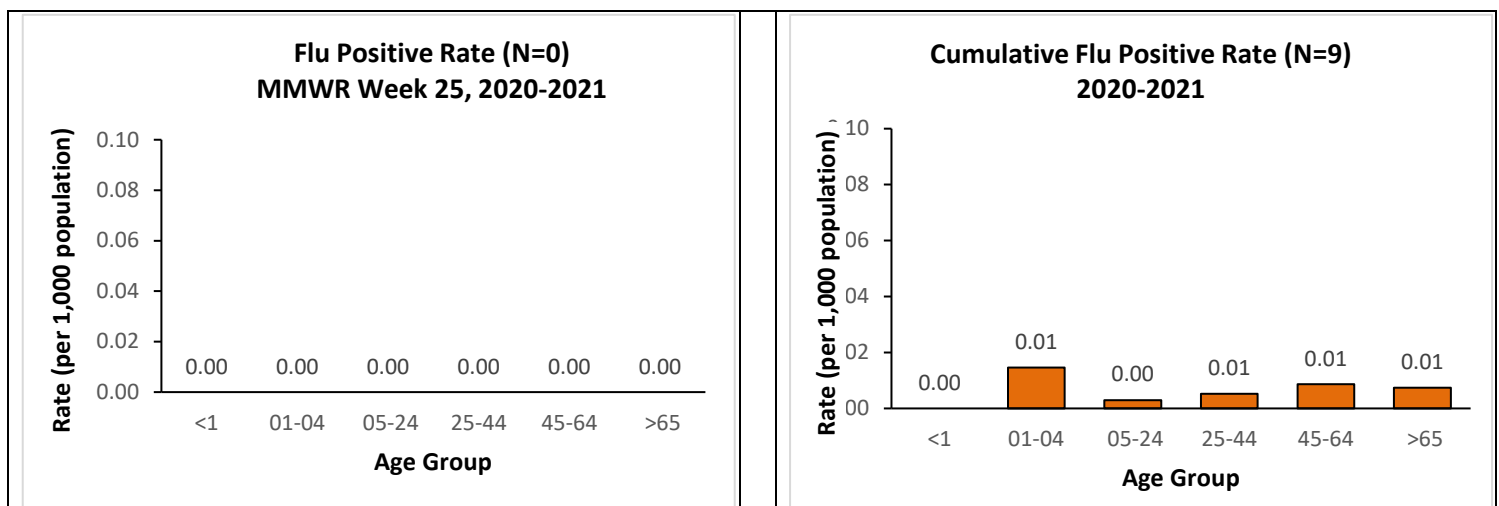
### A. INFLUENZA:

- The following reflects laboratory findings for week 25 of the 2020–21 influenza season:
  - A total of **1075** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 16,736 tested [0.1% positive])
    - 41 (3.8%) were screened only by rapid antigen tests with no confirmatory testing.
    - 1034 (96.2%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 1075 (100.0%) were negative.

Influenza type	Current week 25 (%)	Season to date (%) <sup>9</sup>
Influenza A (H1) <sup>10</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	8 (88.9)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	1 (11.1)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>11</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

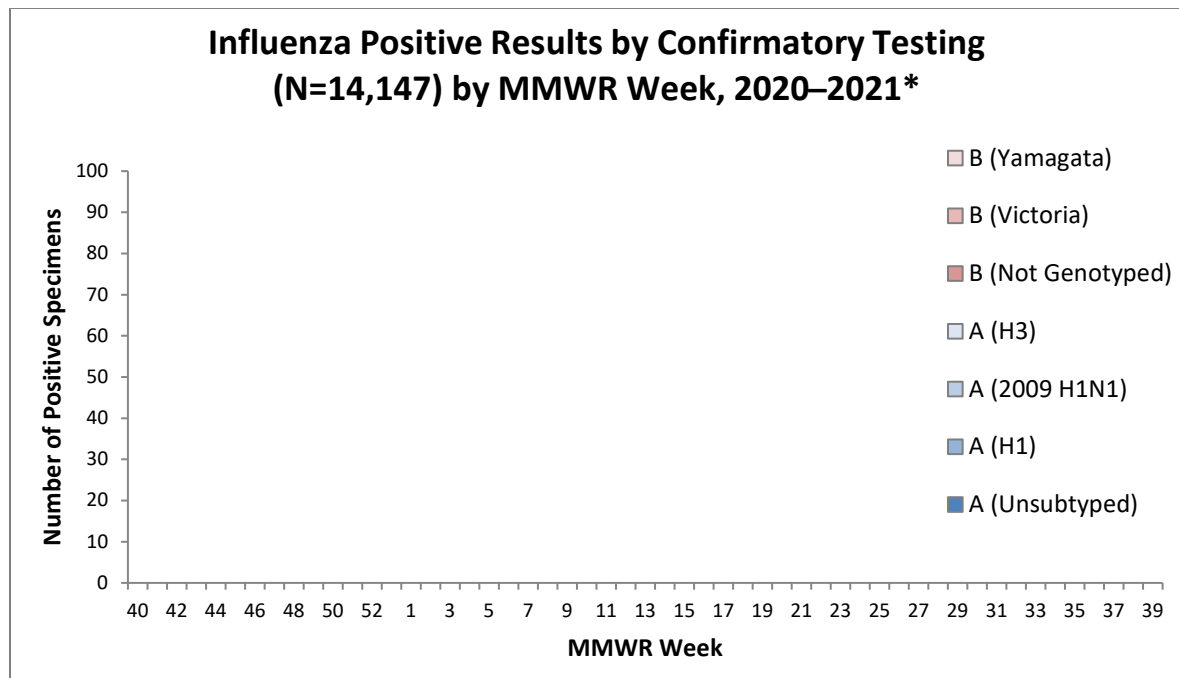
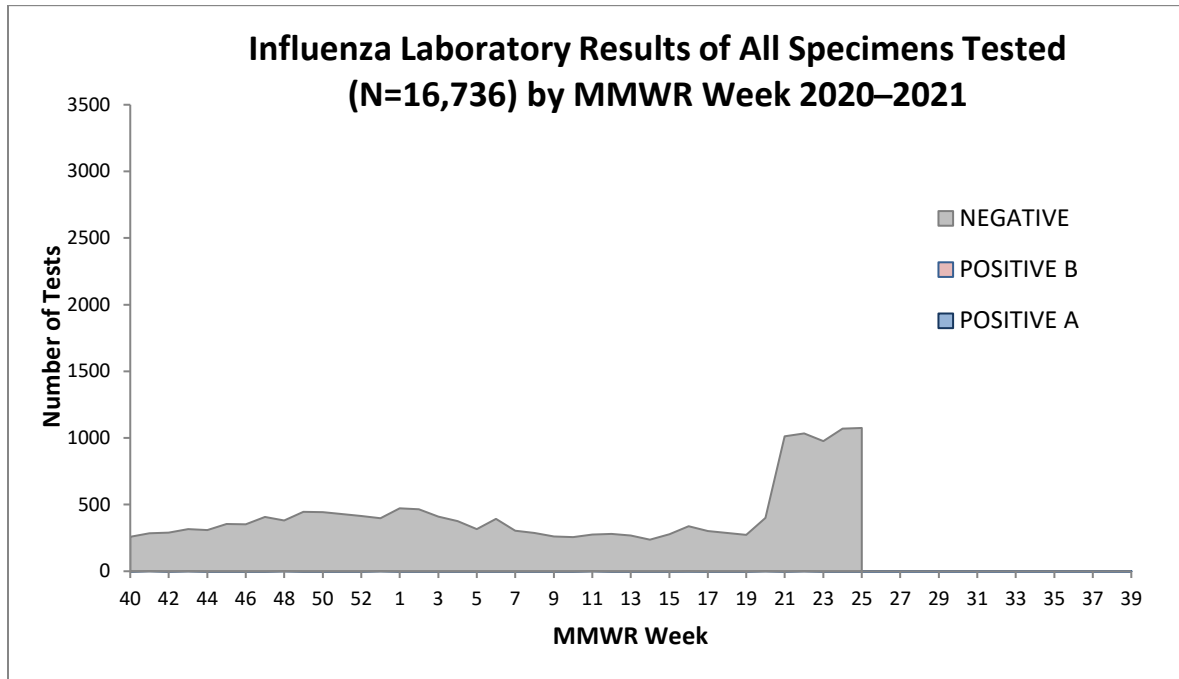
<sup>9</sup> Laboratory confirmed negative influenza test have been withdrawn from the season to date count.

<sup>10</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>11</sup> This represents an estimate of population-based rates based on available data.

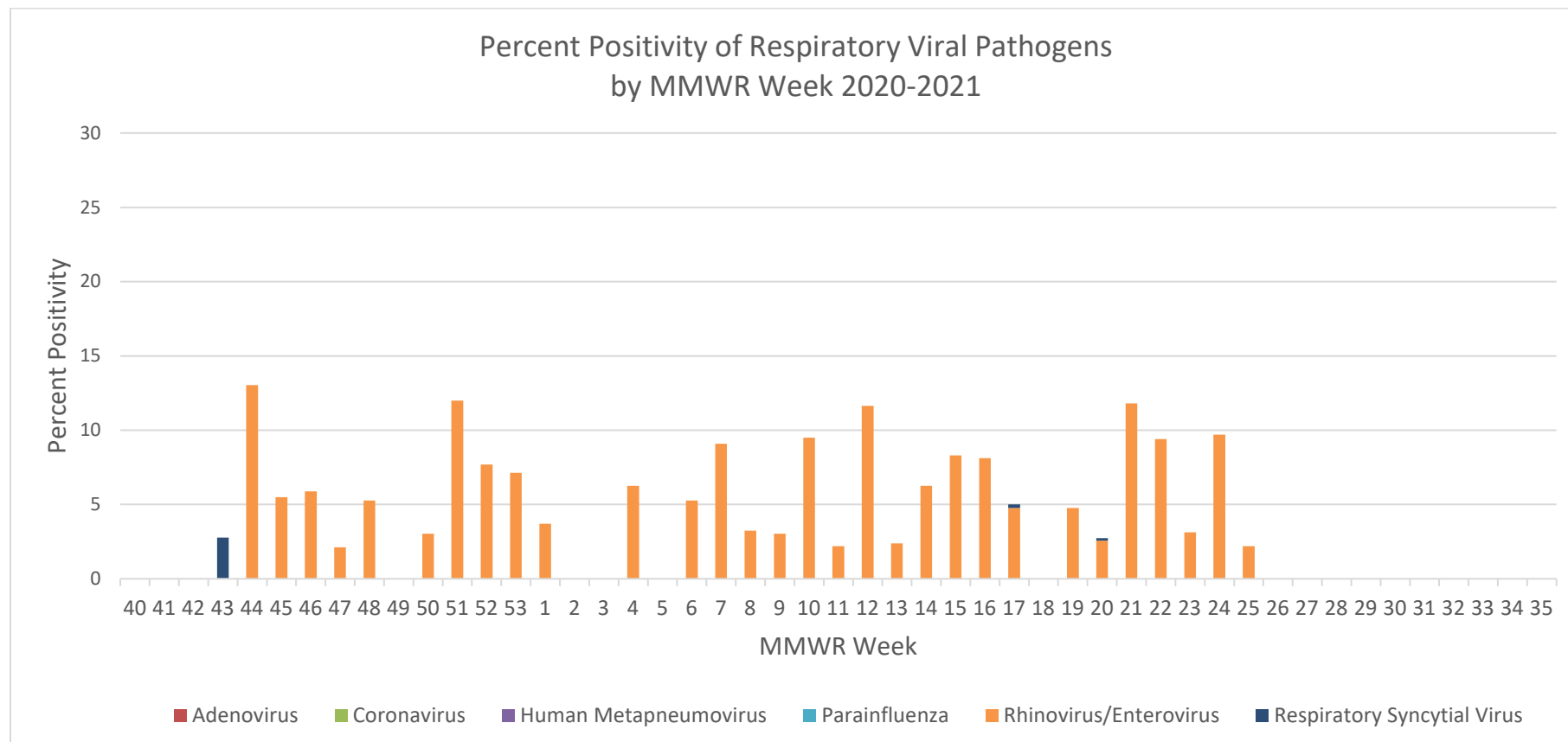
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 25<sup>12</sup> of the 2020–21 influenza/respiratory disease season:

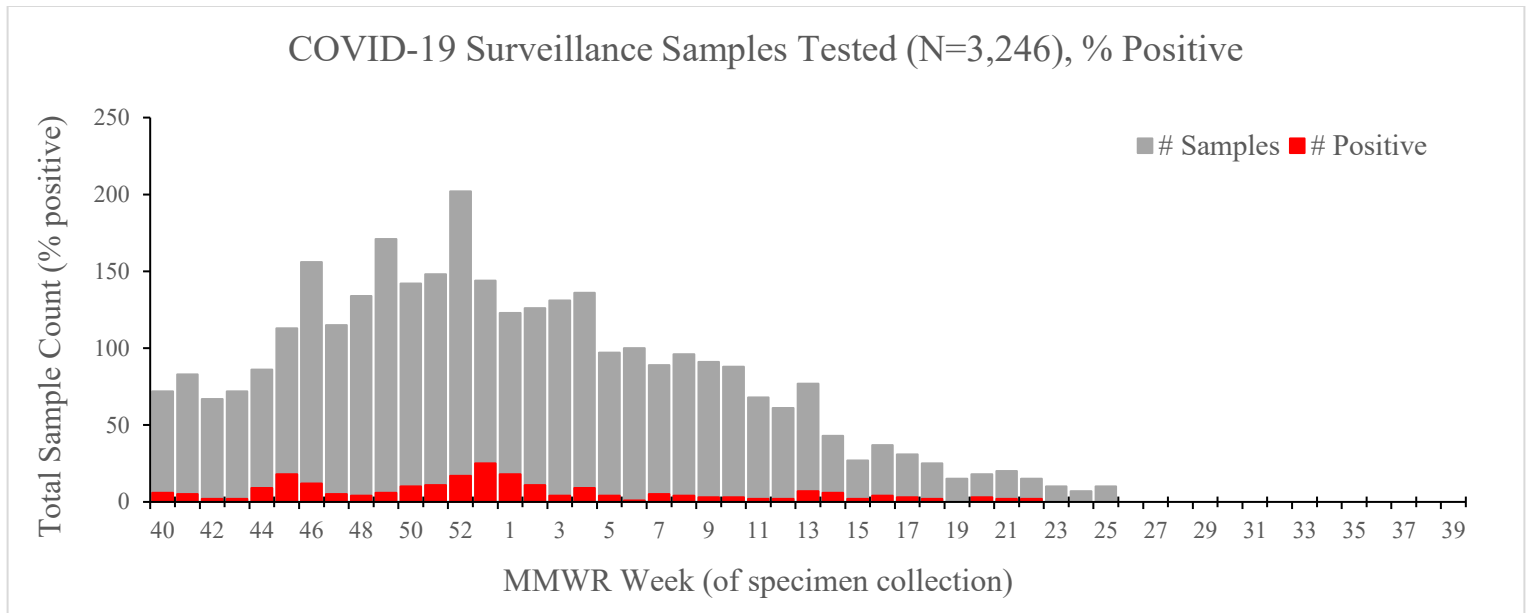
- *COVID-19 geographic spread: Regional*<sup>13</sup>
  - *A total of 10 surveillance specimens have been tested statewide for COVID-19 (positive:0 [0.0%]).*
  - *Season to date: A total of 3,246 surveillance specimens have been tested for COVID-19 (positive: 229 [7.1%]).*
  - *74 specimens have been tested at SLD*<sup>14</sup>.

Season to Date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	168	6.0	0-17	596	2.7
Honolulu	2,479	7.7	18-64	1,580	9.8
Kauai	96	2.1	65+	1,070	5.7
Maui	399	6.0			
Unknown	104	4.8			

<sup>12</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>13</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>14</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

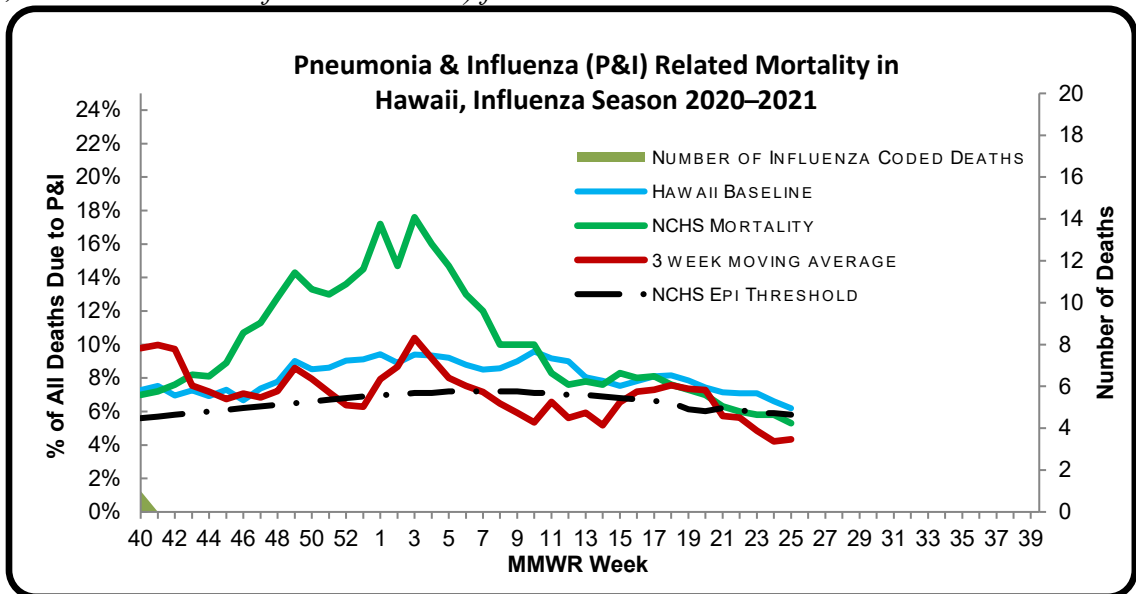


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For week 25 of the current influenza season:

- **6.3% of all deaths that occurred in Hawaii during week 25 were related to pneumonia or influenza (P&I)<sup>15</sup>.** For the current season (season to date: 7.0%), there have been 8,909 deaths from any cause, 622 of which were due to P&I.
- The P&I rate was comparable to the historical baseline in Hawaii<sup>16</sup> (i.e., inside the 95% confidence interval).
- The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>17</sup> (5.8%) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (5.9%) (i.e., inside the 95% confidence interval) for week 25.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>18</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 25. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 25. (2020-2021 season total: 1).

<sup>15</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>16</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>17</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>18</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.



**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### **A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *Two human infection with novel influenza A virus, H1N1v (1), H3N2v (1), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 25.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *Two human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Germany during the 2020-2021 influenza season.*

#### **B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more

information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **May 21, 2021**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	



# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 26: JUNE 27, 2021–JULY 03, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 26, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 26

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.7%	Higher than the previous week. Comparable to Hawaii's historical baseline, lower than national ILI rate, and lower than national baseline.
Number of ILI clusters reported to HDOH	0	There have been 8 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Comparable to the previous week. This number means that many, if not all, of the 100.0% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 26)	17.0%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	2.9%	Comparable to the Hawaii's historical baseline, lower than the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See appendix 2 for interpretation of MMWR weeks. Data reported will begin on week 40, the traditional start date of flu season.

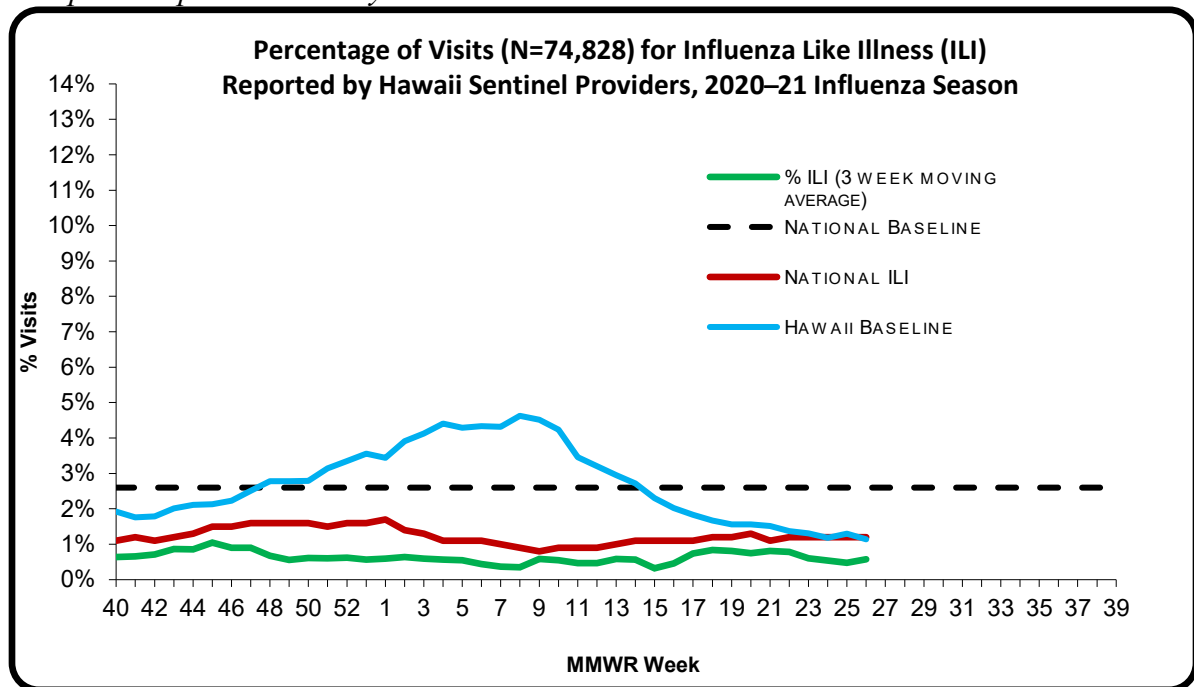
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 26 of the current influenza season:

- **0.7%** (season to date: **0.6%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.2%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

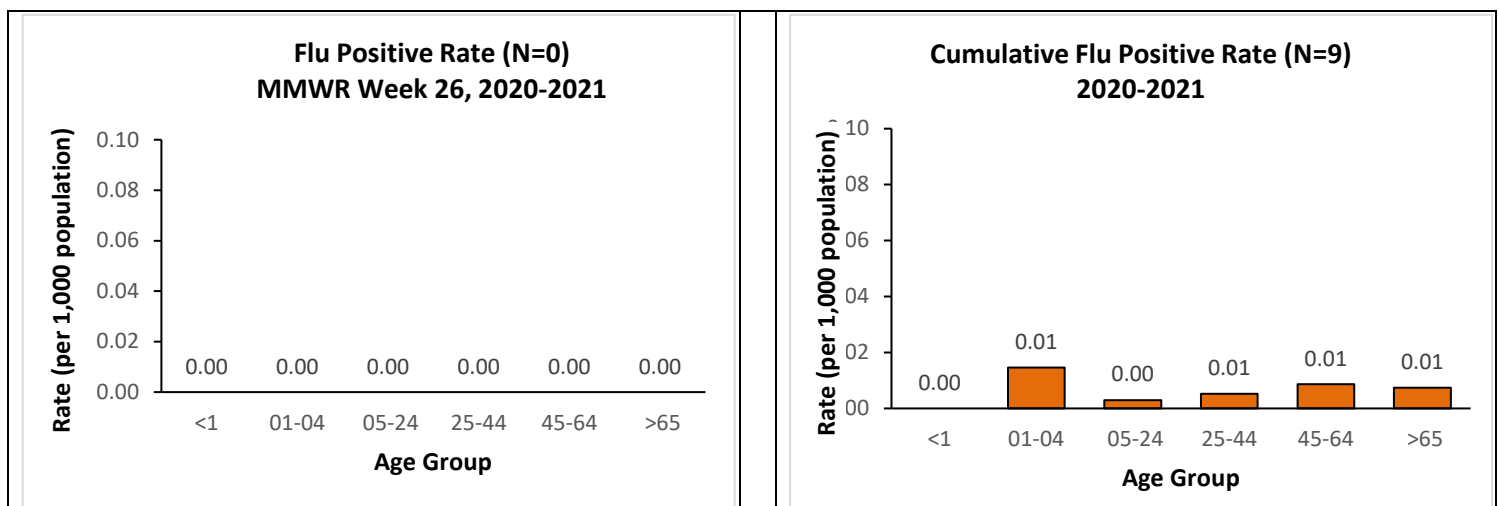
### A. INFLUENZA:

- The following reflects laboratory findings for week 26 of the 2020–21 influenza season:
  - A total of **713** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 17,450 tested [0.1% positive])
    - 33 (4.6%) were screened only by rapid antigen tests with no confirmatory testing.
    - 680 (95.4%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 713 (100.0%) were negative.

Influenza type	Current week 26 (%)	Season to date (%) <sup>9</sup>
Influenza A (H1) <sup>10</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	8 (88.9)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	1 (11.1)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>11</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> Laboratory confirmed negative influenza test have been withdrawn from the season to date count.

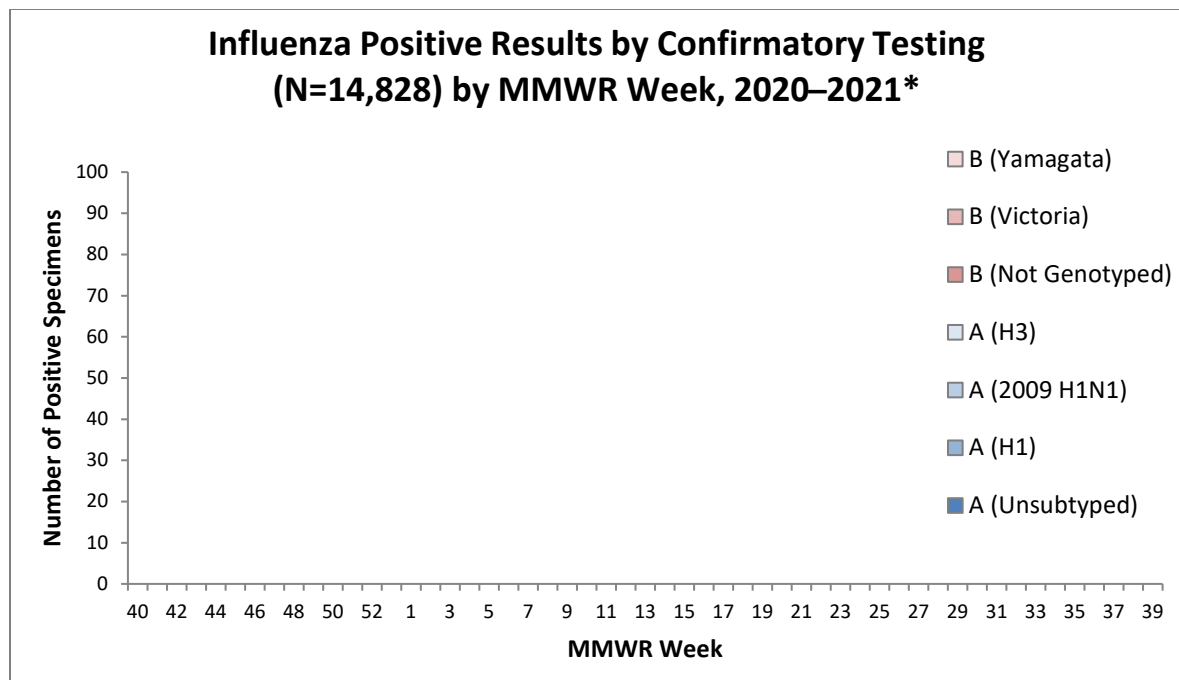
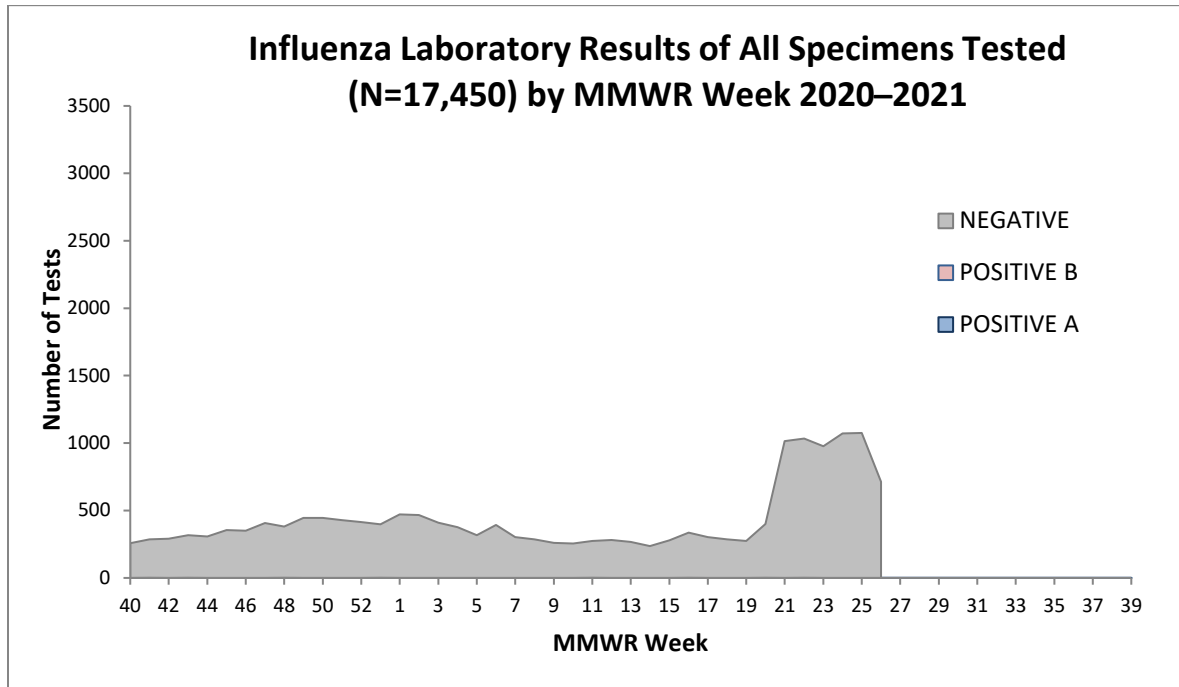
<sup>10</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>11</sup> This represents an estimate of population-based rates based on available data.



## 2. LABORATORY TESTING

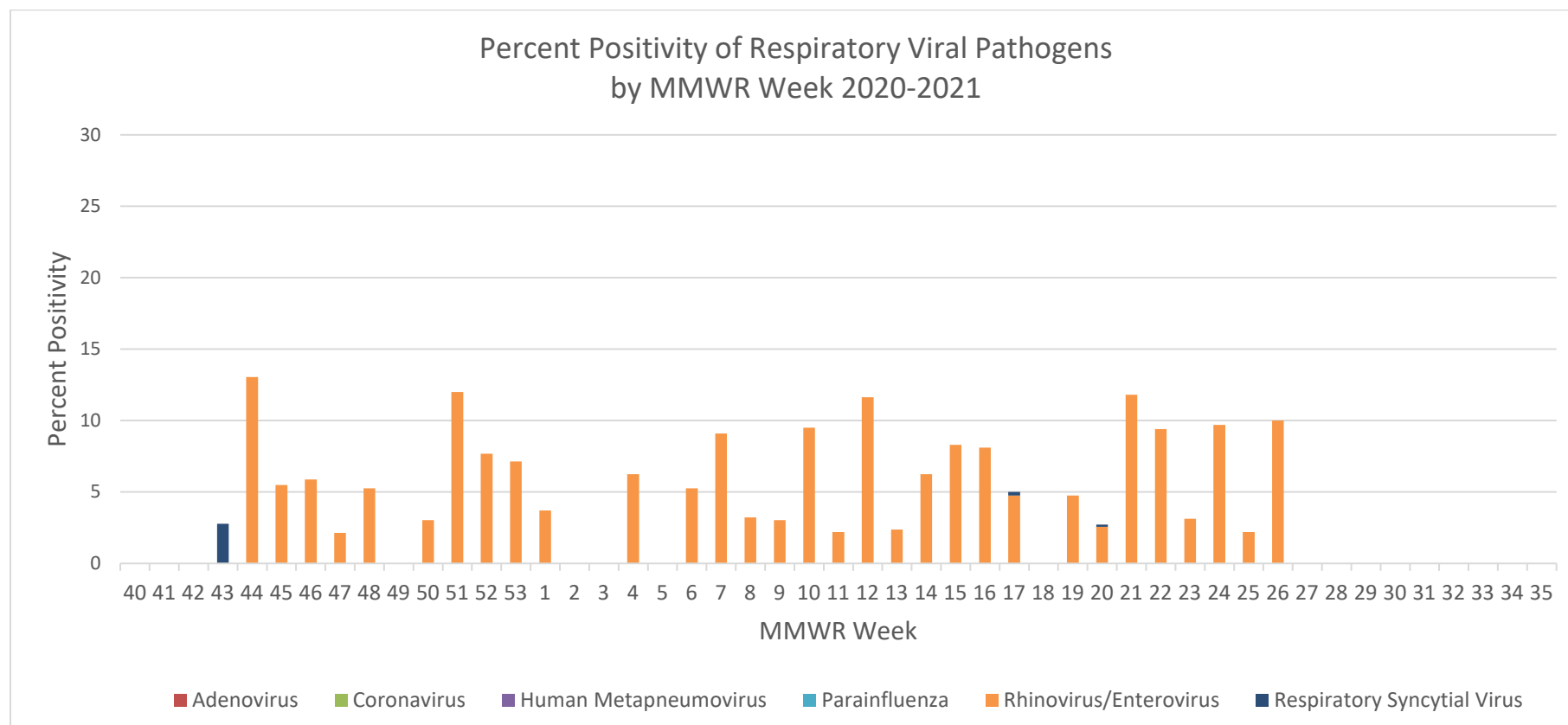
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.



**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 26<sup>12</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>13</sup>
  - *A total of 6 surveillance specimens have been tested statewide for COVID-19 (positive: 1 [17.0%]).*
  - *Season to date: A total of 3,228<sup>14</sup> surveillance specimens have been tested for COVID-19 (positive: 230 [7.1%]).*
  - *80 specimens have been tested at SLD*<sup>15</sup>.

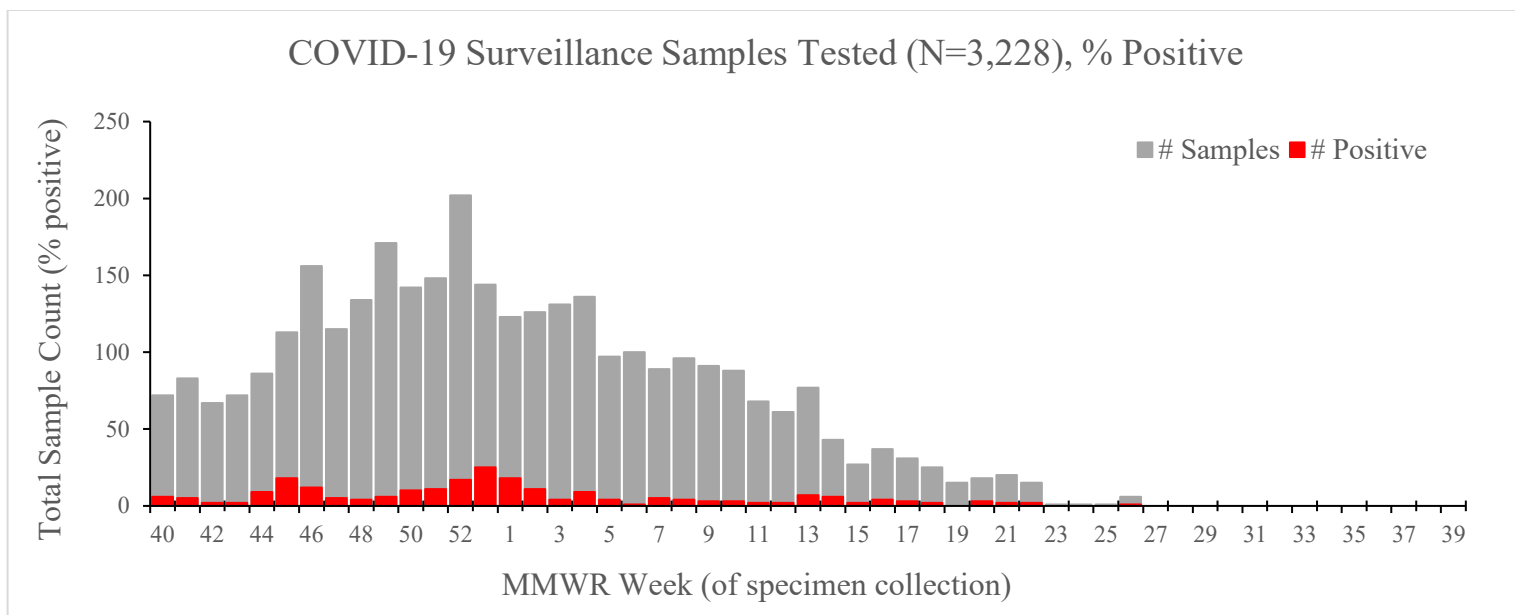
Season to Date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	168	6.0	0-17	591	2.7
Honolulu	2,459	7.7	18-64	1,571	9.8
Kauai	96	2.1	65+	1,066	5.6
Maui	401	6.0			
Unknown	104	4.8			

<sup>12</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>13</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>14</sup> Samples that are discarded prior to testing have been withdrawn from the total surveillance count.

<sup>15</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

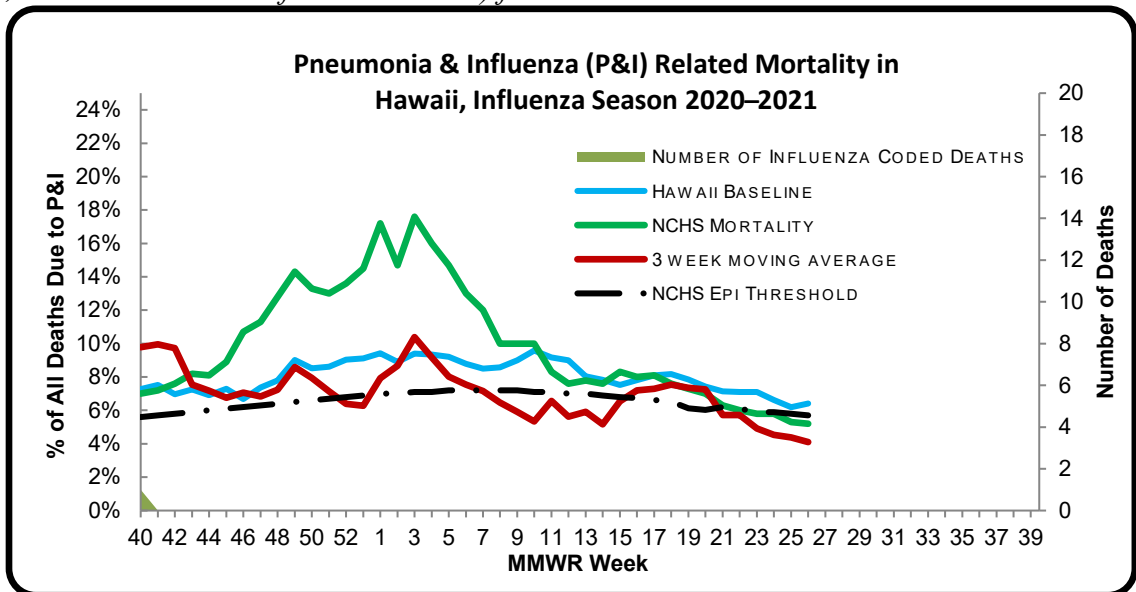


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For week 26 of the current influenza season:

- 2.9% of all deaths that occurred in Hawaii during week 26 were related to pneumonia or influenza (P&I)<sup>16</sup>. For the current season (season to date: 6.9%), there have been 9,123 deaths from any cause, 631 of which were due to P&I.
- The P&I rate was comparable to the historical baseline in Hawaii<sup>17</sup> (i.e., inside the 95% confidence interval).
- The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>18</sup> (5.2%) (i.e., inside the 95% confidence interval) and lower than the national epidemic threshold (5.7%) (i.e., outside the 95% confidence interval) for week 26.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>19</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 26. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 26. (2020-2021 season total: 1).

<sup>16</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>18</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>19</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### **A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *Two human infection with novel influenza A virus, H1N1v (1), H3N2v (1), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 26.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *Two human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Germany during the 2020-2021 influenza season.*

#### **B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more

information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **May 21, 2021**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	





# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 27: JULY 04, 2021–JULY 10, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 26, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 27

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.9%	Higher than the previous week. Comparable to Hawaii's historical baseline, comparable to the national ILI rate, and lower than national baseline.
Number of ILI clusters reported to HDOH	0	There have been 8 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Comparable to the previous week. This number means that many, if not all, of the 100.0% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 27)	10.0%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	5.4%	Comparable to the Hawaii's historical baseline, comparable to the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See appendix 2 for interpretation of MMWR weeks. Data reported will begin on week 40, the traditional start date of flu season.

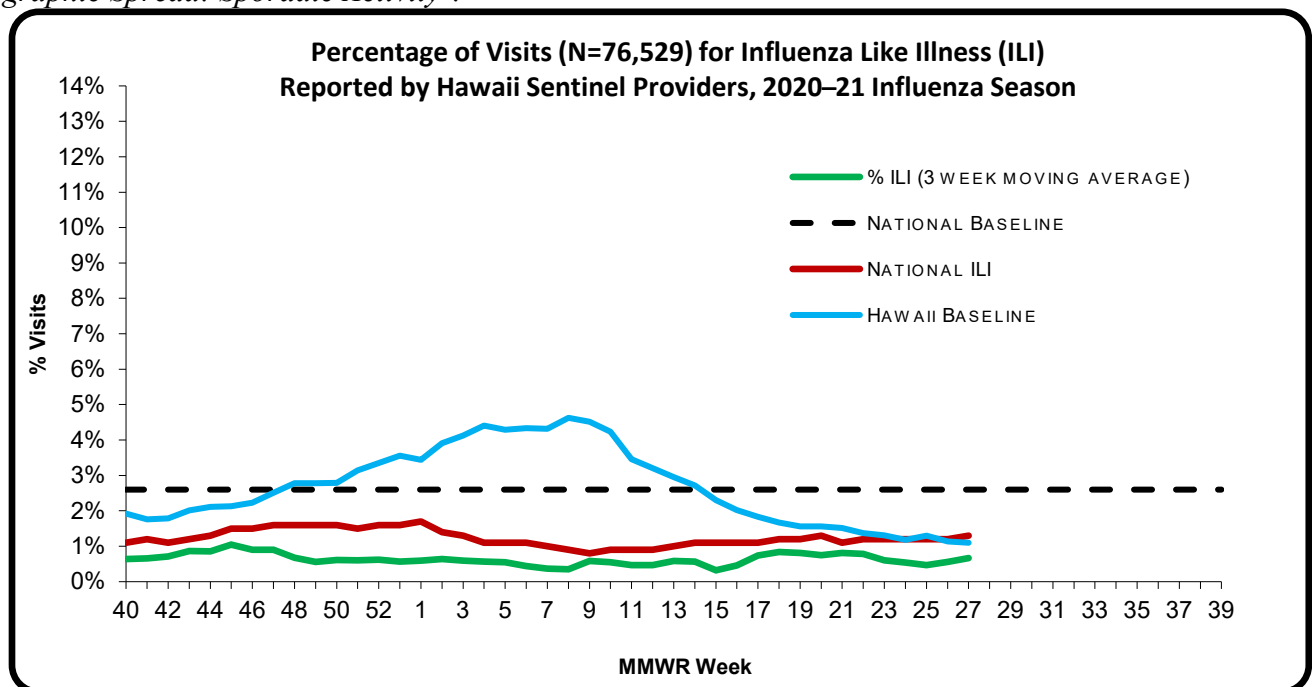
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 27 of the current influenza season:

- **0.9%** (season to date: **0.6%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and comparable to the national ILI rate (**1.3%**) (i.e., inside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

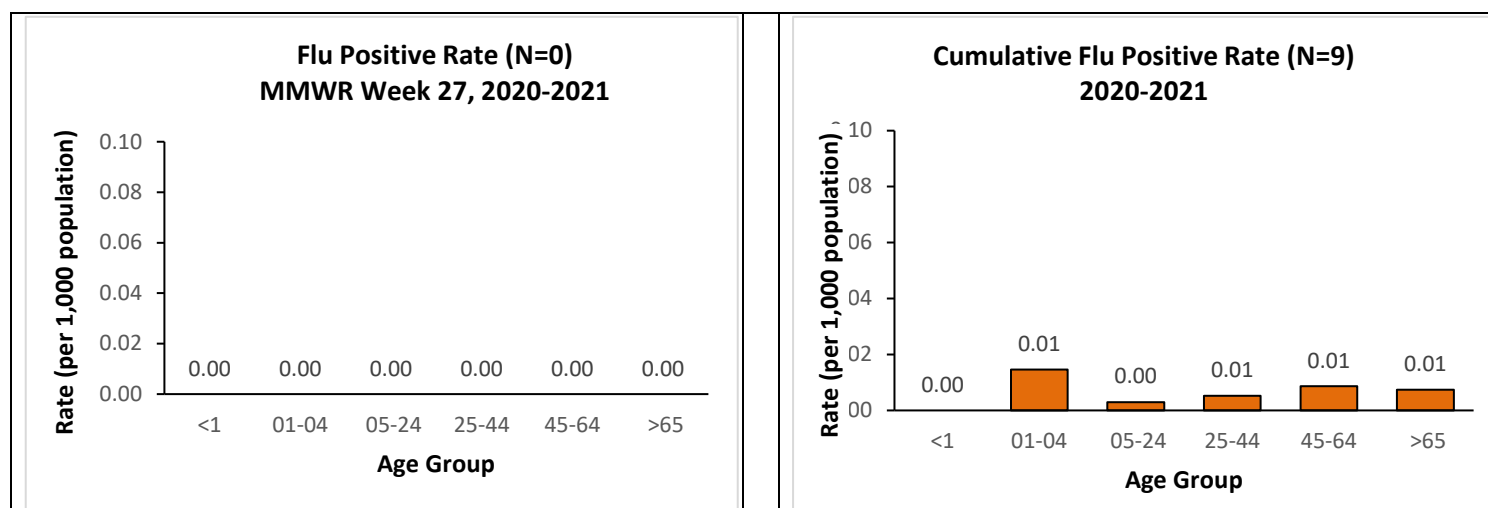
### A. INFLUENZA:

- The following reflects laboratory findings for week 27 of the 2020–21 influenza season:
  - A total of **316** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 17,766 tested [0.1% positive])
    - 45 (14.2%) were screened only by rapid antigen tests with no confirmatory testing.
    - 271 (85.8%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 316 (100.0%) were negative.

Influenza type	Current week 27 (%)	Season to date (%) <sup>9</sup>
Influenza A (H1) <sup>10</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	8 (88.9)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	1 (11.1)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>11</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

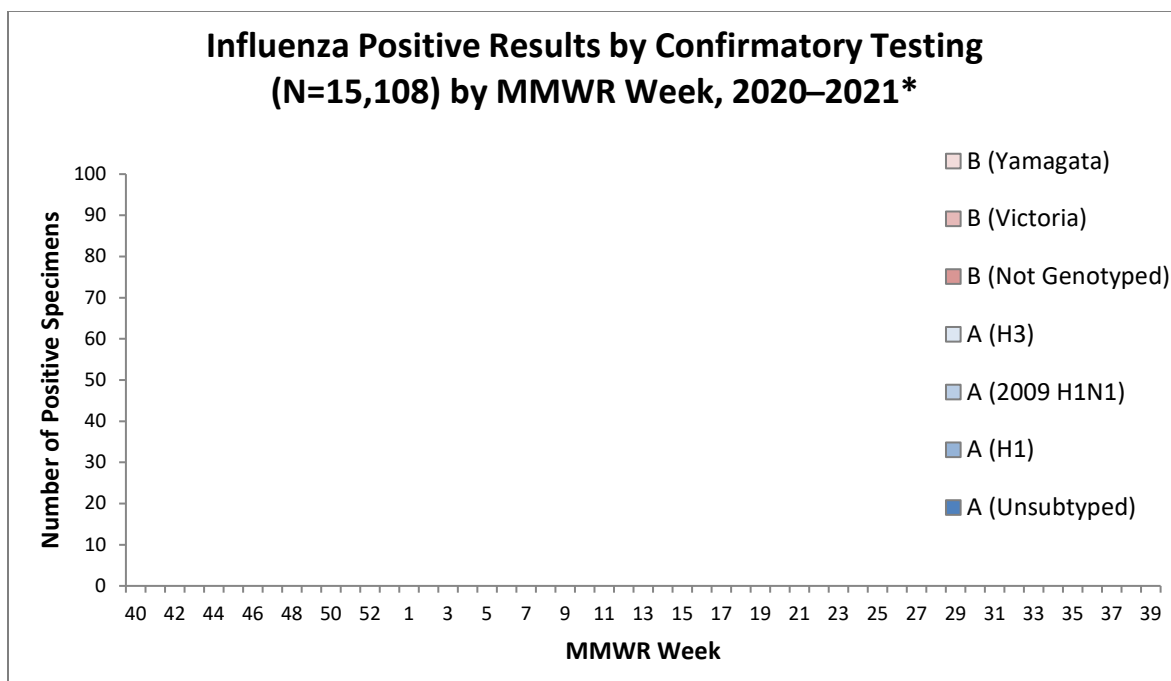
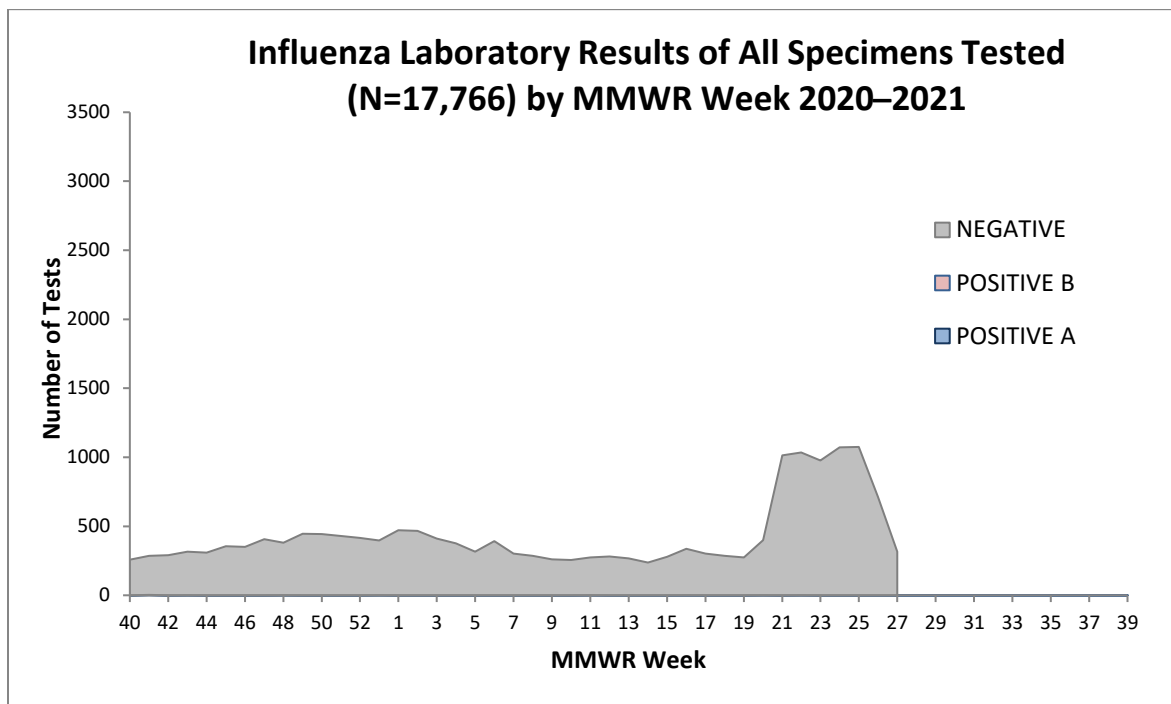
<sup>9</sup> Laboratory confirmed negative influenza test have been withdrawn from the season to date count.

<sup>10</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>11</sup> This represents an estimate of population-based rates based on available data.

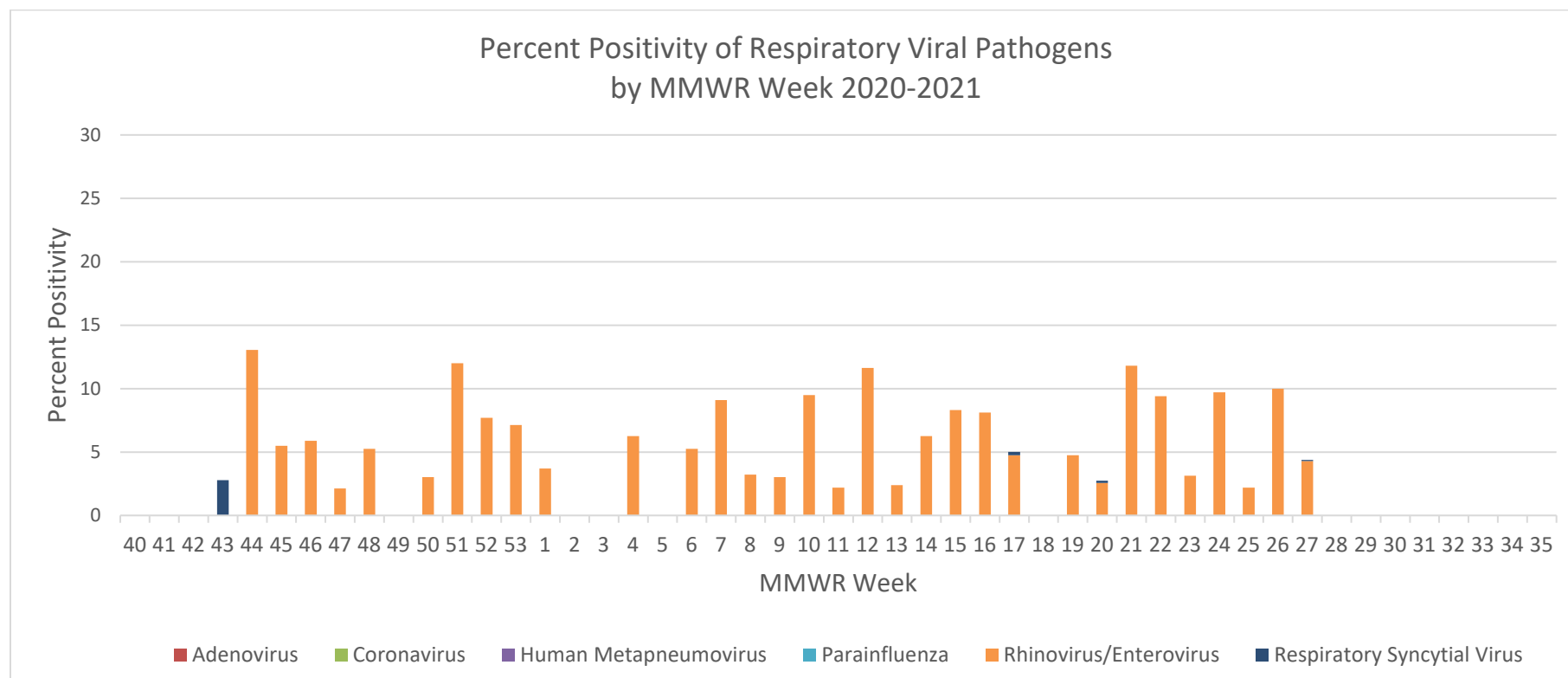
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 27<sup>12</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>13</sup>
  - *A total of 10 surveillance specimens have been tested statewide for COVID-19 (positive: 1 [10.0%]).*
  - *Season to date: A total of 3,238<sup>14</sup> surveillance specimens have been tested for COVID-19 (positive: 231 [7.1%]).*
  - *90 specimens have been tested at SLD*<sup>15</sup>.

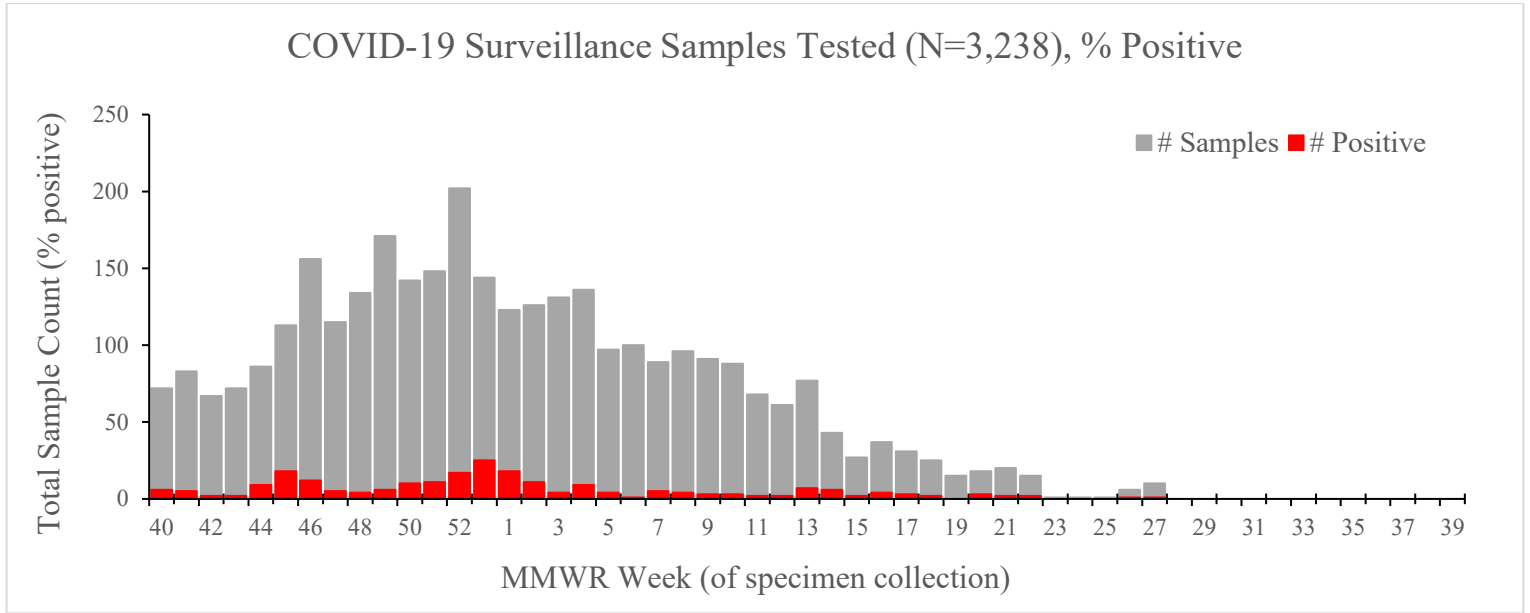
Season to Date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	178	6.0	0-17	593	2.7
Honolulu	2,459	7.7	18-64	1,575	9.8
Kauai	96	2.1	65+	1,070	5.6
Maui	401	6.0			
Unknown	104	4.8			

<sup>12</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>13</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>14</sup> Samples that are discarded prior to testing have been withdrawn from the total surveillance count.

<sup>15</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

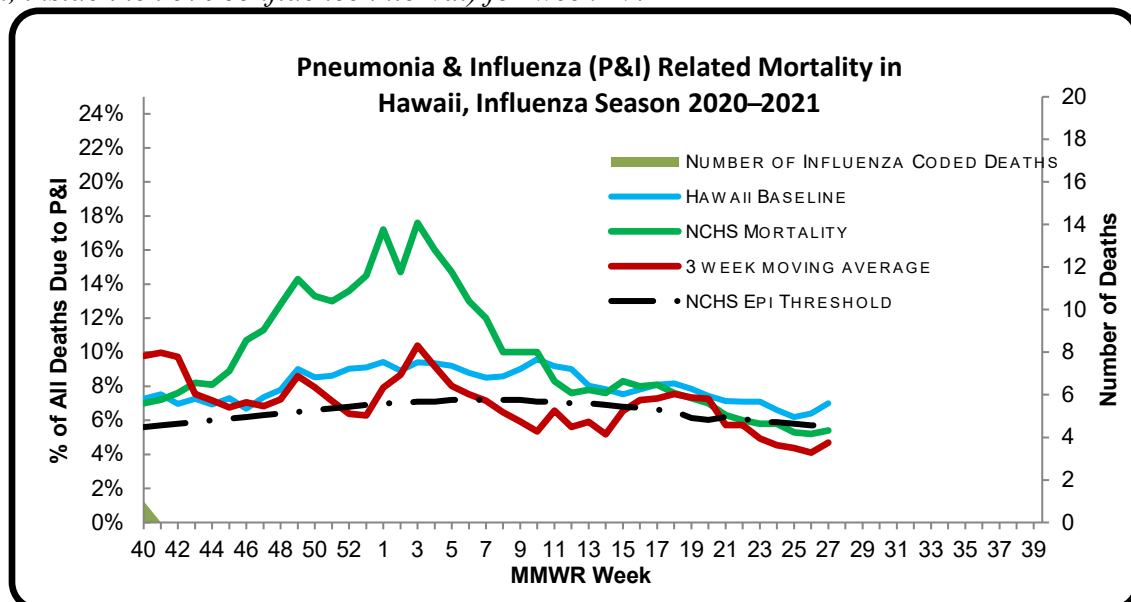


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For week 27 of the current influenza season:

- 5.4% of all deaths that occurred in Hawaii during week 27 were related to pneumonia or influenza (P&I)<sup>16</sup>. For the current season (season to date: 6.9%), there have been 9,197 deaths from any cause, 635 of which were due to P&I.
- The P&I rate was comparable to the historical baseline in Hawaii<sup>17</sup> (i.e., inside the 95% confidence interval).
- The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>18</sup> (5.4%) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (5.7%) (i.e., inside the 95% confidence interval) for week 27.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>19</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 27. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 27. (2020–2021 season total: 1).

<sup>16</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>17</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>18</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>19</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.



**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### **A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *Two human infection with novel influenza A virus, H1N1v (1), H3N2v (1), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 27.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *Two human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Germany during the 2020-2021 influenza season.*

#### **B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more

information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **May 21, 2021**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

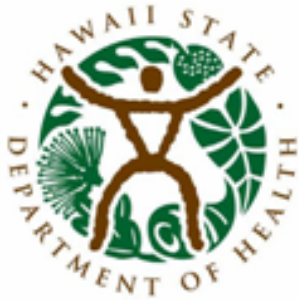
For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	



# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 28: JULY 11, 2021–JULY 17, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 26, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 28

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	1.0%	Higher than the previous week. Comparable to Hawaii's historical baseline, comparable to the national ILI rate, and lower than national baseline.
Number of ILI clusters reported to HDOH	0	There have been 8 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Comparable to the previous week. This number means that many, if not all, of the 100.0% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.0%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 28)	11.9%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	4.6%	Comparable to the Hawaii's historical baseline, comparable to the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See appendix 2 for interpretation of MMWR weeks. Data reported will begin on week 40, the traditional start date of flu season.

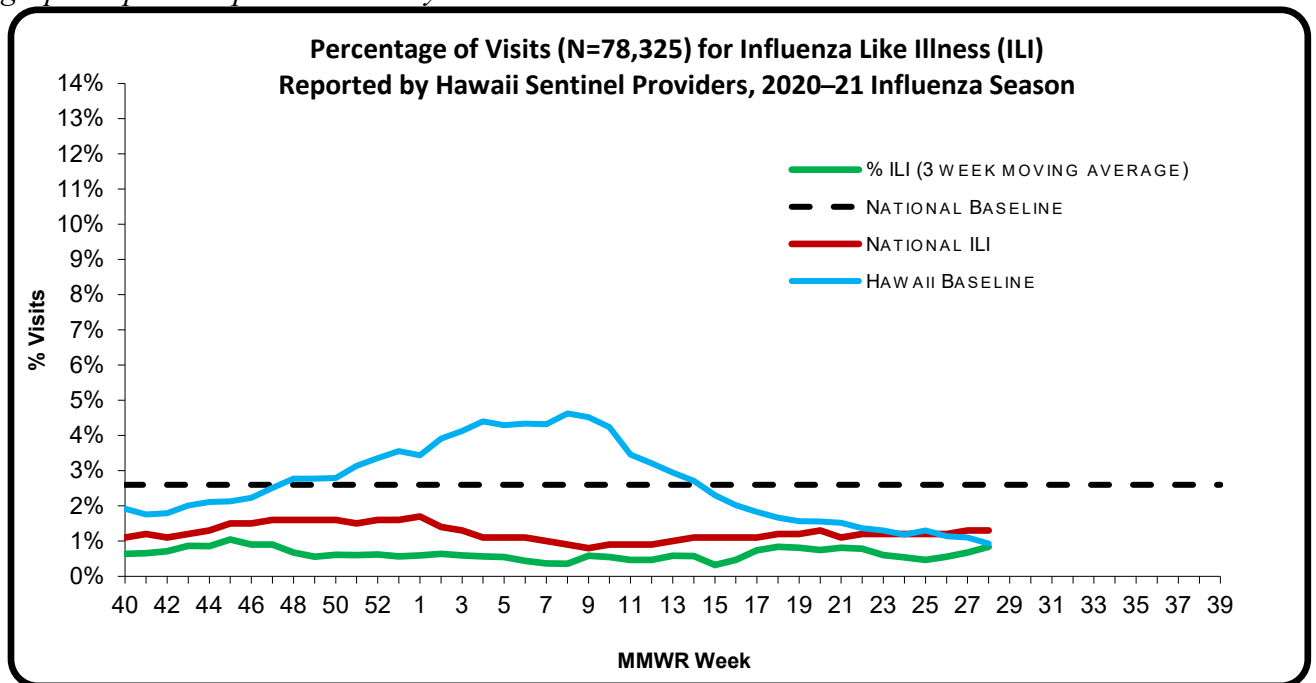
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 28 of the current influenza season:

- **1.0%** (season to date: **0.6%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and comparable to the national ILI rate (**1.3%**) (i.e., inside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

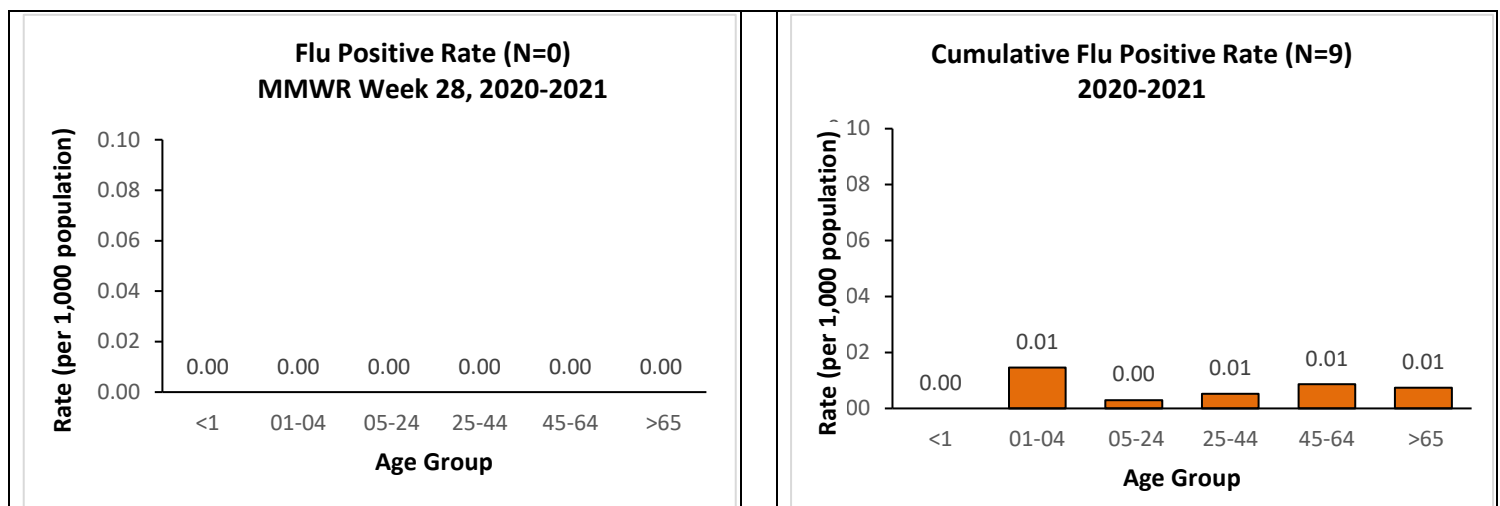
### A. INFLUENZA:

- The following reflects laboratory findings for week 28 of the 2020–21 influenza season:
  - A total of **343** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 18,110 tested [0.0% positive])
    - 50 (14.6%) were screened only by rapid antigen tests with no confirmatory testing.
    - 293 (85.4%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 343 (100.0%) were negative.

Influenza type	Current week 28 (%)	Season to date (%) <sup>9</sup>
Influenza A (H1) <sup>10</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	8 (88.9)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	1 (11.1)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>11</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> Laboratory confirmed negative influenza test have been withdrawn from the season to date count.

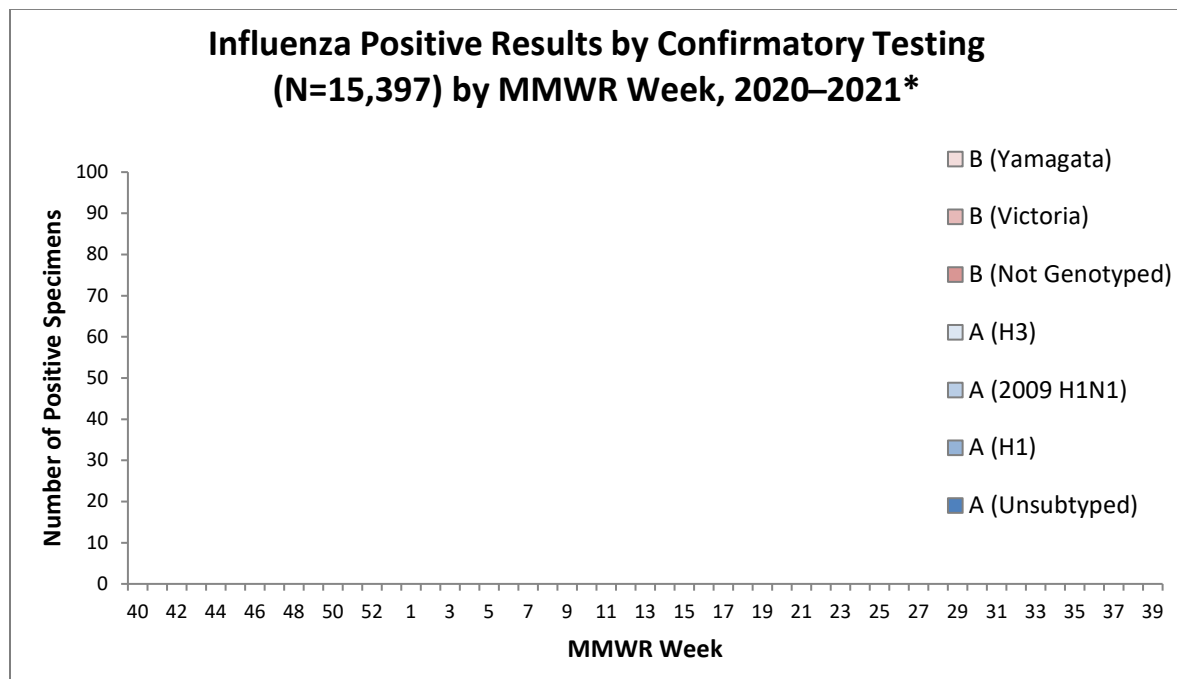
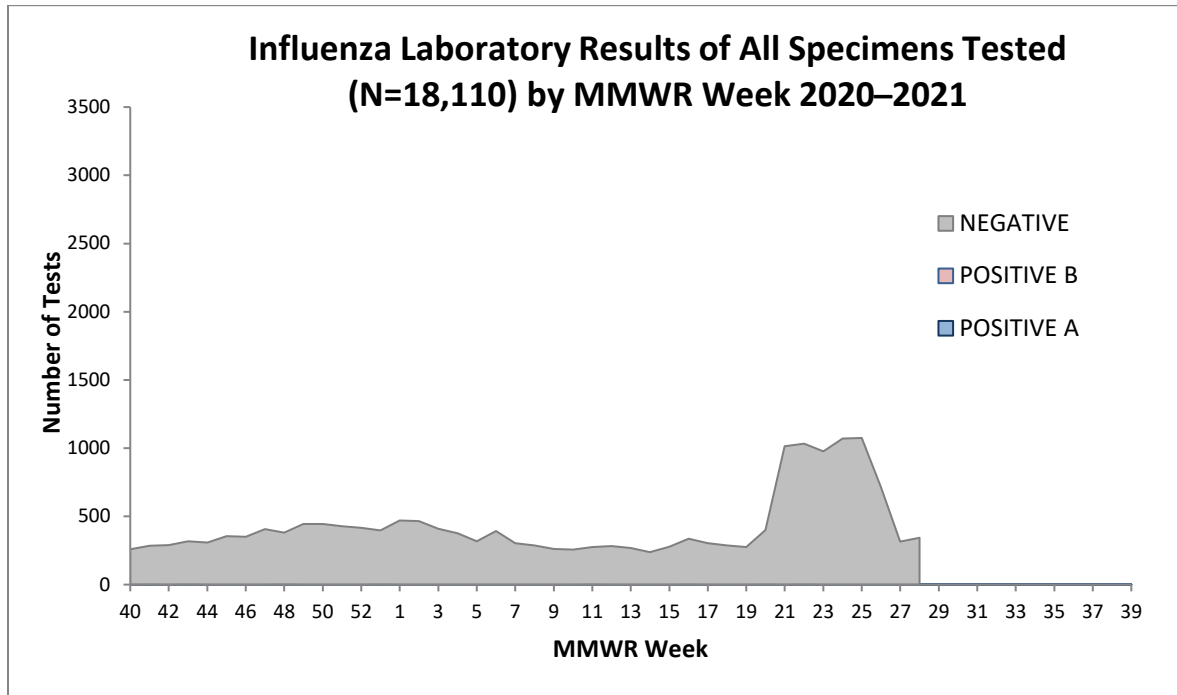
<sup>10</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>11</sup> This represents an estimate of population-based rates based on available data.



## 2. LABORATORY TESTING

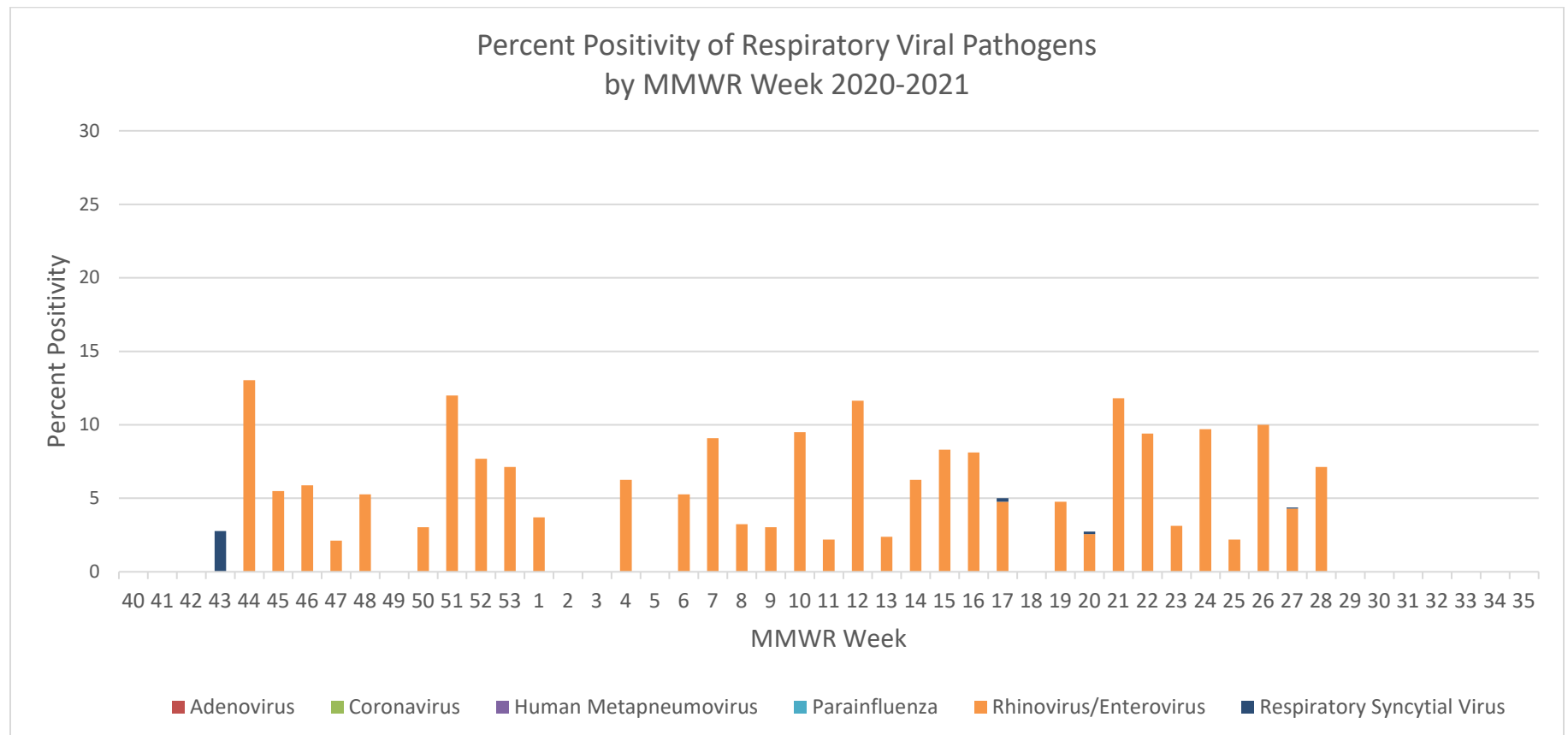
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.



**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 28<sup>12</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>13</sup>
  - *A total of 42 surveillance specimens have been tested statewide for COVID-19 (positive: 5 [11.9%]).*
  - *Season to date: A total of 3,315<sup>14</sup> surveillance specimens have been tested for COVID-19 (positive: 241 [7.3%]).*
  - *128 specimens have been tested at SLD*<sup>15</sup>.

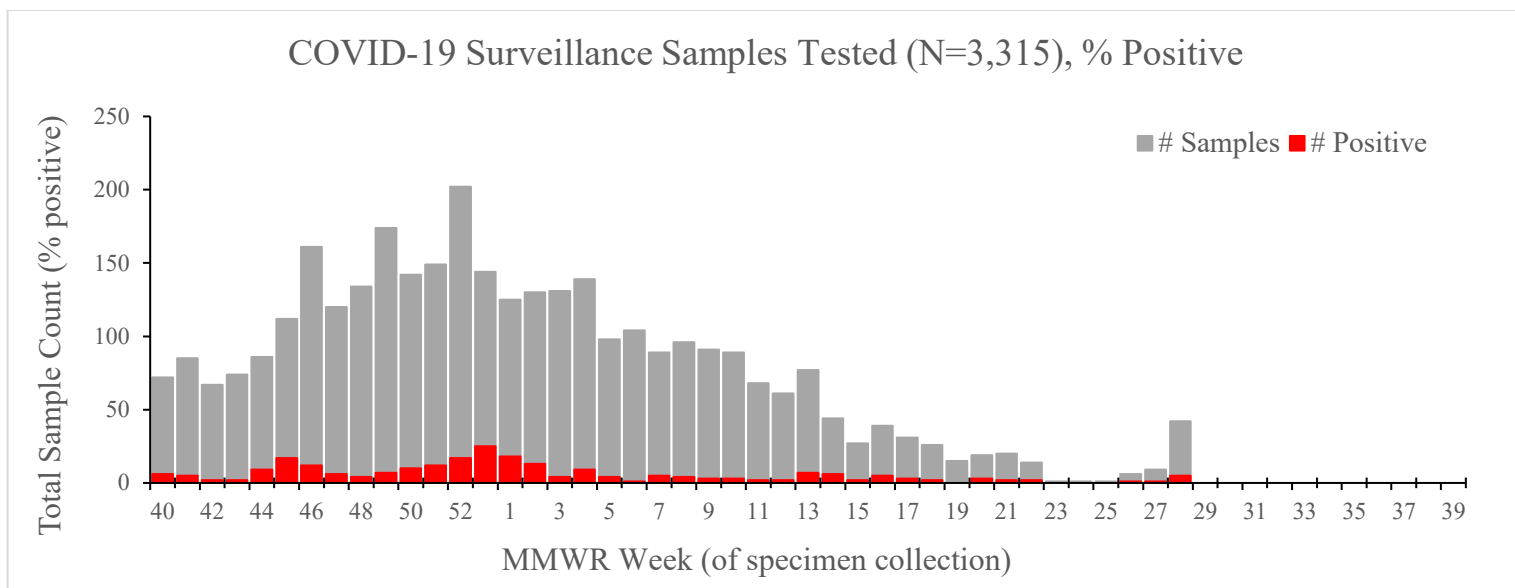
Season to Date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	170	539	0-17	603	2.8
Honolulu	2,533	7.9	18-64	1,624	10.0
Kauai	95	2.1	65+	1,088	5.6
Maui	404	6.4			
Unknown	113	3.5			

<sup>12</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>13</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>14</sup> Samples that are discarded prior to testing have been withdrawn from the total surveillance count.

<sup>15</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

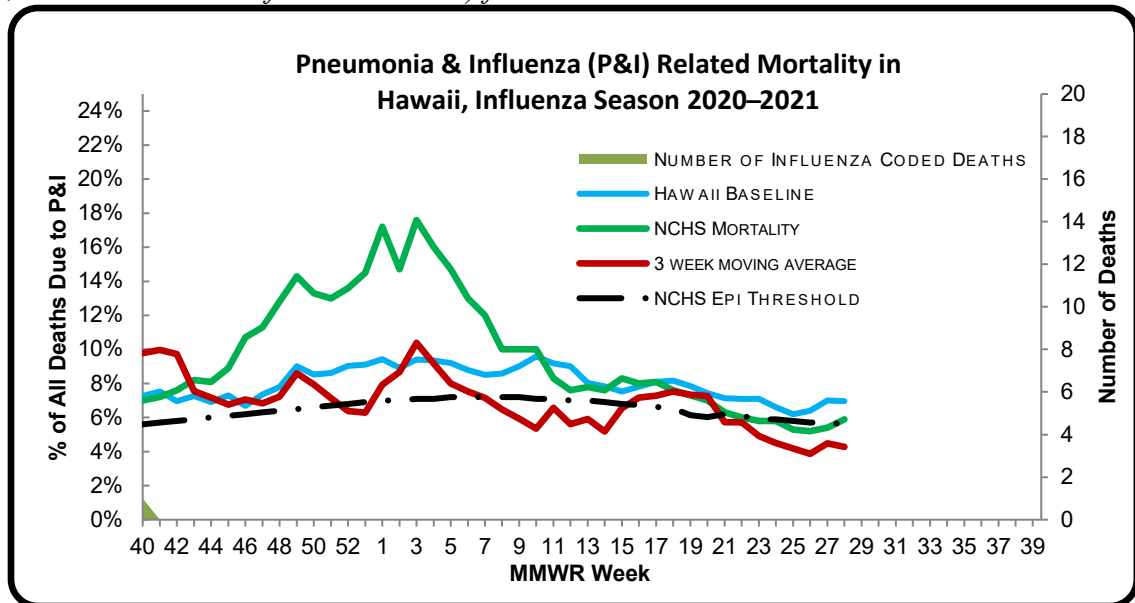


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For week 28 of the current influenza season:

- **4.6%** of all deaths that occurred in Hawaii during week 28 were related to pneumonia or influenza (P&I)<sup>16</sup>. For the current season (season to date: **6.8%**), there have been 9,424 deaths from any cause, 644 of which were due to P&I.
- The P&I rate was comparable to the historical baseline in Hawaii<sup>17</sup> (i.e., inside the 95% confidence interval).
- The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>18</sup> (**5.9%**) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (**5.6%**) (i.e., inside the 95% confidence interval) for week 28.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>19</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 28. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 28. (2020-2021 season total: 1).

<sup>16</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>17</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>18</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>19</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### **A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *Two human infection with novel influenza A virus, H1N1v (1), H3N2v (1), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 28.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *Two human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Germany during the 2020-2021 influenza season.*

#### **B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total

number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **May 21, 2021**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

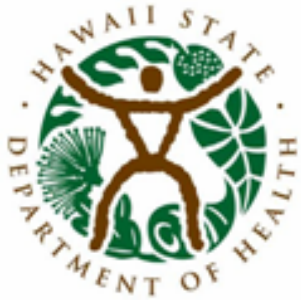
<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	





# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 29: JULY 18, 2021–JULY 24, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 26, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 29

Surveillance for Influenza-like Illness (ILI)		
<i>Metric</i>	<i>Value</i>	<i>Comment</i>
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.5%	Lower than the previous week. Comparable to Hawaii's historical baseline, lower than the national ILI rate, and lower than national baseline.
Number of ILI clusters reported to HDOH	0	There have been 8 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Comparable to the previous week. This number means that many, if not all, of the 100.0% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.0%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 29)	19.0%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	2.4%	Lower than the Hawaii's historical baseline, comparable to the national epidemic threshold and lower than the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See **appendix 2 for interpretation of MMWR weeks**. Data reported will begin on week 40, the traditional start date of flu season.

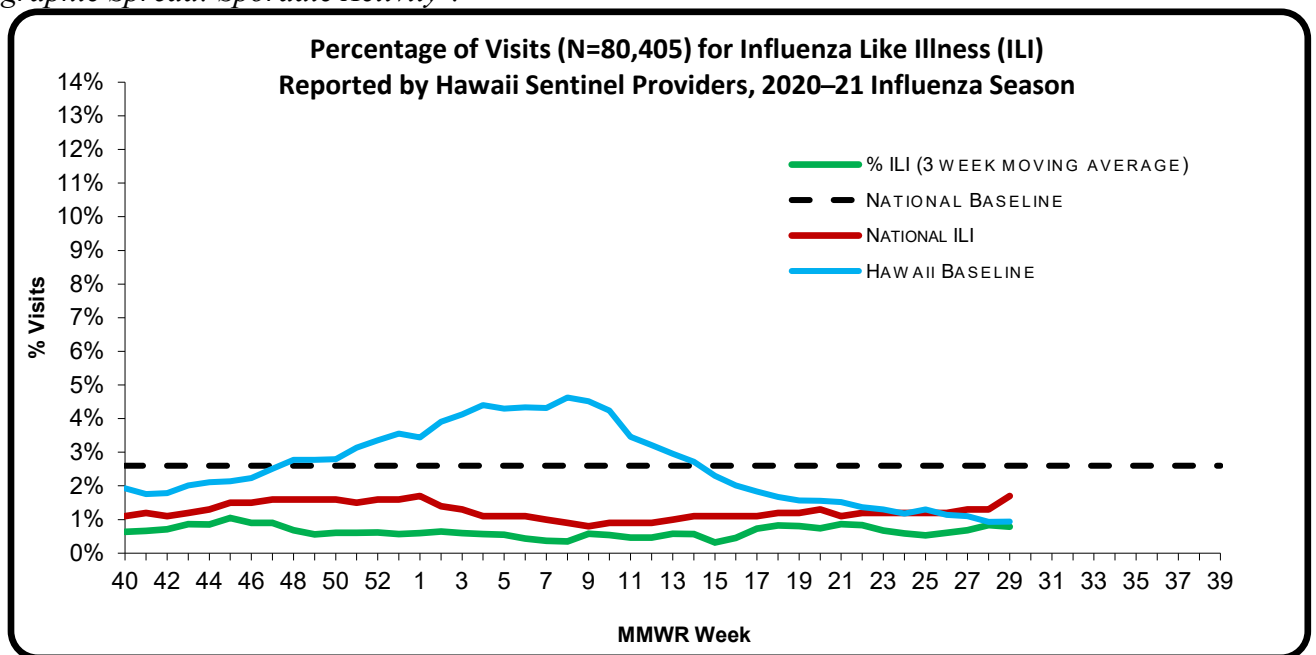
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 29 of the current influenza season:

- **0.5%** (season to date: **0.6%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.7%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

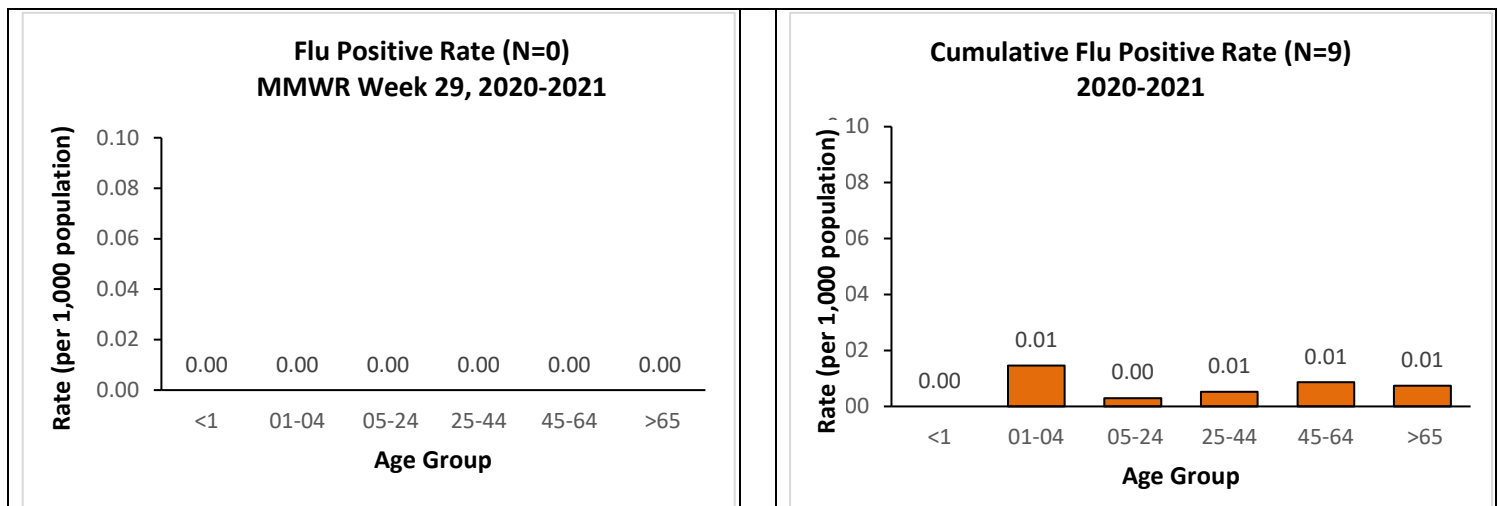
### A. INFLUENZA:

- The following reflects laboratory findings for week 29 of the 2020–21 influenza season:
  - A total of 344 specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 18,457 tested [0.0% positive])
    - 45 (13.1%) were screened only by rapid antigen tests with no confirmatory testing.
    - 299 (86.9%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 344 (100.0%) were negative.

Influenza type	Current week 29 (%)	Season to date (%) <sup>9</sup>
Influenza A (H1) <sup>10</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	0 (0.0)	8 (88.9)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	1 (11.1)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>11</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

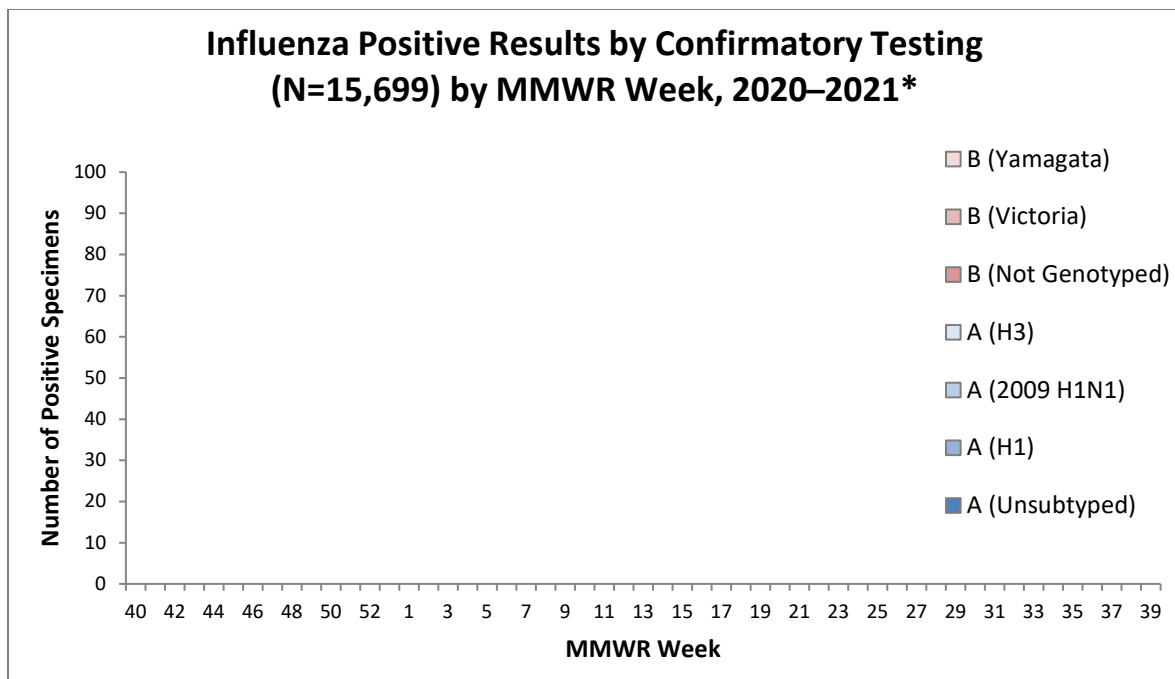
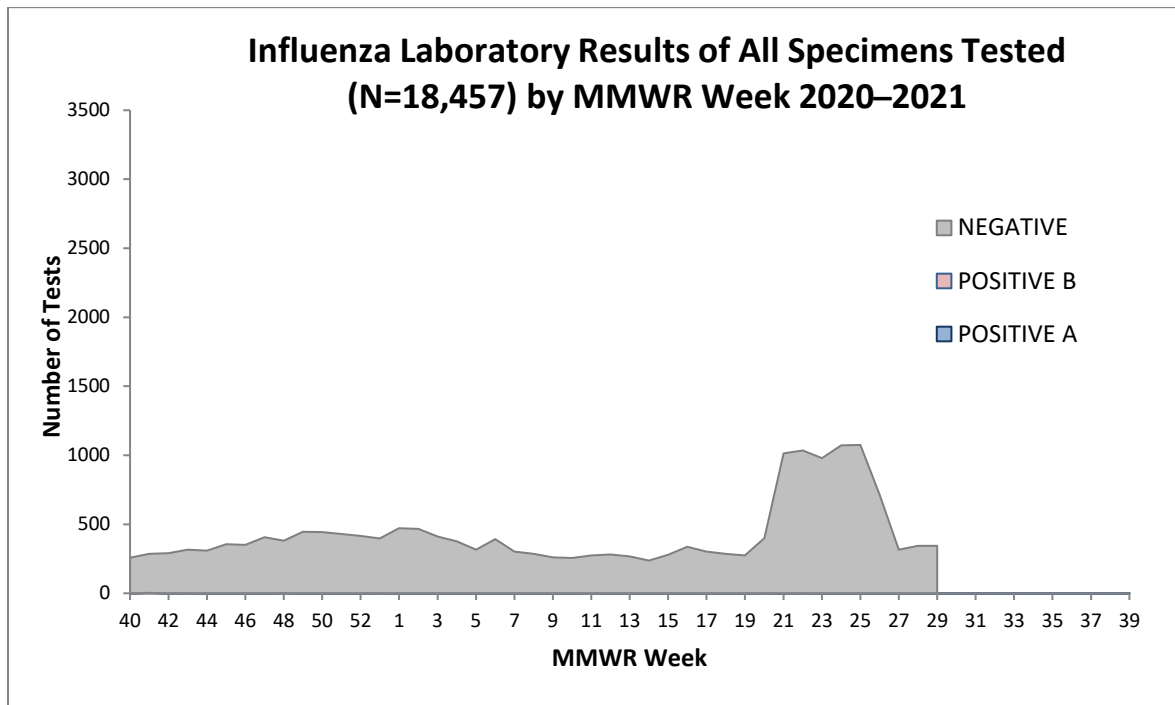
<sup>9</sup> Laboratory confirmed negative influenza test have been withdrawn from the season to date count.

<sup>10</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>11</sup> This represents an estimate of population-based rates based on available data.

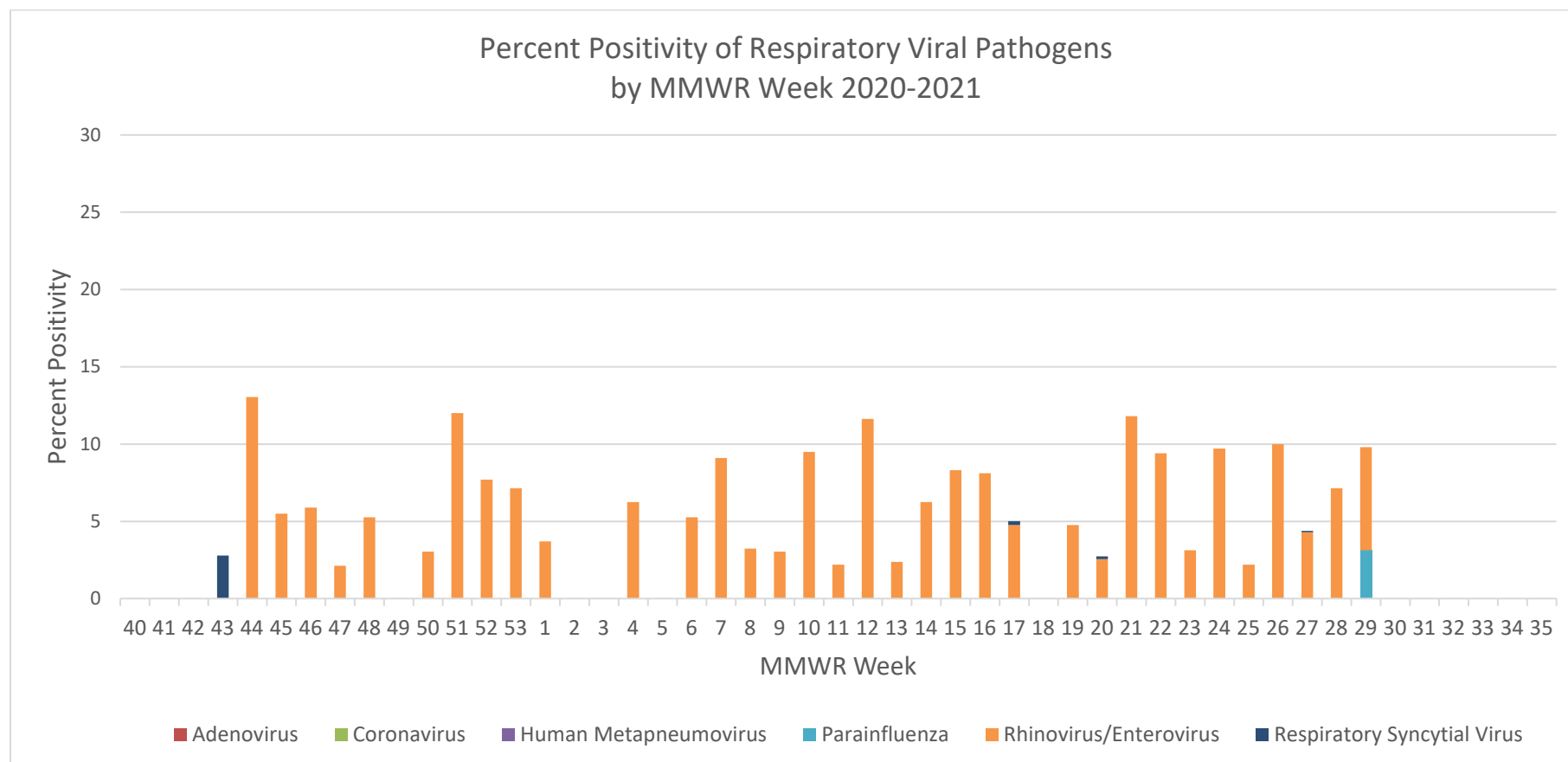
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 29<sup>12</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>13</sup>
  - A total of **58** surveillance specimens have been tested statewide for COVID-19 (positive: 11 [19.0%]).
  - Season to date: A total of 3,371<sup>14</sup> surveillance specimens have been tested for COVID-19 (positive: 252 [7.5%]).
  - 136 specimens have been tested at SLD<sup>15</sup>.

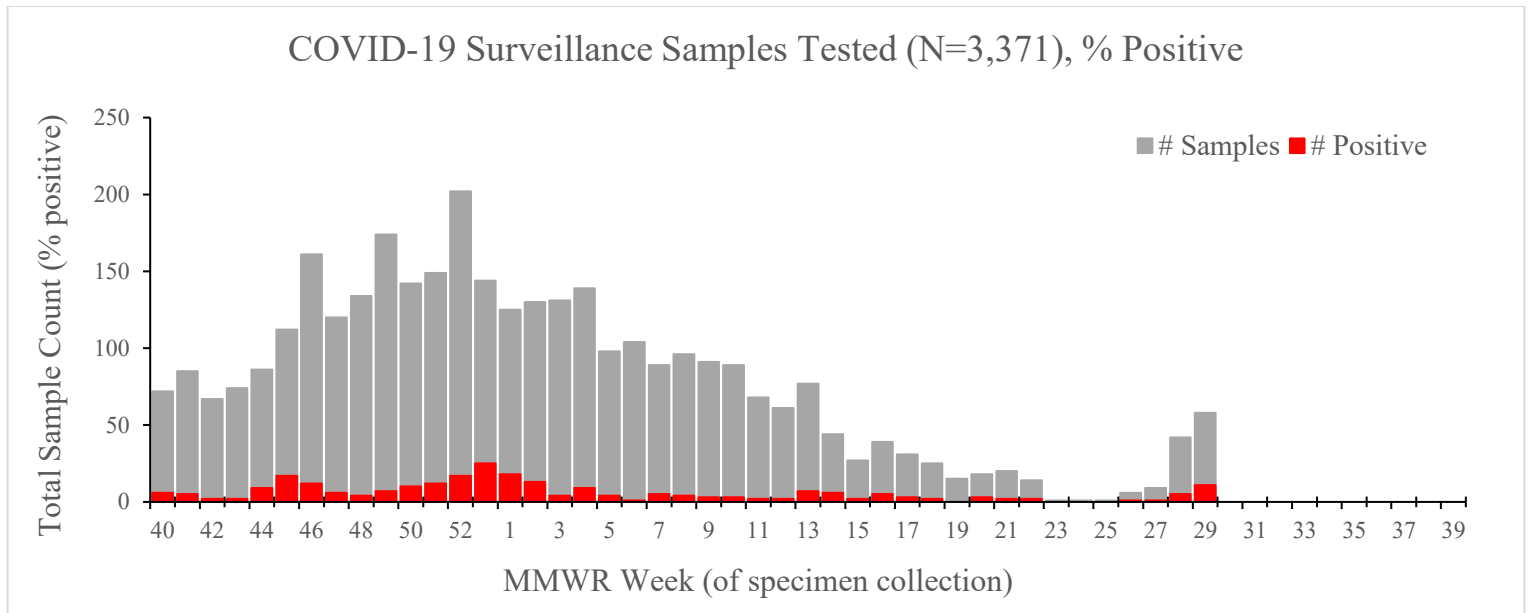
Season to Date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	176	5.7	0-17	617	2.8
Honolulu	2,573	8.1	18-64	1,654	10.3
Kauai	94	2.1	65+	1,100	5.8
Maui	412	6.8			
Unknown	116	4.3			

<sup>12</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>13</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>14</sup> Samples that were discarded prior to testing have been withdrawn from the total surveillance count.

<sup>15</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

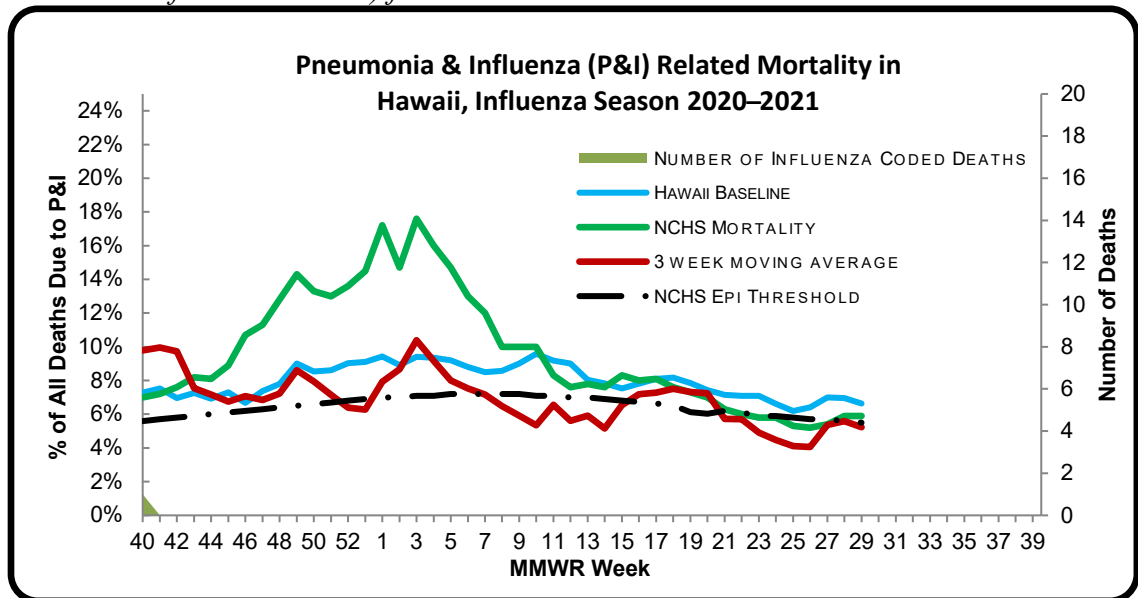


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For week 29 of the current influenza season:

- 2.4% of all deaths that occurred in Hawaii during week 29 were related to pneumonia or influenza (P&I)<sup>16</sup>. For the current season (season to date: 6.8%), there have been 9,677 deaths from any cause, 661 of which were due to P&I.
- The P&I rate was lower than the historical baseline in Hawaii<sup>17</sup> (i.e., outside the 95% confidence interval).
- The Hawaii P&I rate was lower than the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>18</sup> (5.9%) (i.e., outside the 95% confidence interval) and comparable to the national epidemic threshold (5.5%) (i.e., inside the 95% confidence interval) for week 29.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>19</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 29. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 29. (2020-2021 season total: 1).

<sup>16</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>17</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>18</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>19</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.



**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### A. VARIANT VIRUSES:

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *Two human infection with novel influenza A virus, H1N1v (1), H3N2v (1), and H1N2v (0), have been reported during the 2020–2021 influenza season.*
  - *No new human infections with novel influenza A viruses were reported to CDC during week 29.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *Two human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Germany during the 2020-2021 influenza season.*

#### B. AVIAN (OR BIRD) INFLUENZA:

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more

information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **May 21, 2021**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

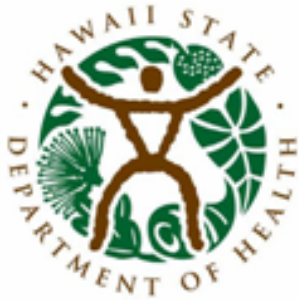
For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	



# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 30: JULY 25, 2021–JULY 31, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 26, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 30

Surveillance for Influenza-like Illness (ILI)		
<i>Metric</i>	<i>Value</i>	<i>Comment</i>
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	1.4%	Higher than the previous week. Comparable to Hawaii's historical baseline, comparable to the national ILI rate, and lower than national baseline.
Number of ILI clusters reported to HDOH	0	There have been 8 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.3%	Higher than the previous week. This number means that many, if not all, of the 99.7% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 30)	14.3%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	4.7%	Comparable to the Hawaii's historical baseline, comparable to the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See **appendix 2 for interpretation of MMWR weeks**. Data reported will begin on week 40, the traditional start date of flu season.

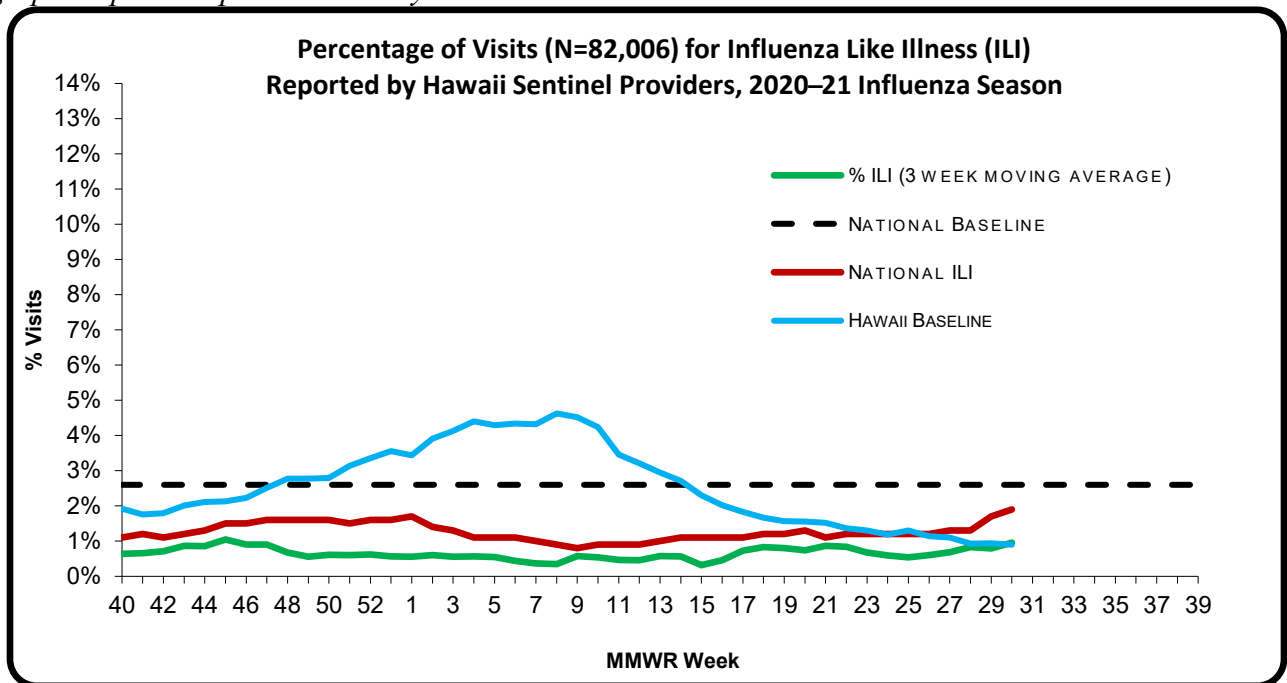
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 30 of the current influenza season:

- **1.4%** (season to date: **0.7%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and comparable to the national ILI rate (**1.9%**) (i.e., inside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

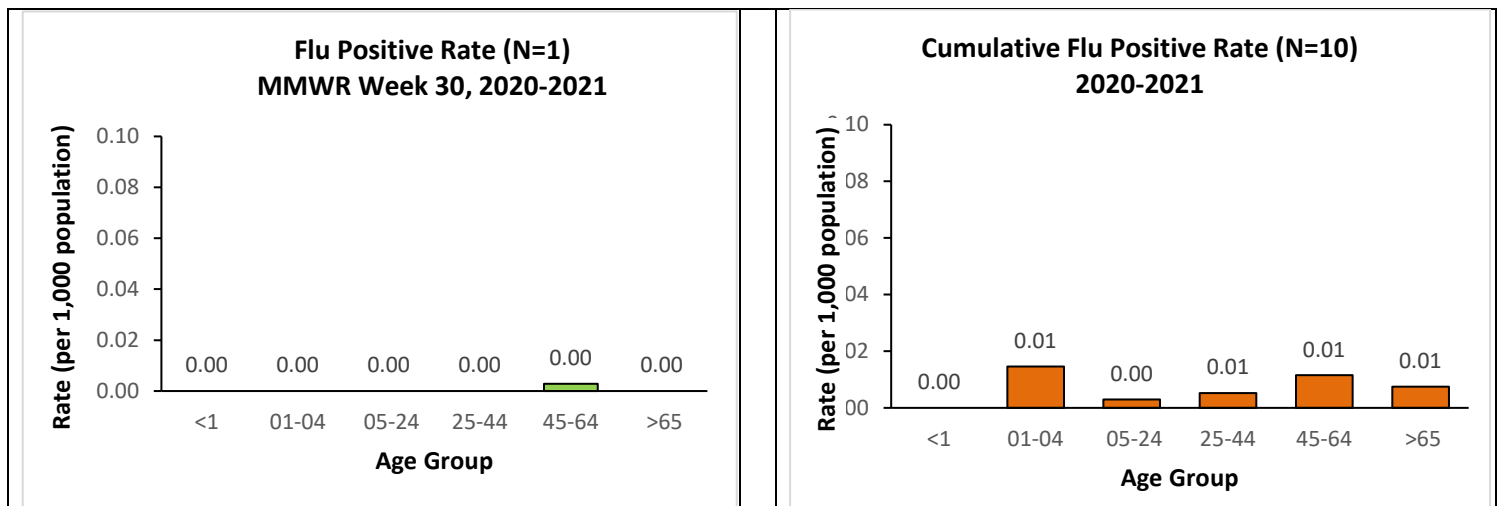
### A. INFLUENZA:

- The following reflects laboratory findings for week 30 of the 2020–21 influenza season:
  - A total of **378** specimens have been tested statewide for influenza viruses (positive: **1 [0.3%]**). (Season to date: 18,841 tested [**0.1% positive**])
    - 36 (9.5%) were screened only by rapid antigen tests with no confirmatory testing.
    - 342 (90.5%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 377 (99.7%) were negative.

Influenza type	Current week 30 (%)	Season to date (%) <sup>9</sup>
Influenza A (H1) <sup>10</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	0 (0.0)
Influenza A no subtyping	1 (100.0)	9 (90.0)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	1 (10.0)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>11</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> Laboratory confirmed negative influenza test have been withdrawn from the season to date count.

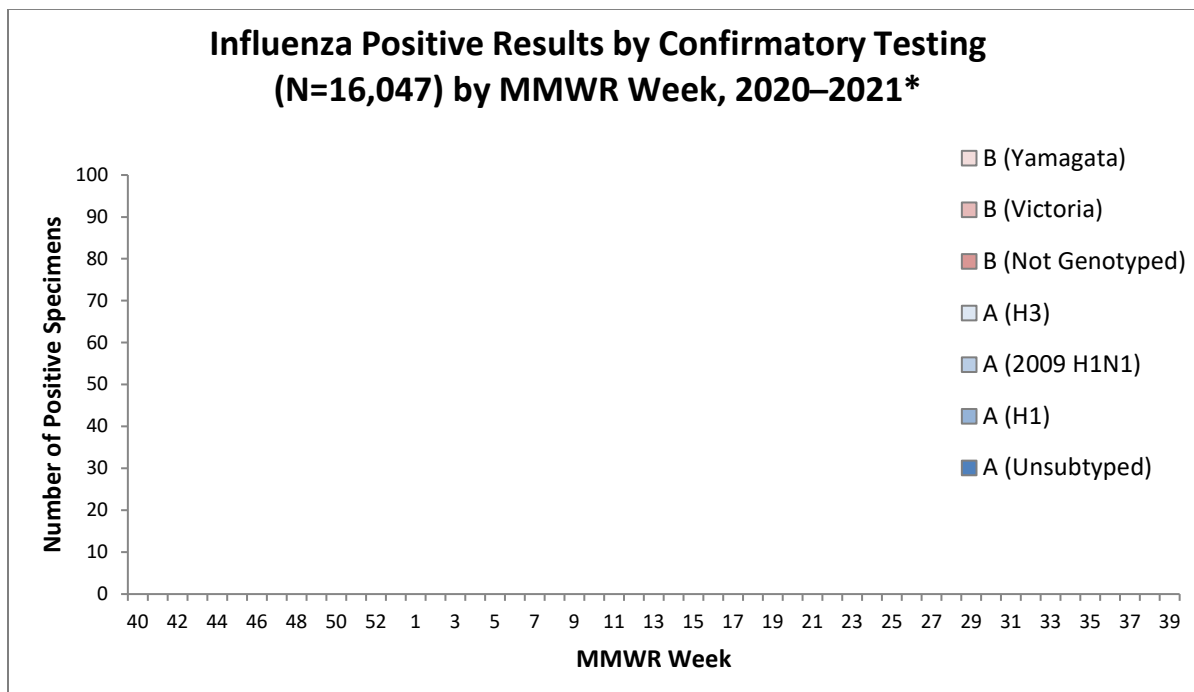
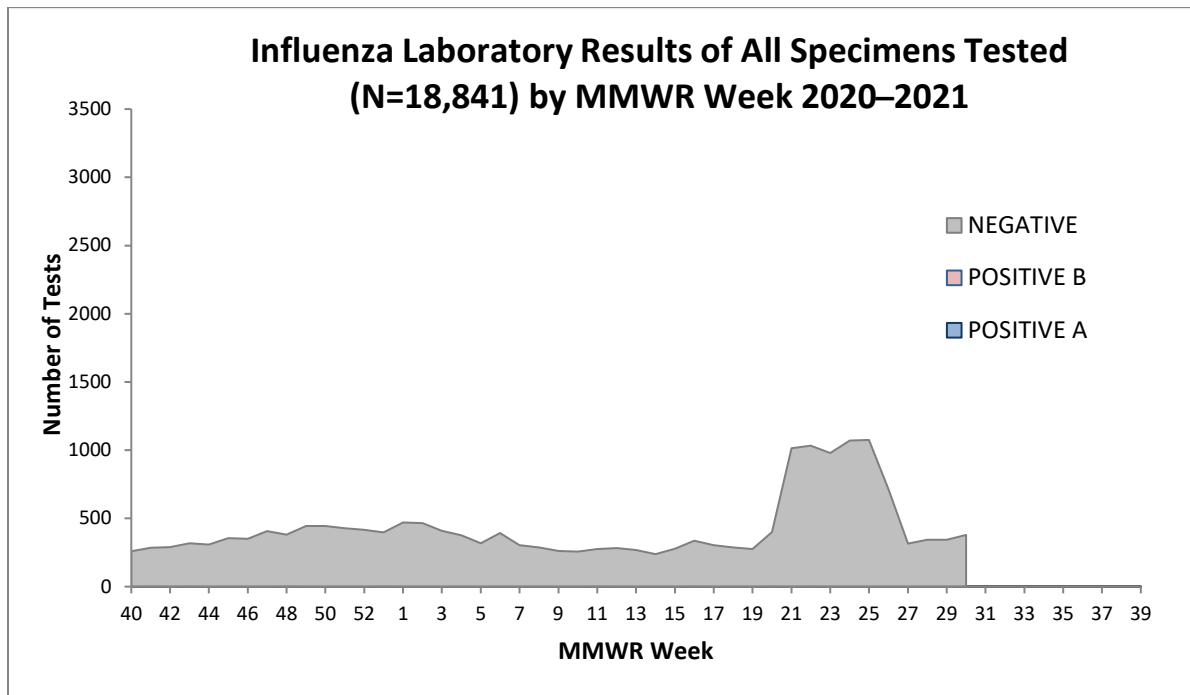
<sup>10</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>11</sup> This represents an estimate of population-based rates based on available data.



## 2. LABORATORY TESTING

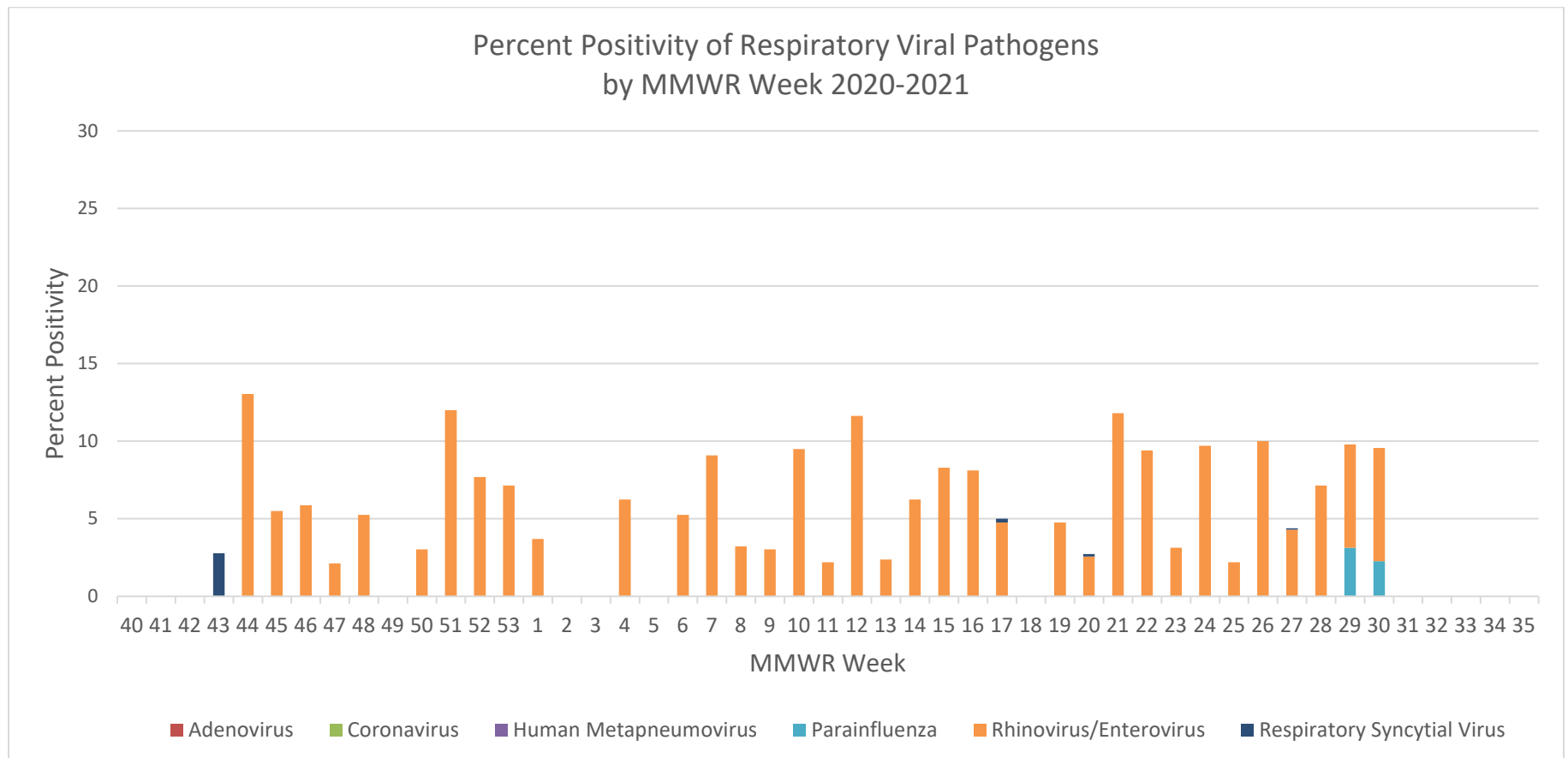
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.



**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 30<sup>12</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>13</sup>
  - A total of **28** surveillance specimens have been tested statewide for COVID-19 (positive: 4 [14.3%]).
  - Season to date: A total of 3,399<sup>14</sup> surveillance specimens have been tested for COVID-19 (positive: 256 [7.5%]).
  - 138 specimens have been tested at SLD<sup>15</sup>.

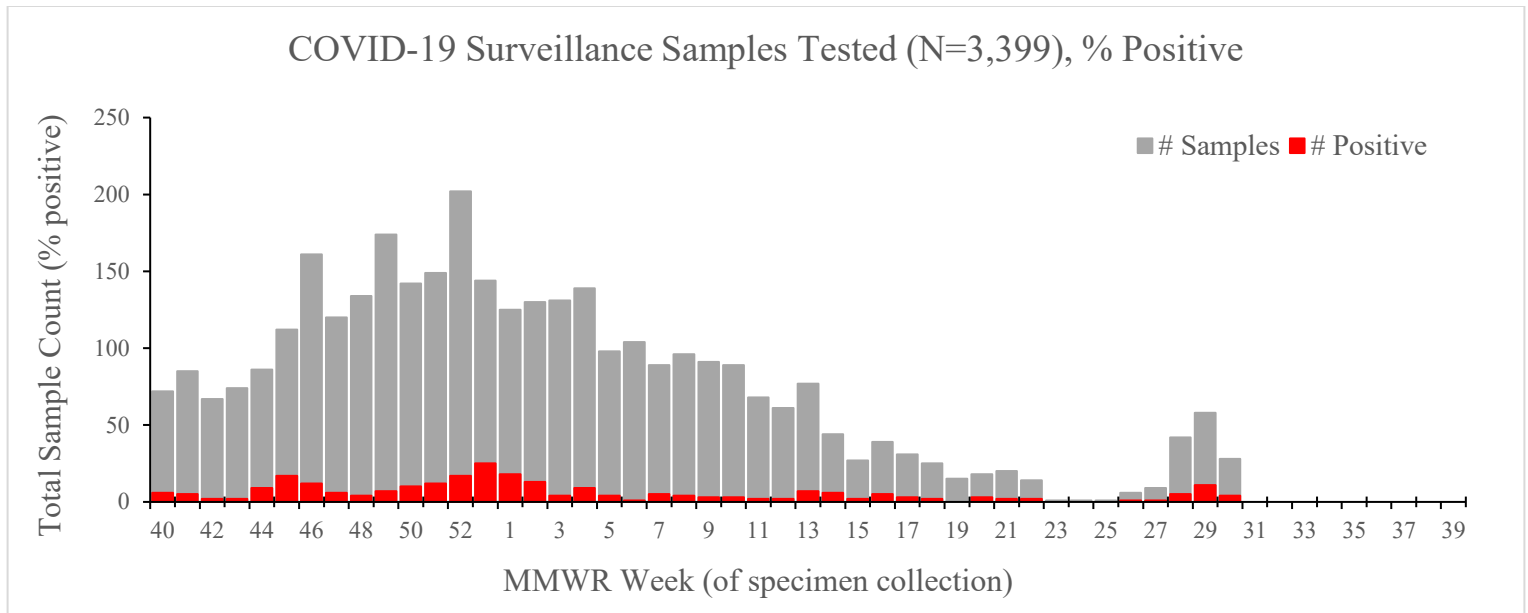
Season to Date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	176	5.7	0-17	623	2.7
Honolulu	2,598	8.1	18-64	1,663	10.4
Kauai	94	2.1	65+	1,113	5.9
Maui	414	6.8			
Unknown	117	4.3			

<sup>12</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>13</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>14</sup> Samples that were discarded prior to testing have been withdrawn from the total surveillance count.

<sup>15</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

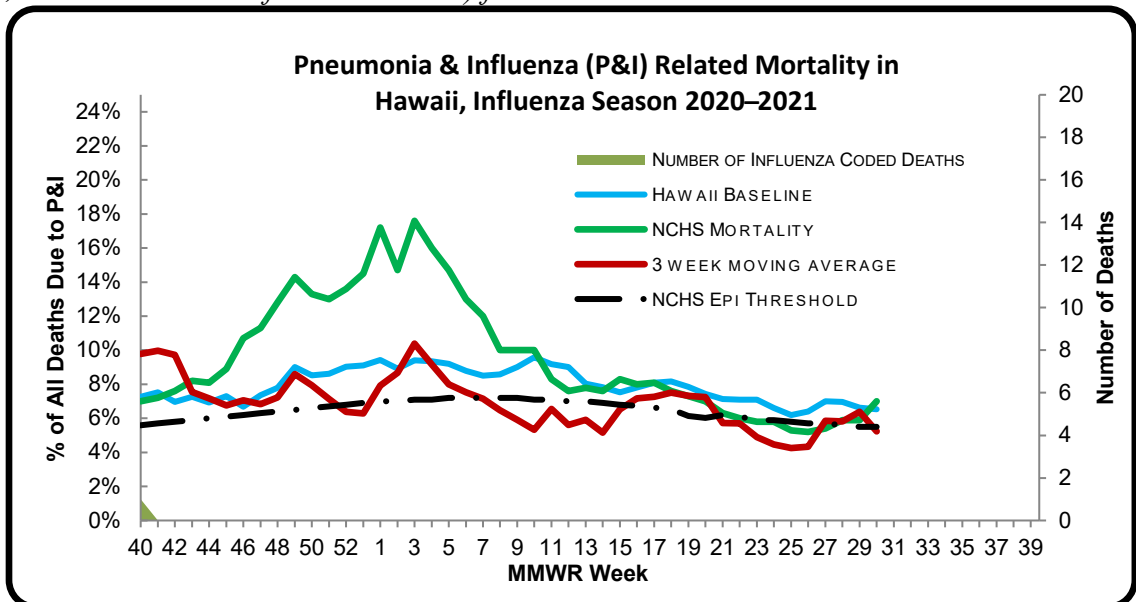


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 30** of the current influenza season:

- *4.7% of all deaths that occurred in Hawaii during week 30 were related to pneumonia or influenza (P&I)<sup>16</sup>. For the current season (season to date: 6.9%), there have been 9,822 deaths from any cause, 674 of which were due to P&I.*
- *The P&I rate was comparable to the historical baseline in Hawaii<sup>17</sup> (i.e., inside the 95% confidence interval).*
- *The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>18</sup> (7.0%) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (5.5%) (i.e., inside the 95% confidence interval) for week 30.*



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>19</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 30. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 30. (2020–2021 season total: 1).

<sup>16</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>18</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>19</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### **A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *Four human infection with novel influenza A virus, H1N1v (2), H3N2v (1), and H1N2v (1), have been reported during the 2020–2021 influenza season.*
  - *Two new human infections with novel influenza A viruses were reported to CDC during week 30.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *Two human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H3N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Taiwan during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Germany during the 2020-2021 influenza season.*

#### **B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza

H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **June 22, 2021**. Since the last update, one new laboratory-confirmed human case of influenza A (H5N6) virus infection was reported to WHO from China. The case was hospitalized with pneumonia and passed away. There was no direct exposure to live poultry but had visited the stalls selling poultry. Two laboratory-confirmed human cases of influenza A(H9N2) virus infection were reported to WHO from China. Two of the cases had exposure to domestic live poultry and live poultry markets prior to illness. One had mild illness and the other was hospitalized. Both had recovered. One laboratory-confirmed human case of influenza A (H10N3) virus infection was reported to WHO from China. The case was hospitalized and recovered.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

#### **A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	





# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 31: AUGUST 1, 2021–AUGUST 7, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 26, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 31

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	1.3%	Lower than the previous week. Comparable to Hawaii's historical baseline, lower than national ILI rate, and lower than national baseline.
Number of ILI clusters reported to HDOH	0	There have been 8 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.6%	Higher than the previous week. This number means that many, if not all, of the 99.4% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 31)	31.0%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	4.1%	Comparable to the Hawaii's historical baseline, comparable to the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week 40, the traditional start date of flu season.

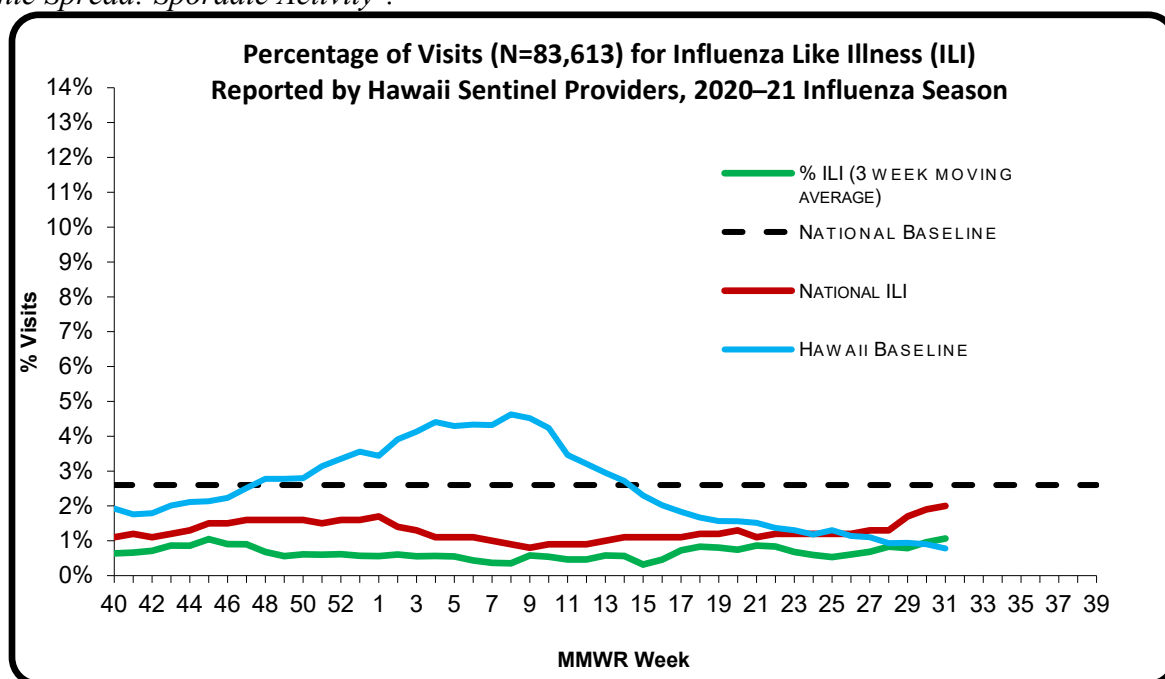
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 31 of the current influenza season:

- **1.3%** (season to date: **0.7%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**2.0%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

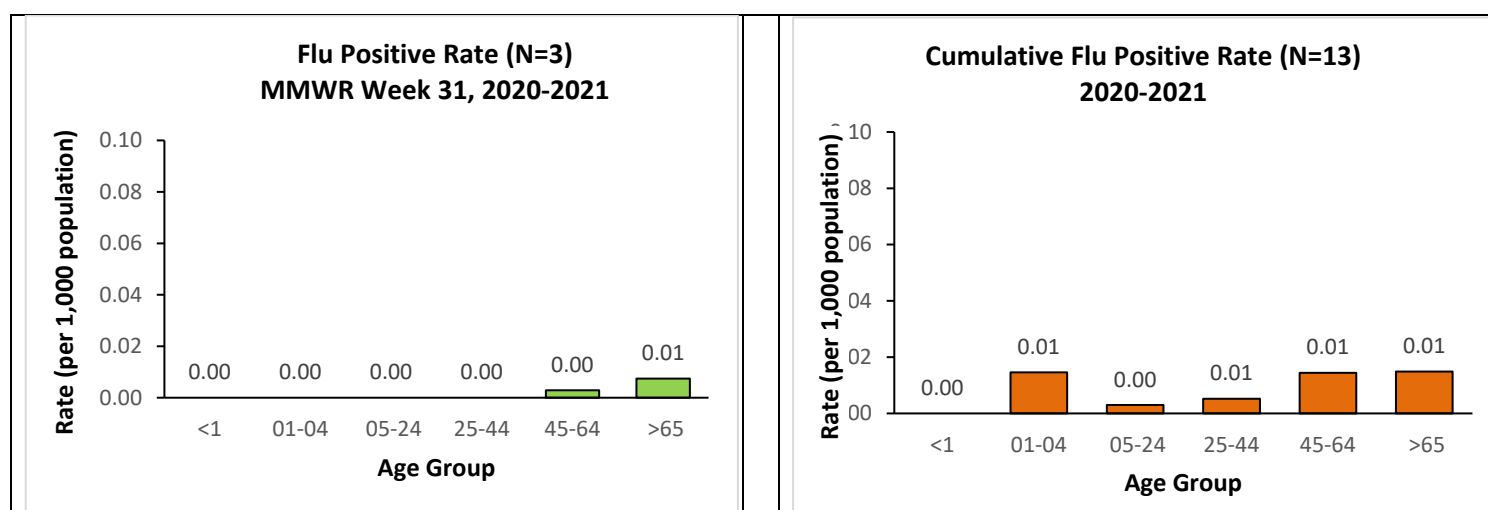
### A. INFLUENZA:

- The following reflects laboratory findings for week 31 of the 2020–21 influenza season:
  - A total of **525** specimens have been tested statewide for influenza viruses (positive: 3 [**0.6%**]). (Season to date: 19,363 tested [**0.1%** positive])
    - 72 (13.7%) were screened only by rapid antigen tests with no confirmatory testing.
    - 453 (86.3%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 522 (99.4%) were negative.

Influenza type	Current week 31 (%)	Season to date (%) <sup>9</sup>
Influenza A (H1) <sup>10</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	1 (33.3)	1 (7.7)
Influenza A no subtyping	1 (33.3)	10 (76.9)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	1 (33.3)	2 (15.4)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>11</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

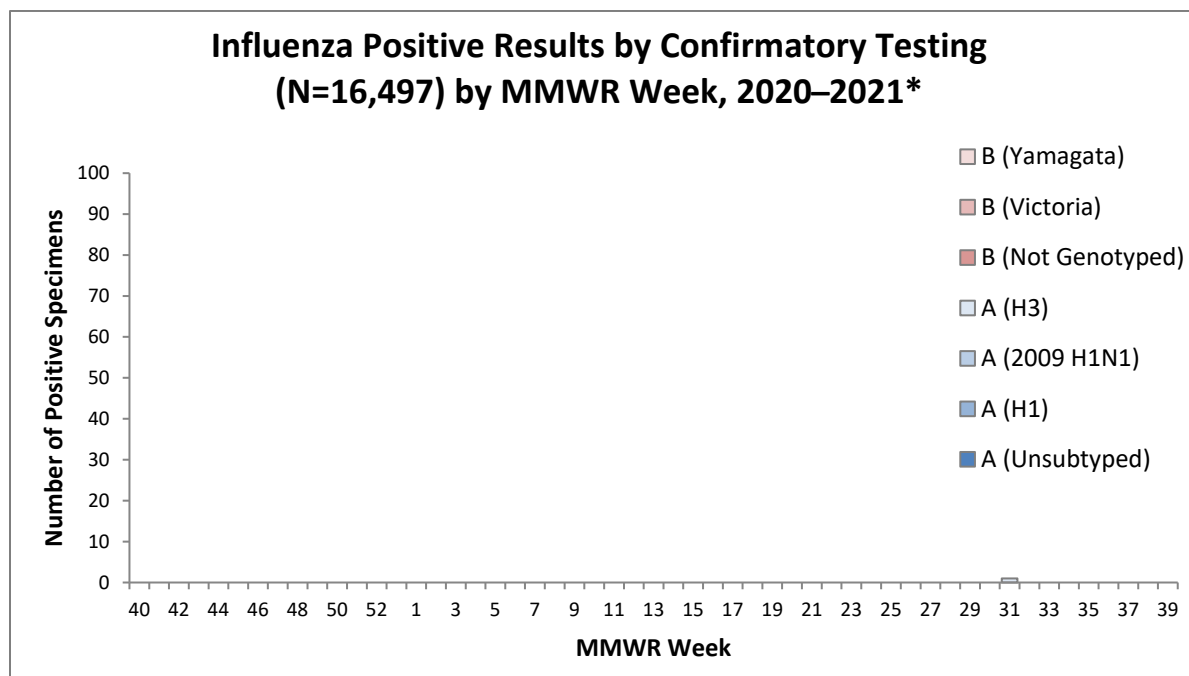
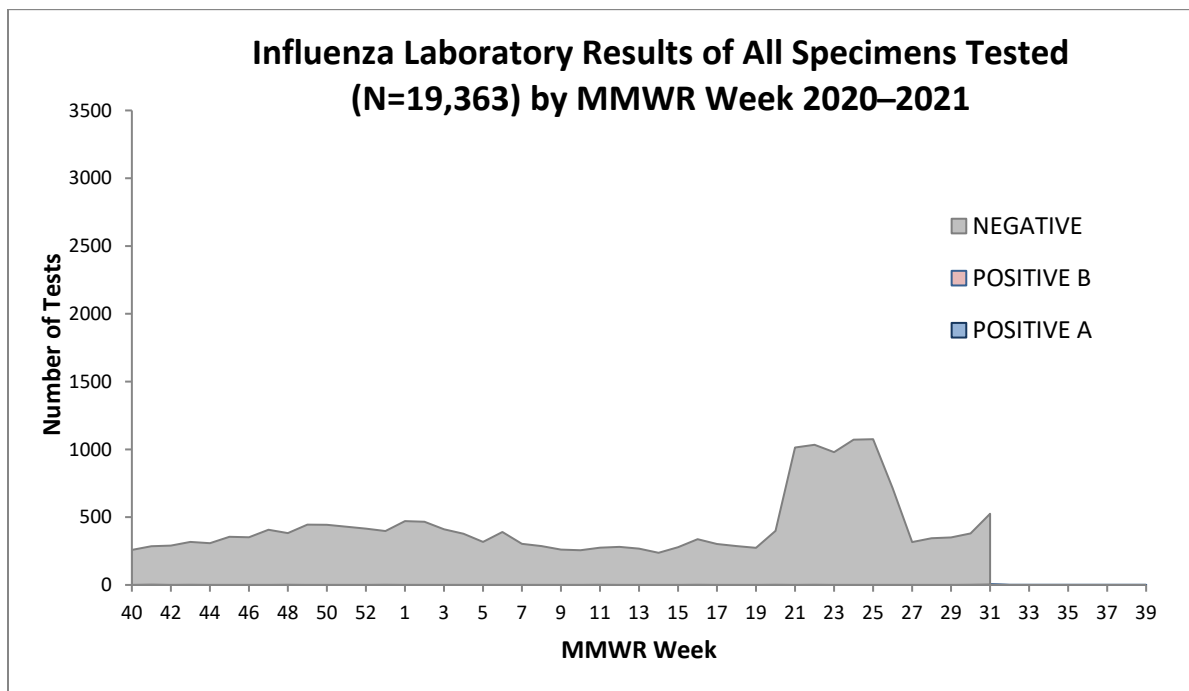
<sup>9</sup> Laboratory confirmed negative influenza test have been withdrawn from the season to date count.

<sup>10</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>11</sup> This represents an estimate of population-based rates based on available data.

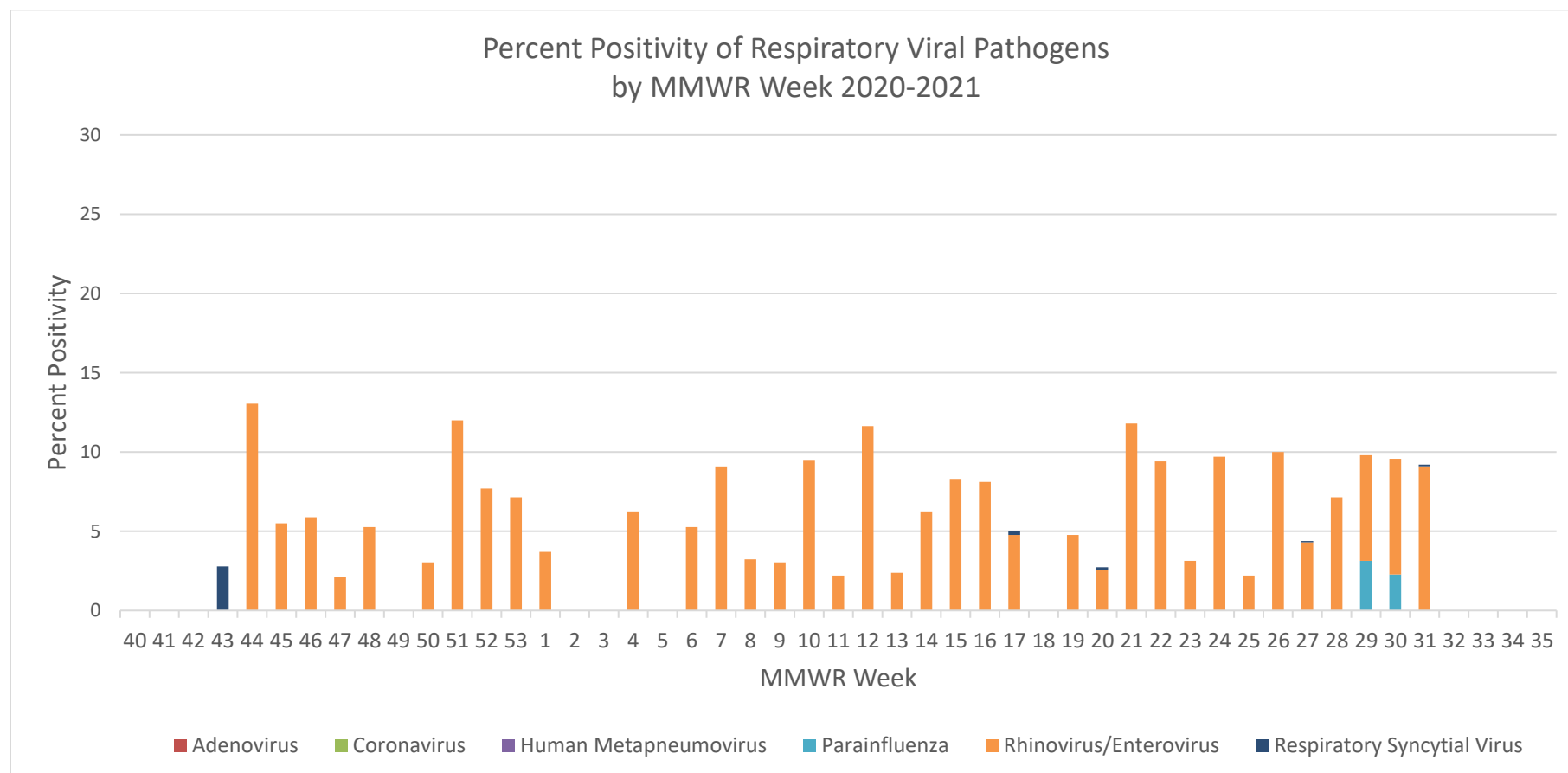
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 31<sup>12</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>13</sup>
  - *A total of 129 surveillance specimens have been tested statewide for COVID-19 (positive: 40 [31.0%]).*
  - *Season to date: A total of 3,571<sup>14</sup> surveillance specimens have been tested for COVID-19 (positive: 307 [8.6%]).*
  - *143 specimens have been tested at SLD*<sup>15</sup>.

Season to Date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	184	6.0	0-17	661	3.2
Honolulu	2,728	9.3	18-64	1,766	12.0
Kauai	104	1.9	65+	1,144	6.5
Maui	429	7.7			
Unknown	126	5.6			

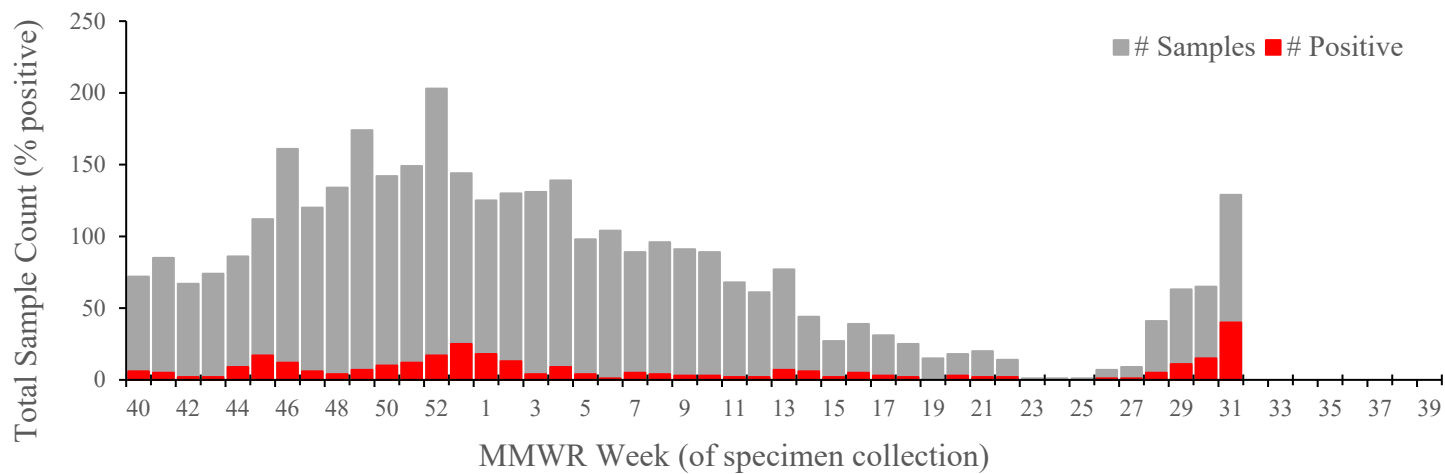
<sup>12</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>13</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>14</sup> Samples that were discarded prior to testing have been withdrawn from the total surveillance count.

<sup>15</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

## COVID-19 Surveillance Samples Tested (N=3,571), % Positive

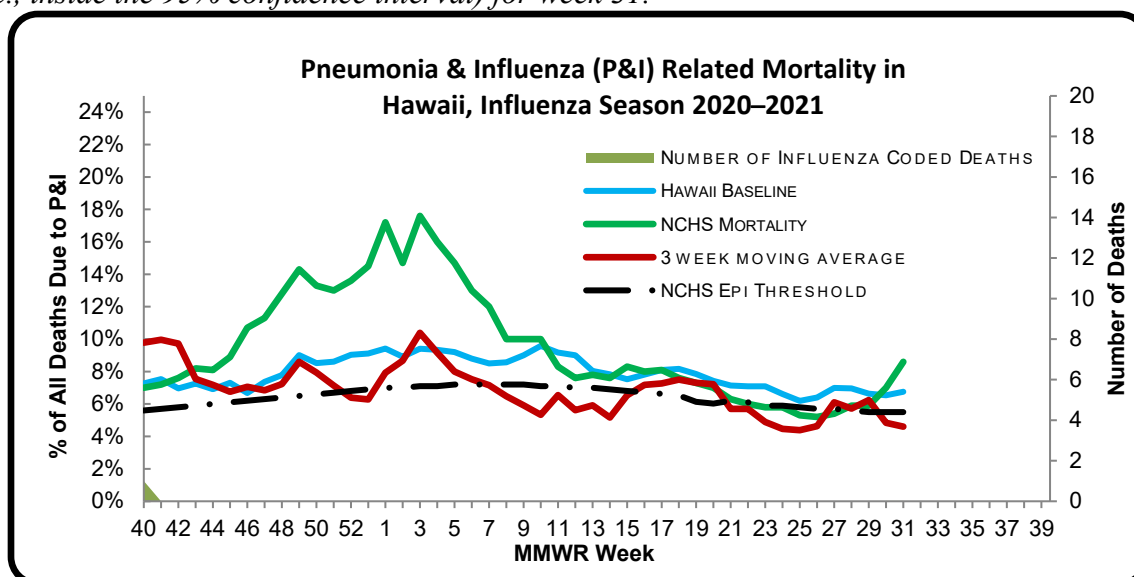


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For week 31 of the current influenza season:

- *4.1% of all deaths that occurred in Hawaii during week 31 were related to pneumonia or influenza (P&I)<sup>16</sup>. For the current season (season to date: 6.8%), there have been 10,105 deaths from any cause, 687 of which were due to P&I.*
- *The P&I rate was comparable to the historical baseline in Hawaii<sup>17</sup> (i.e., inside the 95% confidence interval).*
- *The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>18</sup> (8.6%) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (5.5%) (i.e., inside the 95% confidence interval) for week 31.*



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>19</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 31. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 31. (2020–2021 season total: 1).

<sup>16</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>18</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>19</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.



**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### A. VARIANT VIRUSES:

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *Four human infection with novel influenza A virus, H1N1v (2), H3N2v (1), and H1N2v (1), have been reported during the 2020–2021 influenza season.*
  - *Two new human infections with novel influenza A viruses were reported to CDC during week 31.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *Two human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H3N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Taiwan during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Germany during the 2020-2021 influenza season.*

#### B. AVIAN (OR BIRD) INFLUENZA:

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been

detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **June 22, 2021**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

#### **A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

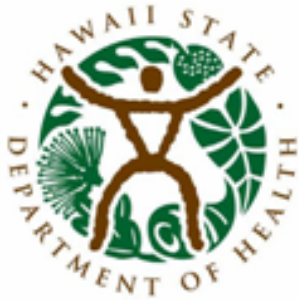
For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	



# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 32: AUGUST 8, 2021– AUGUST 14, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 26, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 32

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	1.1%	Lower than the previous week. Comparable to Hawaii's historical baseline, lower than national ILI rate, and lower than national baseline.
Number of ILI clusters reported to HDOH	0	There have been 8 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Lower than the previous week. This number means that many, if not all, of the 100.0% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 32)	34.2%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	11.8%	Comparable than the Hawaii's historical baseline, higher than the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See appendix 2 for interpretation of MMWR weeks. Data reported will begin on week 40, the traditional start date of flu season.

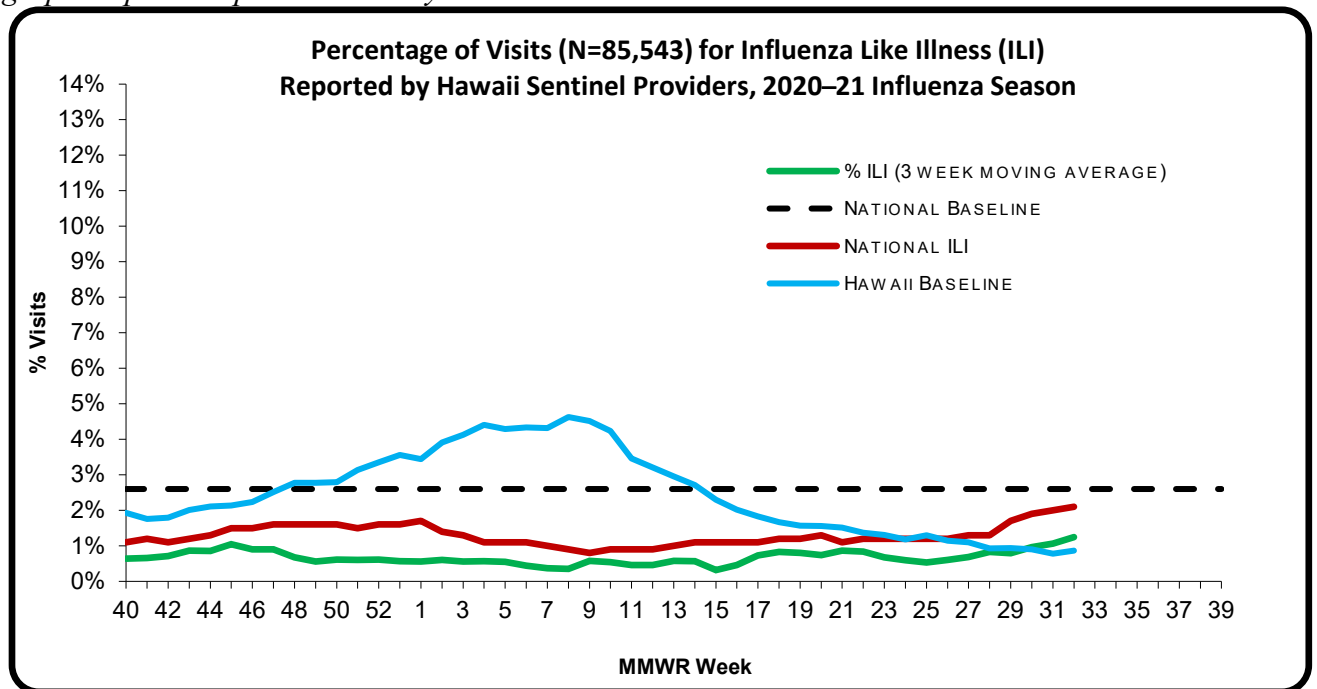
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 32 of the current influenza season:

- **1.1%** (season to date: **0.7%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**2.1%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

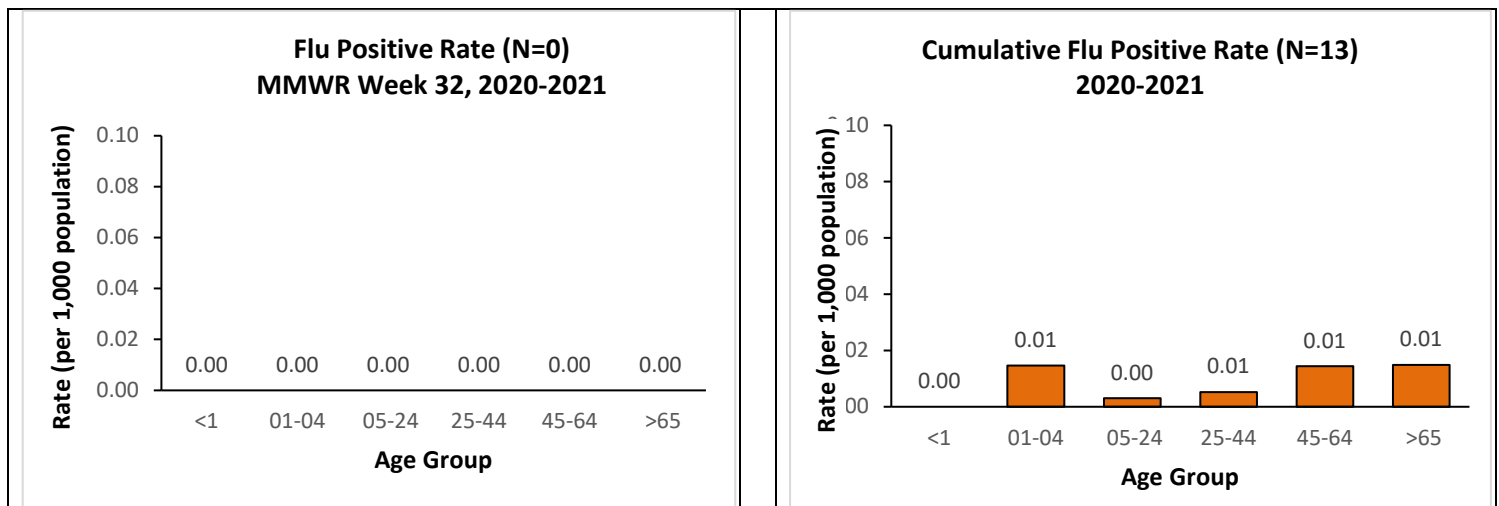
### A. INFLUENZA:

- The following reflects laboratory findings for week 32 of the 2020–21 influenza season:
  - A total of **470** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 19,835 tested [0.1% positive])
    - 44 (9.4%) were screened only by rapid antigen tests with no confirmatory testing.
    - 426 (90.6%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 470 (100.0%) were negative.

Influenza type	Current week 32 (%)	Season to date (%) <sup>9</sup>
Influenza A (H1) <sup>10</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	1 (7.7)
Influenza A no subtyping	0 (0.0)	10 (76.9)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	2 (15.4)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>11</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> Laboratory confirmed negative influenza test have been withdrawn from the season to date count.

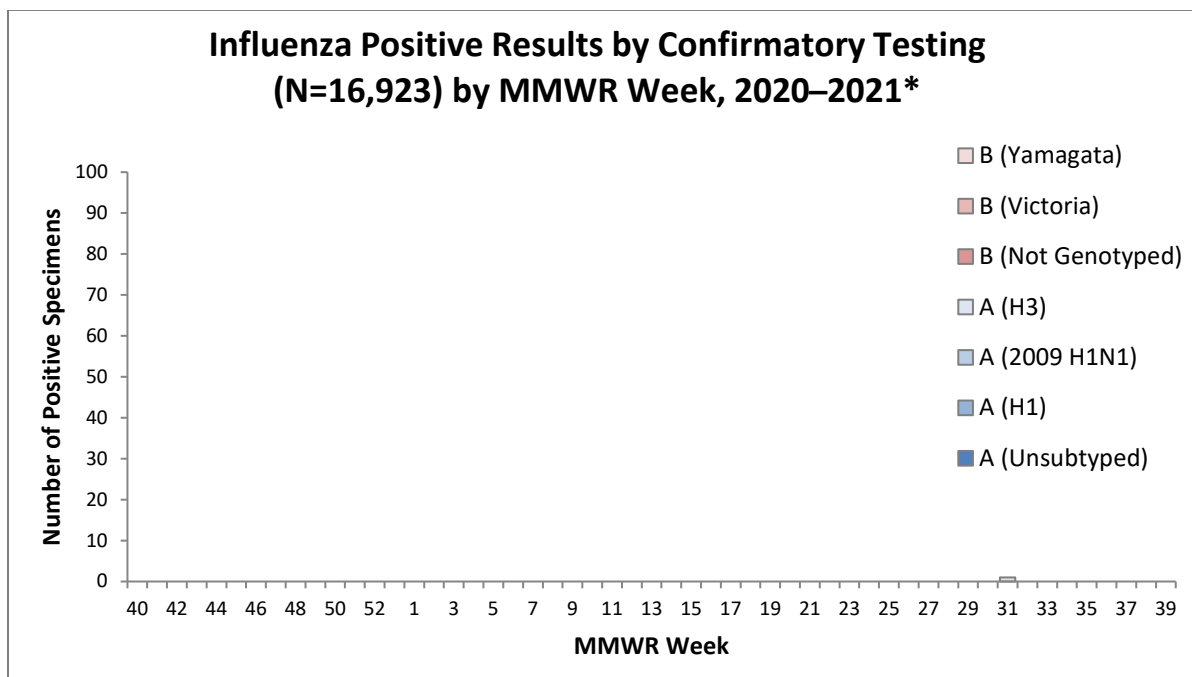
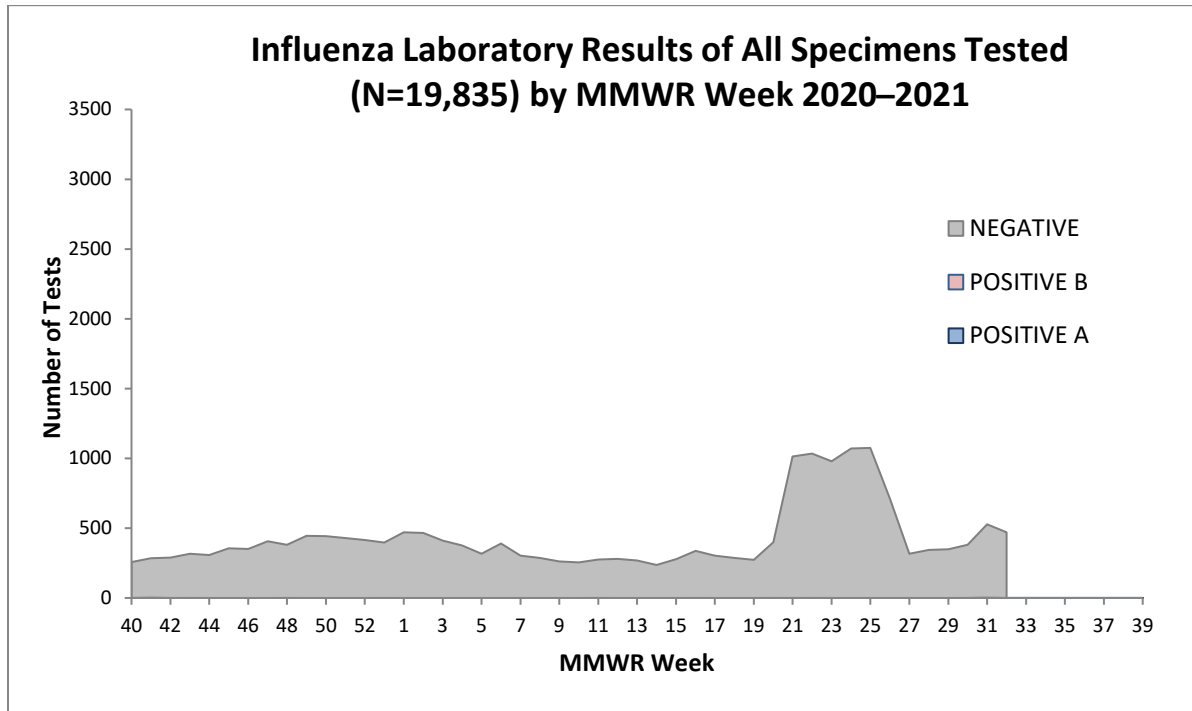
<sup>10</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>11</sup> This represents an estimate of population-based rates based on available data.



## 2. LABORATORY TESTING

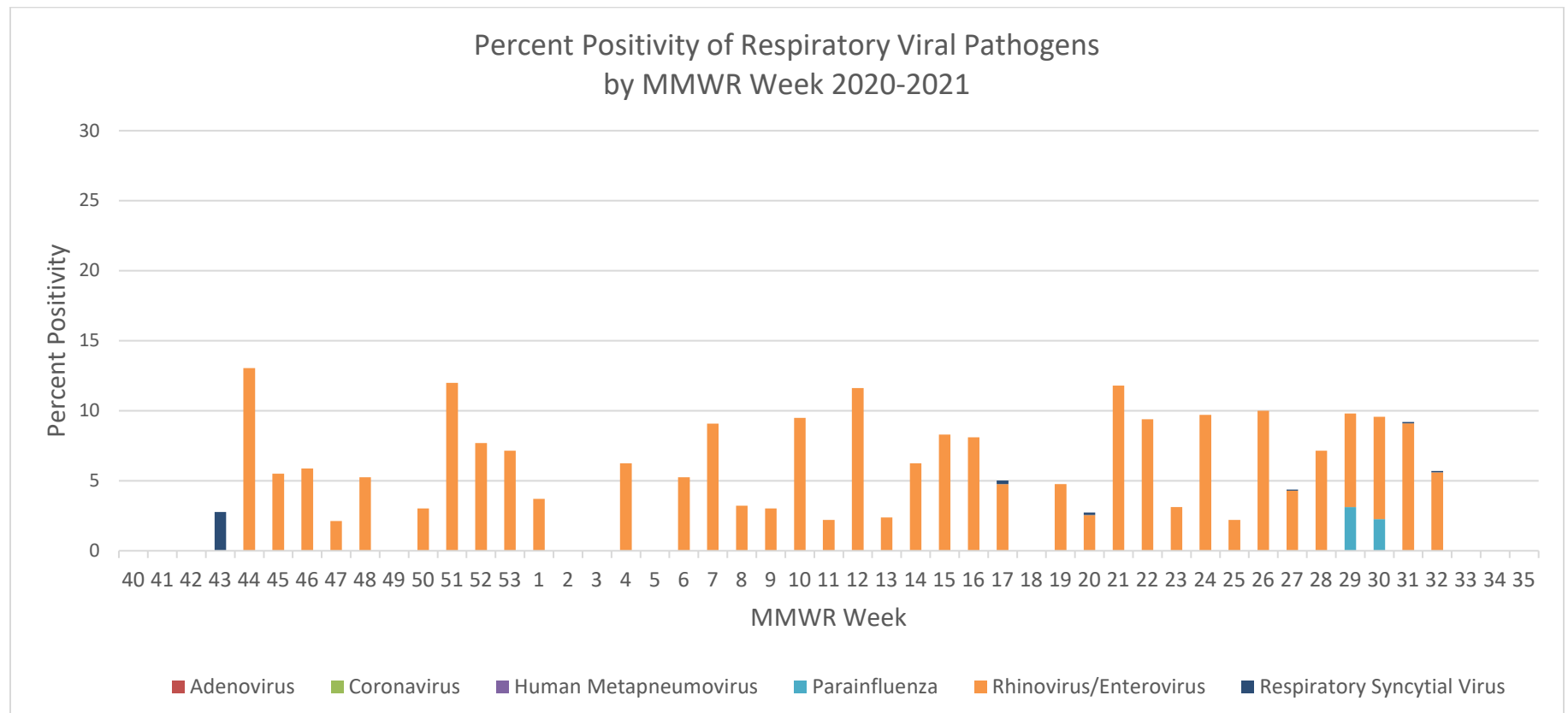
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.



**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 32<sup>12</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>13</sup>
  - *A total of 76 surveillance specimens have been tested statewide for COVID-19 (positive: 26 [34.2%]).*
  - *Season to date: A total of 3,619<sup>14</sup> surveillance specimens have been tested for COVID-19 (positive: 331 [9.1%]).*
  - *144 specimens have been tested at SLD*<sup>15</sup>.

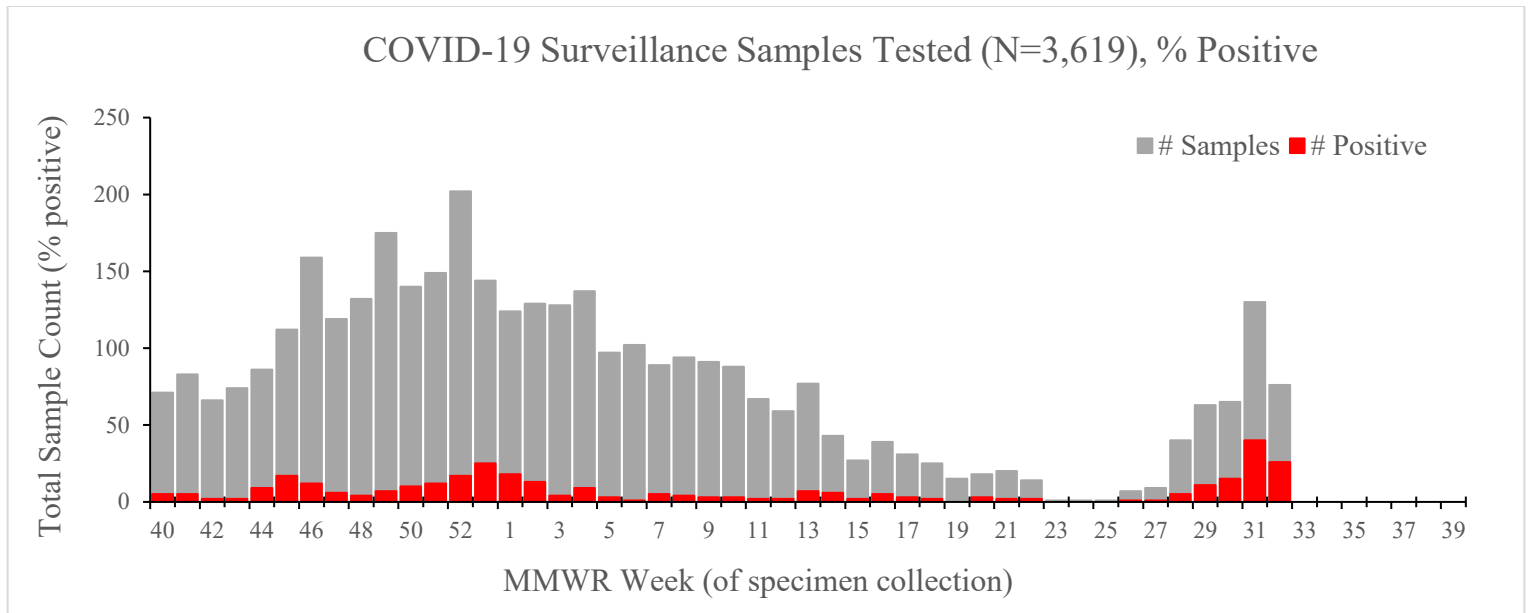
Season to Date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	190	5.8	0-17	660	3.2
Honolulu	2,760	9.9	18-64	1,802	12.9
Kauai	109	3.7	65+	1,157	6.7
Maui	429	8.2			
Unknown	131	6.1			

<sup>12</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>13</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>14</sup> Samples that were discarded prior to testing have been withdrawn from the total surveillance count.

<sup>15</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

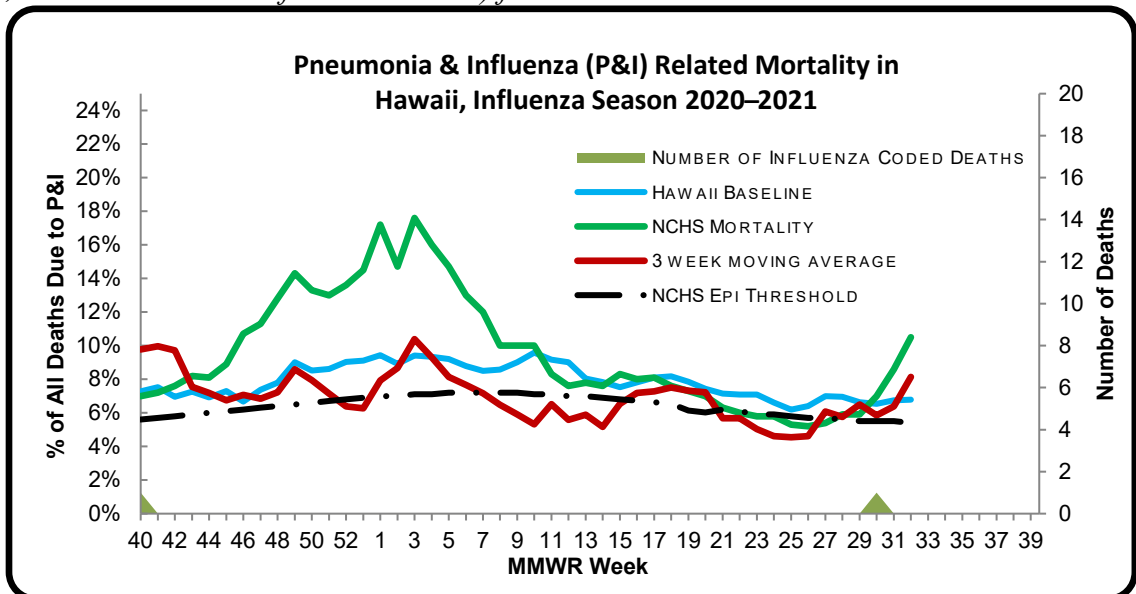


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 32** of the current influenza season:

- *11.8% of all deaths that occurred in Hawaii during week 32 were related to pneumonia or influenza (P&I)<sup>16</sup>. For the current season (season to date: 7.0%), there have been 10,500 deaths from any cause, 731 of which were due to P&I.*
- *The P&I rate was comparable to the historical baseline in Hawaii<sup>17</sup> (i.e., inside the 95% confidence interval).*
- *The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>18</sup> (10.5%) (i.e., inside the 95% confidence interval) and higher than the national epidemic threshold (5.4%) (i.e., outside the 95% confidence interval) for week 32.*



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>19</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 32. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 32. (2020-2021 season total: 1).

<sup>16</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>18</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>19</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### **A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *Four human infection with novel influenza A virus, H1N1v (2), H3N2v (1), and H1N2v (1), have been reported during the 2020–2021 influenza season.*
  - *Two new human infections with novel influenza A viruses were reported to CDC during week 32.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *Two human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H3N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Taiwan during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Germany during the 2020-2021 influenza season.*

#### **B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza

H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **August 08, 2021**. Since the last update, one new laboratory-confirmed human case of influenza A (H5N1) virus infection was reported to WHO from India. The case was hospitalized with respiratory symptoms and passed away. The source of the exposure to influenza A (H5N1) is unknown. Six new laboratory-confirmed human cases of influenza A (H5N6) were reported to WHO from China. All six cases had direct exposure to live poultry or live poultry markets. There was no hospitalization reported in the six cases.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

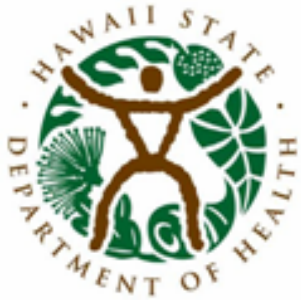
<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	





# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 33: AUGUST 15, 2021– AUGUST 21, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 26, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 33

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	2.1%	Higher than the previous week. Comparable to Hawaii's historical baseline, comparable to the national ILI rate, and comparable to the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 8 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.0%	Lower than the previous week. This number means that many, if not all, of the 100.0% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 33)	37.7%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	9.1%	Comparable to the Hawaii's historical baseline, comparable to the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See appendix 2 for interpretation of MMWR weeks. Data reported will begin on week 40, the traditional start date of flu season.

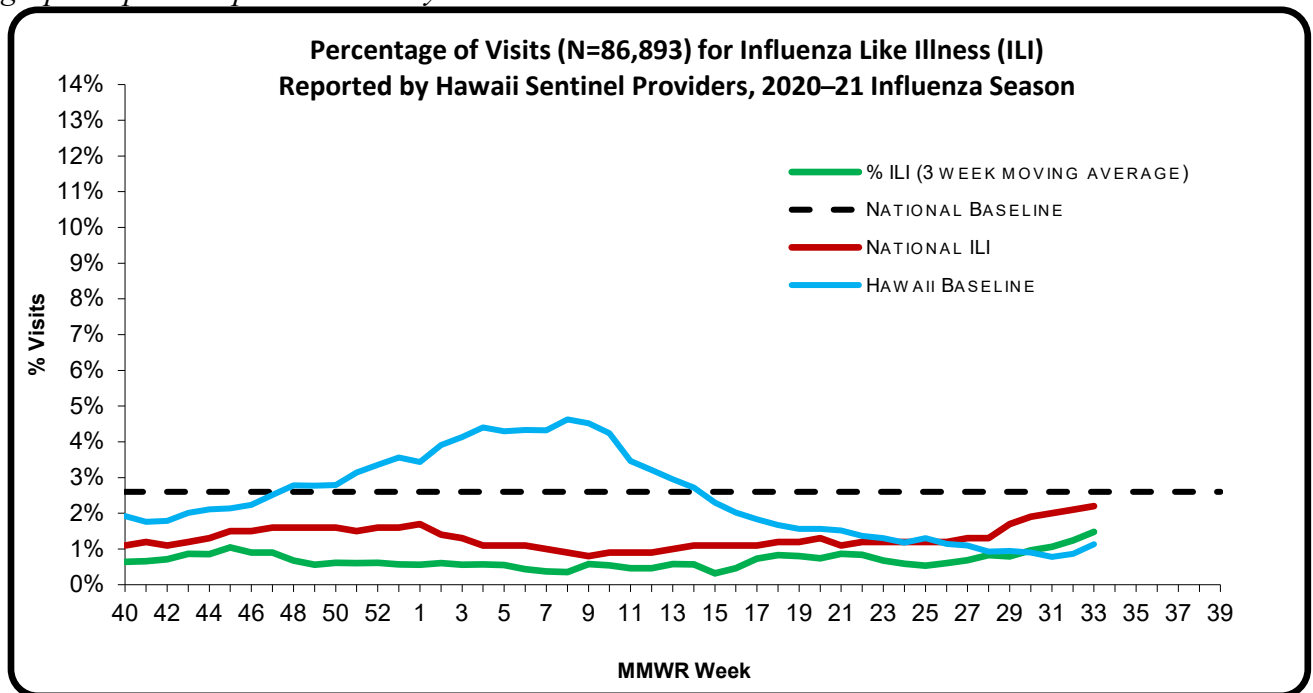
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 33 of the current influenza season:

- **2.1%** (season to date: **0.7%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were comparable to the national baseline (**2.6%**)<sup>5</sup> (i.e., inside the 95% confidence interval) and comparable to the national ILI rate (**2.2%**) (i.e., inside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

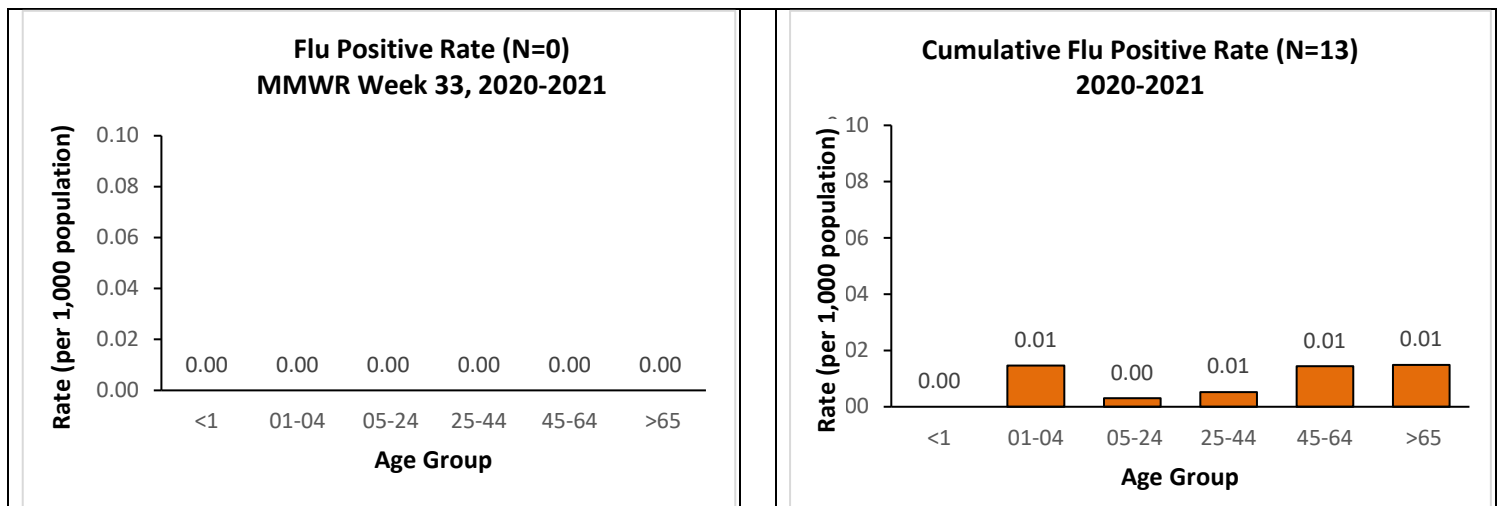
### A. INFLUENZA:

- The following reflects laboratory findings for week 33 of the 2020–21 influenza season:
  - A total of **520** specimens have been tested statewide for influenza viruses (positive: 0 [0.0%]). (Season to date: 20,357 tested [0.1% positive])
    - 57 (11.0%) were screened only by rapid antigen tests with no confirmatory testing.
    - 463 (89.0%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 520 (100.0%) were negative.

Influenza type	Current week 33 (%)	Season to date (%) <sup>9</sup>
Influenza A (H1) <sup>10</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	1 (7.7)
Influenza A no subtyping	0 (0.0)	10 (76.9)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	2 (15.4)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>11</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

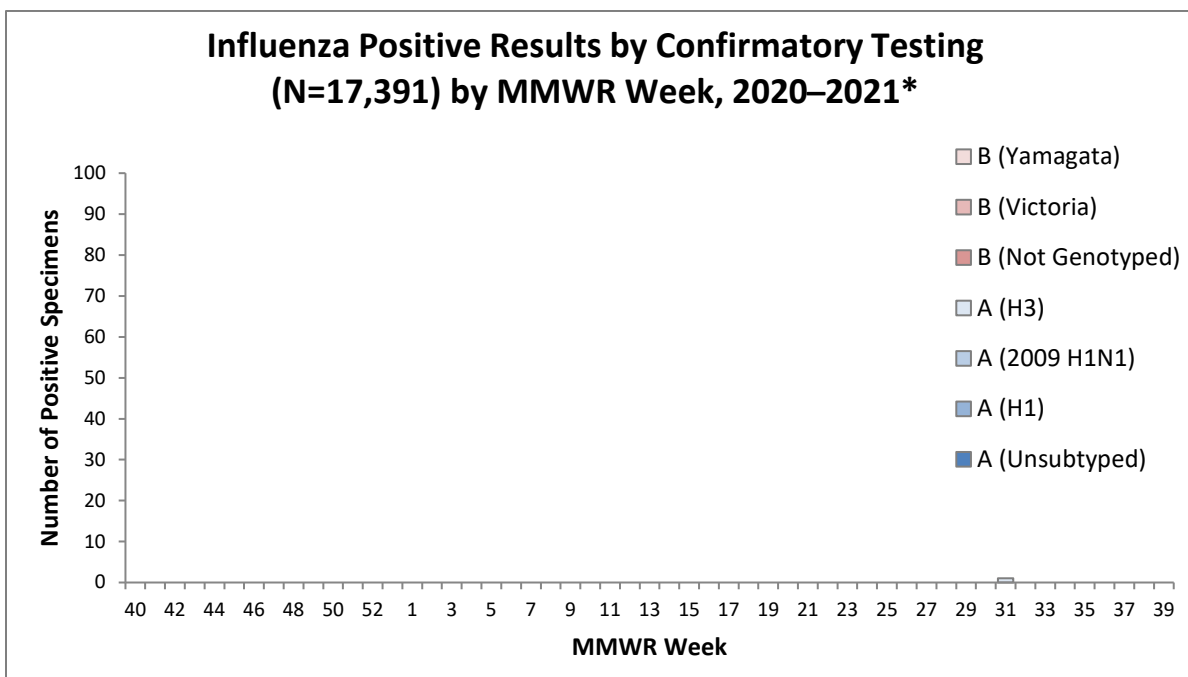
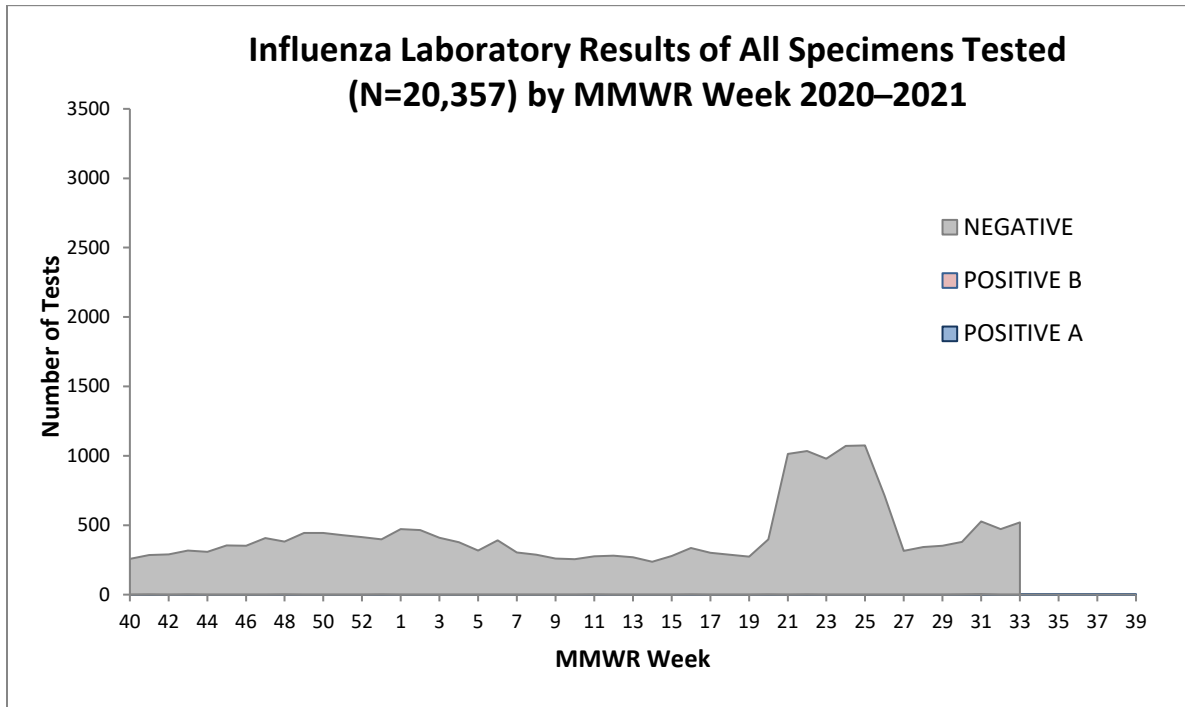
<sup>9</sup> Laboratory confirmed negative influenza test have been withdrawn from the season to date count.

<sup>10</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>11</sup> This represents an estimate of population-based rates based on available data.

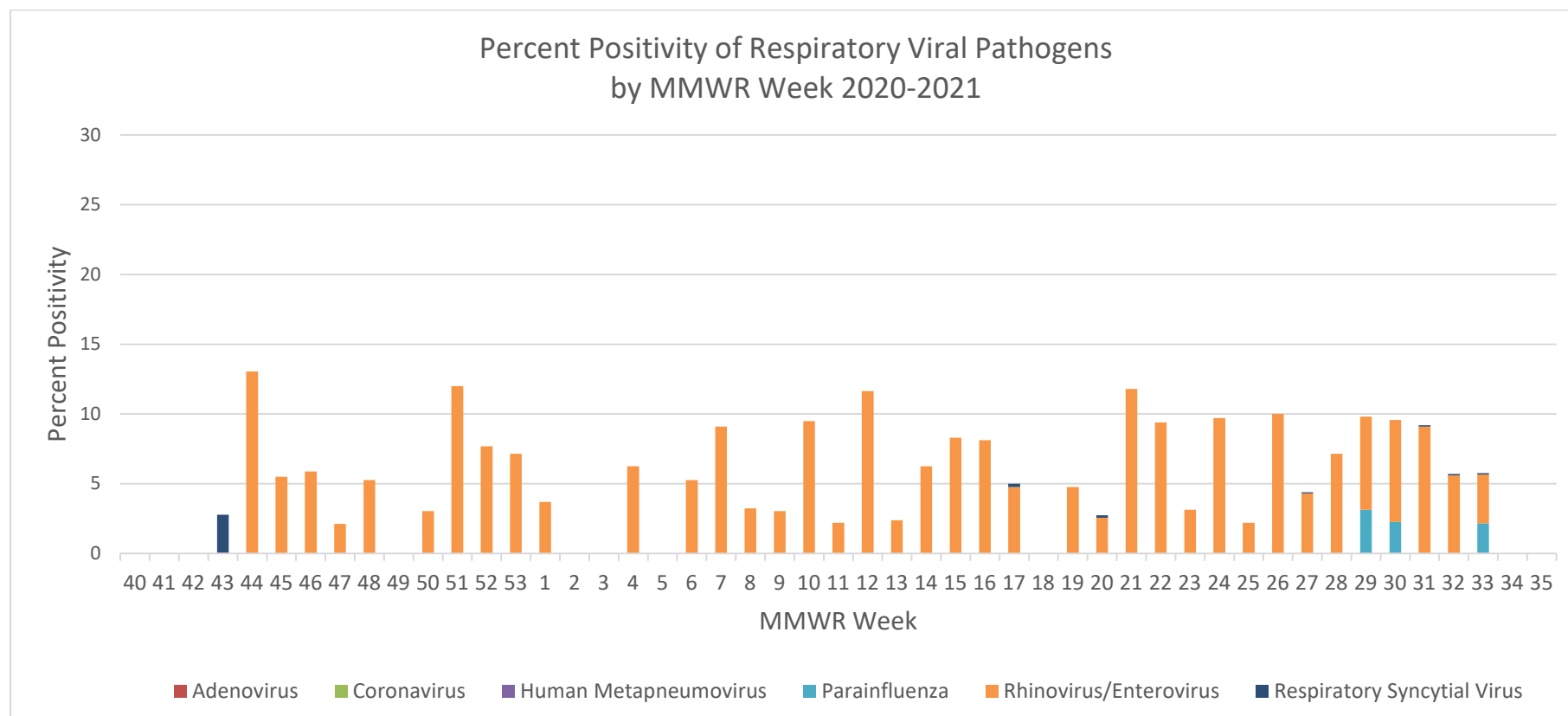
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 33<sup>12</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>13</sup>
  - *A total of 138 surveillance specimens have been tested statewide for COVID-19 (positive: 52 [37.7%]).*
  - *Season to date: A total of 3,758<sup>14</sup> surveillance specimens have been tested for COVID-19 (positive: 383 [10.2%]).*
  - *146 specimens have been tested at SLD*<sup>15</sup>.

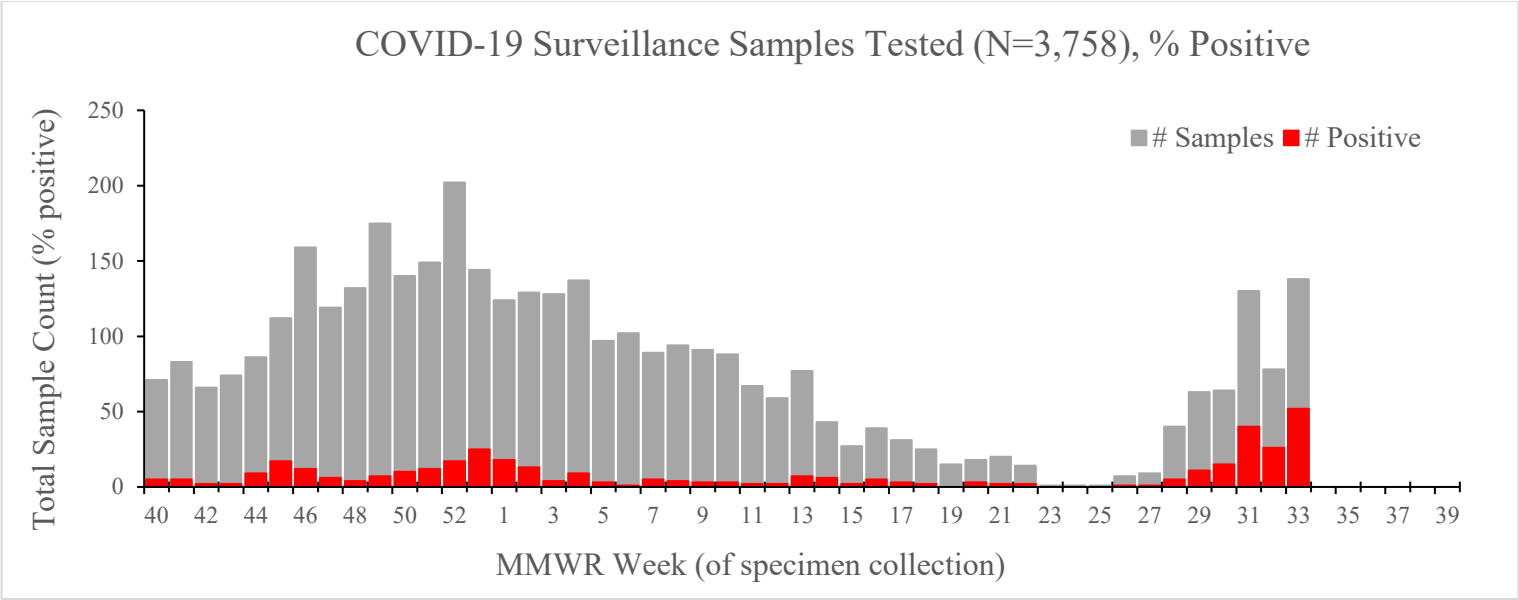
Season to Date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	195	6.2	0-17	684	3.4
Honolulu	2,865	10.9	18-64	1,880	14.3
Kauai	116	3.5	65+	1,194	7.7
Maui	446	9.9			
Unknown	136	7.4			

<sup>12</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>13</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>14</sup> Samples that were discarded prior to testing have been withdrawn from the total surveillance count.

<sup>15</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

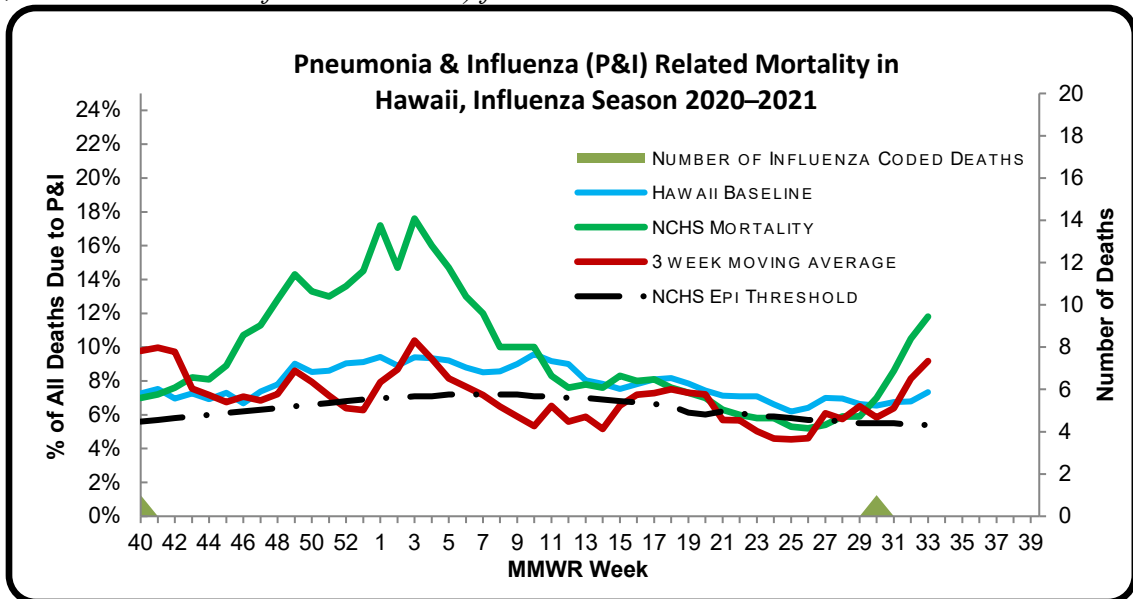


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For week 33 of the current influenza season:

- **9.1%** of all deaths that occurred in Hawaii during week 33 were related to pneumonia or influenza (P&I)<sup>16</sup>. For the current season (season to date: **7.0%**), there have been 10,599 deaths from any cause, 740 of which were due to P&I.
- The P&I rate was comparable to the historical baseline in Hawaii<sup>17</sup> (i.e., inside the 95% confidence interval).
- The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>18</sup> (**11.8%**) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (**5.4%**) (i.e., inside the 95% confidence interval) for week 33.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>19</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 33. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 33. (2020-2021 season total: 1).

<sup>16</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>18</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>19</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.



**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### A. VARIANT VIRUSES:

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *Four human infection with novel influenza A virus, H1N1v (2), H3N2v (1), and H1N2v (1), have been reported during the 2020–2021 influenza season.*
  - *Two new human infections with novel influenza A viruses were reported to CDC during week 33.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *Two human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H3N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Taiwan during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Germany during the 2020-2021 influenza season.*

#### B. AVIAN (OR BIRD) INFLUENZA:

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been

detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **August 08, 2021**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	



# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

**WEEK 34:** AUGUST 22, 2021– AUGUST 28, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 26, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 34

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	2.4%	Higher than the previous week. Comparable to Hawaii's historical baseline, comparable to the national ILI rate, and comparable to the national baseline.
Number of ILI clusters reported to HDOH	1	There have been 9 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.2%	Higher than the previous week. This number means that many, if not all, of the 99.8% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 34)	38.0%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	11.1%	Comparable to the Hawaii's historical baseline, comparable to the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week 40, the traditional start date of flu season.

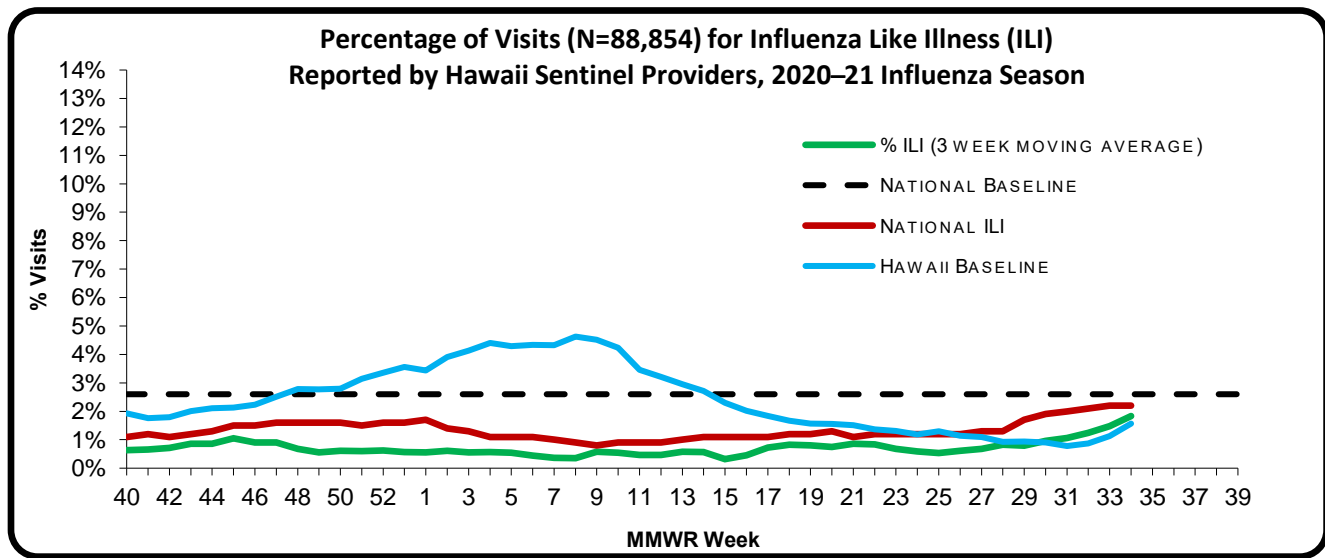
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 34 of the current influenza season:

- **2.4%** (season to date: **0.7%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were comparable to the national baseline (**2.6%**)<sup>5</sup> (i.e., inside the 95% confidence interval) and comparable to the national ILI rate (**2.2%**) (i.e., inside the 95% confidence interval).
- ILI activity level: *Minimal*<sup>6</sup>
- Geographic Spread: *Sporadic Activity*<sup>7</sup>.
- ILI Cluster Activity: One cluster was reported to HDOH during week 33. The cluster occurred school on Oahu. The cluster included cases of unknown etiology.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.



**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

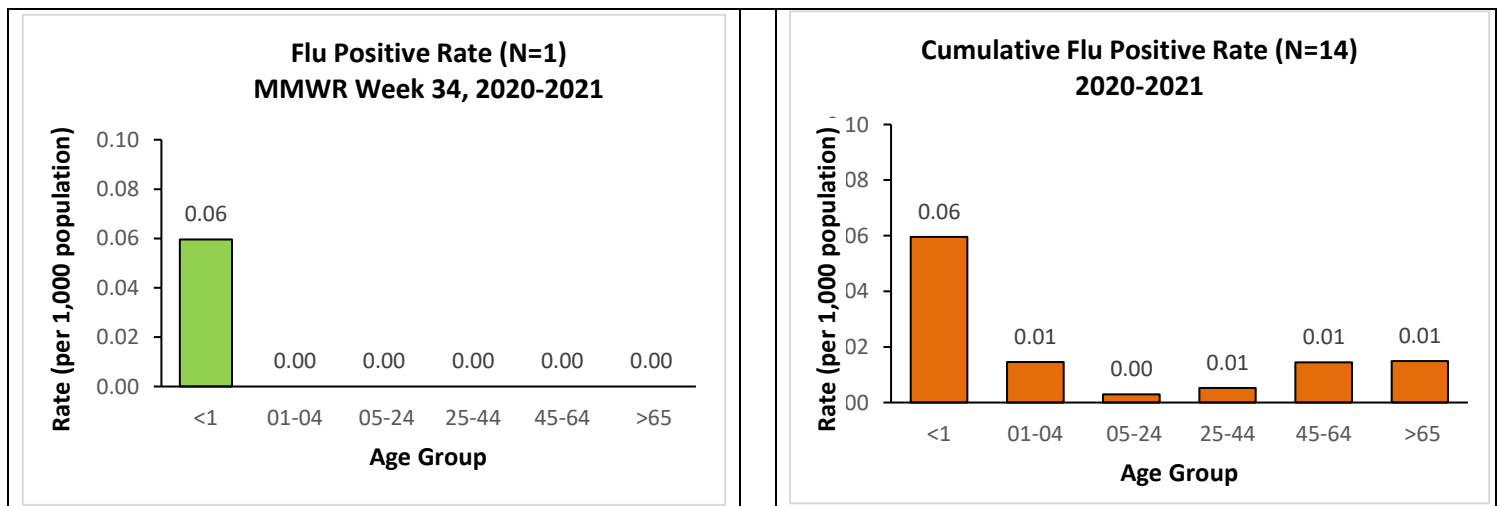
### A. INFLUENZA:

- The following reflects laboratory findings for week 34 of the 2020–21 influenza season:
  - A total of **472** specimens have been tested statewide for influenza viruses (positive: **1 [0.2%]**). (Season to date: 20,357 tested [**0.1%** positive])
    - 57 (12.1%) were screened only by rapid antigen tests with no confirmatory testing.
    - 415 (87.9%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 471 (99.8%) were negative.

Influenza type	Current week 34 (%)	Season to date (%) <sup>9</sup>
Influenza A (H1) <sup>10</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	1 (7.1)
Influenza A no subtyping	1 (100.0)	11 (78.6)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	2 (14.3)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>11</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

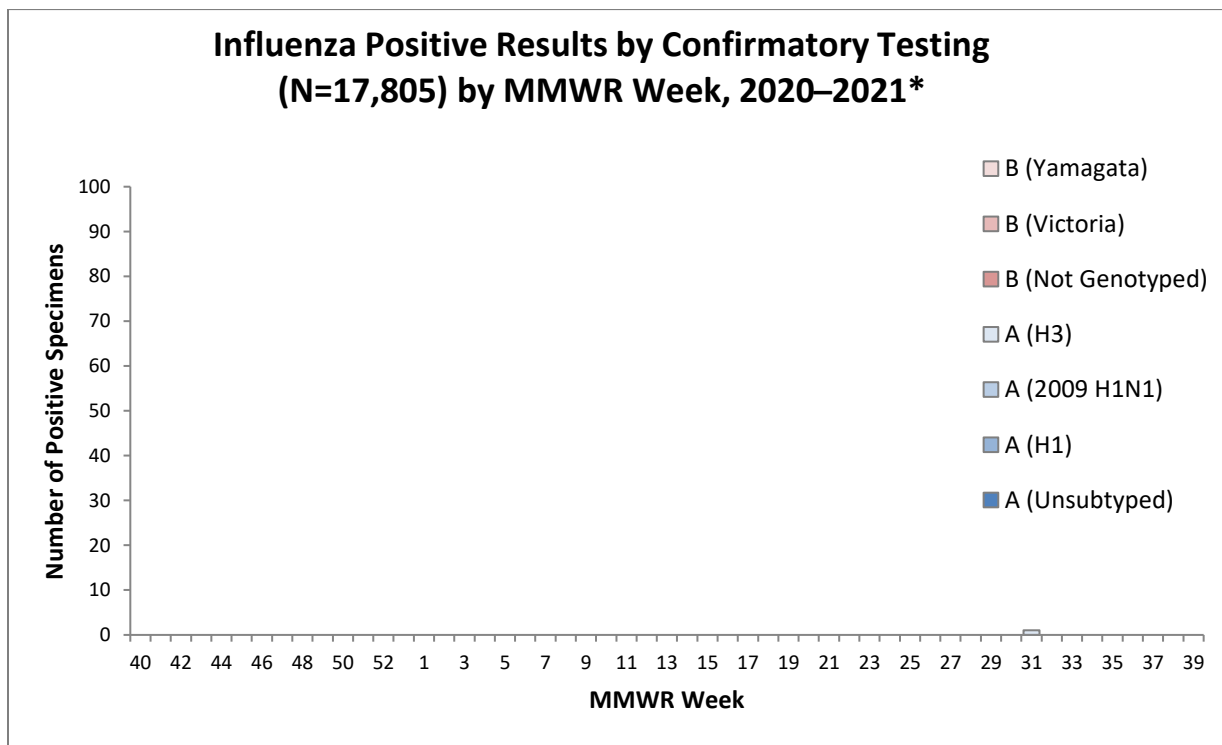
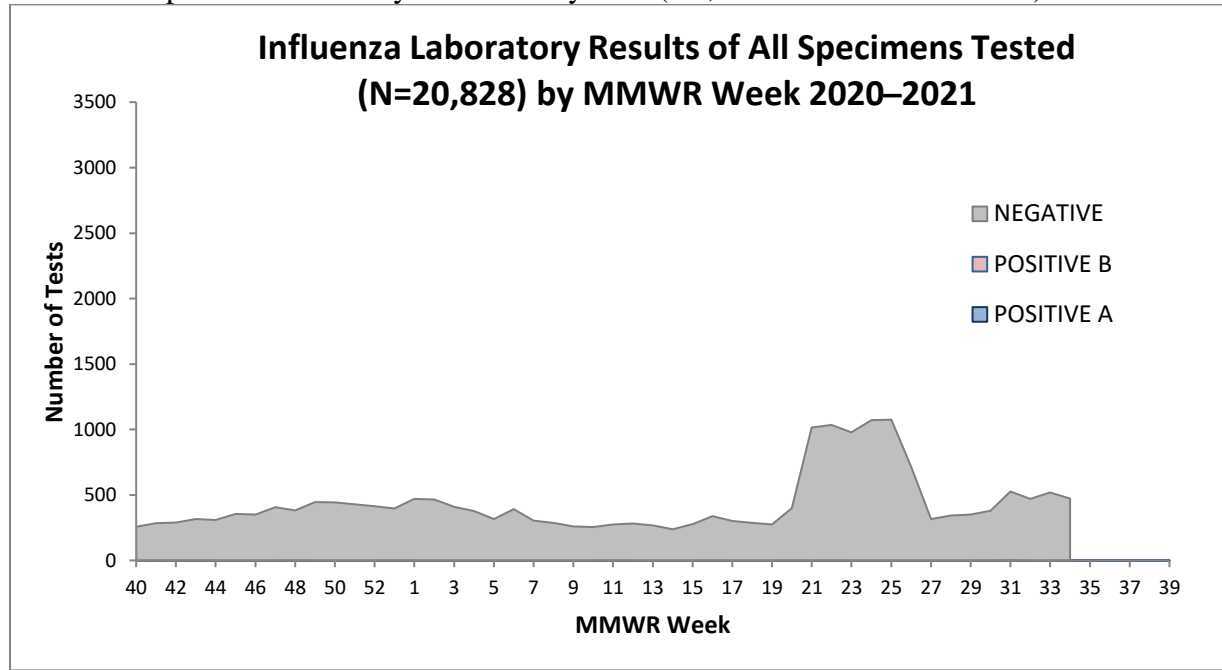
<sup>9</sup> Laboratory confirmed negative influenza test have been withdrawn from the season to date count.

<sup>10</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>11</sup> This represents an estimate of population-based rates based on available data.

## 2. LABORATORY TESTING

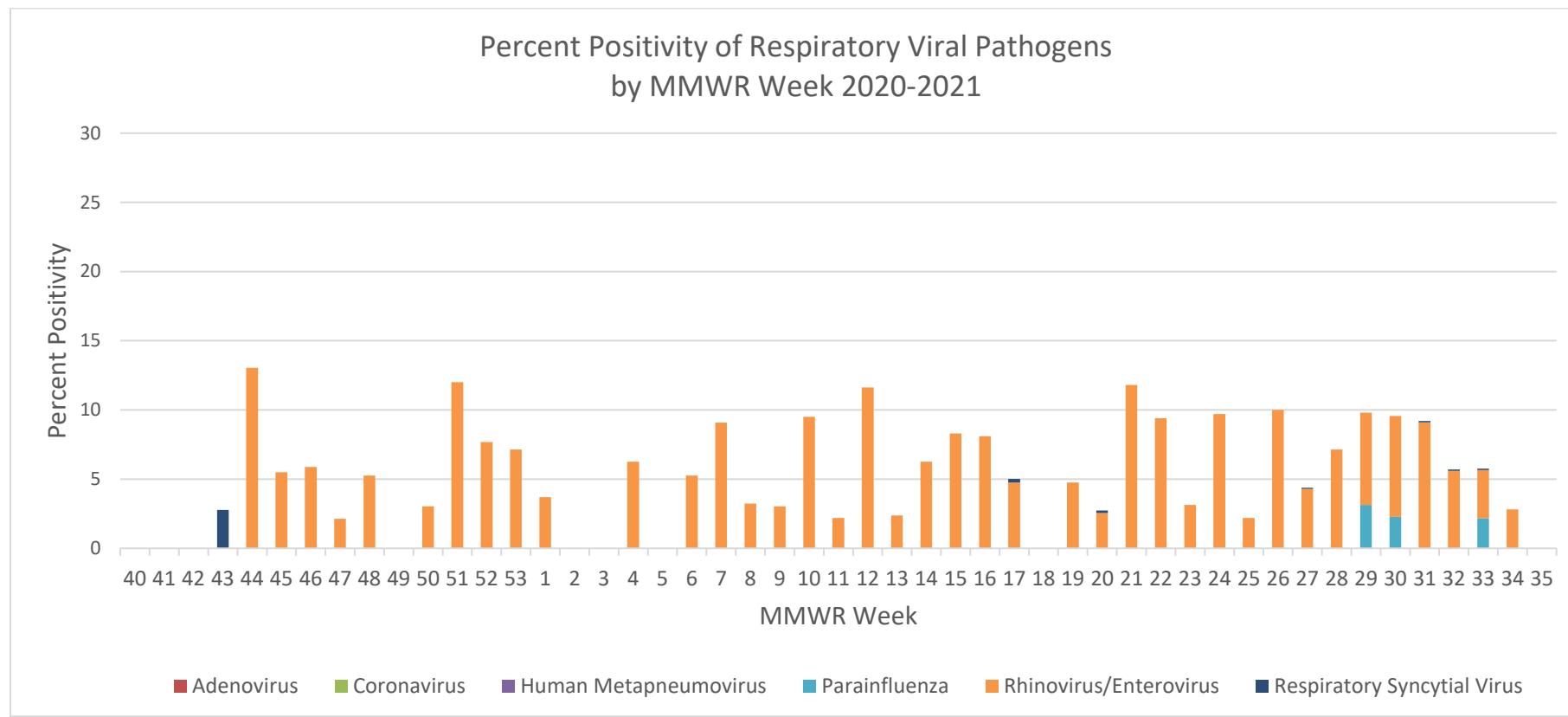
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.



**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state’s population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 34<sup>12</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional<sup>13</sup>*
  - *A total of 137 surveillance specimens have been tested statewide for COVID-19 (positive:52 [38.0%]).*
  - *Season to date: A total of 3,899<sup>14</sup> surveillance specimens have been tested for COVID-19 (positive: 435 [11.2%]).*
  - *148 specimens have been tested at SLD<sup>15</sup>.*

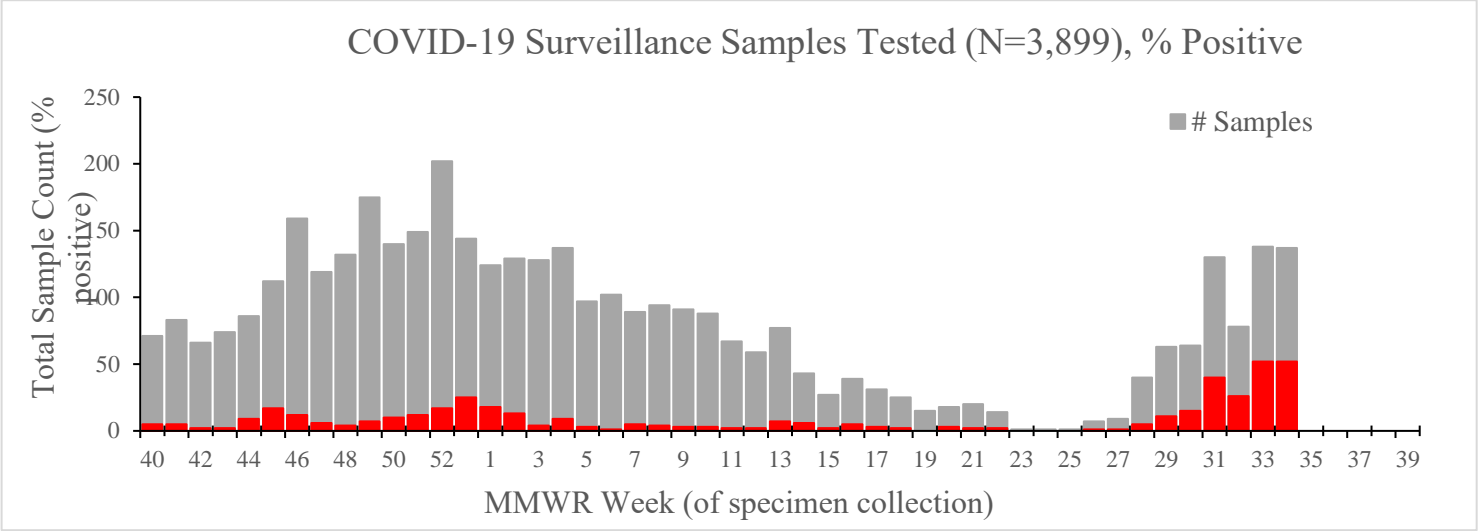
Season to Date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	200	6.0	0-17	708	3.8
Honolulu	2,979	12.1	18-64	1,943	15.3
Kauai	126	5.6	65+	1,248	8.8
Maui	456	9.9			
Unknown	138	7.3			

<sup>12</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>13</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>14</sup> Samples that were discarded prior to testing have been withdrawn from the total surveillance count.

<sup>15</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii’s private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

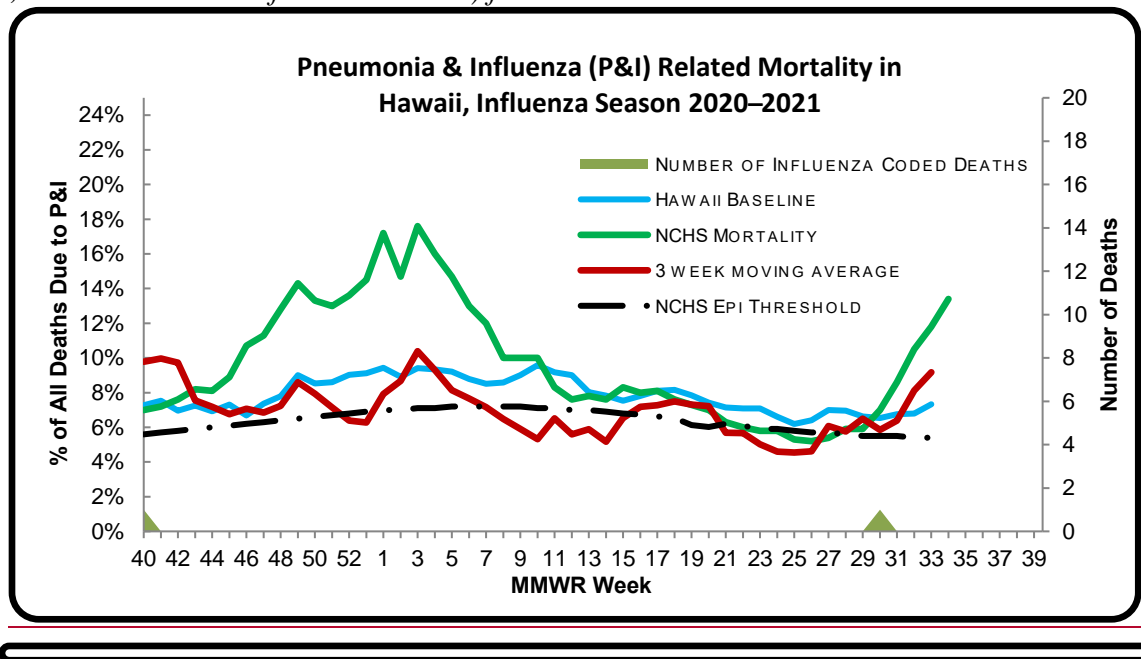


III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For **week 34** of the current influenza season:

- **11.1%** of all deaths that occurred in Hawaii during week 34 were related to pneumonia or influenza (P&I)<sup>16</sup>. For the current season (season to date: **7.0%**), there have been 10,859 deaths from any cause, 765 of which were due to P&I.
- The P&I rate was comparable to the historical baseline in Hawaii<sup>17</sup> (i.e., inside the 95% confidence interval).
- The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>18</sup> (**13.1%**) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (**5.4%**) (i.e., inside the 95% confidence interval) for week 34.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>19</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 34. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 34. (2020–2021 season total: 1).

<sup>16</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>15</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>18</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>19</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### **A. VARIANT VIRUSES:**

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *Four human infection with novel influenza A virus, H1N1v (2), H3N2v (1), and H1N2v (1), have been reported during the 2020–2021 influenza season.*
  - *Two new human infections with novel influenza A viruses were reported to CDC during week 34.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *Two human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H3N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Taiwan during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Germany during the 2020-2021 influenza season.*

#### **B. AVIAN (OR BIRD) INFLUENZA:**

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza

H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **August 08, 2021**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	





# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 35: AUGUST 29, 2021–SEPTEMBER 4, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 26, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 35

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.9%	Lower than the previous week. Comparable to Hawaii's historical baseline, lower than the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 9 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.2%	Higher than the previous week. This number means that many, if not all, of the 99.8% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.1%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 35)	32.1%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	7.4%	Comparable to the Hawaii's historical baseline, comparable to the national epidemic threshold and lower than the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See appendix 2 for interpretation of MMWR weeks. Data reported will begin on week 40, the traditional start date of flu season.

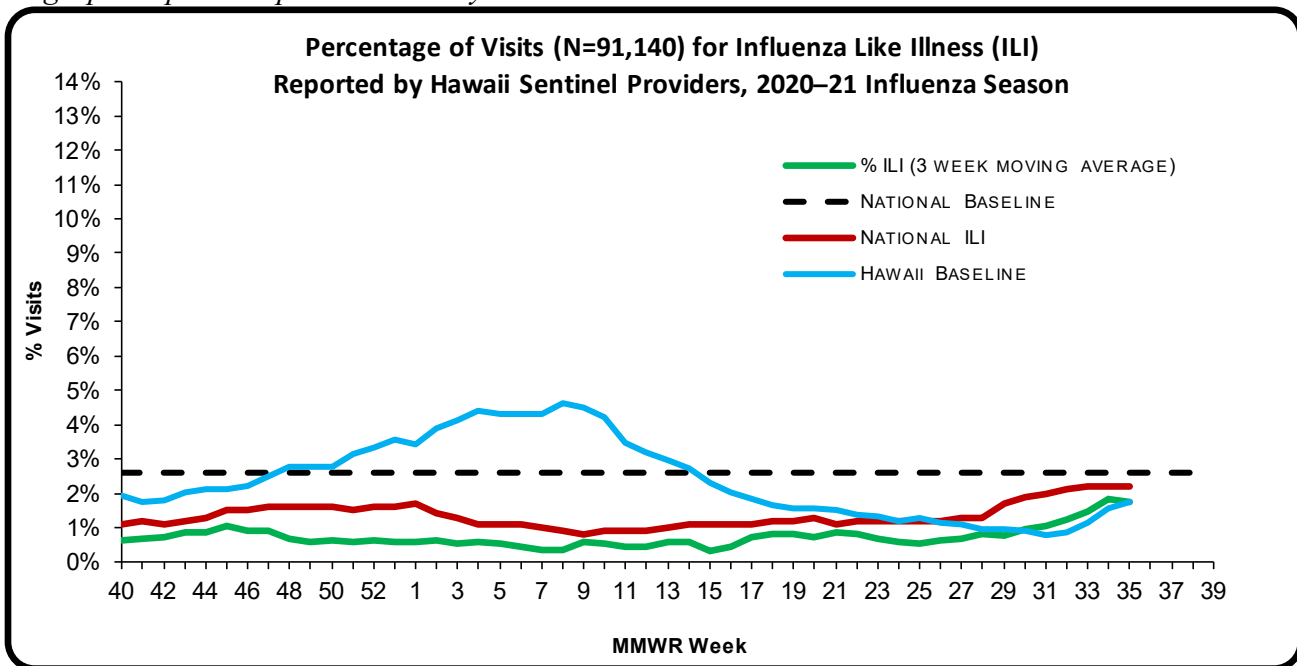
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 35 of the current influenza season:

- **0.9%** (season to date: **0.7%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**2.2%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

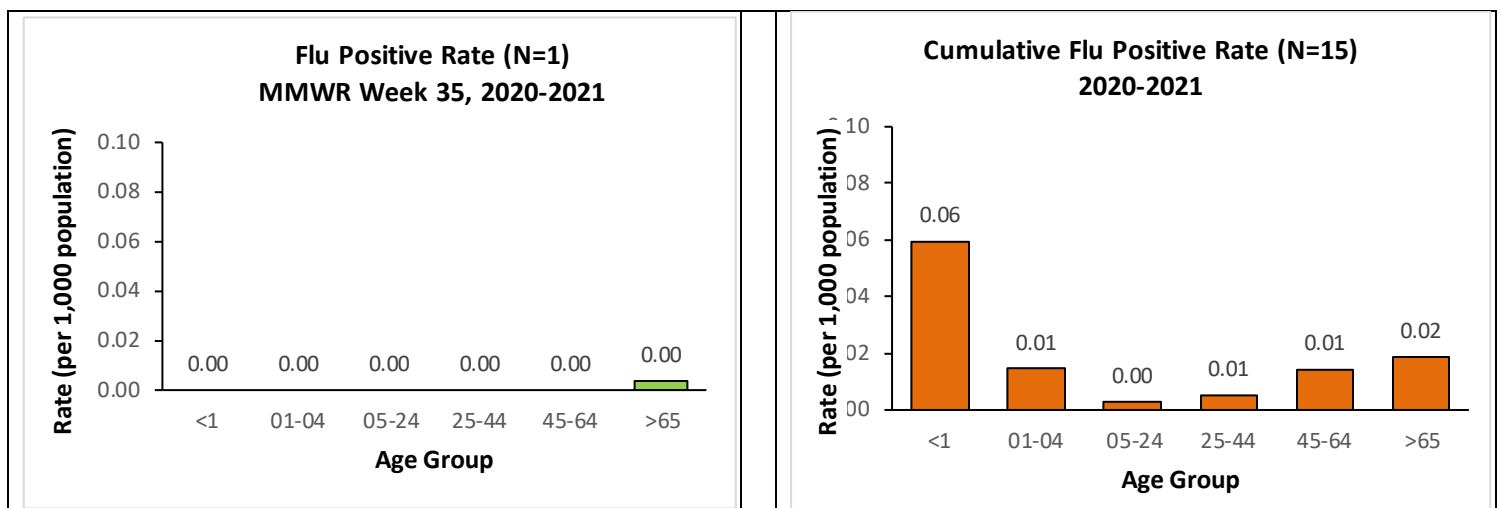
### A. INFLUENZA:

- The following reflects laboratory findings for week 35 of the 2020–21 influenza season:
  - A total of **501** specimens have been tested statewide for influenza viruses (positive: 1 [0.2%]). (Season to date: 21,336 tested [0.1% positive])
    - 47 (9.4%) were screened only by rapid antigen tests with no confirmatory testing.
    - 454 (90.6%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 500 (99.8%) were negative.

Influenza type	Current week 35 (%)	Season to date (%) <sup>9</sup>
Influenza A (H1) <sup>10</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	1 (6.7)
Influenza A no subtyping	1 (100.0)	12 (80.0)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	2 (13.3)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>11</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with a acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

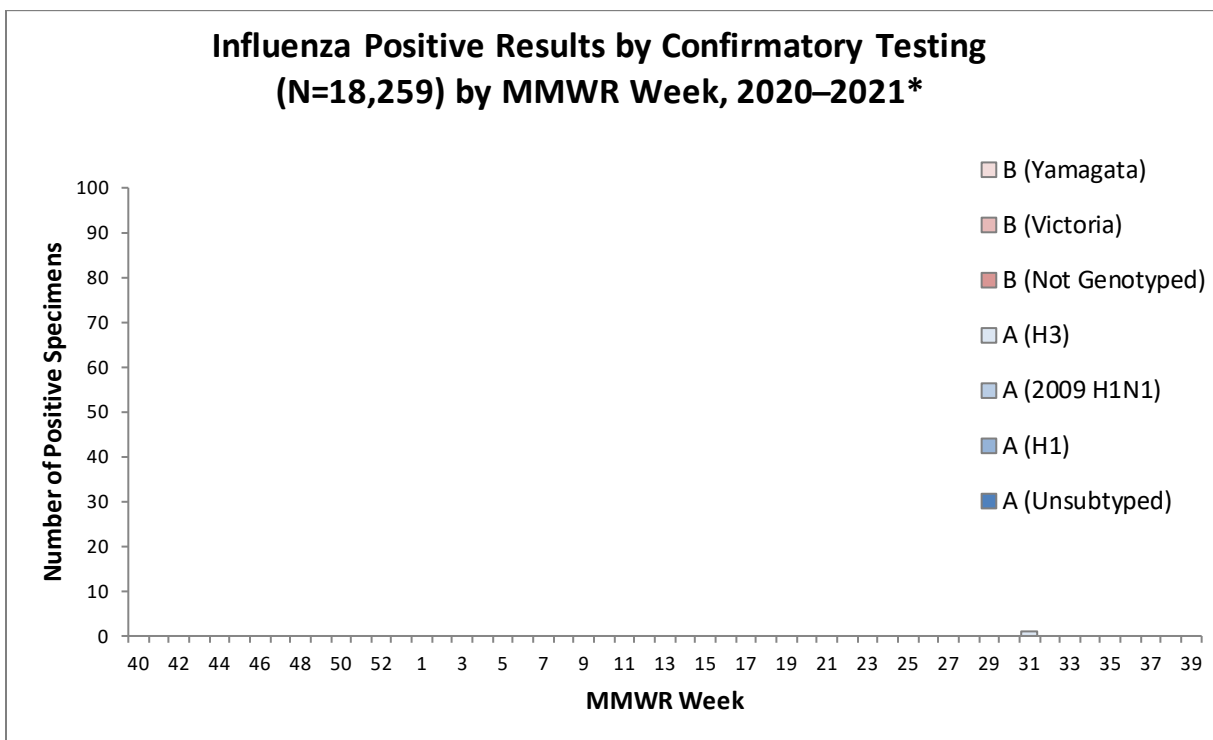
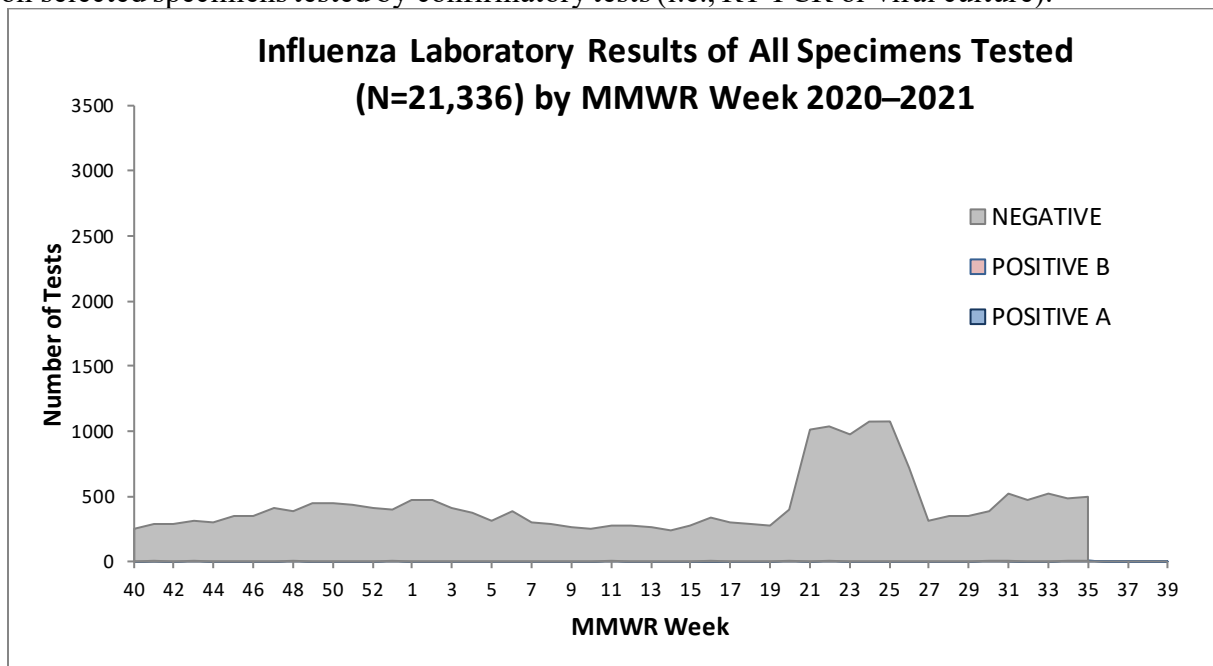
<sup>9</sup> Laboratory confirmed negative influenza test have been withdrawn from the season to date count.

<sup>10</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>11</sup> This represents an estimate of population-based rates based on available data.

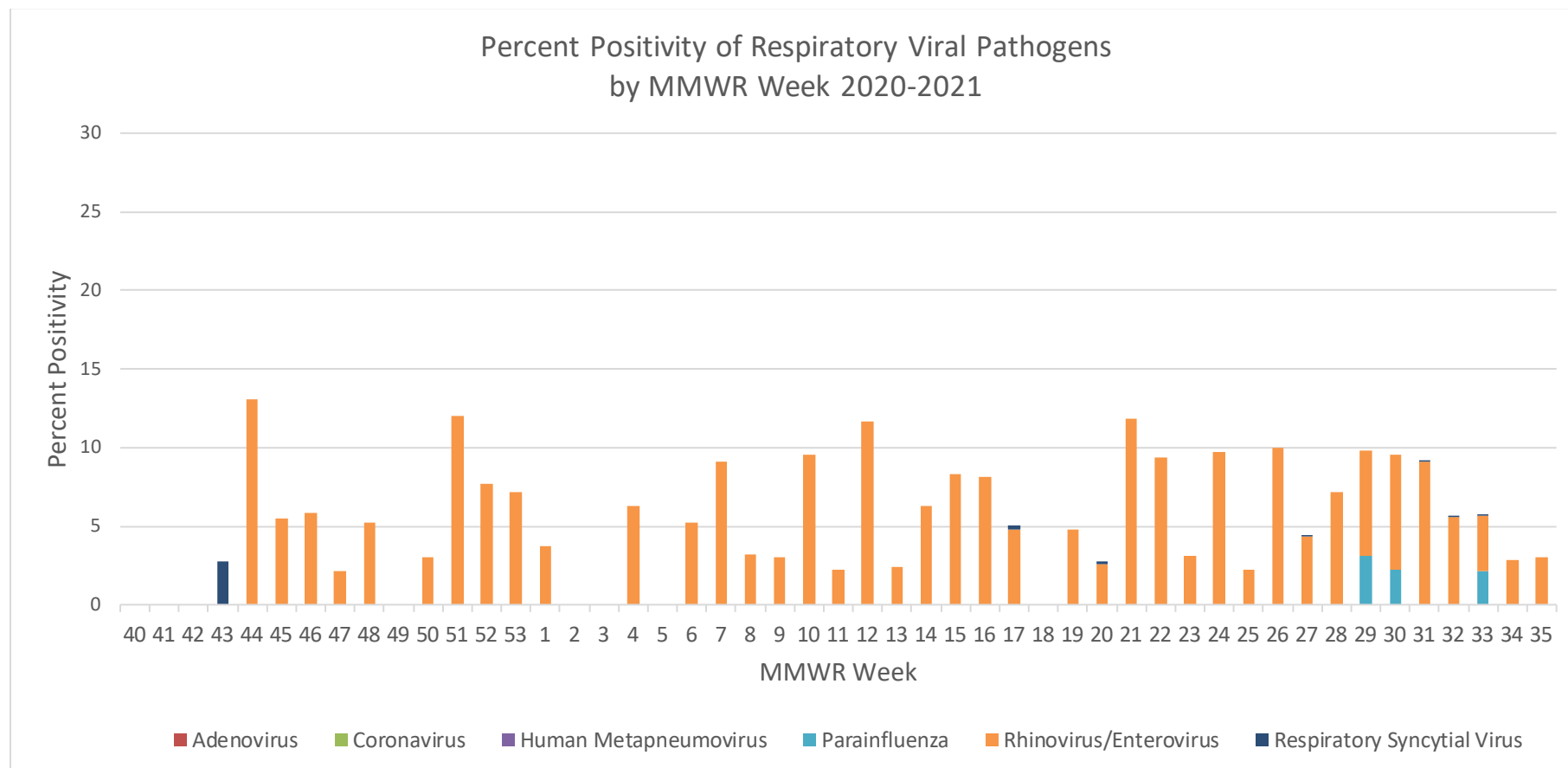
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 35<sup>12</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>13</sup>
  - *A total of 53 surveillance specimens have been tested statewide for COVID-19 (positive: 17 [32.1%]).*
  - *Season to date: A total of 3,953<sup>14</sup> surveillance specimens have been tested for COVID-19 (positive: 450 [11.4%]).*
  - *148 specimens have been tested at SLD*<sup>15</sup>.

Season to Date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	200	6.0	0-17	718	4.0
Honolulu	3,020	12.4	18-64	1,972	15.7
Kauai	131	6.9	65+	1,263	8.9
Maui	463	9.7			
Unknown	139	7.9			

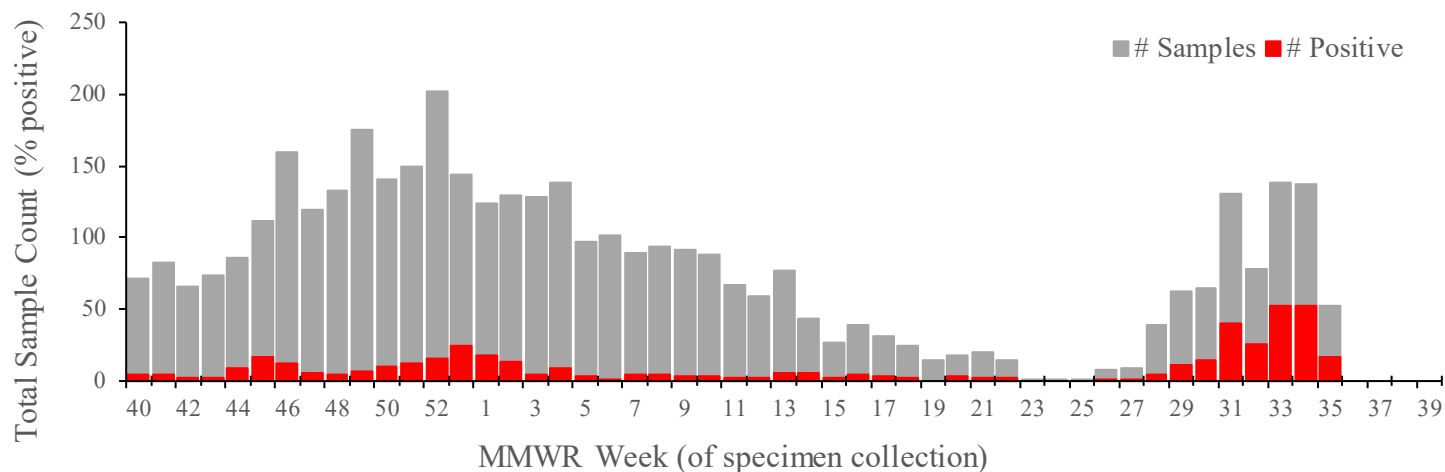
<sup>12</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>13</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>14</sup> Samples that were discarded prior to testing have been withdrawn from the total surveillance count.

<sup>15</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

### COVID-19 Surveillance Samples Tested (N=3,953), % Positive

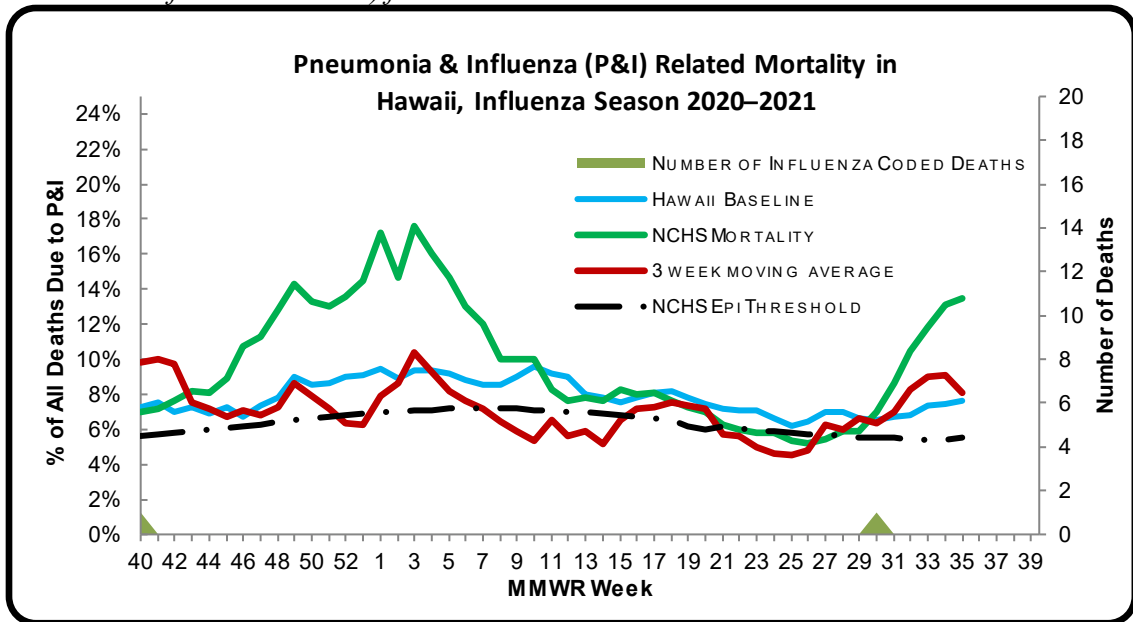


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For week 35 of the current influenza season:

- 7.4% of all deaths that occurred in Hawaii during week 35 were related to pneumonia or influenza (P&I)<sup>16</sup>. For the current season (season to date: 7.1%), there have been 11,150 deaths from any cause, 788 of which were due to P&I.
- The P&I rate was comparable to the historical baseline in Hawaii<sup>17</sup> (i.e., inside the 95% confidence interval).
- The Hawaii P&I rate was lower than the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>18</sup> (13.5%) (i.e., outside the 95% confidence interval) and comparable to the national epidemic threshold (5.5%) (i.e., inside the 95% confidence interval) for week 35.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>19</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 35. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 35. (2020-2021 season total: 1).

<sup>16</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>17</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>18</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>19</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.



**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### A. VARIANT VIRUSES:

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *Four human infection with novel influenza A virus, H1N1v (2), H3N2v (1), and H1N2v (1), have been reported during the 2020–2021 influenza season.*
  - *Two new human infections with novel influenza A viruses were reported to CDC during week 35.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *Two human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H3N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Taiwan during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Germany during the 2020-2021 influenza season.*

#### B. AVIAN (OR BIRD) INFLUENZA:

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been

detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **August 08, 2021**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

## APPENDIX 1: ADDITIONAL INFORMATION

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	



# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 36: SEPTEMBER 5, 2021–SEPTEMBER 11, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 26, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 36

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	1.2%	Higher than the previous week. Comparable to Hawaii's historical baseline, lower than the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 9 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.7%	Higher than the previous week. This number means that many, if not all, of the 99.3% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.2%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 36)	44.4%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	6.6%	Comparable to the Hawaii's historical baseline, comparable to the national epidemic threshold and lower than the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See appendix 2 for interpretation of MMWR weeks. Data reported will begin on week 40, the traditional start date of flu season.

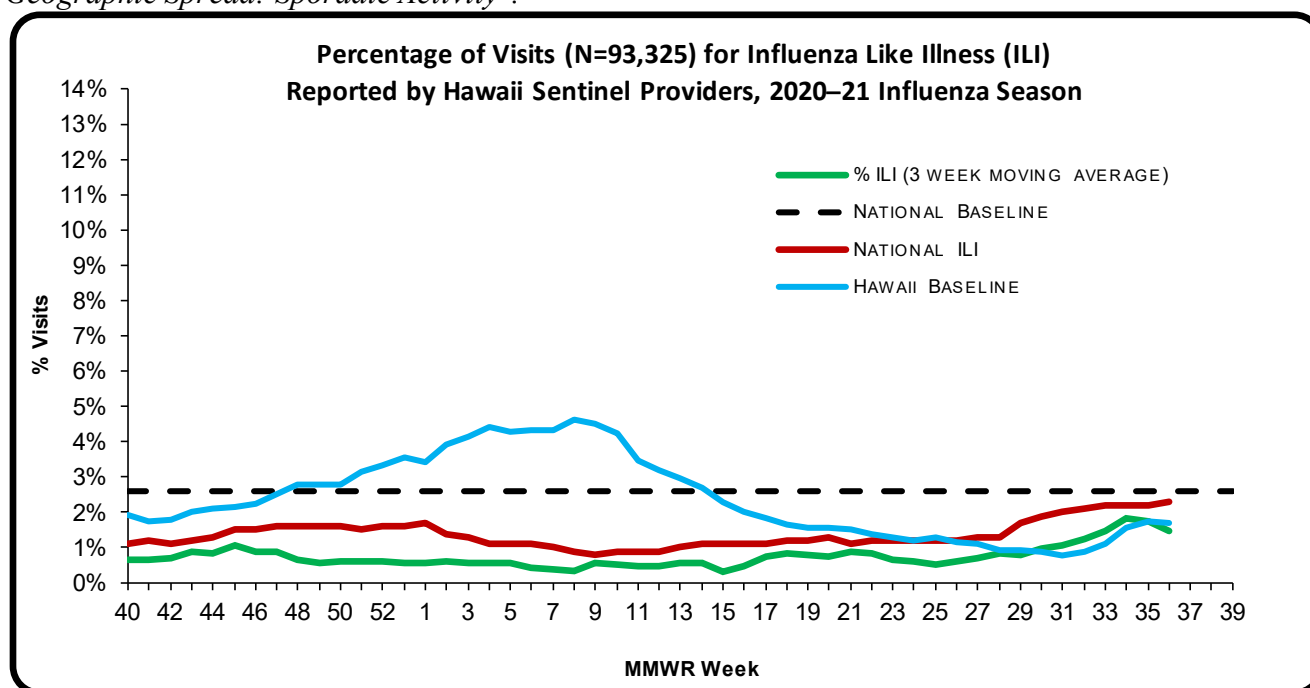
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 36 of the current influenza season:

- **1.2%** (season to date: **0.8%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**2.3%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1-3), low (levels 4-5), moderate (levels 6-7), and high (levels 8-10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

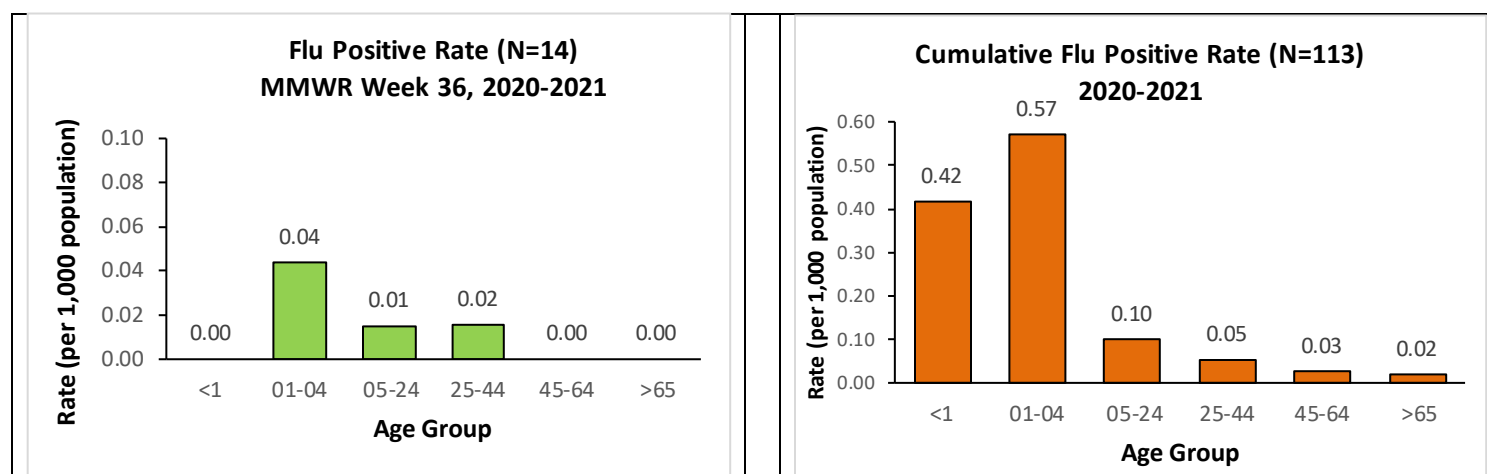
### A. INFLUENZA:

- The following reflects laboratory findings for week 36 of the 2020–21 influenza season:
  - A total of **2,035** specimens have been tested statewide for influenza viruses (positive: 14 [**0.7%**]). (Season to date: 74,886 tested [**0.2%** positive])<sup>9</sup>
    - 326 (16.0%) were screened only by rapid antigen tests with no confirmatory testing.
    - 1,709 (84.0%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 2,021 (99.3%) were negative.

Influenza type	Current week 36 (%)	Season to date (%) <sup>10</sup>
Influenza A (H1) <sup>11</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	1 (0.9)
Influenza A no subtyping	6 (42.9)	56 (49.6)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	8 (57.1)	56 (49.6)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>12</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> Influenza coding were updated to reflect a more accurate count.

<sup>10</sup> Laboratory confirmed negative influenza test have been withdrawn from the season to date count.

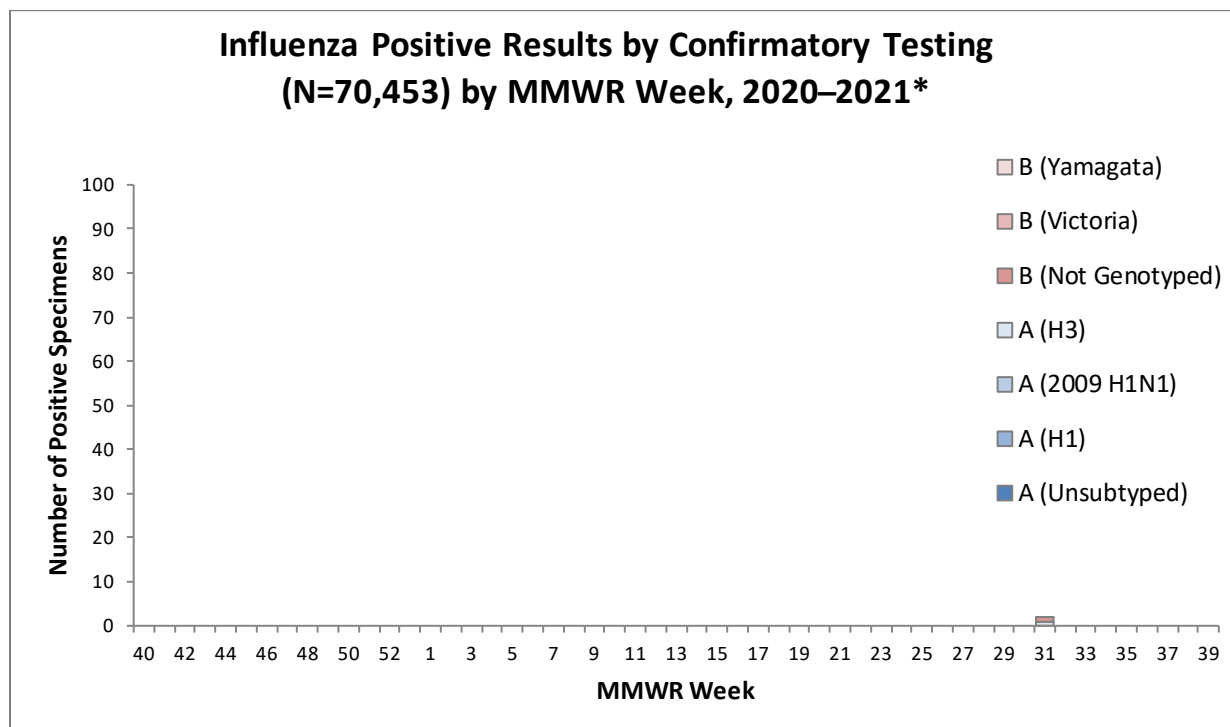
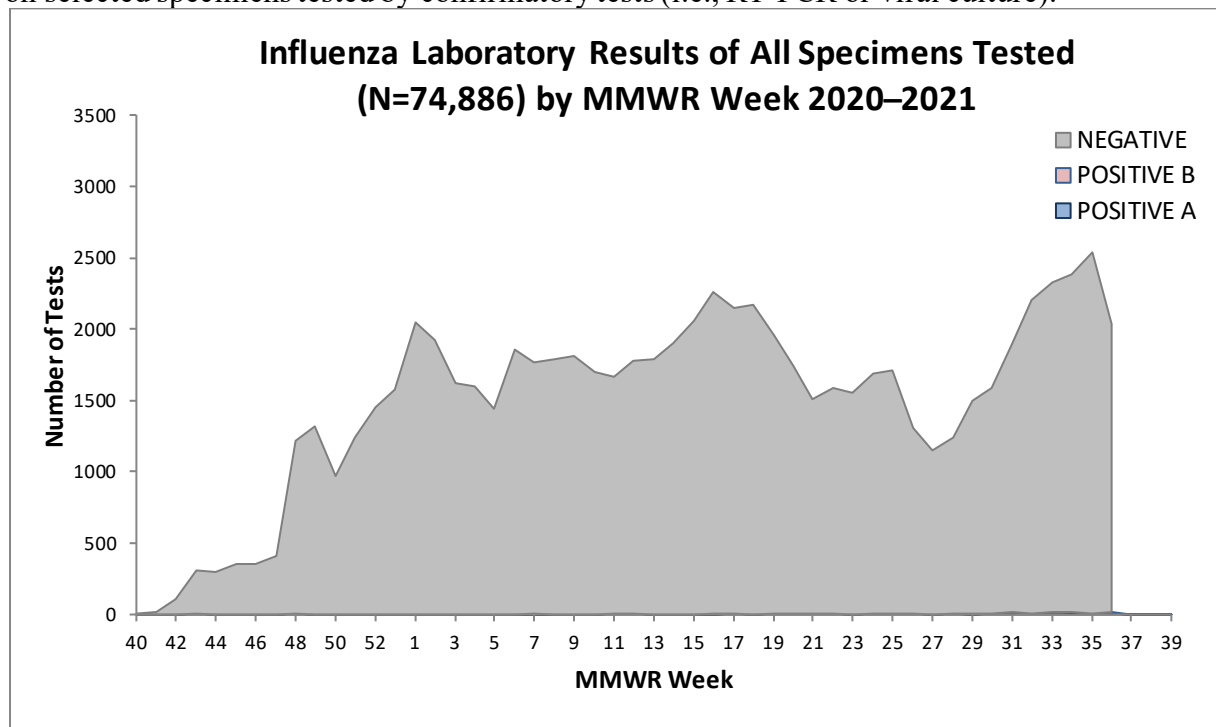
<sup>11</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>12</sup> This represents an estimate of population-based rates based on available data.



## 2. LABORATORY TESTING

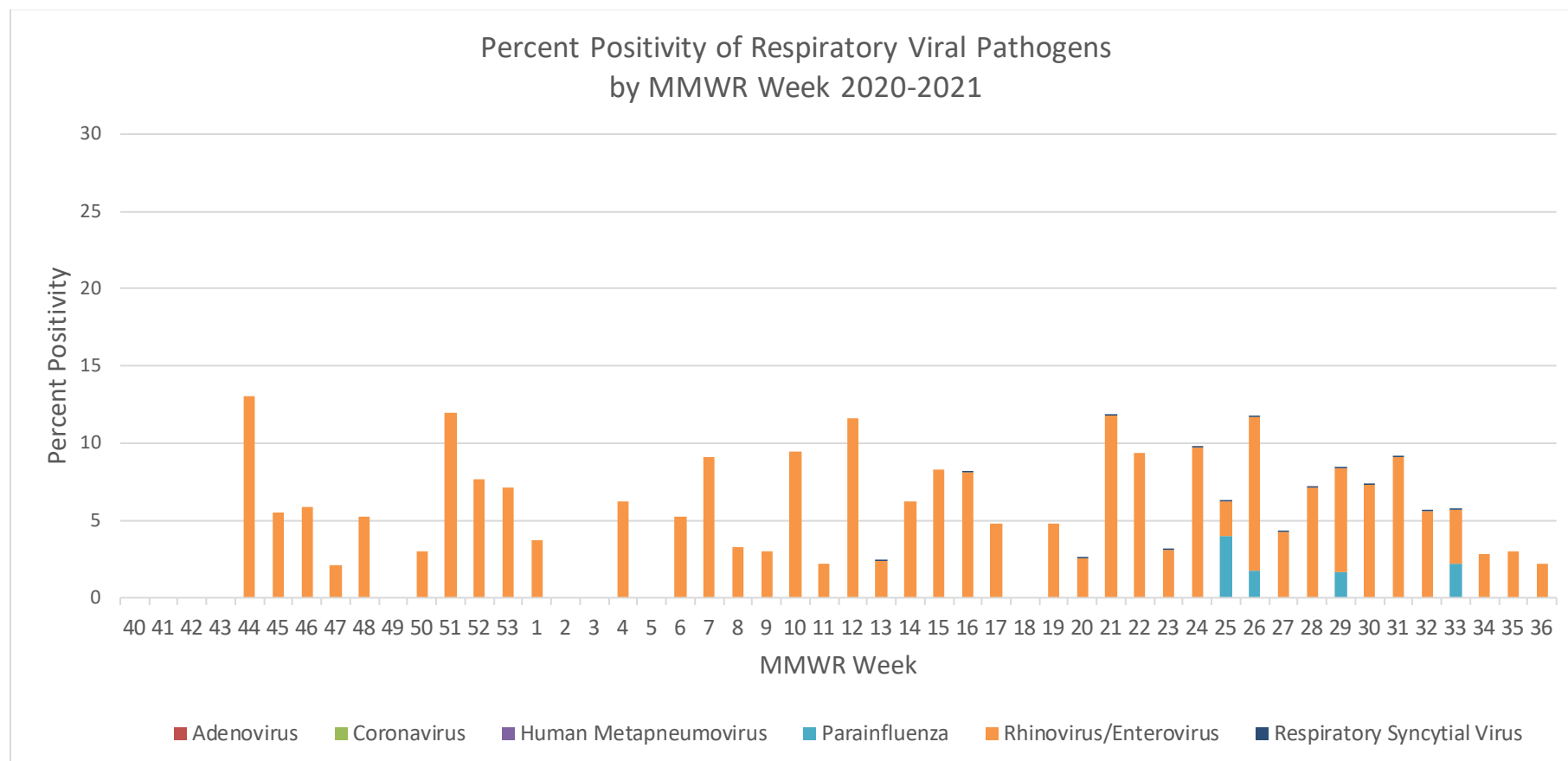
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.



**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 36<sup>13</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>14</sup>
  - *A total of 72 surveillance specimens have been tested statewide for COVID-19 (positive: 32 [44.4%]).*
  - *Season to date: A total of 4,056<sup>15</sup> surveillance specimens have been tested for COVID-19 (positive: 496 [12.2%]).*
  - *151 specimens have been tested at SLD*<sup>16</sup>.

Season to Date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	200	6.0	0-17	740	4.7
Honolulu	3,112	13.4	18-64	2,013	16.6
Kauai	133	6.8	65+	1,303	9.8
Maui	471	10.0			
Unknown	140	7.9			

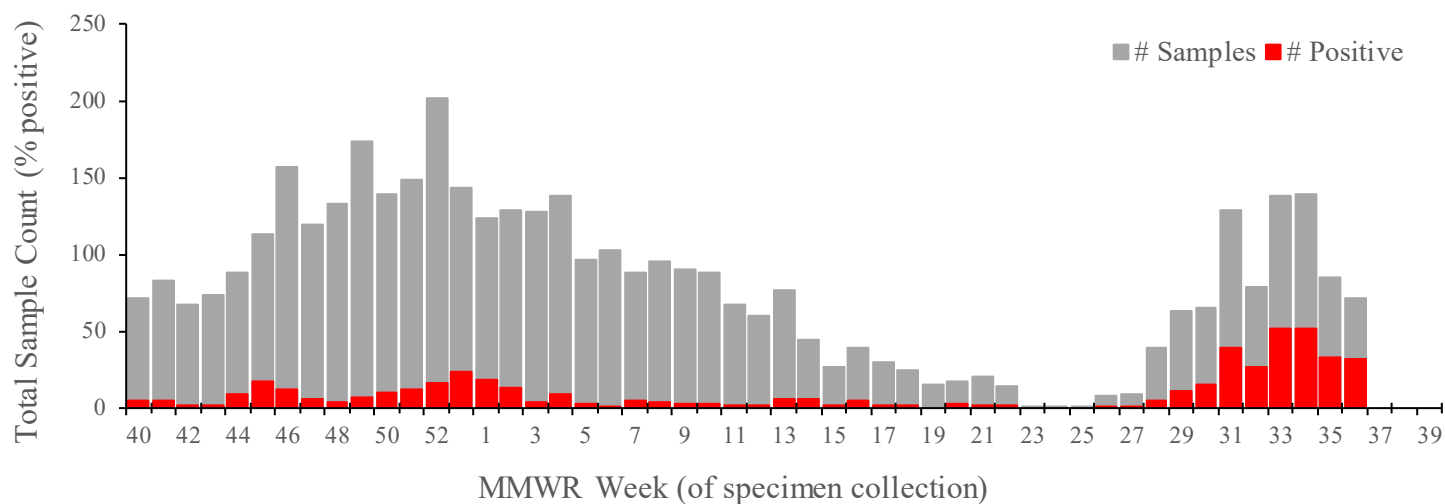
<sup>13</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>14</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>15</sup> Samples that were discarded prior to testing have been withdrawn from the total surveillance count.

<sup>16</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

# COVID-19 Surveillance Samples Tested (N=4,056), % Positive

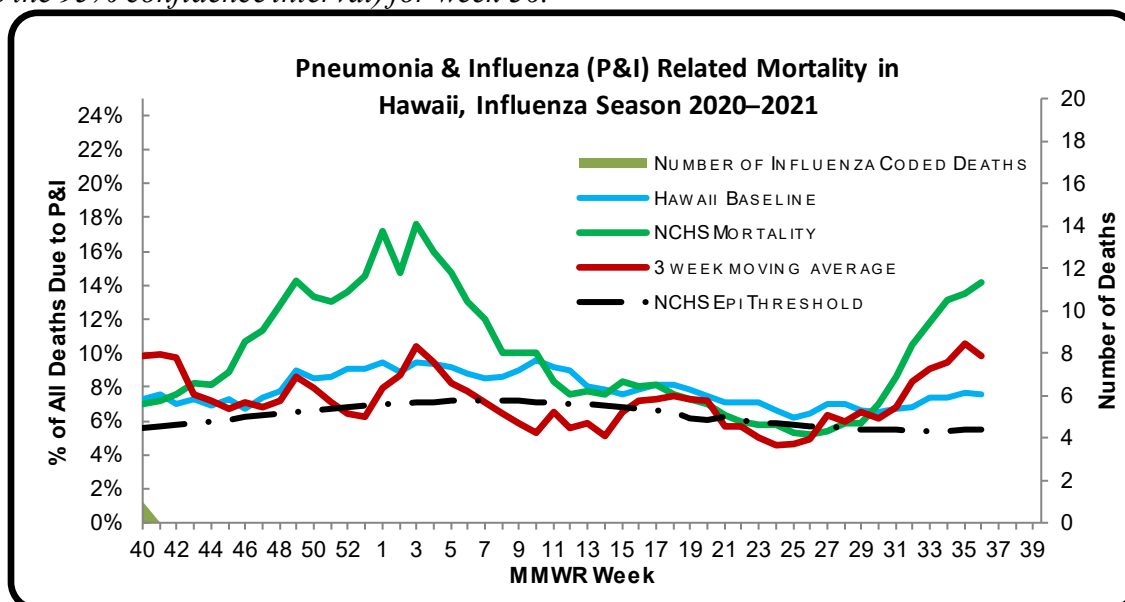


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For week 36 of the current influenza season:

- 6.6% of all deaths that occurred in Hawaii during week 36 were related to pneumonia or influenza (P&I)<sup>17</sup>. For the current season (season to date: 7.2%), there have been 11,471 deaths from any cause, 829 of which were due to P&I.
- The P&I rate was comparable to the historical baseline in Hawaii<sup>18</sup> (i.e., inside the 95% confidence interval).
- The Hawaii P&I rate was lower than the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>19</sup> (14.2%) (i.e., outside the 95% confidence interval) and comparable to the national epidemic threshold (5.5%) (i.e., inside the 95% confidence interval) for week 36.



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>20</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 36. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 36. (2020-2021 season total: 1).

<sup>17</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>18</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>19</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>20</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### A. VARIANT VIRUSES:

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *Four human infection with novel influenza A virus, H1N1v (2), H3N2v (1), and H1N2v (1), have been reported during the 2020–2021 influenza season.*
  - *Two new human infections with novel influenza A viruses were reported to CDC during week 36.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *Two human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H3N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Taiwan during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Germany during the 2020-2021 influenza season.*

#### B. AVIAN (OR BIRD) INFLUENZA:

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been

detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **August 08, 2021**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

#### **A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

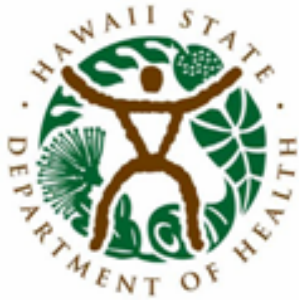
<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	





# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 37: SEPTEMBER 12, 2021– SEPTEMBER 18, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 26, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 37

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	1.5%	Higher than the previous week. Comparable to Hawaii's historical baseline, lower than the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 9 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.3%	Higher than the previous week. This number means that many, if not all, of the 99.7% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.2%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 37)	34.2%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	10.4%	Comparable to the Hawaii's historical baseline, comparable to the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See **appendix 2 for interpretation of MMWR weeks**. Data reported will begin on week 40, the traditional start date of flu season.

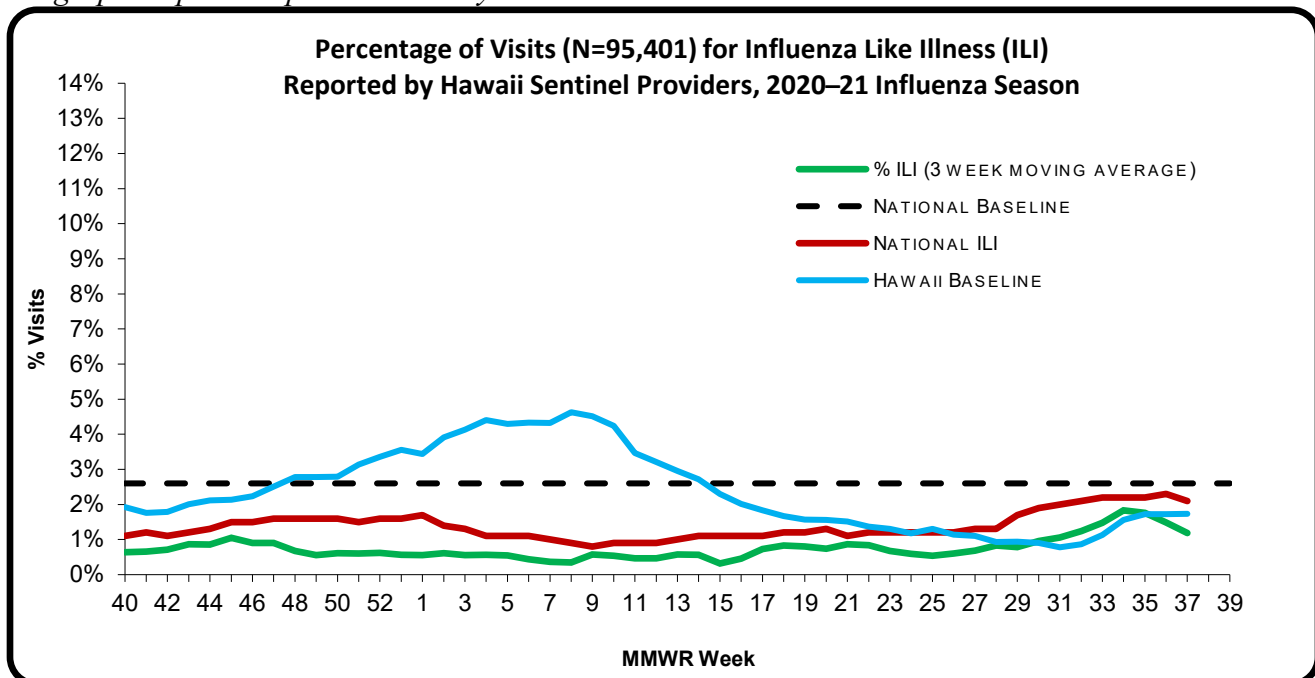
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 37 of the current influenza season:

- **1.5%** (season to date: **0.8%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**2.1%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

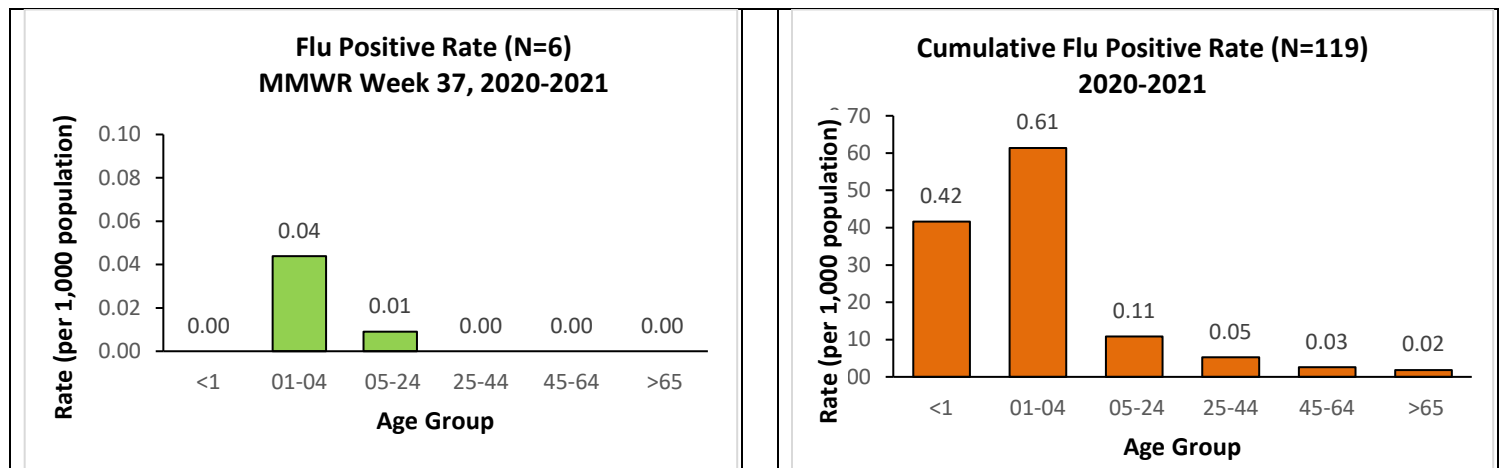
### A. INFLUENZA:

- The following reflects laboratory findings for week 37 of the 2020–21 influenza season:
  - A total of **1,812** specimens have been tested statewide for influenza viruses (positive: 6 [0.3%]). (Season to date: 74,886 tested [0.2% positive])<sup>9</sup>
    - 159 (8.8%) were screened only by rapid antigen tests with no confirmatory testing.
    - 1,653 (91.2%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 1,806 (99.7%) were negative.

Influenza type	Current week 37 (%)	Season to date (%) <sup>10</sup>
Influenza A (H1) <sup>11</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	1 (0.8)
Influenza A no subtyping	2 (33.3)	58 (48.7)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	4 (66.7)	60 (50.4)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>12</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> Influenza coding were updated to reflect a more accurate count.

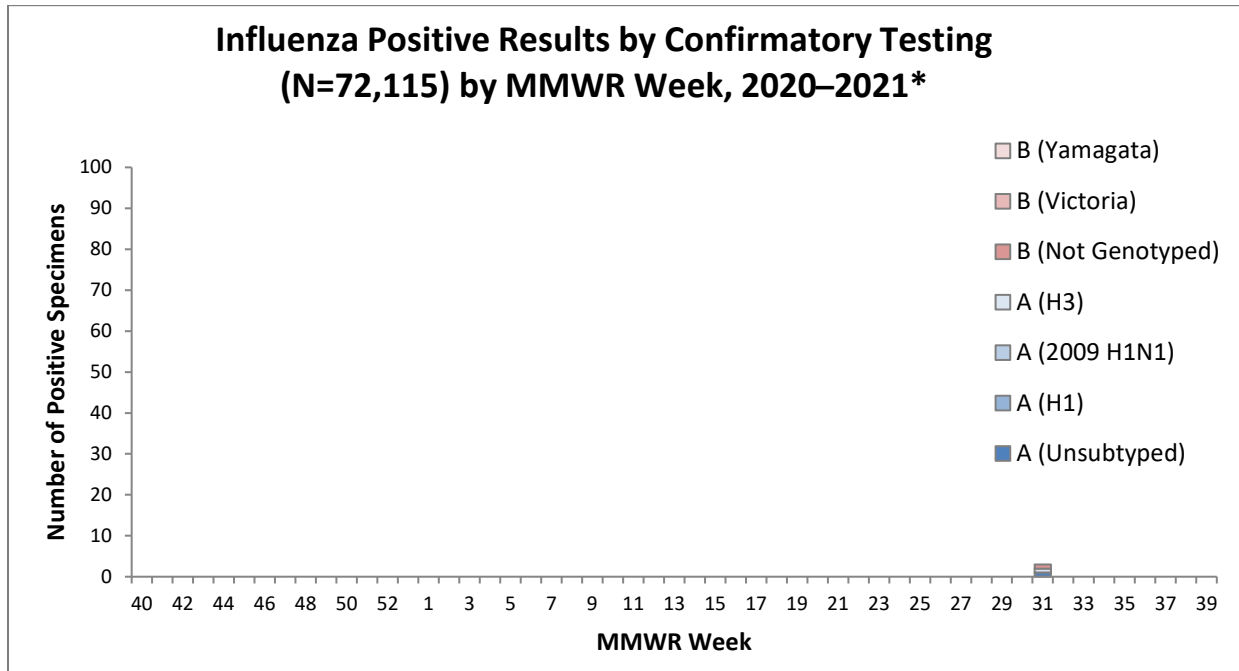
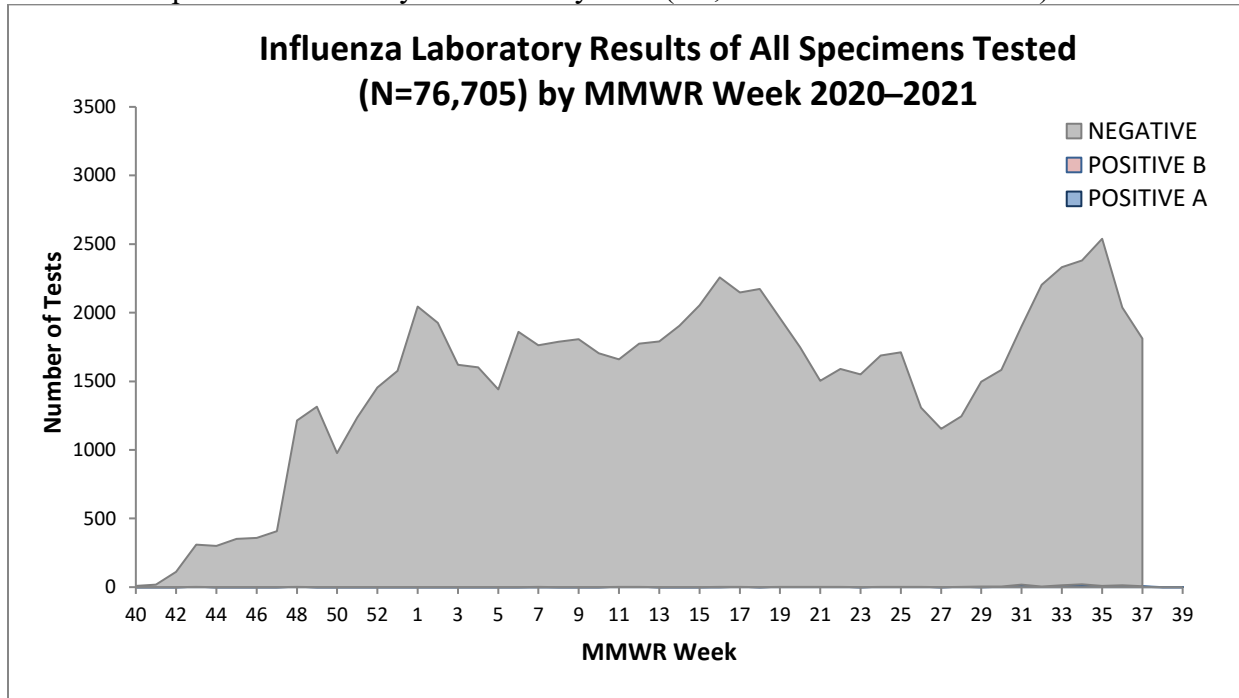
<sup>10</sup> Laboratory confirmed negative influenza test have been withdrawn from the season to date count.

<sup>11</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>12</sup> This represents an estimate of population-based rates based on available data.

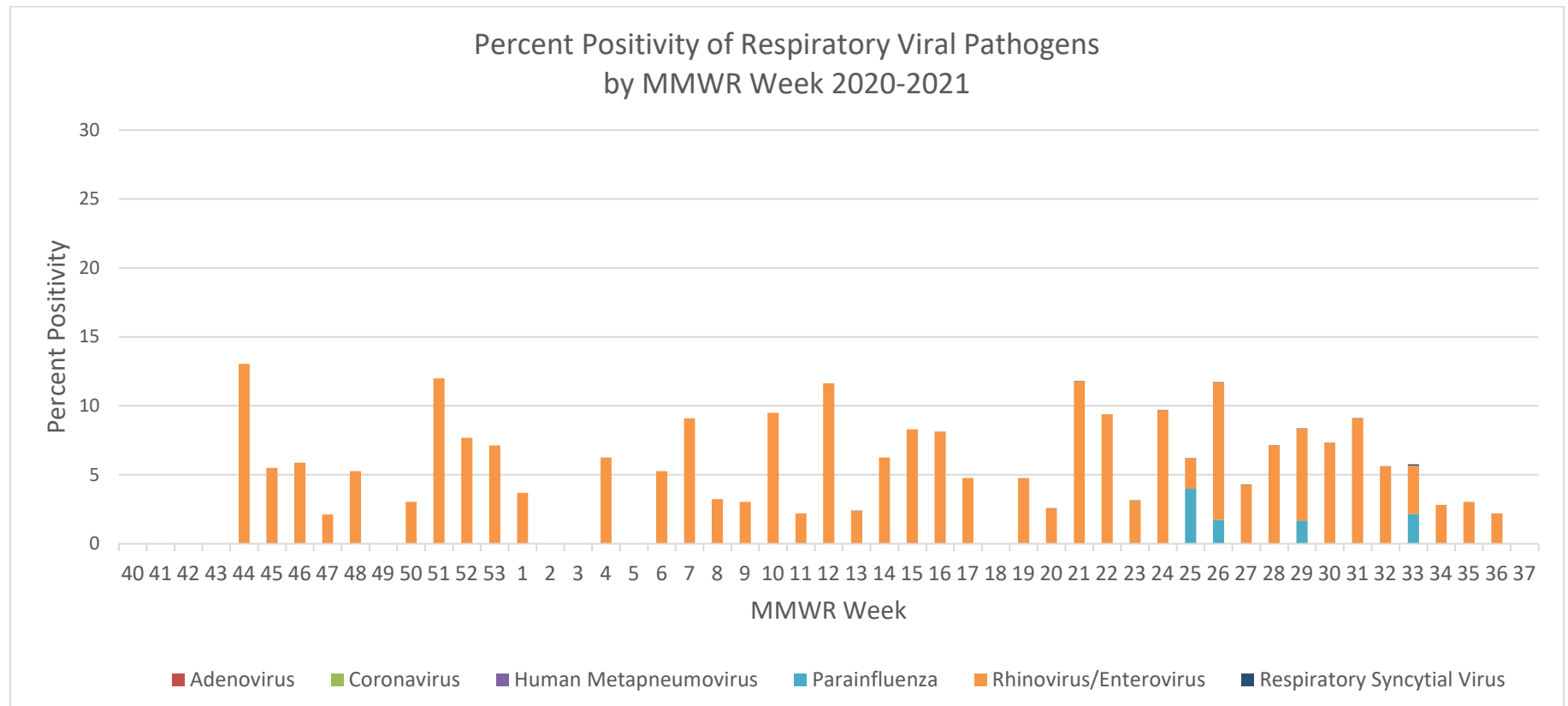
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 37<sup>13</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>14</sup>
  - A total of **38** surveillance specimens have been tested statewide for COVID-19 (positive: 13 [34.2%]).
  - Season to date: A total of 4,092<sup>15</sup> surveillance specimens have been tested for COVID-19 (positive: 508 [12.4%]).
  - 151 specimens have been tested at SLD<sup>16</sup>.

Season to Date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	203	6.9	0-17	749	4.7
Honolulu	3,145	13.6	18-64	2,032	16.9
Kauai	134	8.2	65+	1,311	9.9
Maui	472	9.8			
Unknown	138	7.3			

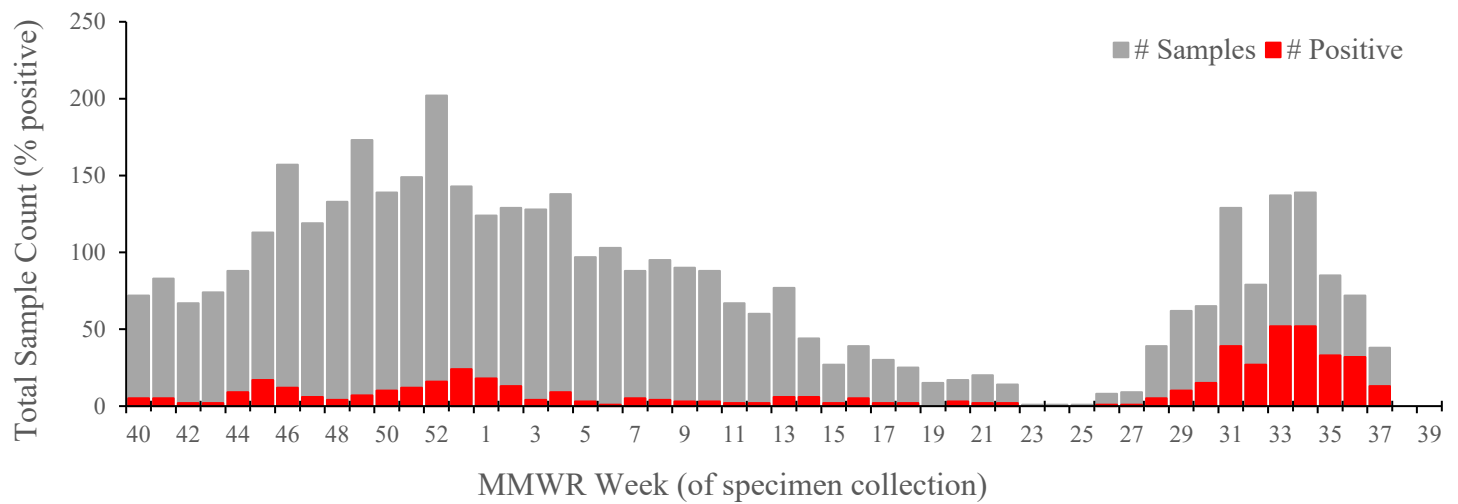
<sup>13</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>14</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>15</sup> Samples that were discarded prior to testing have been withdrawn from the total surveillance count.

<sup>16</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

## COVID-19 Surveillance Samples Tested (N=4,092), % Positive

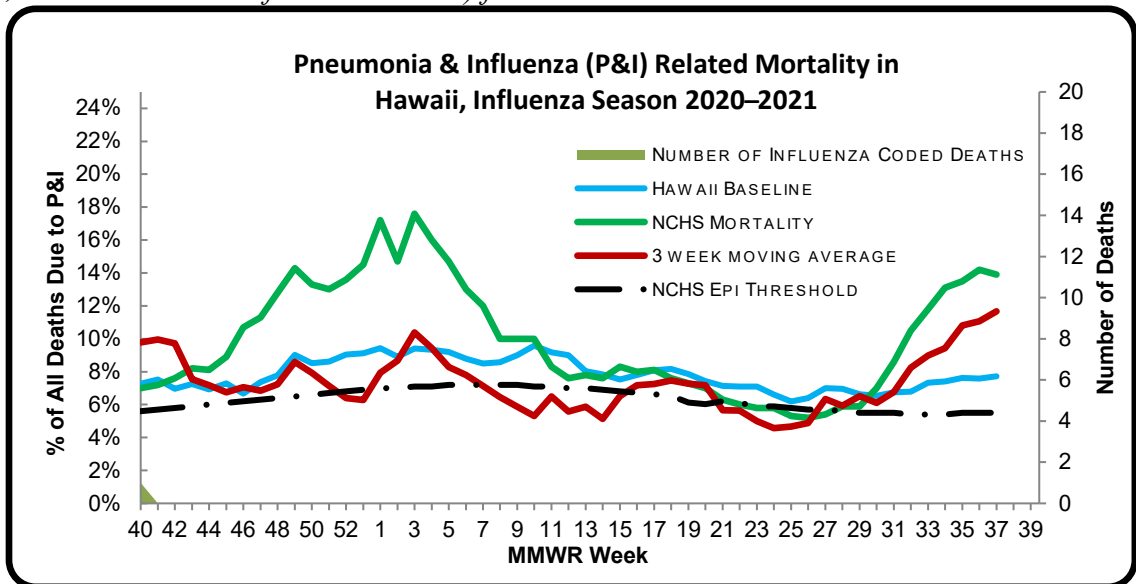


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For week 37 of the current influenza season:

- *10.4% of all deaths that occurred in Hawaii during week 37 were related to pneumonia or influenza (P&I)<sup>17</sup>. For the current season (season to date: 7.3%), there have been 11,729 deaths from any cause, 859 of which were due to P&I.*
- *The P&I rate was comparable to the historical baseline in Hawaii<sup>18</sup> (i.e., inside the 95% confidence interval).*
- *The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>19</sup> (13.9%) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (5.5%) (i.e., inside the 95% confidence interval) for week 37.*



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>20</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 37. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 37. (2020-2021 season total: 1).

<sup>17</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>18</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>19</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>20</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.



**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### A. VARIANT VIRUSES:

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *Four human infection with novel influenza A virus, H1N1v (2), H3N2v (1), and H1N2v (1), have been reported during the 2020–2021 influenza season.*
  - *Two new human infections with novel influenza A viruses were reported to CDC during week 37.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *Two human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H3N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Taiwan during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Germany during the 2020-2021 influenza season.*

#### B. AVIAN (OR BIRD) INFLUENZA:

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been

detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **August 08, 2021**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

#### **A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

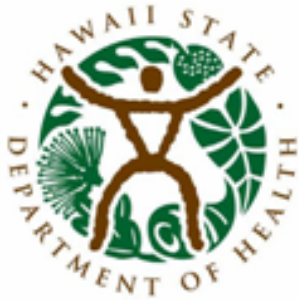
For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	



# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 38: SEPTEMBER 19, 2021– SEPTEMBER 25, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 26, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 38

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	1.5%	Comparable to the previous week. Comparable to Hawaii's historical baseline, comparable to the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 9 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	0.4%	Higher than the previous week. This number means that many, if not all, of the 99.6% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.2%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 38)	22.7%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	11.9%	Comparable to the Hawaii's historical baseline, comparable to the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See appendix 2 for interpretation of MMWR weeks. Data reported will begin on week 40, the traditional start date of flu season.

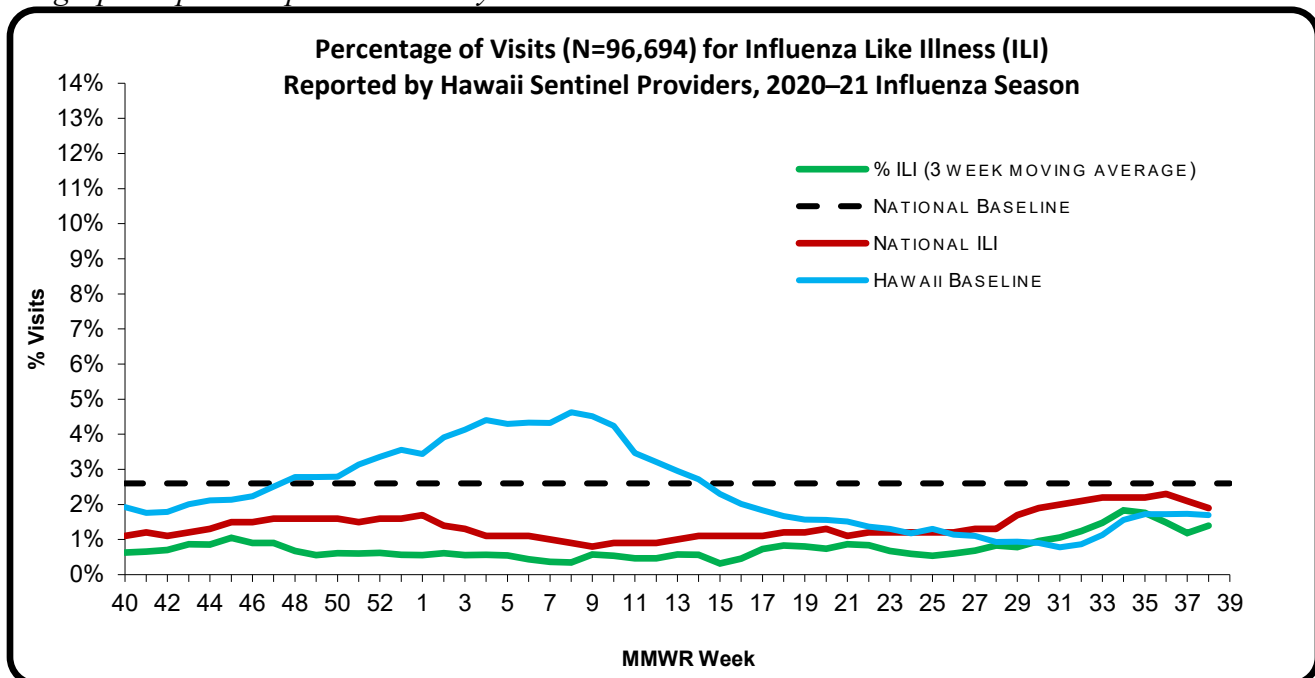
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 38 of the current influenza season:

- **1.5%** (season to date: **0.8%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and comparable to the national ILI rate (**1.9%**) (i.e., inside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

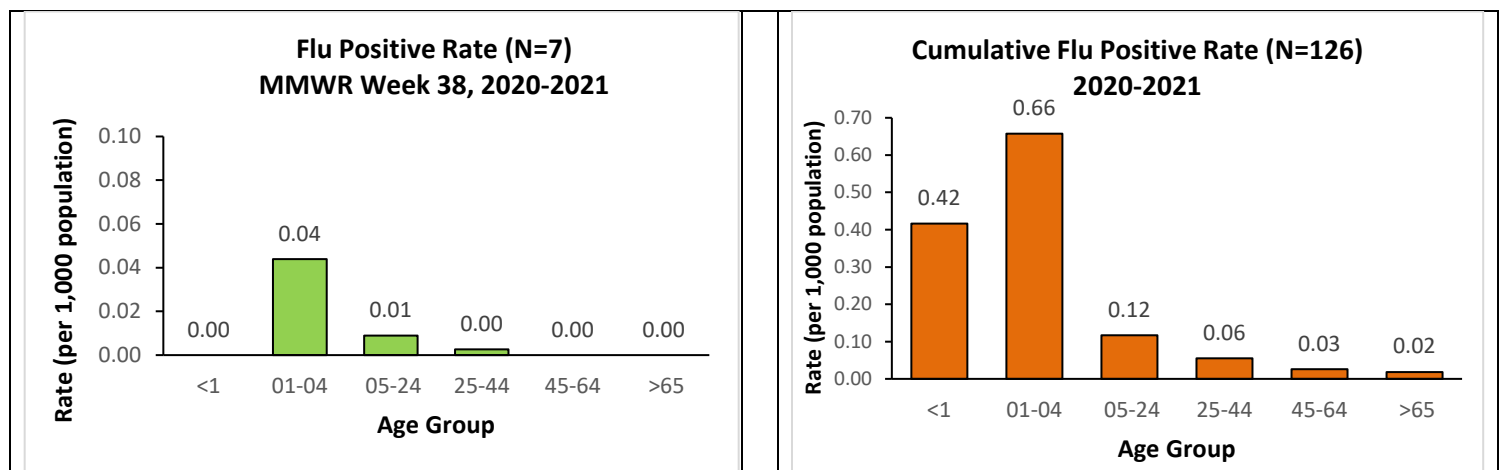
### A. INFLUENZA:

- The following reflects laboratory findings for week 38 of the 2020–21 influenza season:
  - A total of **1,951** specimens have been tested statewide for influenza viruses (positive: 7 [**0.4%**]). (Season to date: 78,654 tested [**0.2%** positive])<sup>9</sup>
    - 167 (8.6%) were screened only by rapid antigen tests with no confirmatory testing.
    - 1,784 (91.4%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 1,944 (99.6%) were negative.

Influenza type	Current week 38 (%)	Season to date (%) <sup>10</sup>
Influenza A (H1) <sup>11</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	1 (0.8)
Influenza A no subtyping	7 (100.0)	65 (51.6)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	0 (0.0)	60 (47.6)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>12</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> Influenza coding were updated to reflect a more accurate count.

<sup>10</sup> Laboratory confirmed negative influenza test have been withdrawn from the season to date count.

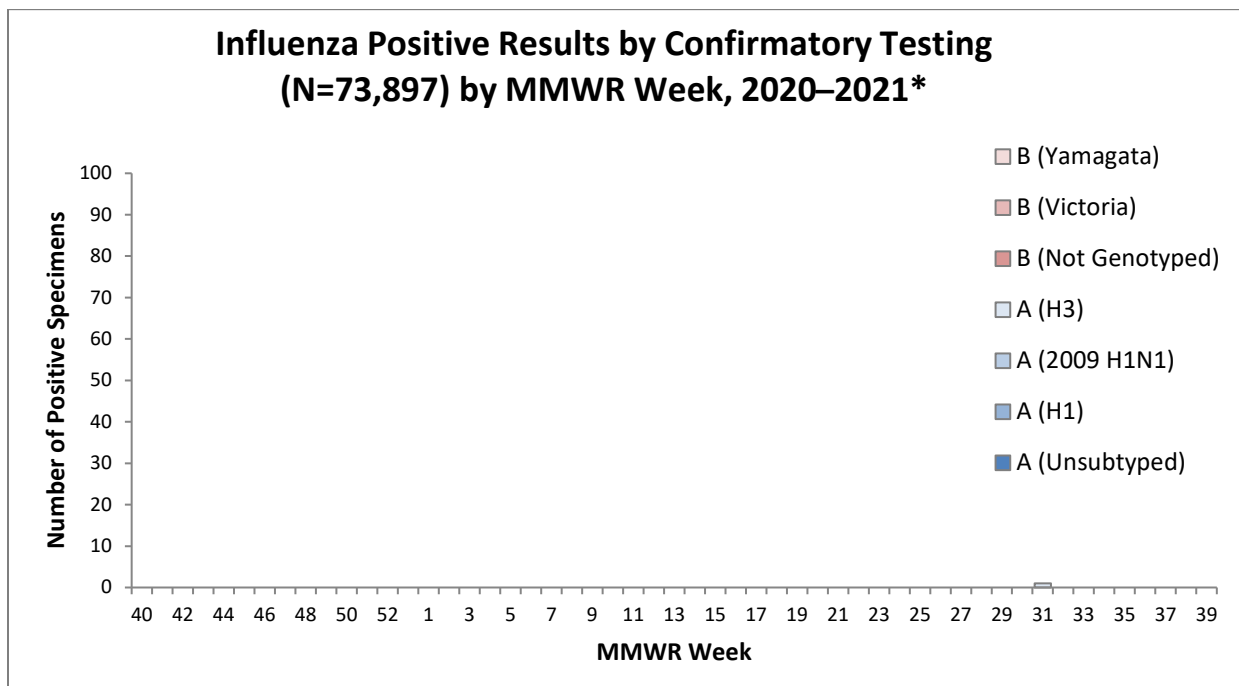
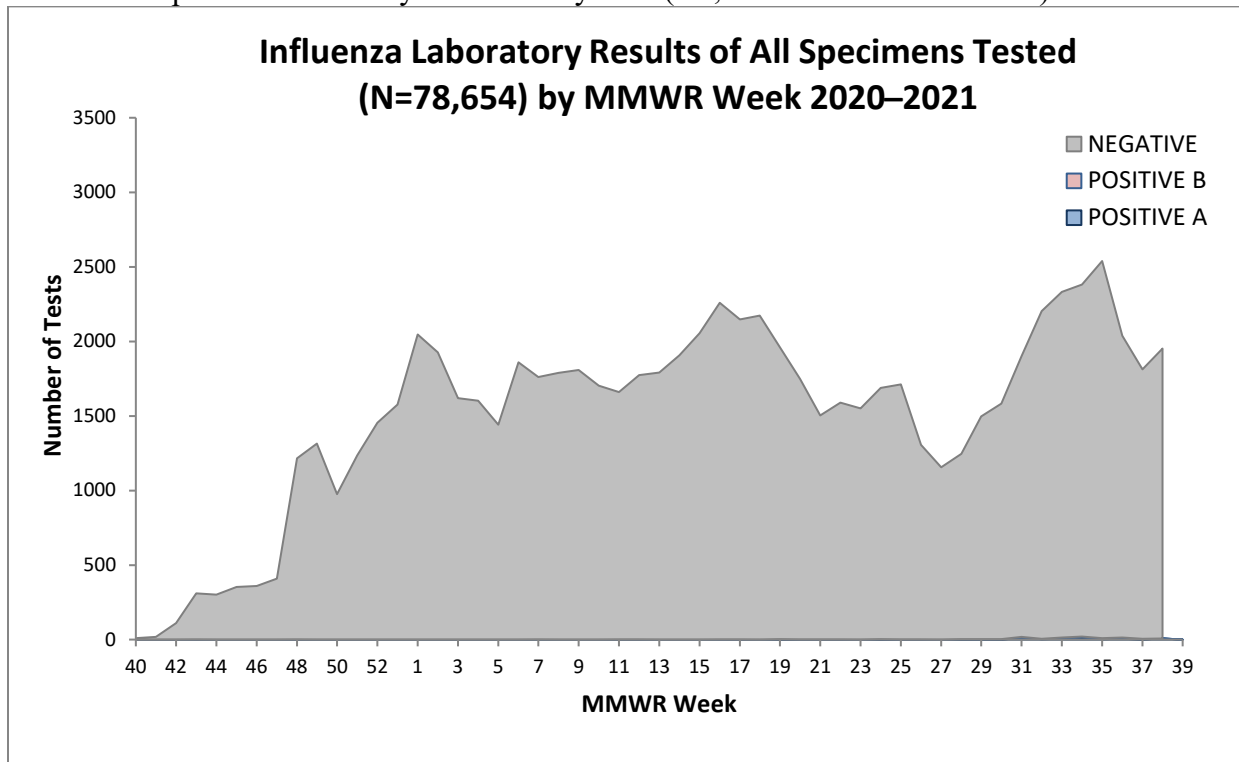
<sup>11</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>12</sup> This represents an estimate of population-based rates based on available data.



## 2. LABORATORY TESTING

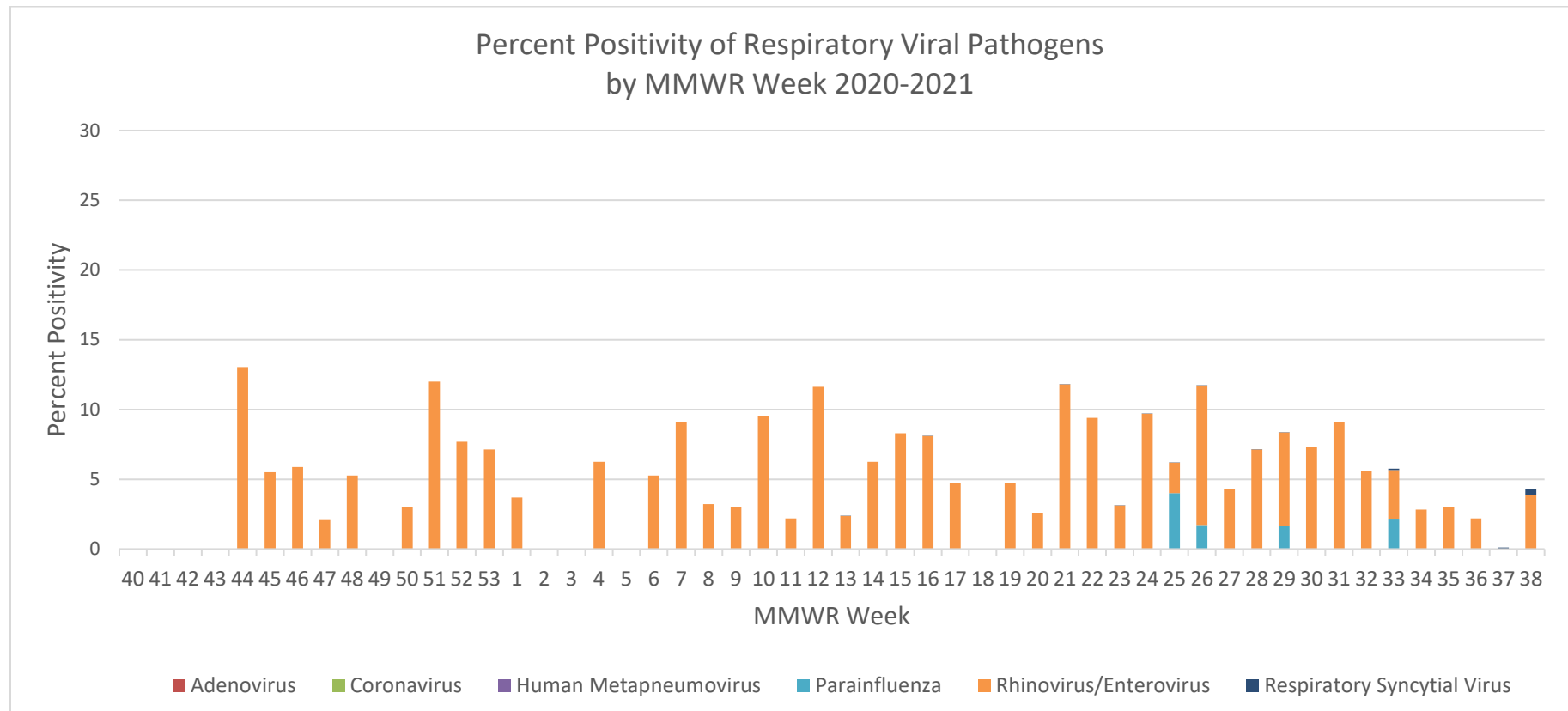
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.



**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 38<sup>13</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>14</sup>
  - A total of **66** surveillance specimens have been tested statewide for COVID-19 (positive: 15 [22.7%]).
  - Season to date: A total of 4,166<sup>15</sup> surveillance specimens have been tested for COVID-19 (positive: 524 [12.6%]).
  - 152 specimens have been tested at SLD<sup>16</sup>.

Season to Date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	205	7.3	0-17	767	4.7
Honolulu	3,197	13.8	18-64	2,060	17.1
Kauai	147	7.5	65+	1,339	10.1
Maui	478	9.6			
Unknown	139	7.2			

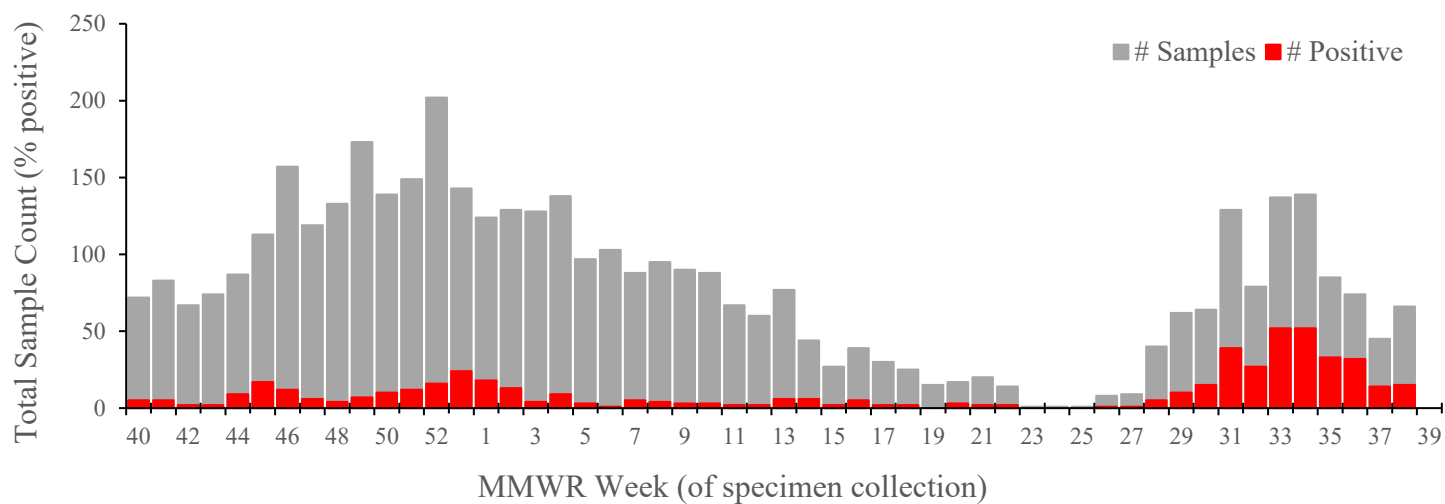
<sup>13</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>14</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>15</sup> Samples that were discarded prior to testing have been withdrawn from the total surveillance count.

<sup>16</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

## COVID-19 Surveillance Samples Tested (N=4,166), % Positive

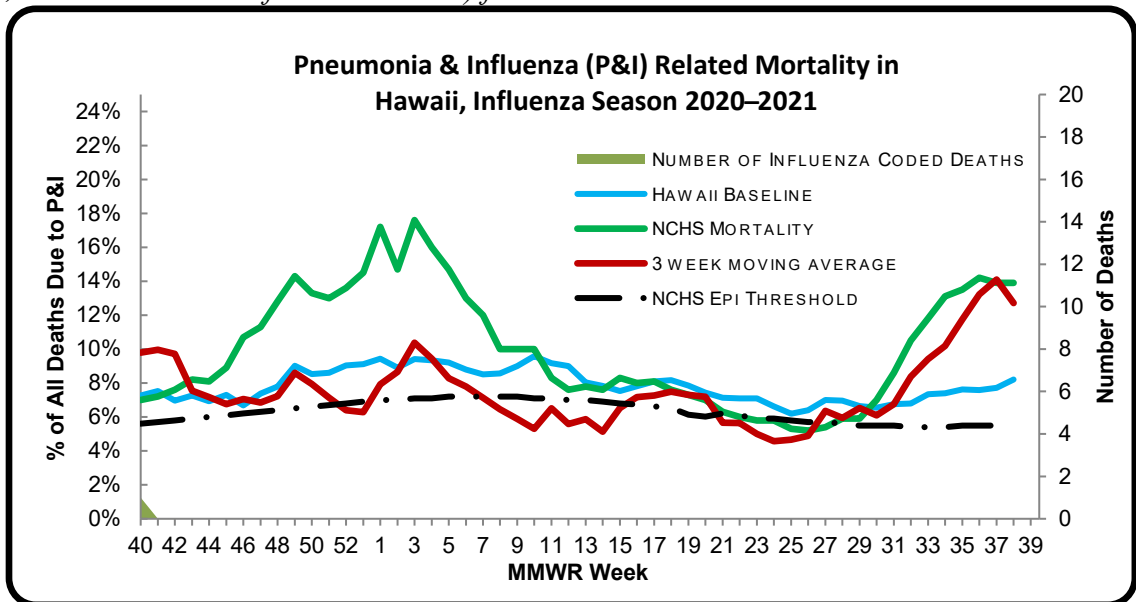


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For week 38 of the current influenza season:

- *11.9% of all deaths that occurred in Hawaii during week 38 were related to pneumonia or influenza (P&I)<sup>17</sup>. For the current season (season to date: 7.6%), there have been 12,004 deaths from any cause, 912 of which were due to P&I.*
- *The P&I rate was comparable to the historical baseline in Hawaii<sup>18</sup> (i.e., inside the 95% confidence interval).*
- *The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>19</sup> (13.9%) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (5.6%) (i.e., inside the 95% confidence interval) for week 38.*



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>20</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 38. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 38. (2020-2021 season total: 1).

<sup>17</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>18</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020).

<sup>19</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>20</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.

**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### A. VARIANT VIRUSES:

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *Four human infection with novel influenza A virus, H1N1v (2), H3N2v (1), and H1N2v (1), have been reported during the 2020–2021 influenza season.*
  - *Two new human infections with novel influenza A viruses were reported to CDC during week 38.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *Two human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H3N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Taiwan during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Germany during the 2020-2021 influenza season.*

#### B. AVIAN (OR BIRD) INFLUENZA:

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been

detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **August 08, 2021**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	





# HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

## Influenza/Respiratory Disease Surveillance Report Morbidity and Mortality Weekly Report (MMWR)<sup>1</sup>

WEEK 39: SEPTEMBER 26, 2021– OCTOBER 02, 2021

**OVERVIEW:** The Hawaii State Department of Health (HDOH) monitors influenza and other respiratory pathogens, including COVID-19, throughout the state of Hawaii. Influenza surveillance in the state of Hawaii relies upon selected sentinel health practitioners, the State Laboratories Division (SLD), private laboratories, and the Office of Health Status Monitoring (OHSM). For detailed information concerning influenza, please visit the HDOH Disease Outbreak Control Division (HDOH DOCD) website ([here](#)). **All data and information are conditional and may change as more reports are received.** The data in this report reflect the 2020–21 influenza season which began the week ending October 3, 2020 (week 40<sup>1</sup> 2020) and will end the week ending on September 26, 2021 (week 39 2021).

### REPORT SNAPSHOT FOR WEEK 39

Surveillance for Influenza-like Illness (ILI)		
Metric	Value	Comment
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	0.8%	Lower than the previous week. Comparable to Hawaii's historical baseline, lower than the national ILI rate, and lower than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 9 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	1.4%	Higher than the previous week. This number means that many, if not all, of the 98.6% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	0.2%	
Percent of respiratory sentinel surveillance specimens positive for COVID-19 (week 39)	12.9%	Sentinel surveillance specimens selected among respiratory specimens according to specific criteria <sup>2</sup>

Surveillance for Severe Outcomes		
Pneumonia and influenza (P&I) mortality rate	17.8%	Higher than the Hawaii's historical baseline, higher than the national epidemic threshold and comparable to the NCHS average.
Number of influenza-associated pediatric deaths reported nationwide	0	

<sup>1</sup> MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See **appendix 2 for interpretation of MMWR weeks**. Data reported will begin on week 40, the traditional start date of flu season.

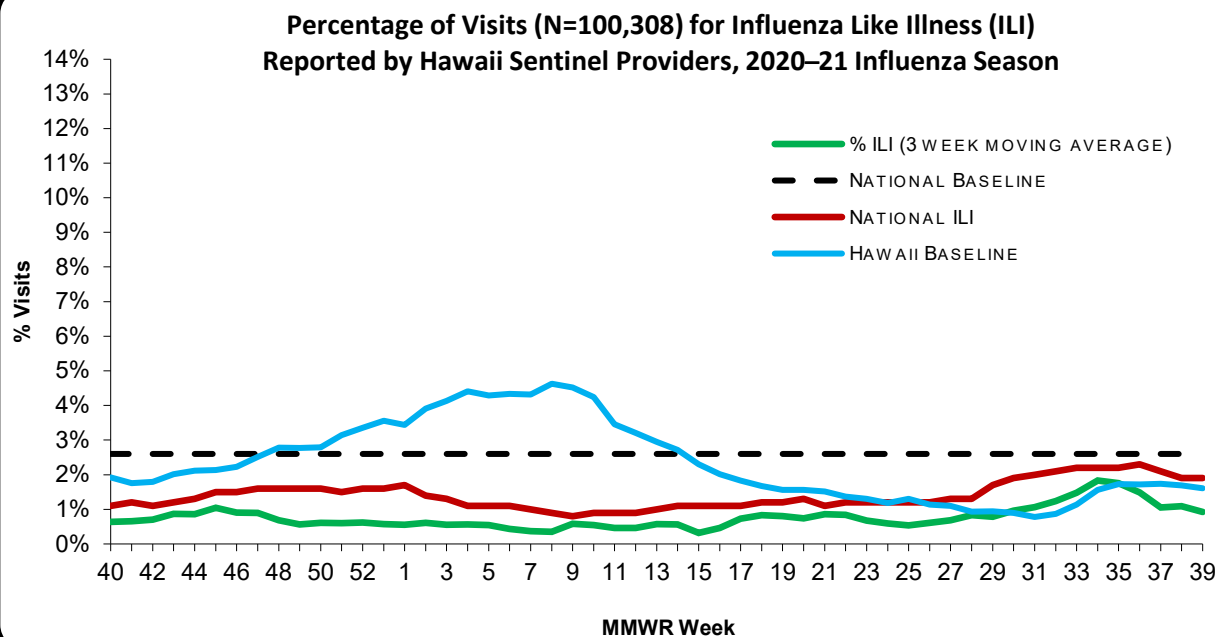
<sup>2</sup> Patients must meet the following criteria to be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, and demonstrates respiratory symptoms.

## INFLUENZA SURVEILLANCE

**I. INFLUENZA-LIKE ILLNESS (ILI):** HDOH collaborates with recruited doctors and healthcare providers who report the total number of outpatient visits for ILI as well as the total number of patients who complained of symptoms consistent with an ILI. A patient with ILI must have the following: a fever (temperature of 100°F [37.8°C] or greater) AND a cough and/or a sore throat without a known cause other than influenza. ILI is based on reported symptoms and not laboratory confirmed tests; thus, ILI may represent other respiratory pathogens and not solely influenza. Further, sentinel providers report these numbers on a weekly basis; therefore, data are preliminary and may change depending on additional reporting. In combination with laboratory testing and other surveillance systems, ILI surveillance helps monitor influenza and other respiratory pathogen activity. For more information concerning ILINet and sentinel requirements, please visit the CDC website ([here](#)).

For week 39 of the current influenza season:

- **0.8%** (season to date: **0.8%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.
- ILI visits were comparable to the historical baseline in Hawaii<sup>3,4</sup> (i.e., inside the 95% confidence interval).
- Hawaii's ILI outpatient visits were lower than the national baseline (**2.6%**)<sup>5</sup> (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**1.9%**) (i.e., outside the 95% confidence interval).
- ILI activity level: Minimal<sup>6</sup>
- Geographic Spread: Sporadic Activity<sup>7</sup>.



<sup>3</sup> The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>4</sup> This value is based upon comparison of actual outpatient ILI with the historical baseline, which only captures outpatient ILI. The chart above represents a 3-week moving average and not the actual ILI by week.

<sup>5</sup> The National Baseline is calculated by CDC as the mean percentage of visits for ILI during weeks 21–39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline with local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

<sup>6</sup> There are 10 activity levels classified as minimal (levels 1–3), low (levels 4–5), moderate (levels 6–7), and high (levels 8–10).

<sup>7</sup> The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses but does not measure the severity of influenza activity. Sporadic: no clusters reported to HDOH, Local: one or more clusters reported in one county, Regional: clusters reported two to three counties, Widespread: clusters reported in all counties. Hawaii does not report No Activity, as flu circulates year-round in Hawaii.

**II. LABORATORY SURVEILLANCE:** State Laboratories Division (SLD; the HDOH public health laboratory) and Hawaii's major private laboratories (DLS, CLH) report results of RT-PCR, which can be considered confirmatory (SLD may perform viral culture on select specimens). Specimens meeting priority criteria<sup>8</sup> are forwarded to SLD for sub-typing. Additionally, specimens meeting case definition from requesting sentinel providers are sent directly to SLD for sub-typing. Due to resource constraints, not all submitted specimens undergo sub-typing. Sub-typing at the commercial laboratories is only conducted on a case-by-case basis. The majority of specimens testing positive by rapid antigen testing or RT-PCR at the commercial laboratories do not meet criteria and are not subtyped. For more information on influenza tests and types, please visit the CDC website ([here](#)).

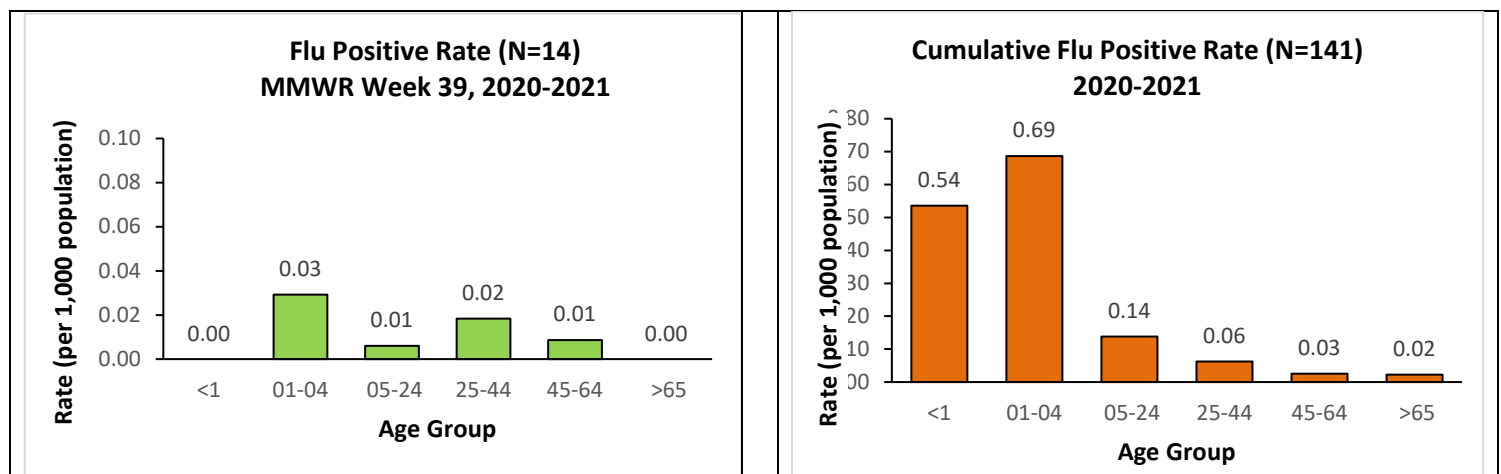
### A. INFLUENZA:

- The following reflects laboratory findings for week 39 of the 2020–21 influenza season:
  - A total of **1,029** specimens have been tested statewide for influenza viruses (positive: 14 [**1.4%**]). (Season to date: 79,684 tested [**0.2%** positive])<sup>9</sup>
    - 290 (28.2%) were screened only by rapid antigen tests with no confirmatory testing.
    - 739 (71.8%) underwent confirmatory testing (either RT-PCR or viral culture).
    - 1,015 (98.6%) were negative.

Influenza type	Current week 39 (%)	Season to date (%) <sup>10</sup>
Influenza A (H1) <sup>11</sup>	0 (0.0)	0 (0.0)
Influenza A (H3)	0 (0.0)	1 (0.7)
Influenza A no subtyping	6 (42.9)	71 (50.4)
Influenza B (Yamagata)	0 (0.0)	0 (0.0)
Influenza B (Victoria)	0 (0.0)	0 (0.0)
Influenza B no genotyping	8 (57.1)	69 (48.9)

### 1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2020–21 influenza season.<sup>12</sup>



<sup>8</sup> Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.

<sup>9</sup> Influenza coding were updated to reflect a more accurate count.

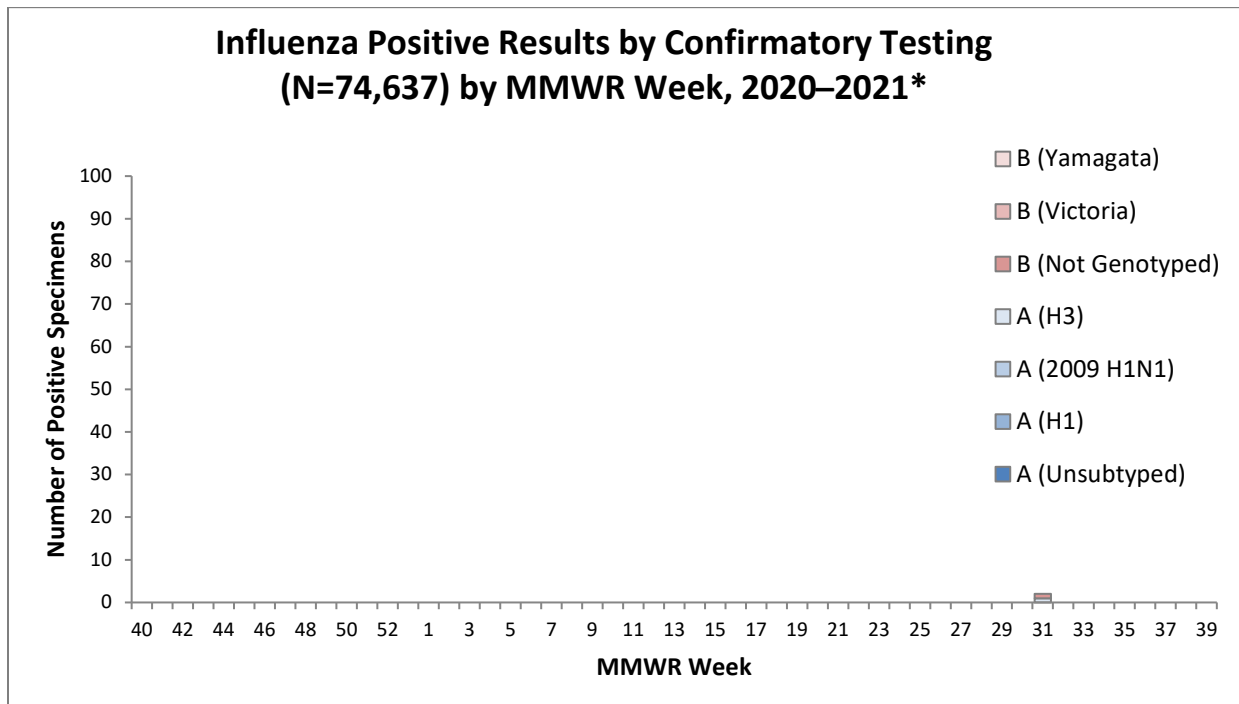
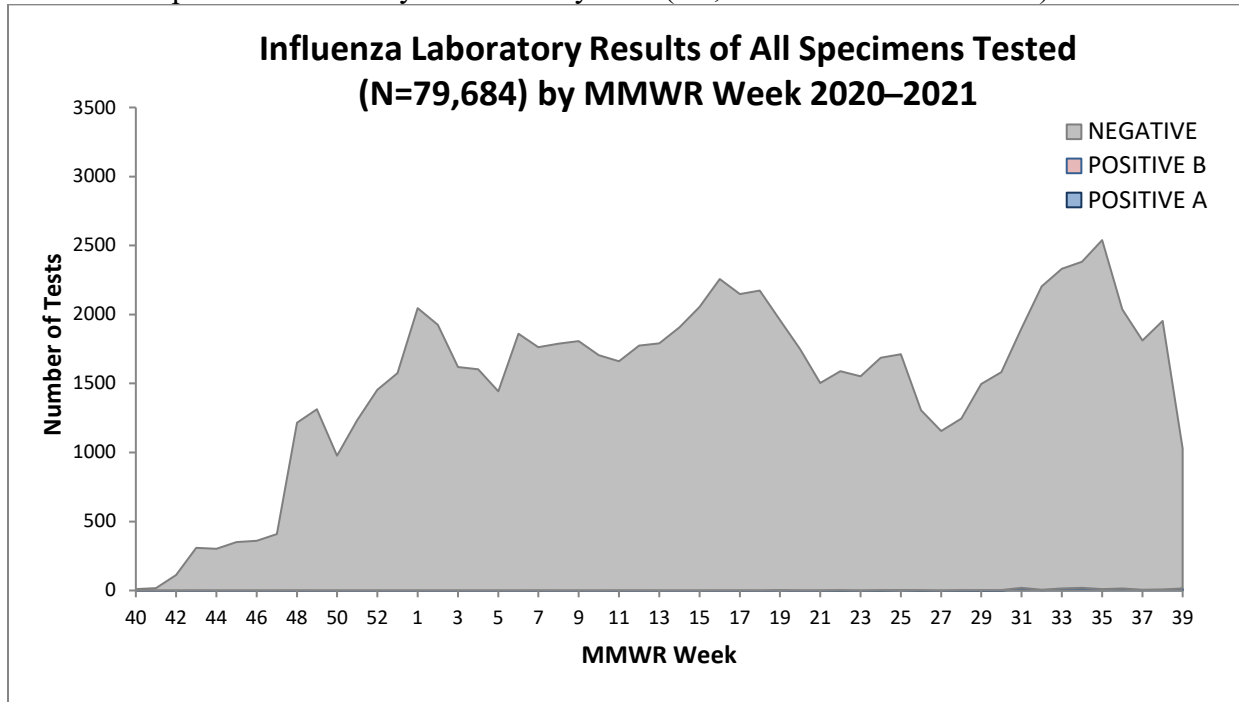
<sup>10</sup> Laboratory confirmed negative influenza test have been withdrawn from the season to date count.

<sup>11</sup> All influenza A H1 viruses detected this season have been 2009 H1N1.

<sup>12</sup> This represents an estimate of population-based rates based on available data.

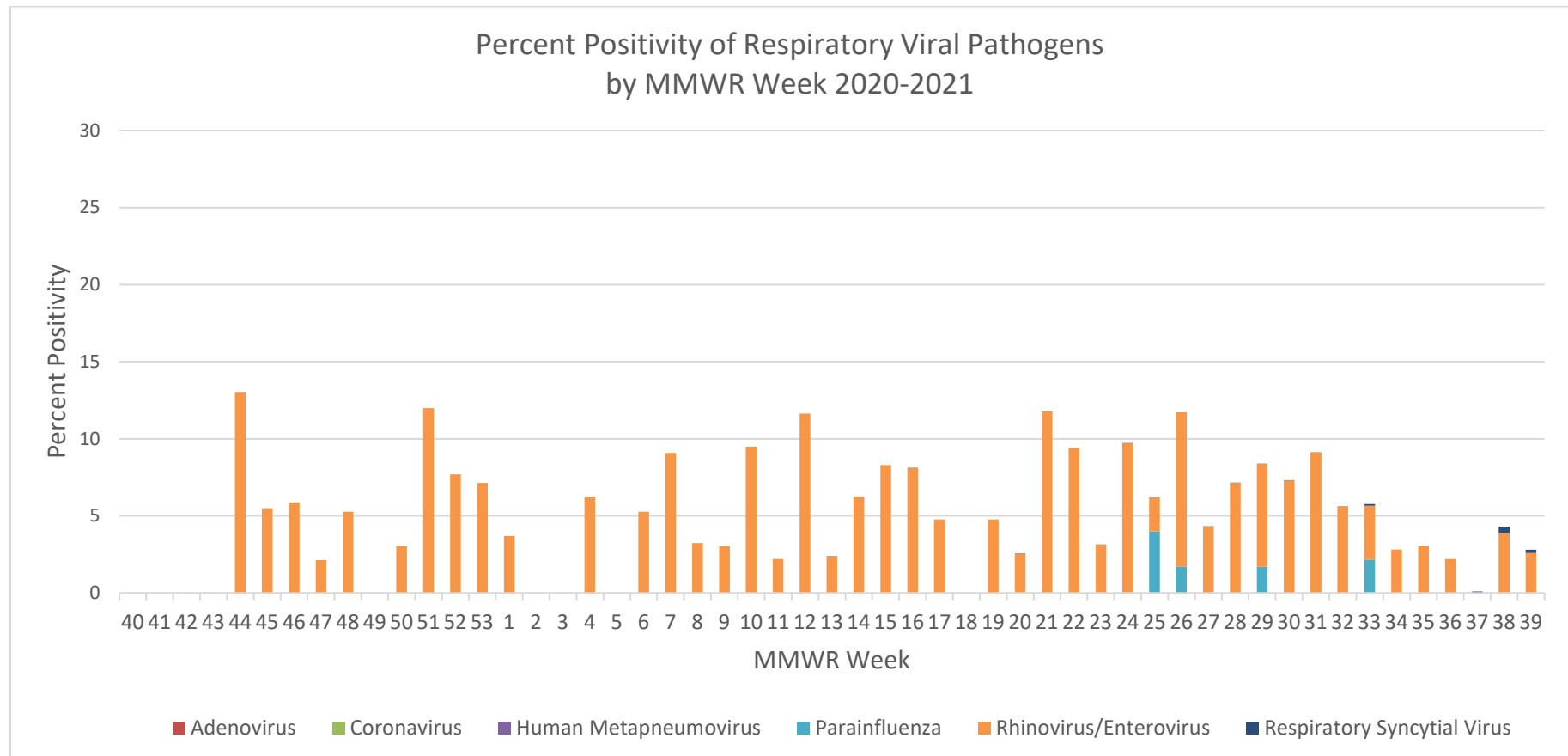
## 2. LABORATORY TESTING

The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2020–2021 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).



\* Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.

**B. OTHER RESPIRATORY PATHOGENS:** The major clinical and commercial laboratories throughout the state of Hawaii have the testing capacity for non-influenza respiratory pathogens and report these to HDOH. However, such testing is performed as needed and when sufficient resources are available because of the high costs associated with respiratory panel tests. **Therefore, available data represent only the presence of circulating pathogens and cannot be used to determine specific trends.**



\* The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).

**C. COVID-19 SENTINEL SURVEILLANCE:** HDOH is partnering with CDC to conduct community sentinel surveillance targeting outpatient healthcare settings to identify cases of COVID-19 among patients who have mild to moderate febrile respiratory illness. This program is designed to detect and track community spread of the disease and will be operated based on the framework of the existing influenza surveillance program. Respiratory specimens (i.e., nasopharyngeal swabs) from a subset of patients who meet the following criteria will be included in sentinel surveillance: no travel history outside of the state of Hawaii, no severe respiratory disease (i.e., pneumonia), no hospitalization, demonstrates respiratory symptoms. Additionally, patients will be selected to ensure geographic and age representation proportional to the state's population. For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website ([here](#)).

The following reflects laboratory findings for week 39<sup>13</sup> of the 2020–21 influenza/respiratory disease season:

- *COVID-19 geographic spread: Regional*<sup>14</sup>
  - *A total of 62 surveillance specimens have been tested statewide for COVID-19 (positive: 8 [12.9%]).*
  - *Season to date: A total of 4237<sup>15</sup> surveillance specimens have been tested for COVID-19 (positive: 533 [12.6%]).*
  - *152 specimens have been tested at SLD*<sup>16</sup>.

Season to Date Results					
County			Age		
	# Samples	% Positive		# Samples	% Positive
Hawaii	207	7.3	0-17	788	5.1
Honolulu	3,255	13.8	18-64	2,085	17.1
Kauai	153	7.2	65+	1,364	10.0
Maui	482	9.5			
Unknown	140	7.1			

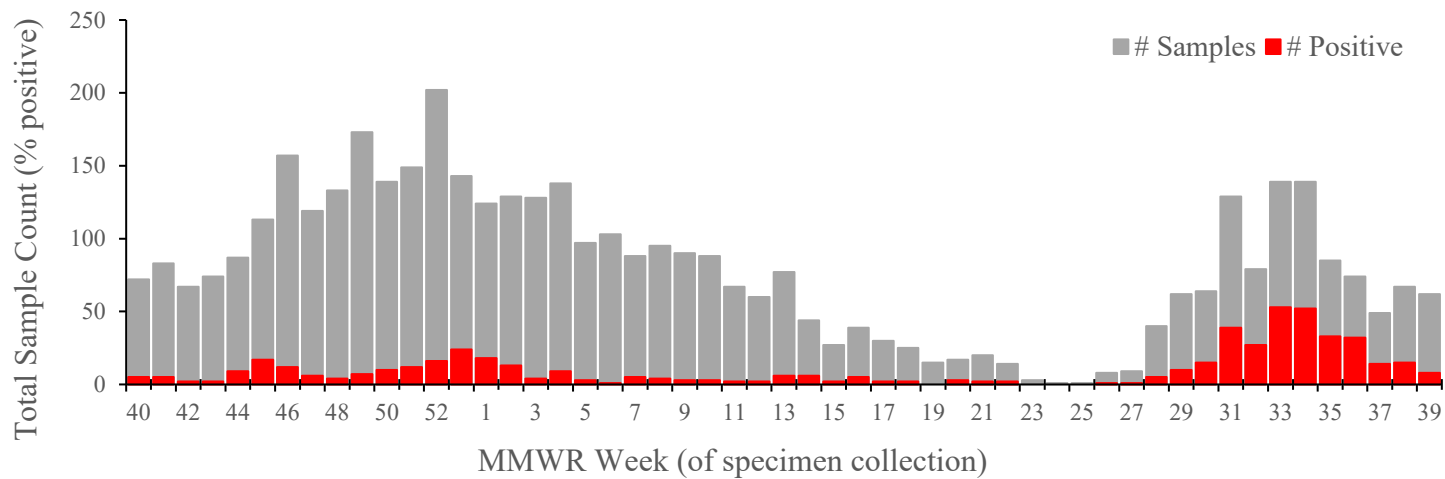
<sup>13</sup> COVID sentinel surveillance data will be reported for one MMWR week ahead of the influenza surveillance data to provide most current data.

<sup>14</sup> No activity: No laboratory-confirmed cases of COVID-19, Sporadic: No laboratory-confirmed cases of COVID-19 detected through sentinel surveillance (i.e., only travel-associated cases detected), Local: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in one county, Regional: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in two to three counties, Widespread: Laboratory-confirmed cases of COVID-19 detected through sentinel surveillance in all counties. Geographic spread should be interpreted in the context of ILI activity level.

<sup>15</sup> Samples that were discarded prior to testing have been withdrawn from the total surveillance count.

<sup>16</sup> Many specimens requested by HDOH for COVID-19 testing are being tested at private laboratories. Specimens tested by private laboratories that meet the COVID-19 surveillance criteria will be included in the surveillance summary along with specimens tested by SLD. As Hawaii's private laboratories increase their testing capacity for COVID-19, fewer specimens may be tested by SLD.

## COVID-19 Surveillance Samples Tested (N=4,237), % Positive

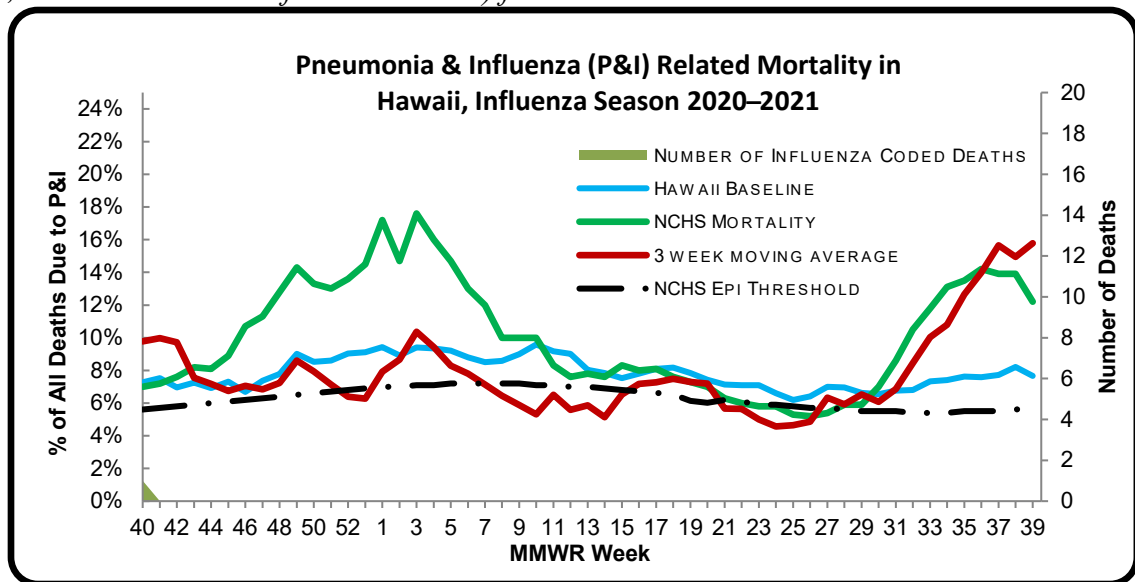


### III. PNEUMONIA AND INFLUENZA (P&I) RELATED MORTALITY:

P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Studies have suggested that P&I is a good indicator of influenza-related deaths and therefore P&I is one method for influenza surveillance.

For week 39 of the current influenza season:

- *17.8% of all deaths that occurred in Hawaii during week 39 were related to pneumonia or influenza (P&I)<sup>17</sup>. For the current season (season to date: 8.0%), there have been 12,463 deaths from any cause, 1,002 of which were due to P&I<sup>18</sup>.*
- *The P&I rate was higher than the historical baseline in Hawaii<sup>19</sup> (i.e., outside the 95% confidence interval).*
- *The Hawaii P&I rate was comparable to the CDC's National Center for Health Statistics (NCHS) P&I mortality<sup>20</sup> (12.2%) (i.e., inside the 95% confidence interval) and higher than the national epidemic threshold (5.7%) (i.e., outside the 95% confidence interval) for week 39.*



### INFLUENZA-ASSOCIATED PEDIATRIC DEATHS<sup>21</sup>:

- No new influenza-associated pediatric deaths were reported to Hawaii during week 39. There have not been any influenza-associated pediatric deaths reported in Hawaii during the 2020–2021 season.
- Nationally, no influenza-associated pediatric deaths were reported to CDC during week 39. (2020–2021 season total: 1).

<sup>17</sup> The percent of deaths due to P&I displayed on the graph is the 3-week moving averages.

<sup>18</sup> P&I data reflects 78% of the data reported for the MMWR week. Changes to data are expected when P&I data reaches 100% completion.

<sup>19</sup> The Hawaii historical baseline (%P&I) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016, 2016–2017, 2017–2018, 2018–2019, and 2019–2020).

<sup>20</sup> Each week, the vital statistics offices of 122 cities across the United States report the total number of death certificates processed and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group (Under 28 days, 28 days–1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years, 75–84 years, and ≥85 years). The percentage of deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

<sup>21</sup> Influenza-associated deaths are considered pediatric in persons aged less than 18 years. It was made a nationally notifiable condition in October, 2004. All pediatric influenza-associated deaths are laboratory confirmed.



**IV. INFLUENZA WATCH:** As part of a comprehensive influenza surveillance system and to prevent the spread of contagious respiratory diseases in humans, it is important to monitor all circulating influenza types. Several animal-origin influenza A subtypes are currently of interest: influenza A variant virus (H3N2v, H1N2v, and H1N1v) and Avian flu (H5N1 and H7N9). These types of influenza viruses may cause zoonotic (animal-associated) disease and are a public health concern.

#### A. VARIANT VIRUSES:

Influenza viruses that normally circulate in pigs are called “variant” viruses when they are found in people. These viruses were first identified in U.S. pigs in 2010. In 2011, 12 cases of H3N2v infection were detected in the United States. In 2012, 309 such cases (resulting in 16 hospitalizations and one death) across 12 states were detected, including one Hawaii case who recovered. Illness associated with H3N2v infection has been mostly mild with symptoms similar to those of seasonal flu. However, serious illness, resulting in hospitalization and death, has occurred in some cases. Most of these infections have been associated with prolonged exposure to pigs at agricultural fairs or similar settings. Limited human-to-human spread of this virus has been detected in the past, but no sustained community spread of H3N2v has been identified. More information regarding H3N2v, H1N1v, and H1N2v viruses may be found on the CDC website ([here](#)) and ([here](#)).

- *No variant or novel influenza infections have been reported to HDOH during the 2020–2021 influenza season.*
- *Four human infection with novel influenza A virus, H1N1v (2), H3N2v (1), and H1N2v (1), have been reported during the 2020–2021 influenza season.*
  - *Two new human infections with novel influenza A viruses were reported to CDC during week 39.*
  - *Two human infections with novel influenza A H1N1v virus have been reported to WHO from the Netherlands during the 2020-2021 influenza season.*
  - *Two human infection with novel influenza A H1N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H3N2v virus has been reported to WHO from Canada during the 2020-2021 influenza season.*
  - *Five human infections with novel influenza A H1N1v virus has been reported to WHO from China during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Taiwan during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N2v virus has been reported to WHO from Brazil during the 2020-2021 influenza season.*
  - *One human infection with novel influenza A H1N1v virus has been reported to WHO from Germany during the 2020-2021 influenza season.*

#### B. AVIAN (OR BIRD) INFLUENZA:

These types of influenza viruses cause zoonotic (animal-associated) disease of public health concern and are therefore monitored globally by the WHO. Most avian influenza viruses do not cause disease in humans and are generally not easily transmissible between person to person, but a few subtypes may cross the species barrier and cause disease in humans. Avian influenza viruses may be of various subtypes, including H5N1, H5N2, H5N8, H7N3, H7N7, H7N8, H7N9, and H9N2. On January 15<sup>th</sup>, 2016, the USDA and APHIS reported detection of HPAI H7N8 in a commercial turkey flock in Indiana. There have been no associated human infections. This is the first detection of HPAI H7N8 in wild bird surveillance in the United States. More information, the risk assessment and recommendations for HPAI H7N8 can be found ([here](#)). The WHO, CDC, and other public health agencies have also been monitoring influenza H7N9, which represents a public health concern because of its high pandemic potential. Although H7N9 has not been

detected in the United States, it remains a global concern given continuing epidemics in endemic countries. Since 2013, a total of 1,568 laboratory-confirmed cases of human infection with H7N9 viruses, including at least 613 deaths, have been reported to WHO. More information on H7N9 virus infections can be found ([here](#)). For more information regarding avian influenza, please visit the CDC ([here](#)) or the WHO ([here](#)) websites. WHO reports total number of cases and deaths related to laboratory-confirmed avian influenza viruses and posts current avian influenza case counts ([here](#)), which were last updated on **August 08, 2021**.

**V. INFLUENZA VACCINE:** Annual influenza vaccination is recommended for all persons aged 6 months and older and is the most effective way to reduce the risk of getting sick with seasonal flu and spreading it to others. Influenza vaccination can reduce illnesses, visits to the doctor, influenza-related hospitalizations, and missed work and school days. Influenza vaccines become available by the end of October. It takes at least two weeks after vaccination to confer immunity against influenza virus infection. More information regarding influenza vaccination can be found ([here](#)).

**A. COMPOSITION OF THE 2020–2021 INFLUENZA VACCINE:**

The composition of the 2020–2021 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2020–2021 influenza trivalent vaccine contain an influenza A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, influenza A/Hong Kong/2671/2019 (H3N2)-like virus, and influenza B/Washington/02/2019 (Victoria lineage)-like virus. Quadrivalent vaccines, which contain two influenza A and two influenza B viruses, are recommended to contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus in addition to the same viruses recommended for the trivalent vaccines. United States cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain HA derived from an influenza A/Hawaii/70/2019 (H1N1)pdm09-like virus, an influenza A/Hong Kong/45/2019 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus. These vaccine recommendations were based on several factors, including global influenza virologic and epidemiologic surveillance, genetic and antigenic characterization, human serology studies, antiviral susceptibility, and the availability of candidate influenza viruses.

**APPENDIX 1: ADDITIONAL INFORMATION**

For more information regarding local and national influenza surveillance programs, visit the following sites.

<b>Centers for Disease Control and Prevention</b>	<a href="#">General Influenza</a> <a href="#">National ILI and P&amp;I Data</a> <a href="#">Vaccine Virus Selection</a>
<b>Flu.gov</b>	<a href="#">General Influenza Information</a>
<b>HDOH Flu and Pneumonia</b>	<a href="#">General Influenza Surveillance</a> To find out more information or join the sentinel physician program, email the <a href="#">Influenza Surveillance Coordinator</a>
<b>World Health Organization</b>	<a href="#">General Global and Local Influenza</a> <a href="#">Avian Influenza</a>

**APPENDIX 2: MMWR WEEK DATES**

Please refer to the table below to interpret data presented by MMWR week. Week 40 is considered the traditional start for the flu season for the Northern Hemisphere.

MMWR WEEK	2017	2018	2019	2020	2021
1	1/7/2017	1/6/2018	1/5/2019	1/4/2020	1/9/2021
2	1/14/2017	1/13/2018	1/12/2019	1/11/2020	1/16/2021
3	1/21/2017	1/20/2018	1/19/2019	1/18/2020	1/23/2021
4	1/28/2017	1/27/2018	1/26/2019	1/25/2020	1/30/2021
5	2/4/2017	2/3/2018	2/2/2019	2/1/2020	2/6/2021
6	2/11/2017	2/10/2018	2/9/2019	2/8/2020	2/13/2021
7	2/18/2017	2/17/2018	2/16/2019	2/15/2020	2/20/2021
8	2/25/2017	2/24/2018	2/23/2019	2/22/2020	2/27/2021
9	3/4/2017	3/3/2018	3/2/2019	2/29/2020	3/6/2021
10	3/11/2017	3/10/2018	3/9/2019	3/7/2020	3/13/2021
11	3/18/2017	3/17/2018	3/16/2019	3/14/2020	3/20/2021
12	3/25/2017	3/24/2018	3/23/2019	3/21/2020	3/27/2021
13	4/1/2017	3/31/2018	3/30/2019	3/28/2020	4/3/2021
14	4/8/2017	4/7/2018	4/6/2019	4/4/2020	4/10/2021
15	4/15/2017	4/14/2018	4/13/2019	4/11/2020	4/17/2021
16	4/22/2017	4/21/2018	4/20/2019	4/18/2020	4/24/2021
17	4/29/2017	4/28/2018	4/27/2019	4/25/2020	5/1/2021
18	5/6/2017	5/5/2018	5/4/2019	5/2/2020	5/8/2021
19	5/13/2017	5/12/2018	5/11/2019	5/9/2020	5/15/2021
20	5/20/2017	5/19/2018	5/18/2019	5/16/2020	5/22/2021
21	5/27/2017	5/26/2018	5/25/2019	5/23/2020	5/29/2021
22	6/3/2017	6/2/2018	6/1/2019	5/30/2020	6/5/2021
23	6/10/2017	6/9/2018	6/8/2019	6/6/2020	6/12/2021
24	6/17/2017	6/16/2018	6/15/2019	6/13/2020	6/19/2021
25	6/24/2017	6/23/2018	6/22/2019	6/20/2020	6/26/2021
26	7/1/2017	6/30/2018	6/29/2019	6/27/2020	7/3/2021
27	7/8/2017	7/7/2018	7/6/2019	7/4/2020	7/10/2021
28	7/15/2017	7/14/2018	7/13/2019	7/11/2020	7/17/2021
29	7/22/2017	7/21/2018	7/20/2019	7/18/2020	7/24/2021
30	7/29/2017	7/28/2018	7/27/2019	7/25/2020	7/31/2021
31	8/5/2017	8/4/2018	8/3/2019	8/1/2020	8/7/2021
32	8/12/2017	8/11/2018	8/10/2019	8/8/2020	8/14/2021
33	8/19/2017	8/18/2018	8/17/2019	8/15/2020	8/21/2021
34	8/26/2017	8/25/2018	8/24/2019	8/22/2020	8/28/2021
35	9/2/2017	9/1/2018	8/31/2019	8/29/2020	9/4/2021
36	9/9/2017	9/8/2018	9/7/2019	9/5/2020	9/11/2021
37	9/16/2017	9/15/2018	9/14/2019	9/12/2020	9/18/2021
38	9/23/2017	9/22/2018	9/21/2019	9/19/2020	9/25/2021
39	9/30/2017	9/29/2018	9/28/2019	9/26/2020	10/2/2021
40	10/7/2017	10/6/2018	10/5/2019	10/3/2020	10/9/2021
41	10/14/2017	10/13/2018	10/12/2019	10/10/2020	10/16/2021
42	10/21/2017	10/20/2018	10/19/2019	10/17/2020	10/23/2021
43	10/28/2017	10/27/2018	10/26/2019	10/24/2020	10/30/2021
44	11/4/2017	11/3/2018	11/2/2019	10/31/2020	11/6/2021
45	11/11/2017	11/10/2018	11/9/2019	11/7/2020	11/13/2021
46	11/18/2017	11/17/2018	11/16/2019	11/14/2020	11/20/2021
47	11/25/2017	11/24/2018	11/23/2019	11/21/2020	11/27/2021
48	12/2/2017	12/1/2018	11/30/2019	11/28/2020	12/4/2021
49	12/9/2017	12/8/2018	12/7/2019	12/5/2020	12/11/2021
50	12/16/2017	12/15/2018	12/14/2019	12/12/2020	12/18/2021
51	12/23/2017	12/22/2018	12/21/2019	12/19/2020	12/25/2021
52	12/30/2017	12/29/2018	12/28/2019	12/26/2020	1/1/2022
53				01/02/2021	