HAWAII STATE DEPARTMENT OF HEALTH
DISEASE OUTBREAK CONTROL DIVISION

Influenza/Respiratory Disease Surveillance Report

Morbidity and Mortality Weekly Report (MMWR)[1]

WEEK 40: OCTOBER 1, 2023– OCTOBER 7, 2023

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 2023–2024 influenza season which began the week ending October 7, 2023 (week 40[1] 2023) and will end the week ending on September 28, 2024 (week 39 2024).

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	2.8%	Lower than the previous week. Comparable to the Hawaii's historical baseline, higher than the national ILI rate, and comparable to 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	11.7%	Higher than the previous week. This number means that many, if not all, of the 88.3% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	11.7%	

Surveillance for Severe Outcomes		
Pneumonia, influenza and COVID-19 (PIC) mortality rate	3.6%	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	0 influenza-associated pediatric deaths have been reported from Hawaii this season to date.

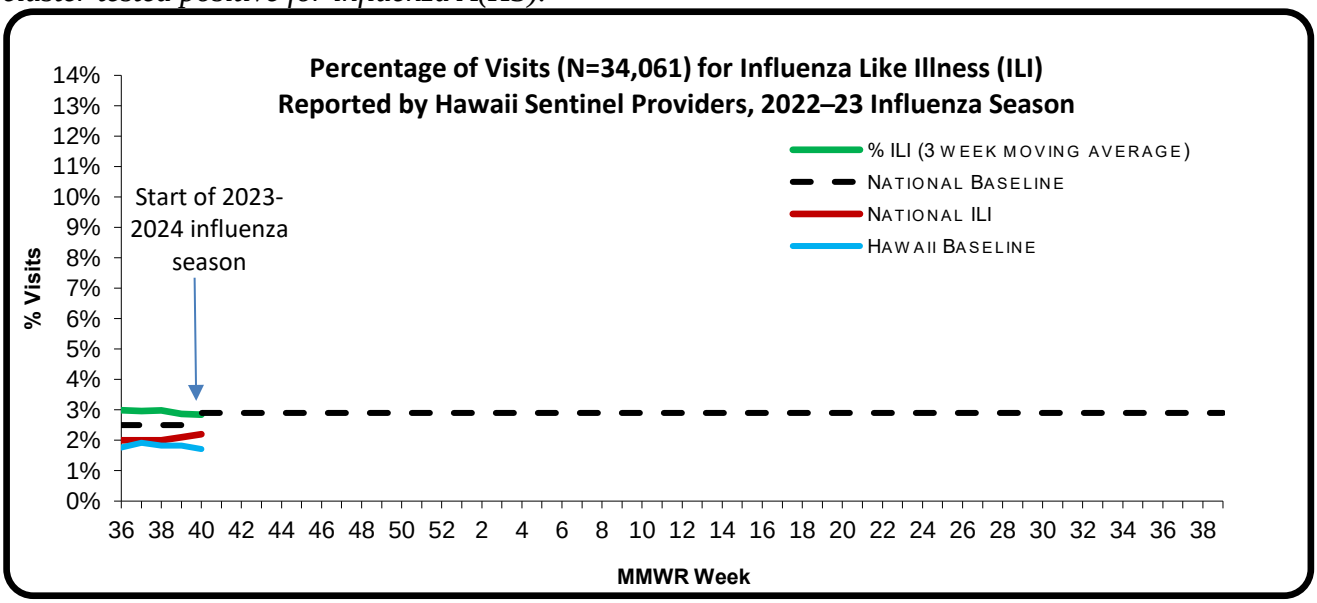
[1] MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week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

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. 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:

- ***2.8**% (season to date: **2.8**%) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.*
- *ILI visits were comparable to the historical baseline in Hawaii[2,3] (i.e., inside the 95% confidence interval).*
- *Hawaii's ILI outpatient visits were higher than the national baseline (**2.9%**)[4] (i.e., outside the 95% confidence interval) and comparable to the national ILI rate (**2.2%**) (i.e. inside the 95% confidence interval).*
- *ILI activity level: Low[5]*
- *Geographic Spread: Sporadic Activity[6].*
- *ILI Cluster Activity: Two clusters were reported to HDOH during week 40. The cluster occurred at two different schools on Honolulu. One cluster included cases tested positive for influenza B while the other cluster tested positive for influenza A(H3).*



[2] The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022 and 2022-2023).

[3] 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.

[4] 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.

[5] There are 10 activity levels classified as minimal (levels 1-3), low (levels 4-5), moderate (levels 6-7), and high (levels 8-10).

[6] 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[7] 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*).

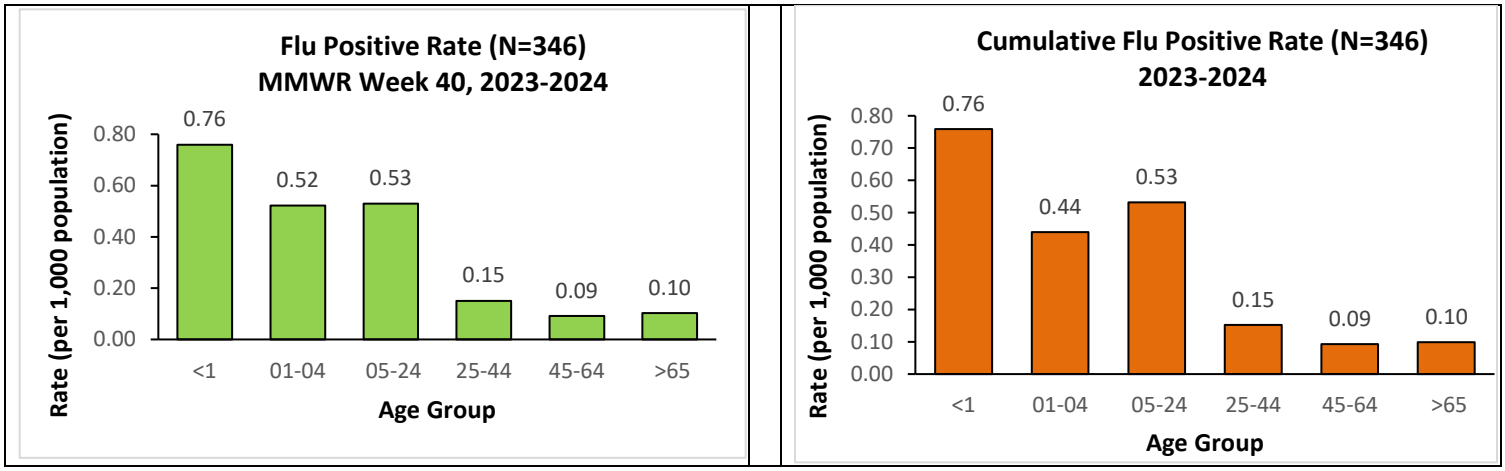
A. INFLUENZA:

- The following reflects laboratory findings for week 40 of the 2023–24 influenza season:
  - *A total of **2,963** specimens have been tested statewide for influenza viruses (positive: 346 [**11.7%**]). (Season to date: 2,963 tested (**11.7%** positive])*
    - *259 (8.7%) were screened only by rapid antigen tests with no confirmatory testing.*
    - *2,704 (91.3%) underwent confirmatory testing (either RT-PCR or viral culture).*
    - *2,617 (88.3%) were negative.*

Influenza type	*Current week 40 (%)*	*Season to date (%)*[8]
Influenza A (H1)[9]	*9 (2.6)*	*9 (2.6)*
Influenza A (H3)	*3 (0.9)*	*3 (0.9)*
Influenza A no subtyping	*189 (54.6)*	*189 (54.6)*
Influenza B (Yamagata)	*0 (0.0)*	*0 (0.0)*
Influenza B (Victoria)	*10 (2.9)*	*10 (2.9)*
Influenza B no genotyping	*135 (39.0)*	*135 (39.0)*

1. AGE DISTRIBUTION

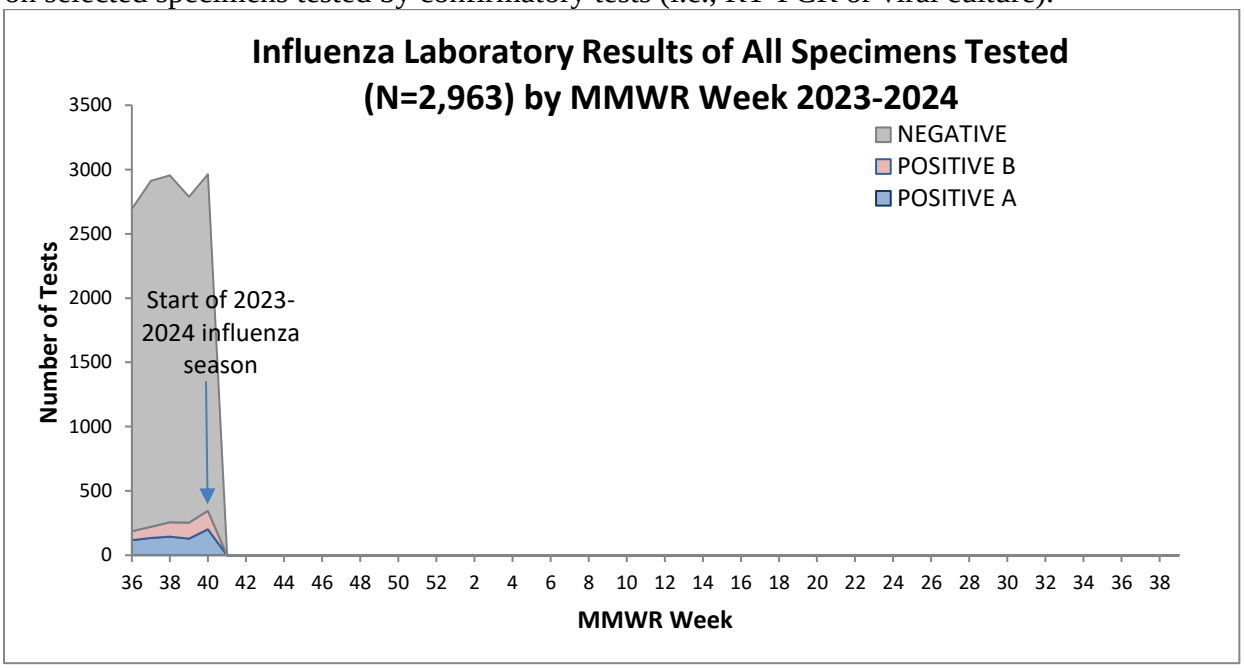
The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2023–24 influenza season.[10]

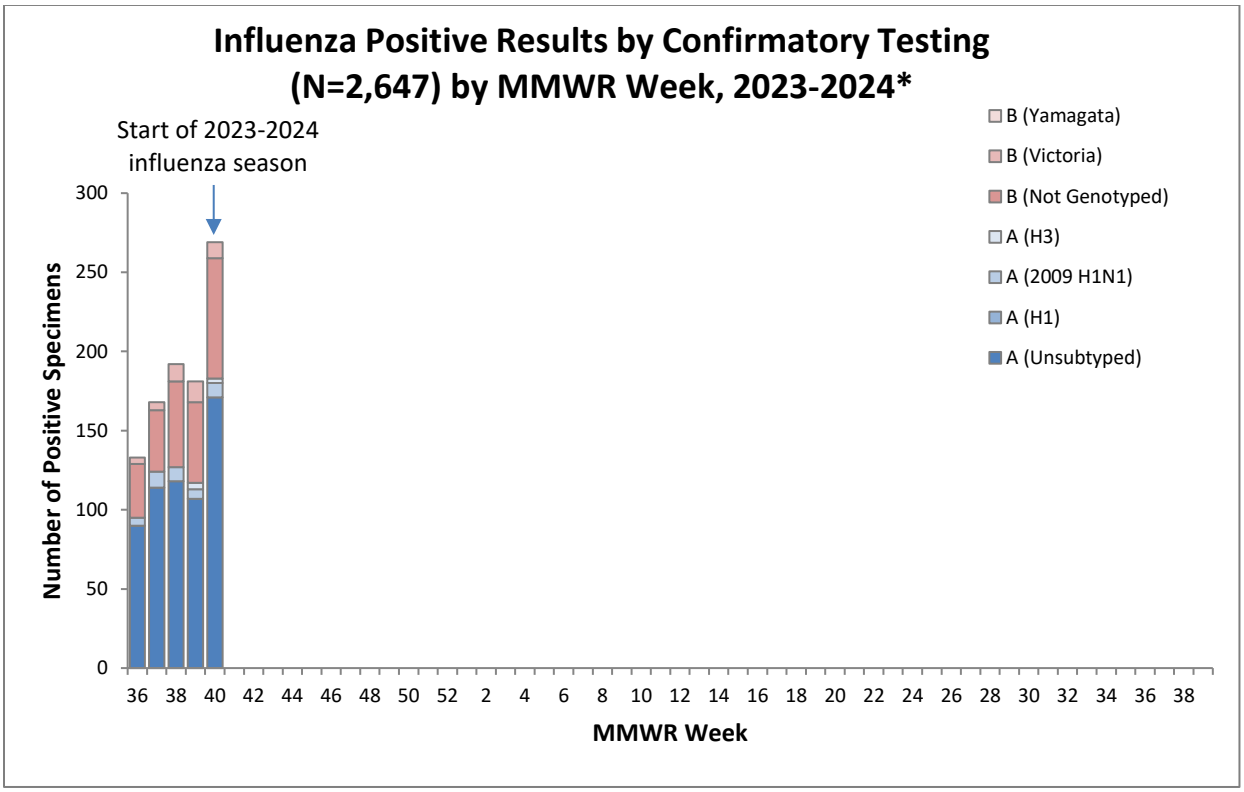


[7] Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.
[8] Influenza coding were updated to reflect a more accurate count.
[9] All influenza A H1 viruses detected this season have been 2009 H1N1.
[10] This represents an estimate of population-based rates based on available data.

2. LABORATORY TESTING

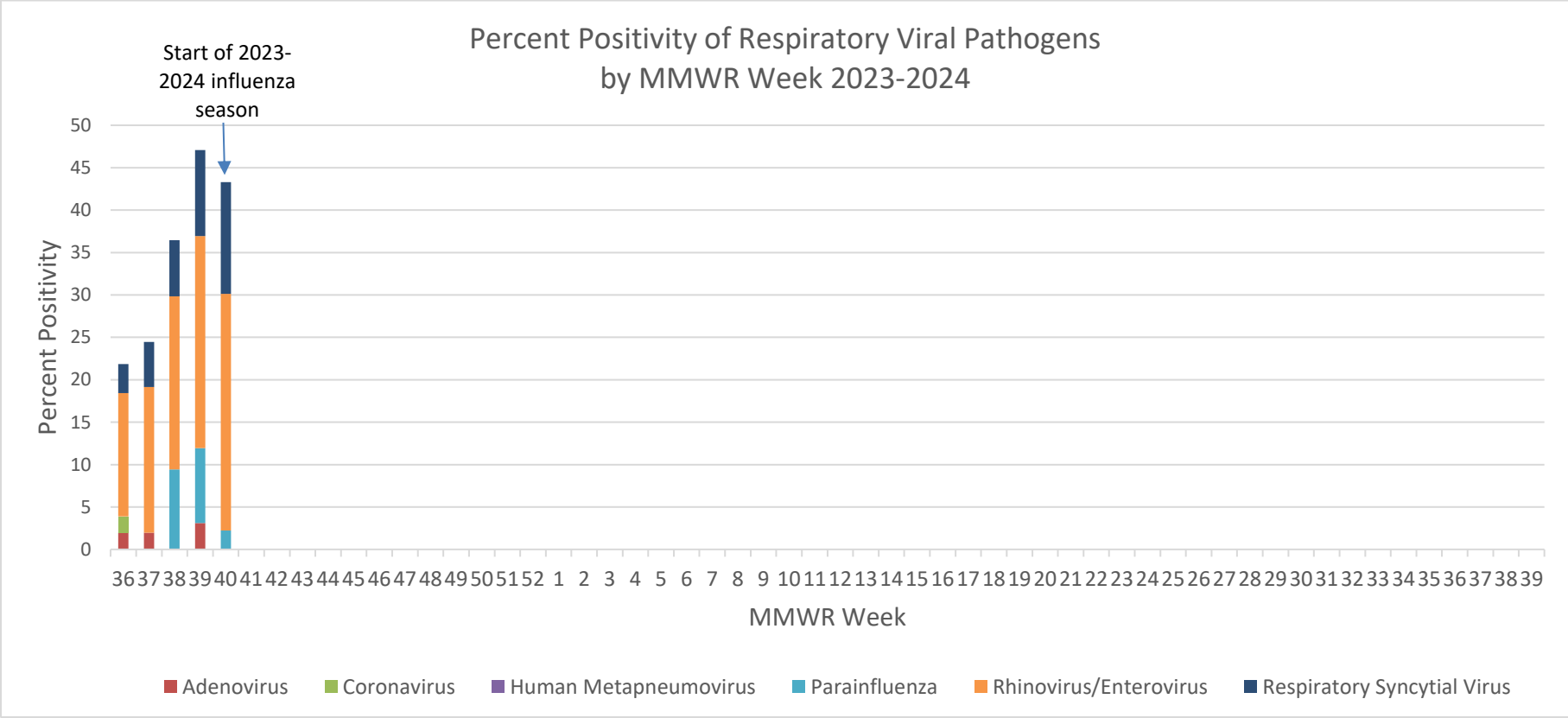
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2023–2024 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).





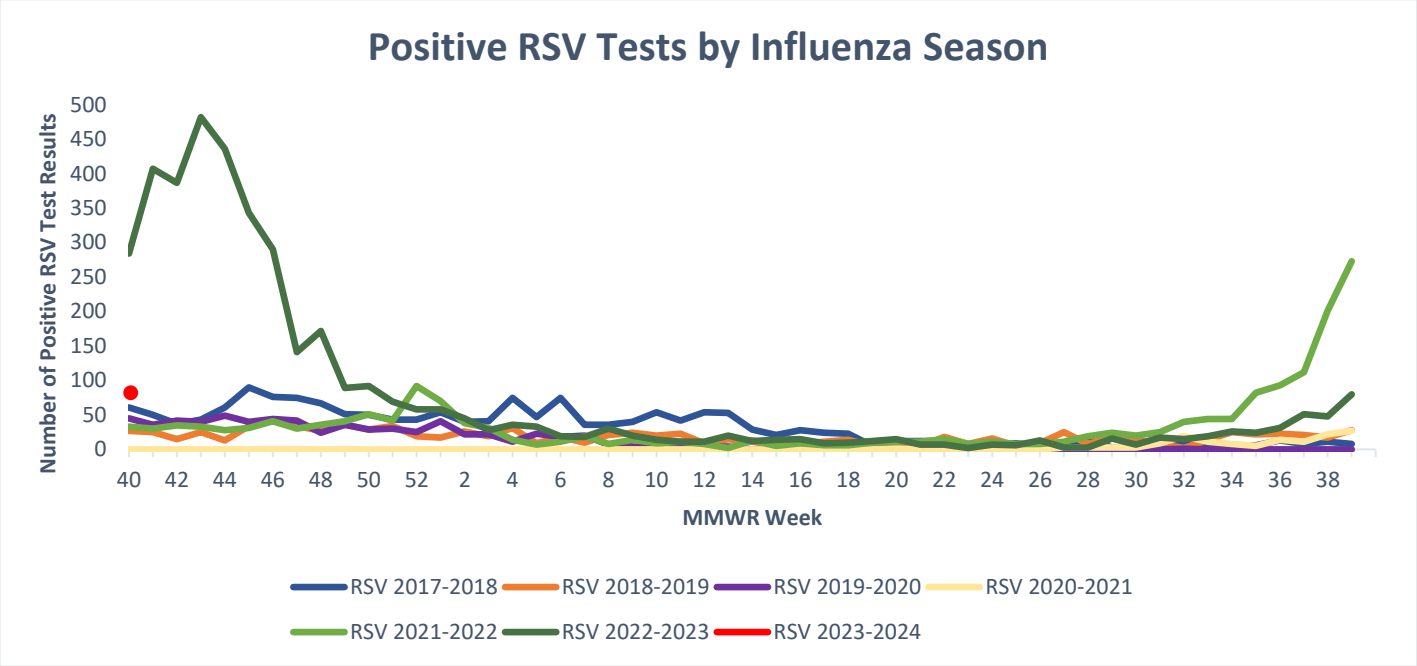
** Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.*

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**.

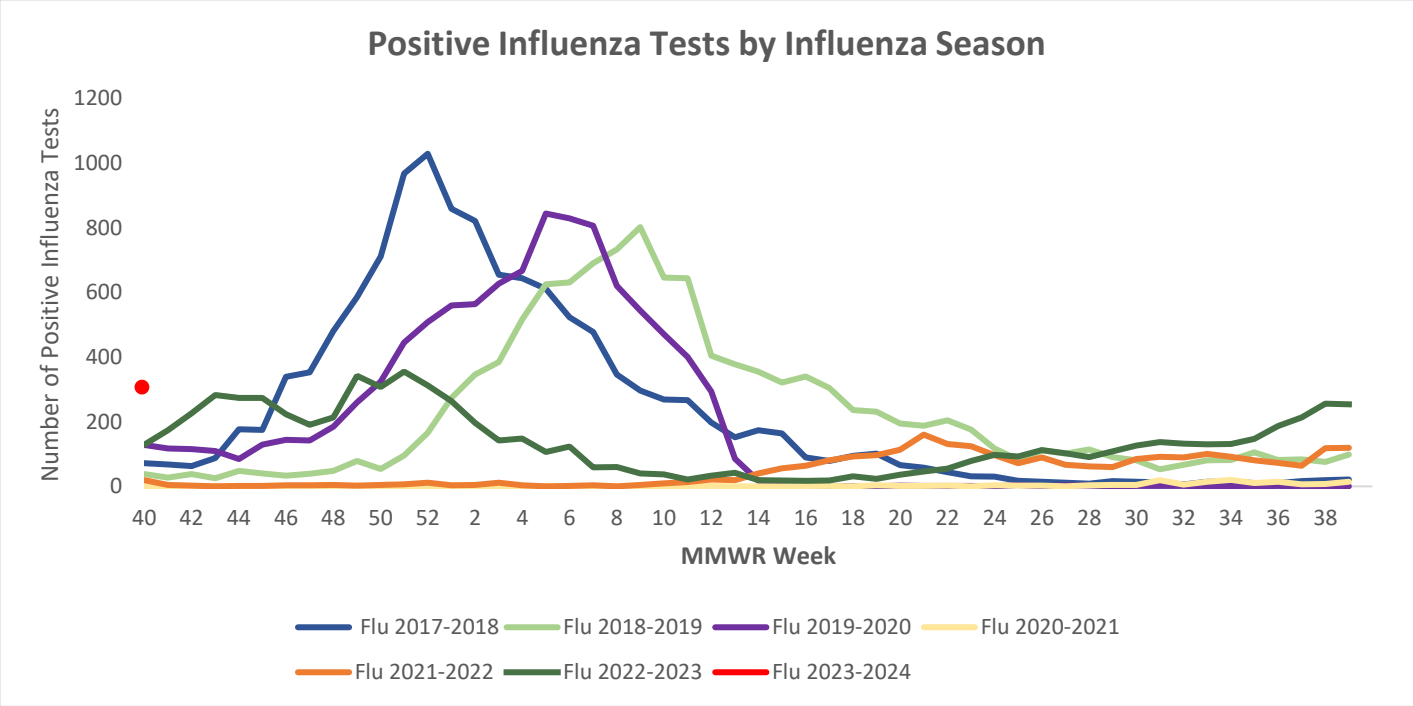


* *The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).*

RESPIRATORY SYNCYTIAL VIRUS (RSV) POSITIVE TEST RESULTS BY INFLUENZA SEASON: RSV case counts are significantly higher than previous seasons but may have already reached a peak for the 2023-2024 season. Of note, significantly more tests for RSV are being performed than in pre-COVID-19 seasons.



INFLUENZA POSITIVE TEST RESULTS BY INFLUENZA SEASON: Influenza cases appear to have increased earlier than past seasons in the 2023-2024 season, but it is not yet known whether case numbers will reach a peak similar to pre-COVID-19 seasons.



C. COVID-19 SENTINEL SURVEILLANCE: Due to the low volume of samples currently available through the influenza surveillance system, the COVID-19 sentinel surveillance data may not be accurately portraying COVID-19 activity in our communities. Reporting of the COVID-19 Sentinel Surveillance data will be paused while HODH re-evaluates the program to ensure that the reported data are accurate and representative.

HDOH is continuing to monitor COVID-19 activity throughout the state. To learn more, please visit the Hawaii's COVID-19 data website (*here*). For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website (*here*).

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

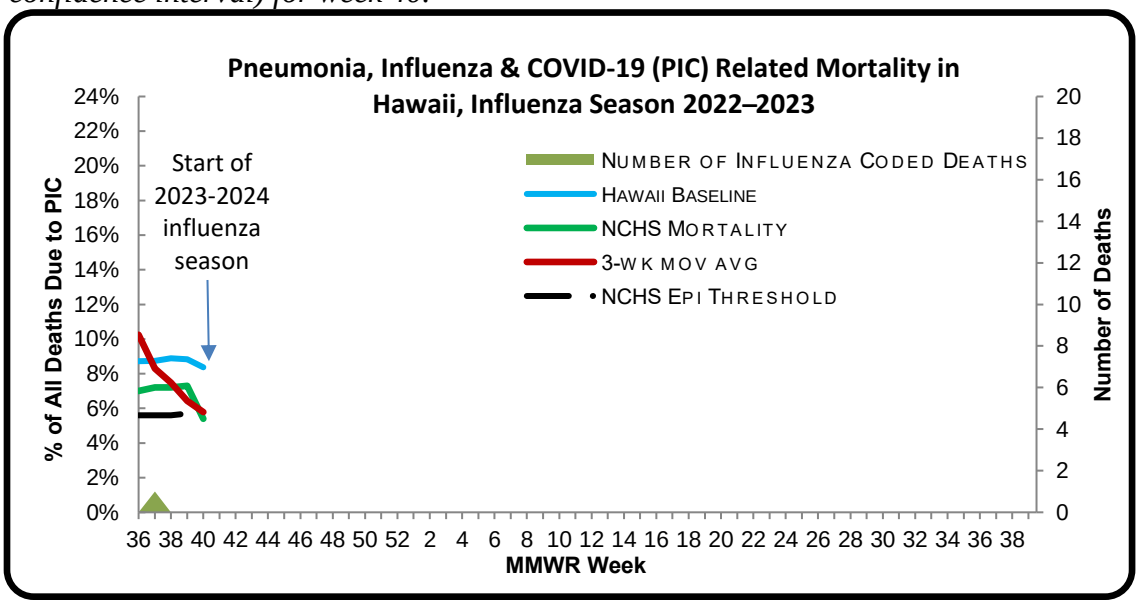
P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Due to the ongoing COVID-19 pandemic, CDC included total deaths from COVID-19 by age group to the death data. Previous studies had suggested that P&I is a good indicator of influenza-related deaths; however, data has shown that pneumonia deaths associated with influenza is now being impacted by COVID-19 related pneumonia. Due to this, CDC had added COVID-19 deaths into P&I to create the PIC (pneumonia, influenza, and/or COVID-19) classification.

To standardize Hawaii's influenza surveillance with CDC influenza surveillance guidelines, PIC deaths will be reported in lieu of P&I. Hawaii's baseline will begin to include PIC deaths starting from 2019-2020 flu season.

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

- ***3.6%*** *of all deaths that occurred in Hawaii during week 40 were related to pneumonia, influenza or COVID-19 (PIC)*[11]*. For the current season (season to date:* ***6.9%****), there have been 722 deaths from any cause, 50 of which were due to PIC*[12]*.*
- *The PIC rate was comparable to the historical baseline in Hawaii*[13] *(i.e., inside the 95% confidence interval).*

The Hawaii PIC rate was comparable to the CDC's National Center for Health Statistics (NCHS) PIC mortality[14] *(****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 40.*



[11] The percent of deaths due to PIC displayed on the graph is the 3-week moving averages.

[12] PIC data reflect 39% of the data reported for the MMWR week. Changes to data are expected when PIC data reaches 100% completion.

[13] The Hawaii historical baseline (%PIC) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, and 2022-2023).

[14] 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, influenza, or COVID-19 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 COVID-19 death counts reported by NCHS are provisional and will not match counts in other sources, such as media reports or numbers from health departments. COVID-19 deaths may be classified or defined differently in various reporting and surveillance systems. The percentage of deaths due to pneumonia, influenza, and COVID-19 (PIC) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

INFLUENZA-ASSOCIATED PEDIATRIC DEATHS[15]:

- No new influenza-associated pediatric death was reported to Hawaii. There have been zero influenza-associated pediatric deaths reported in Hawaii during the 2023–2024 season.
- Nationally, no new influenza-associated pediatric deaths were reported to CDC during week 40. (2023-2024 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 2023–2024 influenza season.*
- *One new human infection with novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (1), have been reported during the 2023–2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Netherlands during the 2023-2024 influenza season.*

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 15th, 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 3, 2023**.

[15] 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.

One human cases of influenza A(H5N6) were reported to WHO by China. Case was hospitalized in severe condition. Case had exposure from backyard poultry. One human cases of influenza A(H9N2) were reported to WHO by China. Case had mild illness and has since recovered. Exposure was from live poultry market.

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 2023–2024 Influenza Vaccine:

The composition of the 2023–2024 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2023–2024 influenza trivalent vaccine contain an influenza A/Wisconsin/67/2022 (H1N1)pdm09-like virus, influenza A/Darwin/6/2021 (H3N2)-like virus, and influenza B/Austria/1359417/2021-like virus (B/Victoria lineage). 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/Wisconsin/67/2022 (H1N1)pdm09-like virus, an influenza A/Darwin/6/2021 (H3N2)-like virus, an influenza B/Austria/1359417/2021-like virus (B/Victoria lineage), 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.

Centers for Disease Control and Prevention	General Influenza National ILI and P&I Data Vaccine Virus Selection CDC Web Tool for Respiratory Viruses
Flu.gov	General Influenza Information
HDOH Flu and Pneumonia	General Influenza Surveillance To find out more information or join the sentinel physician program, email the Influenza Surveillance Coordinator
World Health Organization	General Global and Local Influenza Avian Influenza

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	2019	2020	2021	2022	2023
1	1/4/2020	1/9/2021	1/8/2022	1/7/2023	1/6/2024
2	1/11/2020	1/16/2021	1/15/2022	1/14/2023	1/13/2024
3	1/18/2020	1/23/2021	1/22/2022	1/21/2023	1/20/2024
4	1/25/2020	1/30/2021	1/29/2022	1/28/2023	1/27/2024
5	2/1/2020	2/6/2021	2/5/2022	2/4/2023	2/3/2024
6	2/8/2020	2/13/2021	2/12/2022	2/11/2023	2/10/2024
7	2/15/2020	2/20/2021	2/19/2022	2/18/2023	2/17/2024
8	2/22/2020	2/27/2021	2/26/2022	2/25/2023	2/24/2024
9	2/29/2020	3/6/2021	3/5/2022	3/4/2023	3/2/2024
10	3/7/2020	3/13/2021	3/12/2022	3/11/2023	3/9/2024
11	3/14/2020	3/20/2021	3/19/2022	3/18/2023	3/16/2024
12	3/21/2020	3/27/2021	3/26/2022	3/25/2023	3/23/2024
13	3/28/2020	4/3/2021	4/2/2022	4/1/2023	3/30/2024
14	4/4/2020	4/10/2021	4/9/2022	4/8/2023	4/6/2024
15	4/11/2020	4/17/2021	4/16/2022	4/15/2023	4/13/2024
16	4/18/2020	4/24/2021	4/23/2022	4/22/2023	4/20/2024
17	4/25/2020	5/1/2021	4/30/2022	4/29/2023	4/27/2024
18	5/2/2020	5/8/2021	5/7/2022	5/6/2023	5/4/2024
19	5/9/2020	5/15/2021	5/14/2022	5/13/2023	5/11/2024
20	5/16/2020	5/22/2021	5/21/2022	5/20/2023	5/18/2024
21	5/23/2020	5/29/2021	5/28/2022	5/27/2023	5/25/2024
22	5/30/2020	6/5/2021	6/4/2022	6/3/2023	6/1/2024
23	6/6/2020	6/12/2021	6/11/2022	6/10/2023	6/8/2024
24	6/13/2020	6/19/2021	6/18/2022	6/17/2023	6/15/2024
25	6/20/2020	6/26/2021	6/25/2022	6/24/2023	6/22/2024
26	6/27/2020	7/3/2021	7/2/2022	7/1/2023	6/29/2024
27	7/4/2020	7/10/2021	7/9/2022	7/8/2023	7/6/2024
28	7/11/2020	7/17/2021	7/16/2022	7/15/2023	7/13/2024
29	7/18/2020	7/24/2021	7/23/2022	7/22/2023	7/20/2024
30	7/25/2020	7/31/2021	7/30/2022	7/29/2023	7/27/2024
31	8/1/2020	8/7/2021	8/6/2022	8/5/2023	8/3/2024
32	8/8/2020	8/14/2021	8/13/2022	8/12/2023	8/10/2024
33	8/15/2020	8/21/2021	8/20/2022	8/19/2023	8/17/2024
34	8/22/2020	8/28/2021	8/27/2022	8/26/2023	8/24/2024
35	8/29/2020	9/4/2021	9/3/2022	9/2/2023	8/31/2024
36	9/5/2020	9/11/2021	9/10/2022	9/9/2023	9/7/2024
37	9/12/2020	9/18/2021	9/17/2022	9/16/2023	9/14/2024
38	9/19/2020	9/25/2021	9/24/2022	9/23/2023	9/21/2024
39	9/26/2020	10/2/2021	10/1/2022	9/30/2023	9/28/2024
40	10/3/2020	10/9/2021	10/8/2022	10/7/2023	10/7/2023
41	10/10/2020	10/16/2021	10/15/2022	10/14/2023	10/14/2023
42	10/17/2020	10/23/2021	10/22/2022	10/21/2023	10/21/2023
43	10/24/2020	10/30/2021	10/29/2022	10/28/2023	10/28/2023
44	10/31/2020	11/6/2021	11/5/2022	11/4/2023	11/4/2023
45	11/7/2020	11/13/2021	11/12/2022	11/11/2023	11/11/2023
46	11/14/2020	11/20/2021	11/19/2022	11/18/2023	11/18/2023
47	11/21/2020	11/27/2021	11/26/2022	11/25/2023	11/25/2023
48	11/28/2020	12/4/2021	12/3/2022	12/2/2023	12/2/2023
49	12/5/2020	12/11/2021	12/10/2022	12/9/2023	12/9/2023
50	12/12/2020	12/18/2021	12/17/2022	12/16/2023	12/16/2023
51	12/19/2020	12/25/2021	12/24/2022	12/23/2023	12/23/2023
52	12/26/2020	1/1/2022	12/31/2022	12/30/2023	12/30/2023
53	01/02/2021				

HAWAII STATE DEPARTMENT OF HEALTH
DISEASE OUTBREAK CONTROL DIVISION

Influenza/Respiratory Disease Surveillance Report

Morbidity and Mortality Weekly Report (MMWR)[1]

WEEK 41: OCTOBER 8, 2023– OCTOBER 14, 2023

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 2023–2024 influenza season which began the week ending October 7, 2023 (week 40[1] 2023) and will end the week ending on September 28, 2024 (week 39 2024).

REPORT SNAPSHOT FOR WEEK 41

Surveillance for Influenza-like Illness (ILI)		
Metric	*Value*	*Comment*
Outpatient visits related to influenza-like illness (ILI) from ILINet Sentinel Providers	2.9%	Higher than the previous week. Comparable to the Hawaii's historical baseline, higher than the national ILI rate, and comparable to the 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	13.1%	Higher than the previous week. This number means that many, if not all, of the 86.9% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	12.4%	

Surveillance for Severe Outcomes		
Pneumonia, influenza and COVID-19 (PIC) mortality rate	3.2%	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	0 influenza-associated pediatric deaths have been reported from Hawaii this season to date.

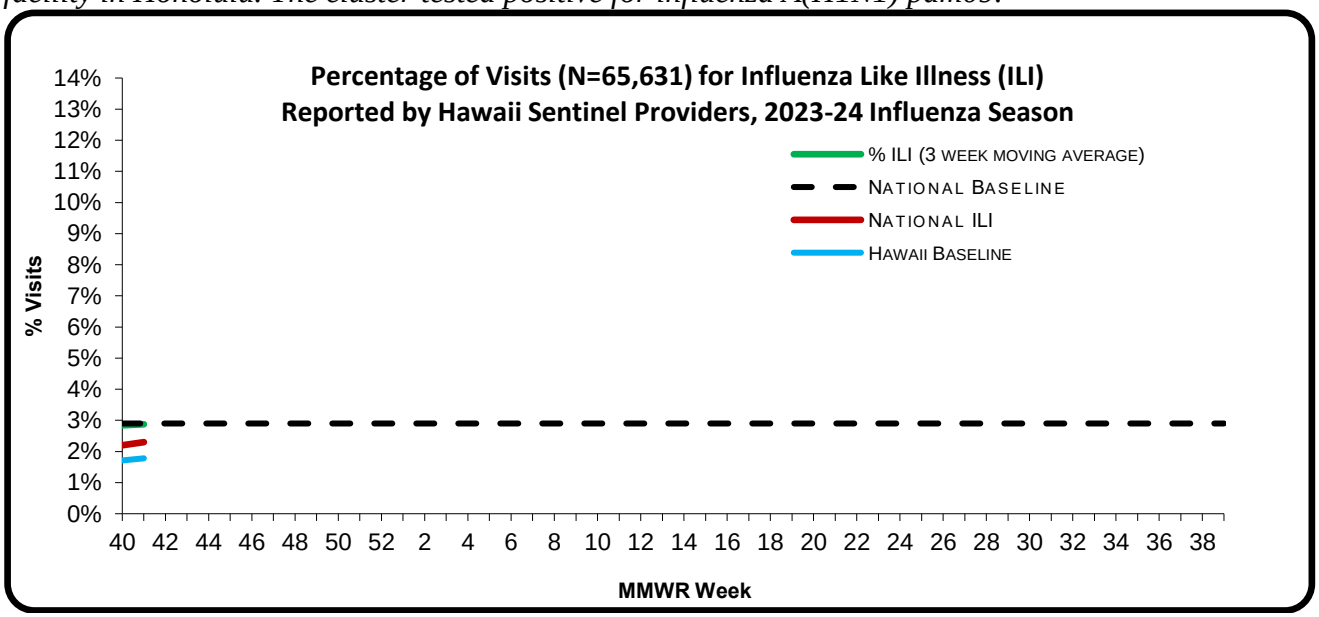
[1] MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week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

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. 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:

- ***2.9%** (season to date: **2.8%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.*
- *ILI visits were comparable to the historical baseline in Hawaii[2,3] (i.e., inside the 95% confidence interval).*
- *Hawaii's ILI outpatient visits were comparable to the national baseline (**2.9%**)[4] (i.e., inside the 95% confidence interval) and higher than the national ILI rate (**2.3%**) (i.e. outside the 95% confidence interval).*
- *ILI activity level: Low[5]*
- *Geographic Spread: Sporadic Activity[6].*
- *ILI Cluster Activity: A cluster was reported to HDOH during week 41. The cluster occurred at a healthcare facility in Honolulu. The cluster tested positive for influenza A(H1N1) pdm09.*



[2] The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022 and 2022-2023).

[3] 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.

[4] 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.

[5] There are 10 activity levels classified as minimal (levels 1-3), low (levels 4-5), moderate (levels 6-7), and high (levels 8-10).

[6] 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[7] 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*).

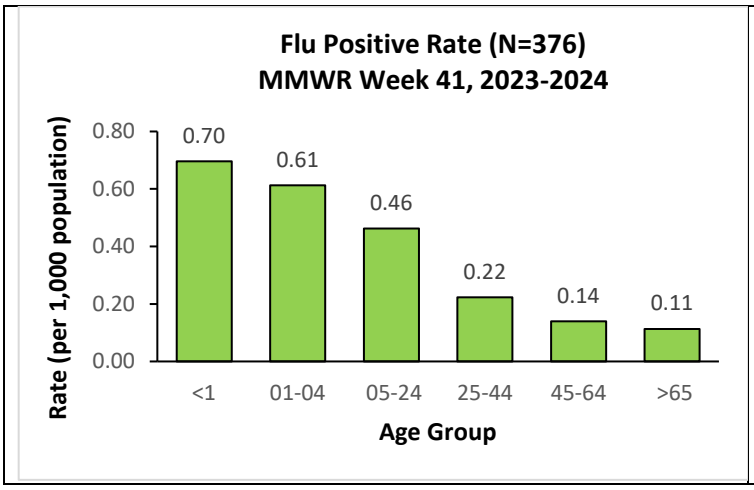
A. INFLUENZA:

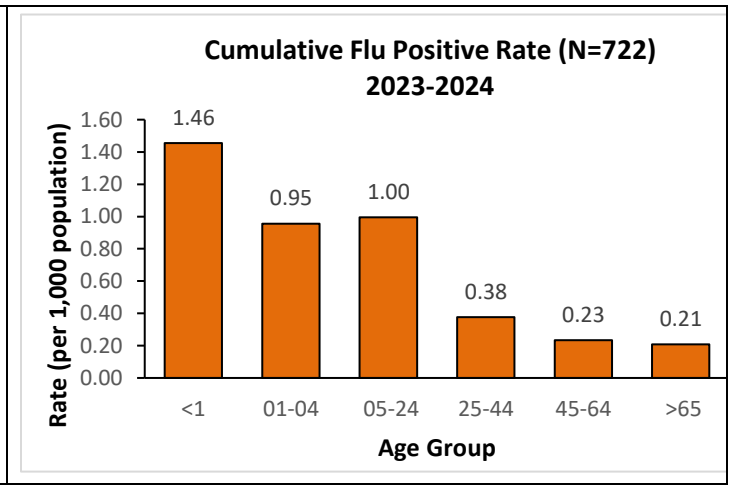
- The following reflects laboratory findings for week 41 of the 2023–24 influenza season:
  - *A total of **2,870** specimens have been tested statewide for influenza viruses (positive: 376 [**13.1%**]). (Season to date: 5,833 tested (**12.4%** positive])*
    - *230 (8.0%) were screened only by rapid antigen tests with no confirmatory testing.*
    - *2,640 (92.0%) underwent confirmatory testing (either RT-PCR or viral culture).*
    - *2,494 (86.9%) were negative.*

Influenza type	*Current week 41 (%)*	*Season to date (%)*[8]
Influenza A (H1)[9]	*7 (1.9)*	*16 (2.2)*
Influenza A (H3)	*4 (1.2)*	*7 (1.0)*
Influenza A no subtyping	*245 (65.2)*	*434 (60.1)*
Influenza B (Yamagata)	*0 (0.0)*	*0 (0.0)*
Influenza B (Victoria)	*0 (0.0)*	*10 (1.4)*
Influenza B no genotyping	*120 (31.9)*	*255 (35.3)*

1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2023–24 influenza season.[10]

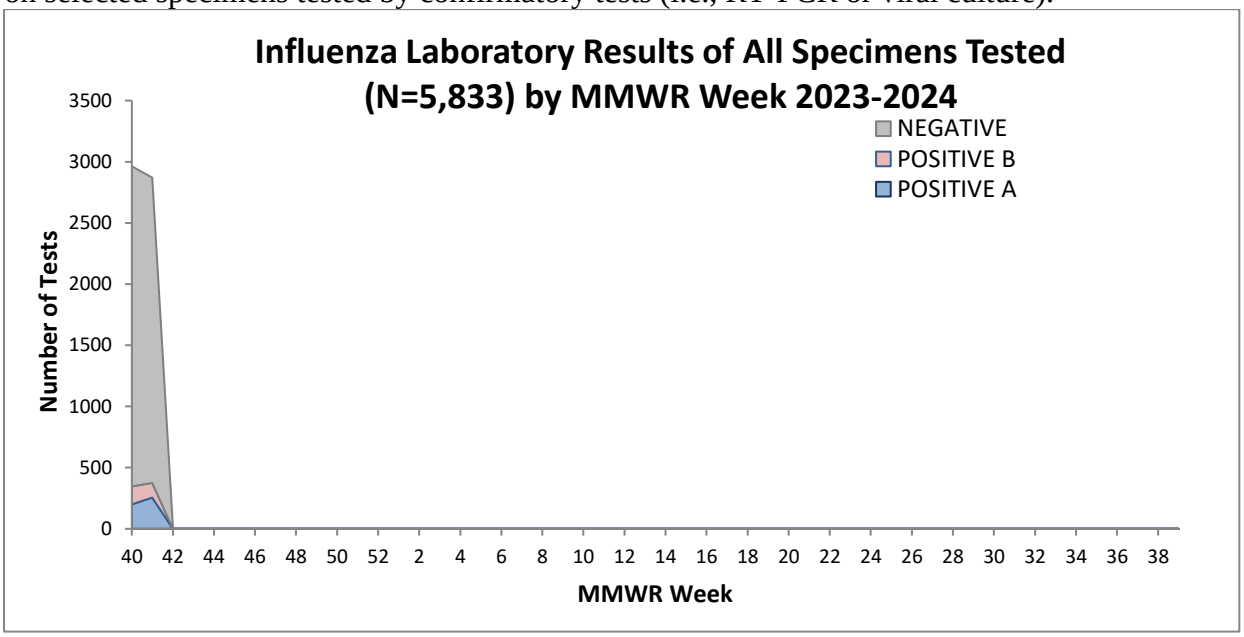


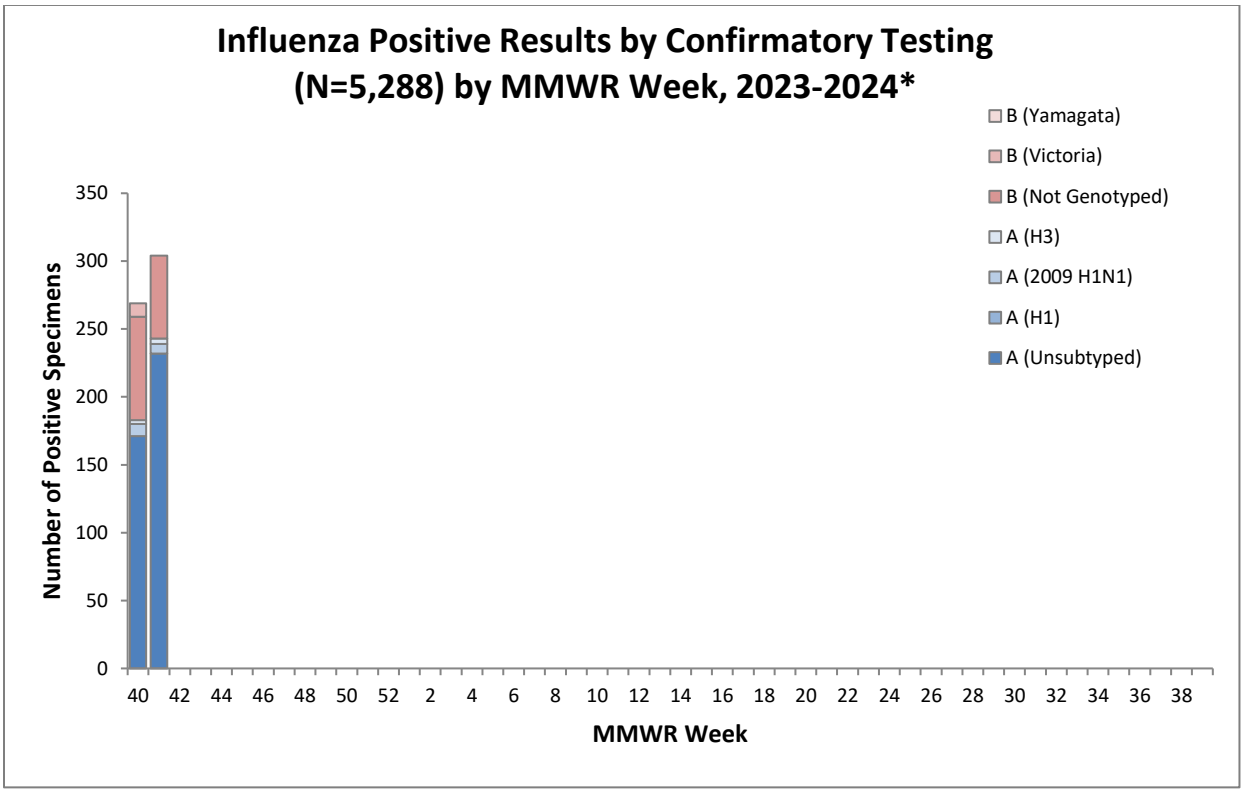


[7] Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.
[8] Influenza coding were updated to reflect a more accurate count.
[9] All influenza A H1 viruses detected this season have been 2009 H1N1.
[10] This represents an estimate of population-based rates based on available data.

2. LABORATORY TESTING

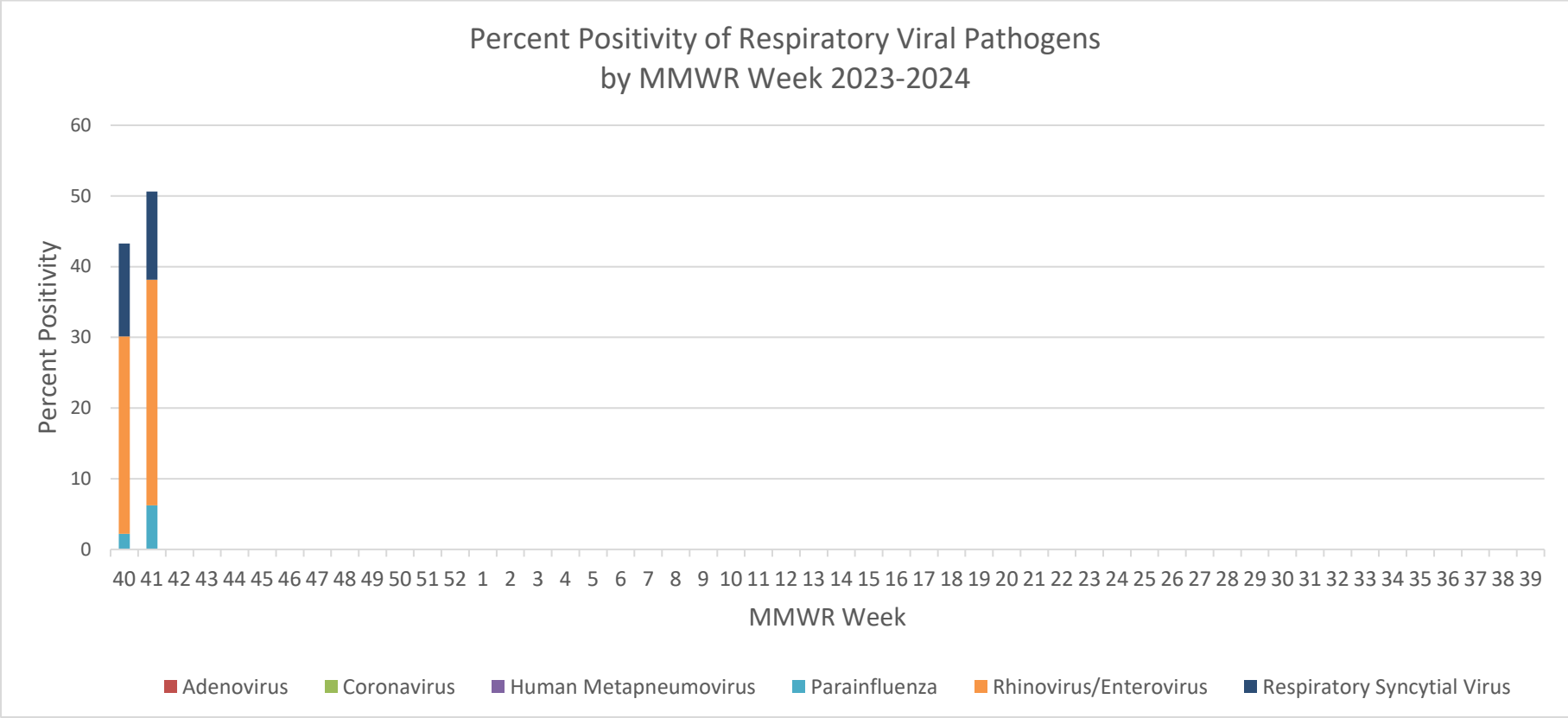
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2023–2024 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).





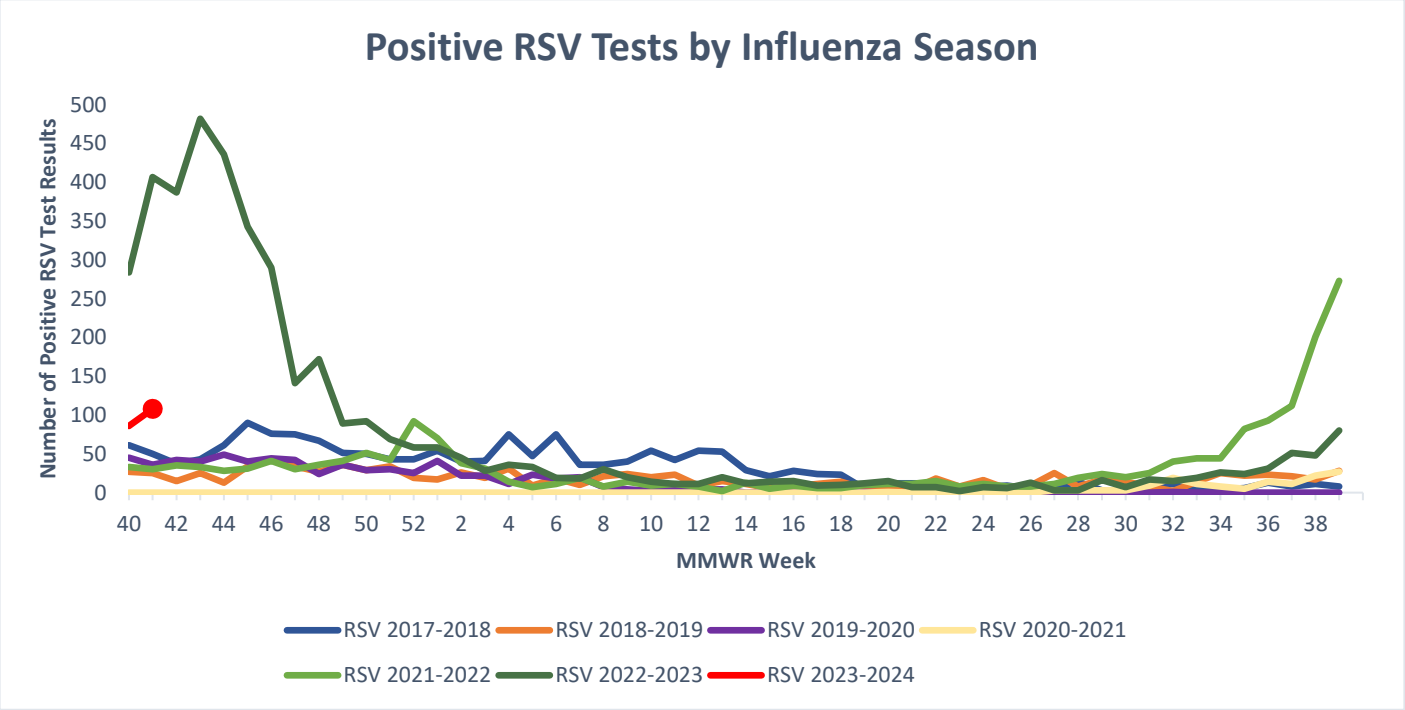
** Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.*

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**.

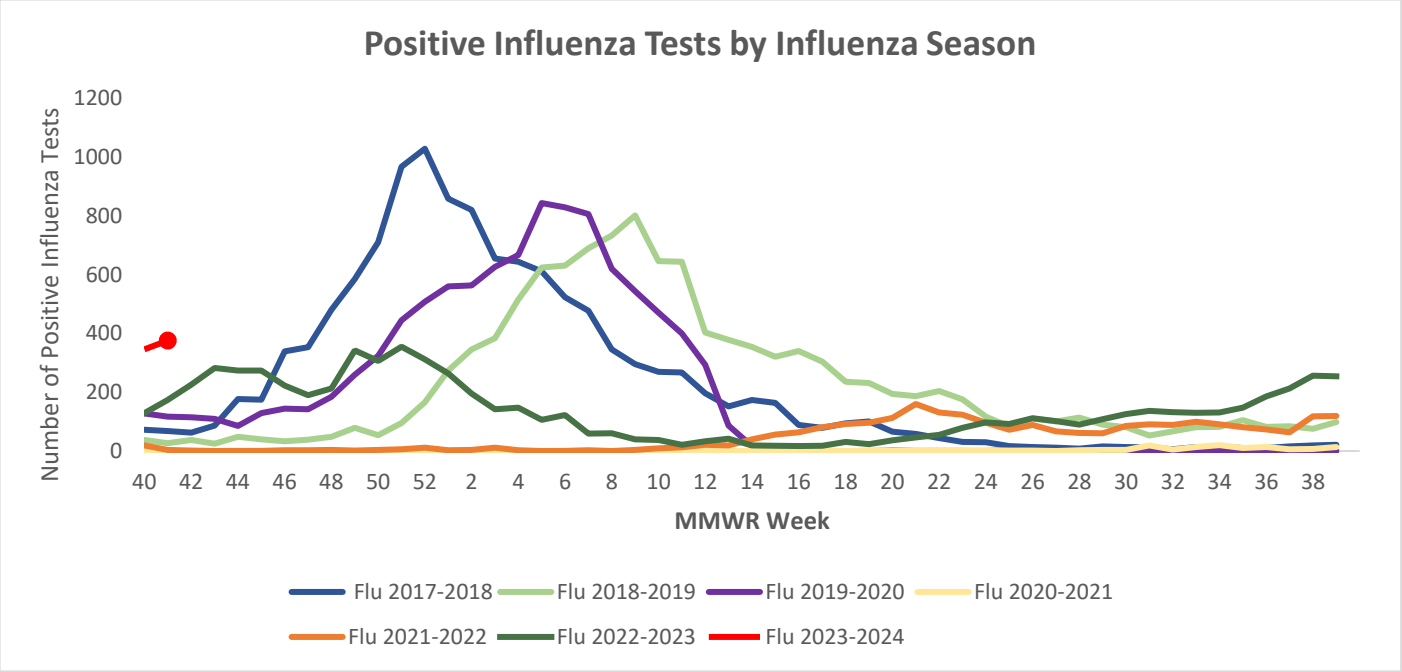


* *The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).*

RESPIRATORY SYNCYTIAL VIRUS (RSV) POSITIVE TEST RESULTS BY INFLUENZA SEASON: RSV case counts are significantly higher than previous seasons but may have already reached a peak for the 2023-2024 season. Of note, significantly more tests for RSV are being performed than in pre-COVID-19 seasons.



INFLUENZA POSITIVE TEST RESULTS BY INFLUENZA SEASON: Influenza cases appear to have increased earlier than past seasons in the 2023-2024 season, but it is not yet known whether case numbers will reach a peak similar to pre-COVID-19 seasons.



C. COVID-19 SENTINEL SURVEILLANCE: Due to the low volume of samples currently available through the influenza surveillance system, the COVID-19 sentinel surveillance data may not be accurately portraying COVID-19 activity in our communities. Reporting of the COVID-19 Sentinel Surveillance data will be paused while HODH re-evaluates the program to ensure that the reported data are accurate and representative.

HDOH is continuing to monitor COVID-19 activity throughout the state. To learn more, please visit the Hawaii's COVID-19 data website (*here*). For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website (*here*).

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

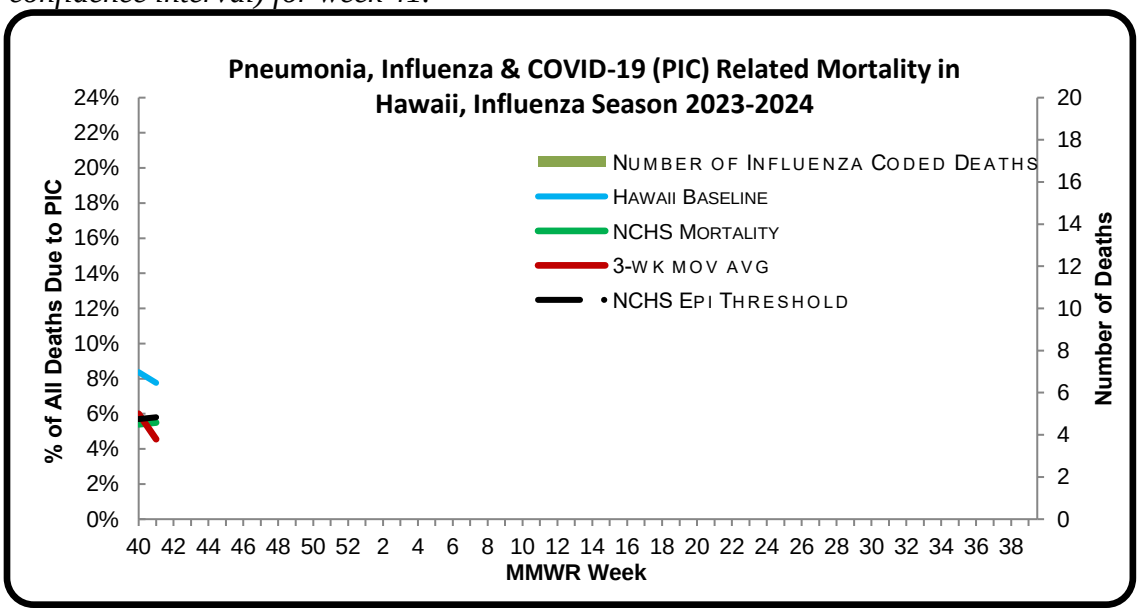
P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Due to the ongoing COVID-19 pandemic, CDC included total deaths from COVID-19 by age group to the death data. Previous studies had suggested that P&I is a good indicator of influenza-related deaths; however, data has shown that pneumonia deaths associated with influenza is now being impacted by COVID-19 related pneumonia. Due to this, CDC had added COVID-19 deaths into P&I to create the PIC (pneumonia, influenza, and/or COVID-19) classification.

To standardize Hawaii's influenza surveillance with CDC influenza surveillance guidelines, PIC deaths will be reported in lieu of P&I. Hawaii's baseline will begin to include PIC deaths starting from 2019-2020 flu season.

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

- ***3.2%*** *of all deaths that occurred in Hawaii during week 41 were related to pneumonia, influenza or COVID-19 (PIC)*[11]*. For the current season (season to date:* ***6.4%****), there have been 898 deaths from any cause, 57 of which were due to PIC*[12]*.*
- *The PIC rate was comparable to the historical baseline in Hawaii*[13] *(i.e., inside the 95% confidence interval).*

The Hawaii PIC rate was comparable to the CDC's National Center for Health Statistics (NCHS) PIC mortality[14] *(****5.5%****) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (****5.8****%) (i.e., inside the 95% confidence interval) for week 41.*



[11] The percent of deaths due to PIC displayed on the graph is the 3-week moving averages.

[12] PIC data reflect 45% of the data reported for the MMWR week. Changes to data are expected when PIC data reaches 100% completion.

[13] The Hawaii historical baseline (%PIC) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, and 2022-2023).

[14] 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, influenza, or COVID-19 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 COVID-19 death counts reported by NCHS are provisional and will not match counts in other sources, such as media reports or numbers from health departments. COVID-19 deaths may be classified or defined differently in various reporting and surveillance systems. The percentage of deaths due to pneumonia, influenza, and COVID-19 (PIC) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

INFLUENZA-ASSOCIATED PEDIATRIC DEATHS[15]:

- No new influenza-associated pediatric death was reported to Hawaii. There have been zero influenza-associated pediatric deaths reported in Hawaii during the 2023–2024 season.
- Nationally, no new influenza-associated pediatric deaths were reported to CDC during week 41. (2023-2024 season total: 0). One influenza-associated pediatric death occurring during the 2022-2023 season was reported to CDC during week 41 (2022-2023 season total: 179).

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 2023–2024 influenza season.*
- *One new human infection with novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (1), have been reported during the 2023–2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Netherlands during the 2023-2024 influenza season.*

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 15th, 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

[15] 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.

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 3, 2023**.

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 20**23**–202**4** Influenza Vaccine**:**

The composition of the 2023–2024 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2023–2024 influenza trivalent vaccine contain an influenza A/Wisconsin/67/2022 (H1N1)pdm09-like virus, influenza A/Darwin/6/2021 (H3N2)-like virus, and influenza B/Austria/1359417/2021-like virus (B/Victoria lineage). 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/Wisconsin/67/2022 (H1N1)pdm09-like virus, an influenza A/Darwin/6/2021 (H3N2)-like virus, an influenza B/Austria/1359417/2021-like virus (B/Victoria lineage), 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.

Centers for Disease Control and Prevention	General Influenza National ILI and P&I Data Vaccine Virus Selection CDC Web Tool for Respiratory Viruses
Flu.gov	General Influenza Information
HDOH Flu and Pneumonia	General Influenza Surveillance To find out more information or join the sentinel physician program, email the Influenza Surveillance Coordinator
World Health Organization	General Global and Local Influenza Avian Influenza

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	2020	2021	2022	2023	2024
1	1/4/2020	1/9/2021	1/8/2022	1/7/2023	1/6/2024
2	1/11/2020	1/16/2021	1/15/2022	1/14/2023	1/13/2024
3	1/18/2020	1/23/2021	1/22/2022	1/21/2023	1/20/2024
4	1/25/2020	1/30/2021	1/29/2022	1/28/2023	1/27/2024
5	2/1/2020	2/6/2021	2/5/2022	2/4/2023	2/3/2024
6	2/8/2020	2/13/2021	2/12/2022	2/11/2023	2/10/2024
7	2/15/2020	2/20/2021	2/19/2022	2/18/2023	2/17/2024
8	2/22/2020	2/27/2021	2/26/2022	2/25/2023	2/24/2024
9	2/29/2020	3/6/2021	3/5/2022	3/4/2023	3/2/2024
10	3/7/2020	3/13/2021	3/12/2022	3/11/2023	3/9/2024
11	3/14/2020	3/20/2021	3/19/2022	3/18/2023	3/16/2024
12	3/21/2020	3/27/2021	3/26/2022	3/25/2023	3/23/2024
13	3/28/2020	4/3/2021	4/2/2022	4/1/2023	3/30/2024
14	4/4/2020	4/10/2021	4/9/2022	4/8/2023	4/6/2024
15	4/11/2020	4/17/2021	4/16/2022	4/15/2023	4/13/2024
16	4/18/2020	4/24/2021	4/23/2022	4/22/2023	4/20/2024
17	4/25/2020	5/1/2021	4/30/2022	4/29/2023	4/27/2024
18	5/2/2020	5/8/2021	5/7/2022	5/6/2023	5/4/2024
19	5/9/2020	5/15/2021	5/14/2022	5/13/2023	5/11/2024
20	5/16/2020	5/22/2021	5/21/2022	5/20/2023	5/18/2024
21	5/23/2020	5/29/2021	5/28/2022	5/27/2023	5/25/2024
22	5/30/2020	6/5/2021	6/4/2022	6/3/2023	6/1/2024
23	6/6/2020	6/12/2021	6/11/2022	6/10/2023	6/8/2024
24	6/13/2020	6/19/2021	6/18/2022	6/17/2023	6/15/2024
25	6/20/2020	6/26/2021	6/25/2022	6/24/2023	6/22/2024
26	6/27/2020	7/3/2021	7/2/2022	7/1/2023	6/29/2024
27	7/4/2020	7/10/2021	7/9/2022	7/8/2023	7/6/2024
28	7/11/2020	7/17/2021	7/16/2022	7/15/2023	7/13/2024
29	7/18/2020	7/24/2021	7/23/2022	7/22/2023	7/20/2024
30	7/25/2020	7/31/2021	7/30/2022	7/29/2023	7/27/2024
31	8/1/2020	8/7/2021	8/6/2022	8/5/2023	8/3/2024
32	8/8/2020	8/14/2021	8/13/2022	8/12/2023	8/10/2024
33	8/15/2020	8/21/2021	8/20/2022	8/19/2023	8/17/2024
34	8/22/2020	8/28/2021	8/27/2022	8/26/2023	8/24/2024
35	8/29/2020	9/4/2021	9/3/2022	9/2/2023	8/31/2024
36	9/5/2020	9/11/2021	9/10/2022	9/9/2023	9/7/2024
37	9/12/2020	9/18/2021	9/17/2022	9/16/2023	9/14/2024
38	9/19/2020	9/25/2021	9/24/2022	9/23/2023	9/21/2024
39	9/26/2020	10/2/2021	10/1/2022	9/30/2023	9/28/2024
40	10/3/2020	10/9/2021	10/8/2022	10/7/2023	10/5/2024
41	10/10/2020	10/16/2021	10/15/2022	10/14/2023	10/12/2024
42	10/17/2020	10/23/2021	10/22/2022	10/21/2023	10/19/2024
43	10/24/2020	10/30/2021	10/29/2022	10/28/2023	10/26/2024
44	10/31/2020	11/6/2021	11/5/2022	11/4/2023	11/2/2024
45	11/7/2020	11/13/2021	11/12/2022	11/11/2023	11/9/2024
46	11/14/2020	11/20/2021	11/19/2022	11/18/2023	11/16/2024
47	11/21/2020	11/27/2021	11/26/2022	11/25/2023	11/23/2024
48	11/28/2020	12/4/2021	12/3/2022	12/2/2023	11/30/2024
49	12/5/2020	12/11/2021	12/10/2022	12/9/2023	12/7/2024
50	12/12/2020	12/18/2021	12/17/2022	12/16/2023	12/14/2024
51	12/19/2020	12/25/2021	12/24/2022	12/23/2023	12/21/2024
52	12/26/2020	1/1/2022	12/31/2022	12/30/2023	12/28/2024
53	01/02/2021				

HAWAII STATE DEPARTMENT OF HEALTH
DISEASE OUTBREAK CONTROL DIVISION

Influenza/Respiratory Disease Surveillance Report

Morbidity and Mortality Weekly Report (MMWR)[1]

WEEK 42: OCTOBER 15, 2023– OCTOBER 21, 2023

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 2023–2024 influenza season which began the week ending October 7, 2023 (week 40[1] 2023) and will end the week ending on September 28, 2024 (week 39 2024).

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	3.2%	Higher than the previous week. Comparable to the Hawaii's historical baseline, higher than the national ILI rate, and higher than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 3 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	12.3%	Lower than the previous week. This number means that many, if not all, of the 87.7% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	12.4%	

Surveillance for Severe Outcomes		
Pneumonia, influenza and COVID-19 (PIC) 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	0 influenza-associated pediatric deaths have been reported from Hawaii this season to date.

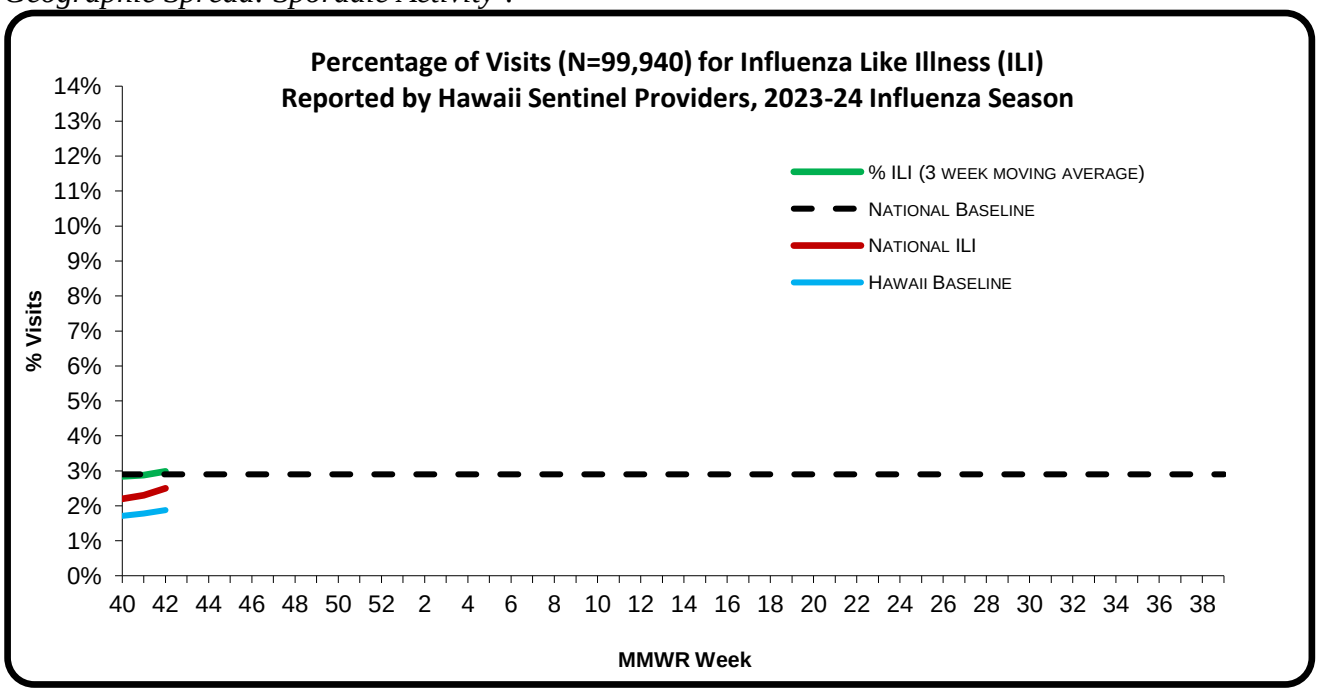
[1] MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week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

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. 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:

- ***3.2%** (season to date: **3.0%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.*
- *ILI visits were comparable to the historical baseline in Hawaii[2,3] (i.e., inside the 95% confidence interval).*
- *Hawaii's ILI outpatient visits were higher than the national baseline (**2.9%**)[4] (i.e., outside the 95% confidence interval) and higher than the national ILI rate (**2.5%**) (i.e. outside the 95% confidence interval).*
- *ILI activity level: Low*[5]
- *Geographic Spread: Sporadic Activity*[6].



[2] The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022 and 2022-2023).

[3] 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.

[4] 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.

[5] There are 10 activity levels classified as minimal (levels 1-3), low (levels 4-5), moderate (levels 6-7), and high (levels 8-10).

[6] 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[7] 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*).

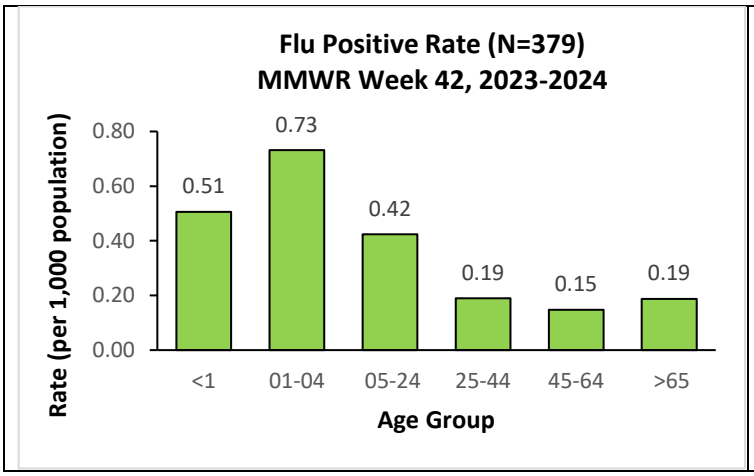
A. INFLUENZA:

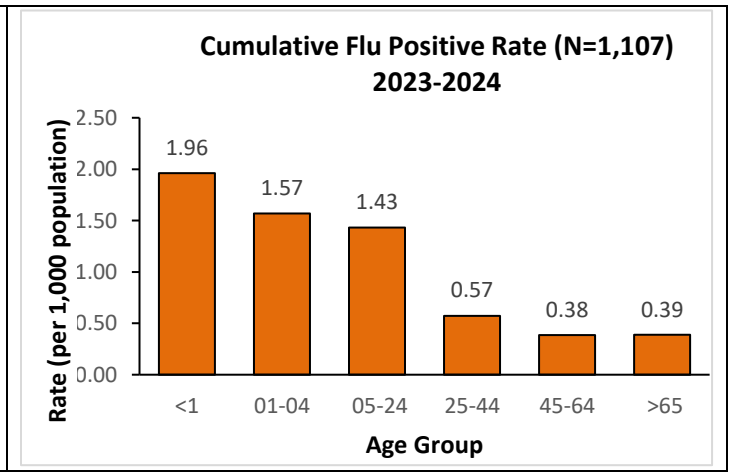
- The following reflects laboratory findings for week 42 of the 2023–24 influenza season:
  - *A total of **3,073** specimens have been tested statewide for influenza viruses (positive: 379 [**12.3%**]). (Season to date: 8,906 tested (**12.4%** positive])*
    - *288 (9.4%) were screened only by rapid antigen tests with no confirmatory testing.*
    - *2,785 (90.6%) underwent confirmatory testing (either RT-PCR or viral culture).*
    - *2,694 (87.7%) were negative.*

Influenza type	*Current week 42 (%)*	*Season to date (%)*[8]
Influenza A (H1)[9]	*18 (4.7)*	*38 (3.4)*
Influenza A (H3)	*4 (1.1)*	*13 (1.2)*
Influenza A no subtyping	*265 (69.9)*	*693 (62.6)*
Influenza B (Yamagata)	*0 (0.0)*	*0 (0.0)*
Influenza B (Victoria)	*6 (1.6)*	*24 (2.2)*
Influenza B no genotyping	*86 (22.7)*	*339 (30.6)*

1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2023–24 influenza season.[10]

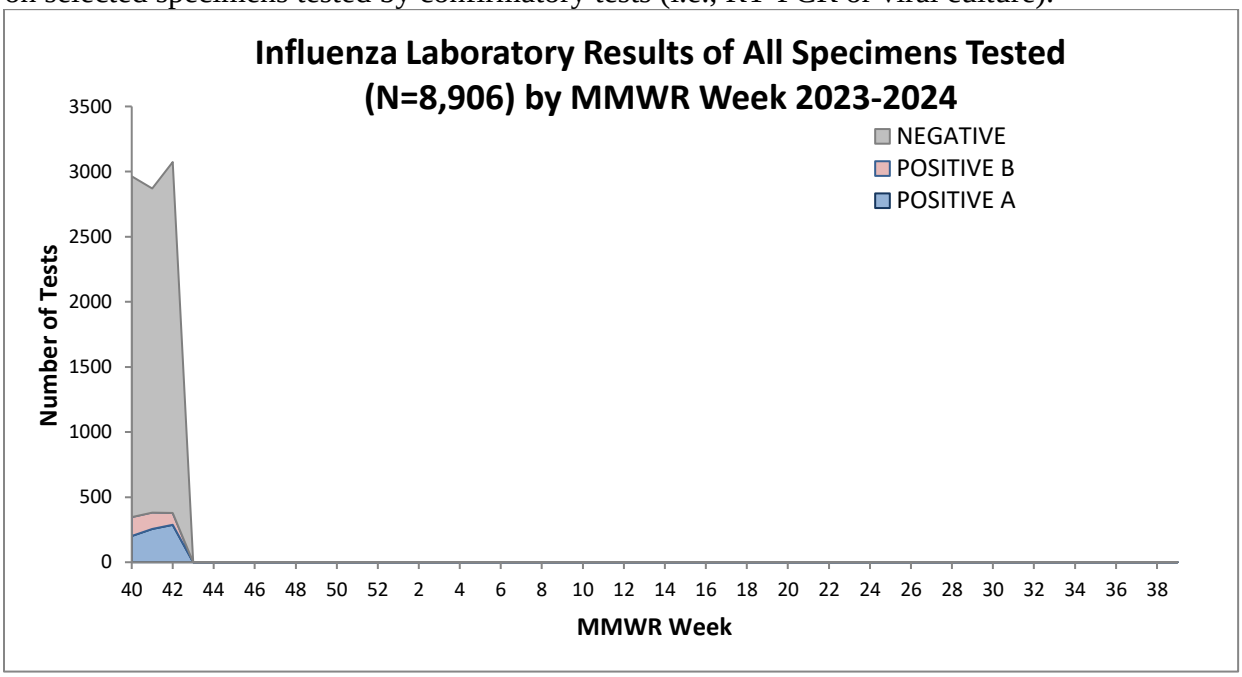


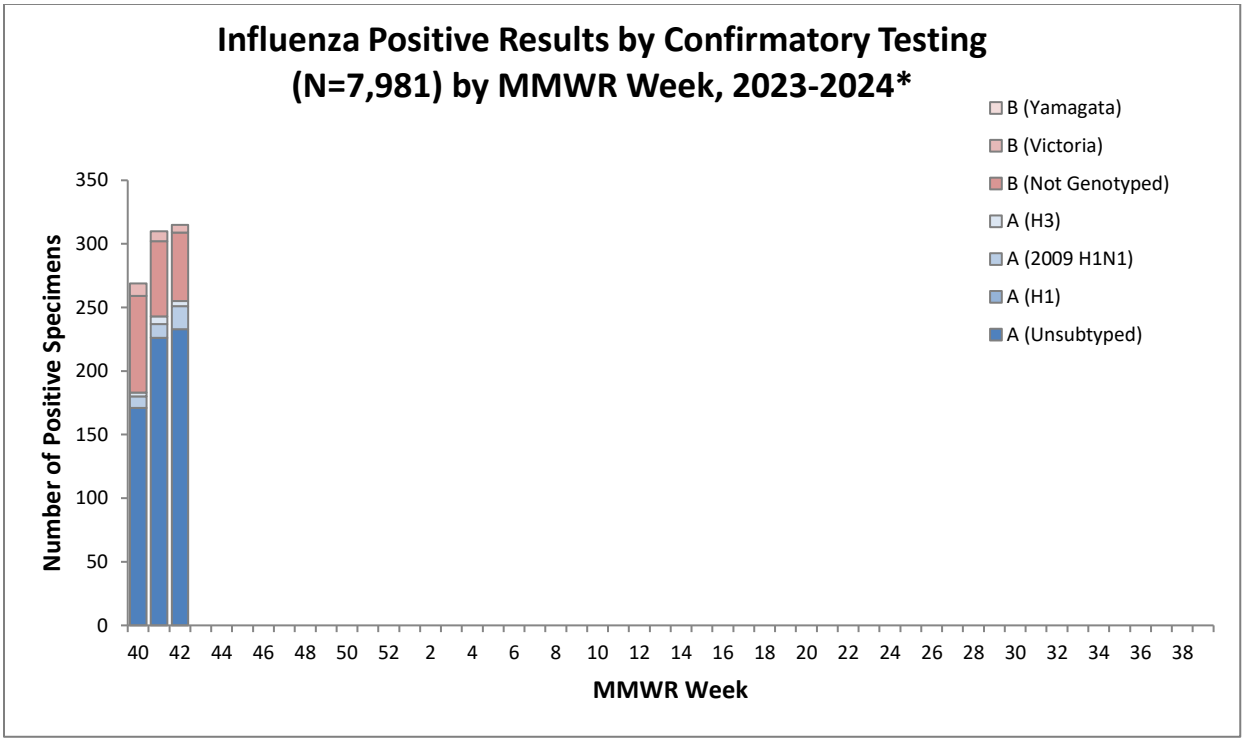


[7] Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.
[8] Influenza coding were updated to reflect a more accurate count.
[9] All influenza A H1 viruses detected this season have been 2009 H1N1.
[10] This represents an estimate of population-based rates based on available data.

2. LABORATORY TESTING

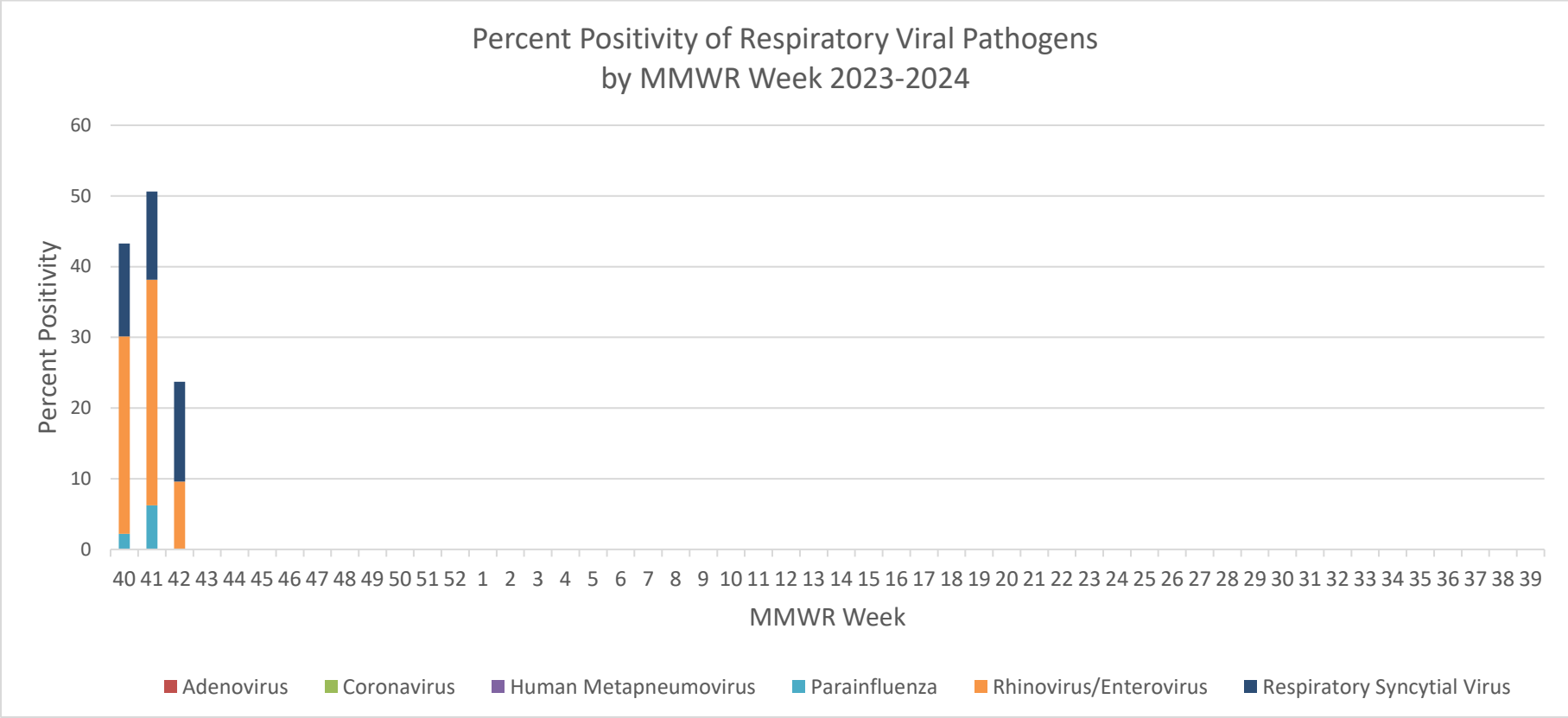
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2023–2024 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).





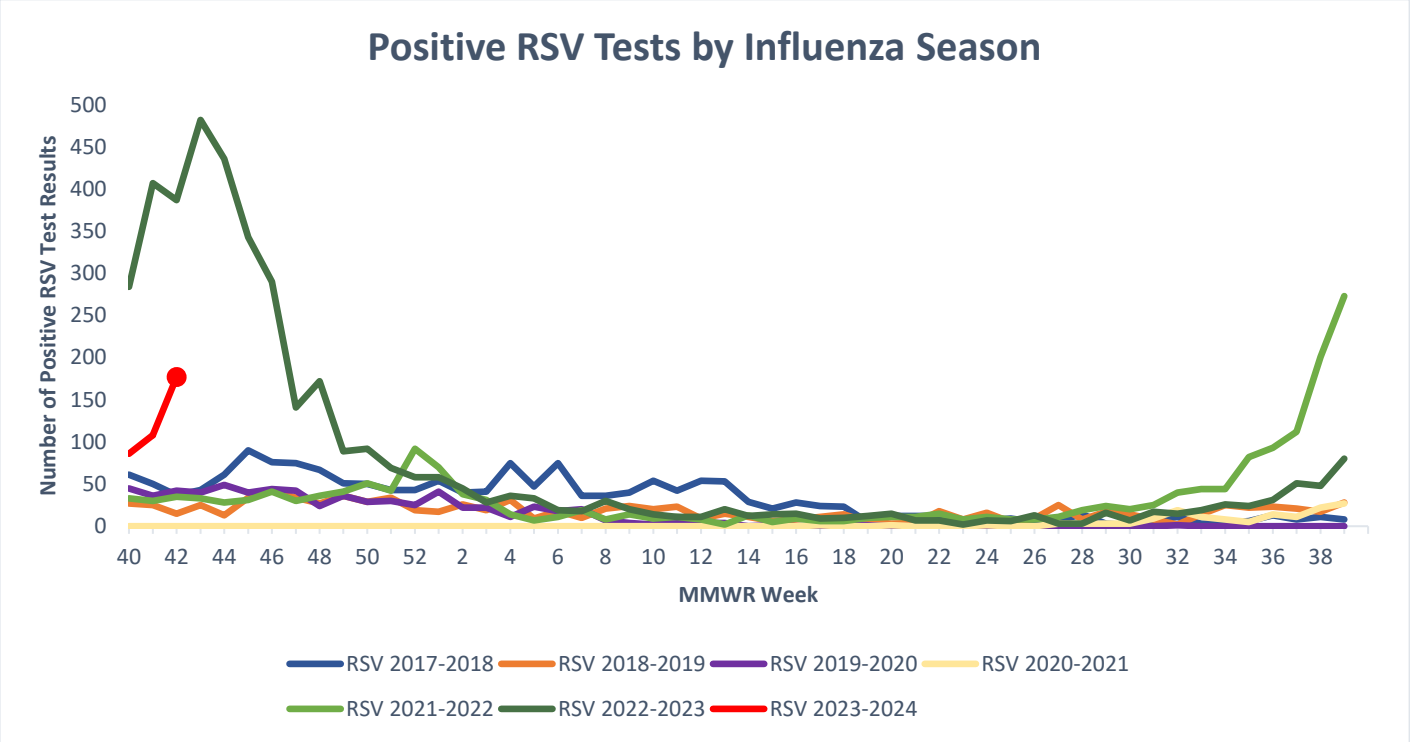
** Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.*

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**.

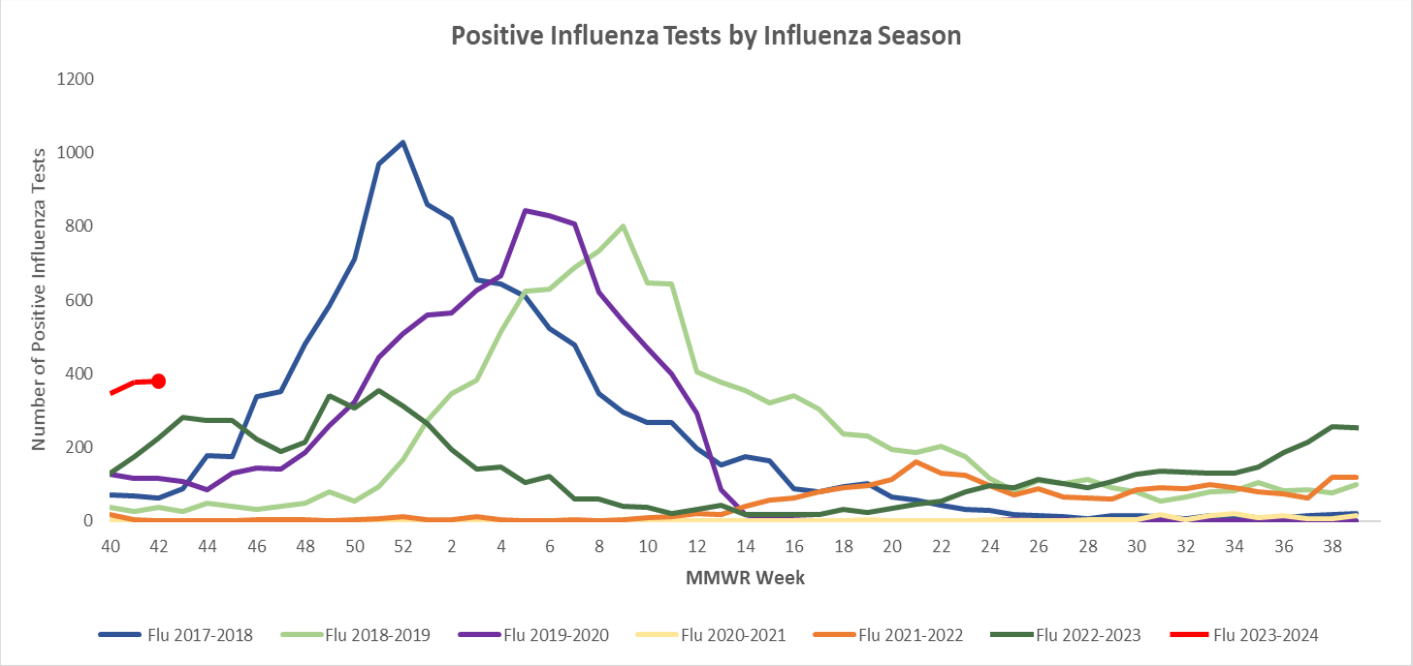


* *The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).*

RESPIRATORY SYNCYTIAL VIRUS (RSV) POSITIVE TEST RESULTS BY INFLUENZA SEASON: RSV case counts are significantly higher than previous seasons but may have already reached a peak for the 2023-2024 season. Of note, significantly more tests for RSV are being performed than in pre-COVID-19 seasons.



INFLUENZA POSITIVE TEST RESULTS BY INFLUENZA SEASON: Influenza cases appear to have increased earlier than past seasons in the 2023-2024 season, but it is not yet known whether case numbers will reach a peak similar to pre-COVID-19 seasons.



C. COVID-19 SENTINEL SURVEILLANCE: Due to the low volume of samples currently available through the influenza surveillance system, the COVID-19 sentinel surveillance data may not be accurately portraying COVID-19 activity in our communities. Reporting of the COVID-19 Sentinel Surveillance data will be paused while HODH re-evaluates the program to ensure that the reported data are accurate and representative.

HDOH is continuing to monitor COVID-19 activity throughout the state. To learn more, please visit the Hawaii's COVID-19 data website (*here*). For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website (*here*).

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

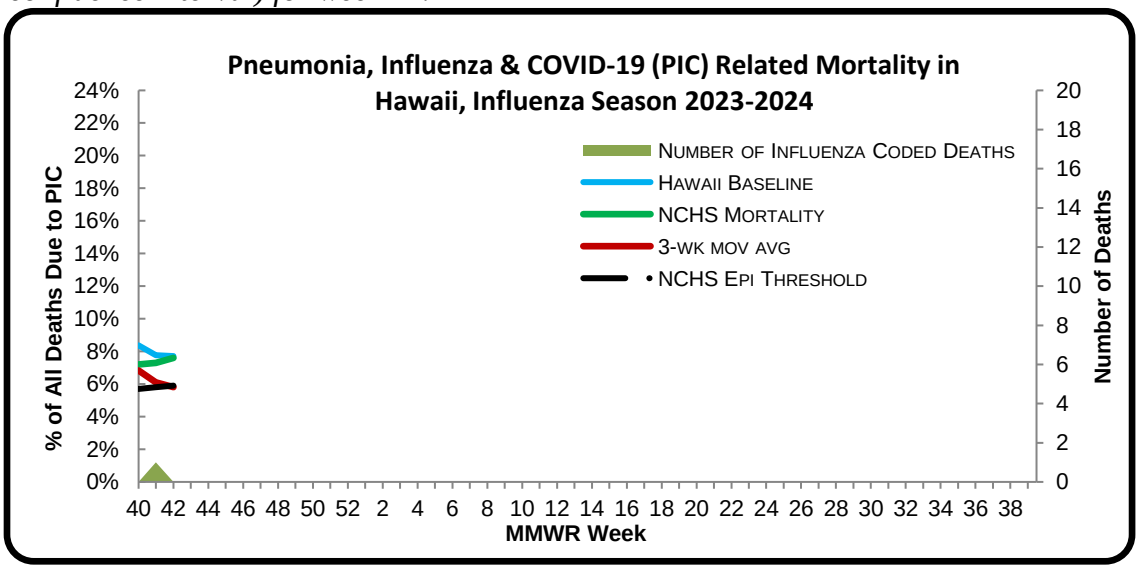
P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Due to the ongoing COVID-19 pandemic, CDC included total deaths from COVID-19 by age group to the death data. Previous studies had suggested that P&I is a good indicator of influenza-related deaths; however, data has shown that pneumonia deaths associated with influenza is now being impacted by COVID-19 related pneumonia. Due to this, CDC had added COVID-19 deaths into P&I to create the PIC (pneumonia, influenza, and/or COVID-19) classification.

To standardize Hawaii's influenza surveillance with CDC influenza surveillance guidelines, PIC deaths will be reported in lieu of P&I. Hawaii's baseline will begin to include PIC deaths starting from 2019-2020 flu season.

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

- ***5.4%*** *of all deaths that occurred in Hawaii during week 42 were related to pneumonia, influenza or COVID-19 (PIC)*[11]*. For the current season (season to date:* ***6.8%****), there have been 1,093 deaths from any cause, 74 of which were due to PIC*[12]*.*
- *The PIC rate was comparable to the historical baseline in Hawaii*[13] *(i.e., inside the 95% confidence interval).*

The Hawaii PIC rate was comparable to the CDC's National Center for Health Statistics (NCHS) PIC mortality[14] *(**7.6%**) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (**5.8**%) (i.e., inside the 95% confidence interval) for week 42.*



[11] The percent of deaths due to PIC displayed on the graph is the 3-week moving averages.

[12] PIC data reflect 45% of the data reported for the MMWR week. Changes to data are expected when PIC data reaches 100% completion.

[13] The Hawaii historical baseline (%PIC) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, and 2022-2023).

[14] 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, influenza, or COVID-19 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 COVID-19 death counts reported by NCHS are provisional and will not match counts in other sources, such as media reports or numbers from health departments. COVID-19 deaths may be classified or defined differently in various reporting and surveillance systems. The percentage of deaths due to pneumonia, influenza, and COVID-19 (PIC) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

INFLUENZA-ASSOCIATED PEDIATRIC DEATHS[15]:

- No new influenza-associated pediatric death was reported to Hawaii. There have been zero influenza-associated pediatric deaths reported in Hawaii during the 2023–2024 season.
- Nationally, no new influenza-associated pediatric deaths were reported to CDC during week 42. (2023-2024 season total: 0). One influenza-associated pediatric death occurring during the 2022-2023 season was reported to CDC during week 42 (2022-2023 season total: 179).

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 2023–2024 influenza season.*
- *One new human infection with novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (1), have been reported during the 2023–2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Netherlands during the 2023-2024 influenza season.*

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 15th, 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

[15] 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.

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 3, 2023**.

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 20**23**–202**4** Influenza Vaccine**:**

The composition of the 2023–2024 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2023–2024 influenza trivalent vaccine contain an influenza A/Wisconsin/67/2022 (H1N1)pdm09-like virus, influenza A/Darwin/6/2021 (H3N2)-like virus, and influenza B/Austria/1359417/2021-like virus (B/Victoria lineage). 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/Wisconsin/67/2022 (H1N1)pdm09-like virus, an influenza A/Darwin/6/2021 (H3N2)-like virus, an influenza B/Austria/1359417/2021-like virus (B/Victoria lineage), 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.

Centers for Disease Control and Prevention	General Influenza National ILI and P&I Data Vaccine Virus Selection CDC Web Tool for Respiratory Viruses
Flu.gov	General Influenza Information
HDOH Flu and Pneumonia	General Influenza Surveillance To find out more information or join the sentinel physician program, email the Influenza Surveillance Coordinator
World Health Organization	General Global and Local Influenza Avian Influenza

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	2020	2021	2022	2023	2024
1	1/4/2020	1/9/2021	1/8/2022	1/7/2023	1/6/2024
2	1/11/2020	1/16/2021	1/15/2022	1/14/2023	1/13/2024
3	1/18/2020	1/23/2021	1/22/2022	1/21/2023	1/20/2024
4	1/25/2020	1/30/2021	1/29/2022	1/28/2023	1/27/2024
5	2/1/2020	2/6/2021	2/5/2022	2/4/2023	2/3/2024
6	2/8/2020	2/13/2021	2/12/2022	2/11/2023	2/10/2024
7	2/15/2020	2/20/2021	2/19/2022	2/18/2023	2/17/2024
8	2/22/2020	2/27/2021	2/26/2022	2/25/2023	2/24/2024
9	2/29/2020	3/6/2021	3/5/2022	3/4/2023	3/2/2024
10	3/7/2020	3/13/2021	3/12/2022	3/11/2023	3/9/2024
11	3/14/2020	3/20/2021	3/19/2022	3/18/2023	3/16/2024
12	3/21/2020	3/27/2021	3/26/2022	3/25/2023	3/23/2024
13	3/28/2020	4/3/2021	4/2/2022	4/1/2023	3/30/2024
14	4/4/2020	4/10/2021	4/9/2022	4/8/2023	4/6/2024
15	4/11/2020	4/17/2021	4/16/2022	4/15/2023	4/13/2024
16	4/18/2020	4/24/2021	4/23/2022	4/22/2023	4/20/2024
17	4/25/2020	5/1/2021	4/30/2022	4/29/2023	4/27/2024
18	5/2/2020	5/8/2021	5/7/2022	5/6/2023	5/4/2024
19	5/9/2020	5/15/2021	5/14/2022	5/13/2023	5/11/2024
20	5/16/2020	5/22/2021	5/21/2022	5/20/2023	5/18/2024
21	5/23/2020	5/29/2021	5/28/2022	5/27/2023	5/25/2024
22	5/30/2020	6/5/2021	6/4/2022	6/3/2023	6/1/2024
23	6/6/2020	6/12/2021	6/11/2022	6/10/2023	6/8/2024
24	6/13/2020	6/19/2021	6/18/2022	6/17/2023	6/15/2024
25	6/20/2020	6/26/2021	6/25/2022	6/24/2023	6/22/2024
26	6/27/2020	7/3/2021	7/2/2022	7/1/2023	6/29/2024
27	7/4/2020	7/10/2021	7/9/2022	7/8/2023	7/6/2024
28	7/11/2020	7/17/2021	7/16/2022	7/15/2023	7/13/2024
29	7/18/2020	7/24/2021	7/23/2022	7/22/2023	7/20/2024
30	7/25/2020	7/31/2021	7/30/2022	7/29/2023	7/27/2024
31	8/1/2020	8/7/2021	8/6/2022	8/5/2023	8/3/2024
32	8/8/2020	8/14/2021	8/13/2022	8/12/2023	8/10/2024
33	8/15/2020	8/21/2021	8/20/2022	8/19/2023	8/17/2024
34	8/22/2020	8/28/2021	8/27/2022	8/26/2023	8/24/2024
35	8/29/2020	9/4/2021	9/3/2022	9/2/2023	8/31/2024
36	9/5/2020	9/11/2021	9/10/2022	9/9/2023	9/7/2024
37	9/12/2020	9/18/2021	9/17/2022	9/16/2023	9/14/2024
38	9/19/2020	9/25/2021	9/24/2022	9/23/2023	9/21/2024
39	9/26/2020	10/2/2021	10/1/2022	9/30/2023	9/28/2024
40	10/3/2020	10/9/2021	10/8/2022	10/7/2023	10/5/2024
41	10/10/2020	10/16/2021	10/15/2022	10/14/2023	10/12/2024
42	10/17/2020	10/23/2021	10/22/2022	10/21/2023	10/19/2024
43	10/24/2020	10/30/2021	10/29/2022	10/28/2023	10/26/2024
44	10/31/2020	11/6/2021	11/5/2022	11/4/2023	11/2/2024
45	11/7/2020	11/13/2021	11/12/2022	11/11/2023	11/9/2024
46	11/14/2020	11/20/2021	11/19/2022	11/18/2023	11/16/2024
47	11/21/2020	11/27/2021	11/26/2022	11/25/2023	11/23/2024
48	11/28/2020	12/4/2021	12/3/2022	12/2/2023	11/30/2024
49	12/5/2020	12/11/2021	12/10/2022	12/9/2023	12/7/2024
50	12/12/2020	12/18/2021	12/17/2022	12/16/2023	12/14/2024
51	12/19/2020	12/25/2021	12/24/2022	12/23/2023	12/21/2024
52	12/26/2020	1/1/2022	12/31/2022	12/30/2023	12/28/2024
53	01/02/2021				

HAWAII STATE DEPARTMENT OF HEALTH
DISEASE OUTBREAK CONTROL DIVISION

Influenza/Respiratory Disease Surveillance Report

Morbidity and Mortality Weekly Report (MMWR)[1]

WEEK 43: OCTOBER 22, 2023– OCTOBER 28, 2023

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 2023–2024 influenza season which began the week ending October 7, 2023 (week 40[1] 2023) and will end the week ending on September 28, 2024 (week 39 2024).

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	3.5%	Higher than the previous week. Comparable to the Hawaii's historical baseline, higher than the national ILI rate, and higher than the 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	14.7%	Higher than the previous week. This number means that many, if not all, of the 85.3% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	13.1%	

Surveillance for Severe Outcomes		
Pneumonia, influenza and COVID-19 (PIC) mortality rate	7.6%	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	1	0 influenza-associated pediatric deaths have been reported from Hawaii this season to date.

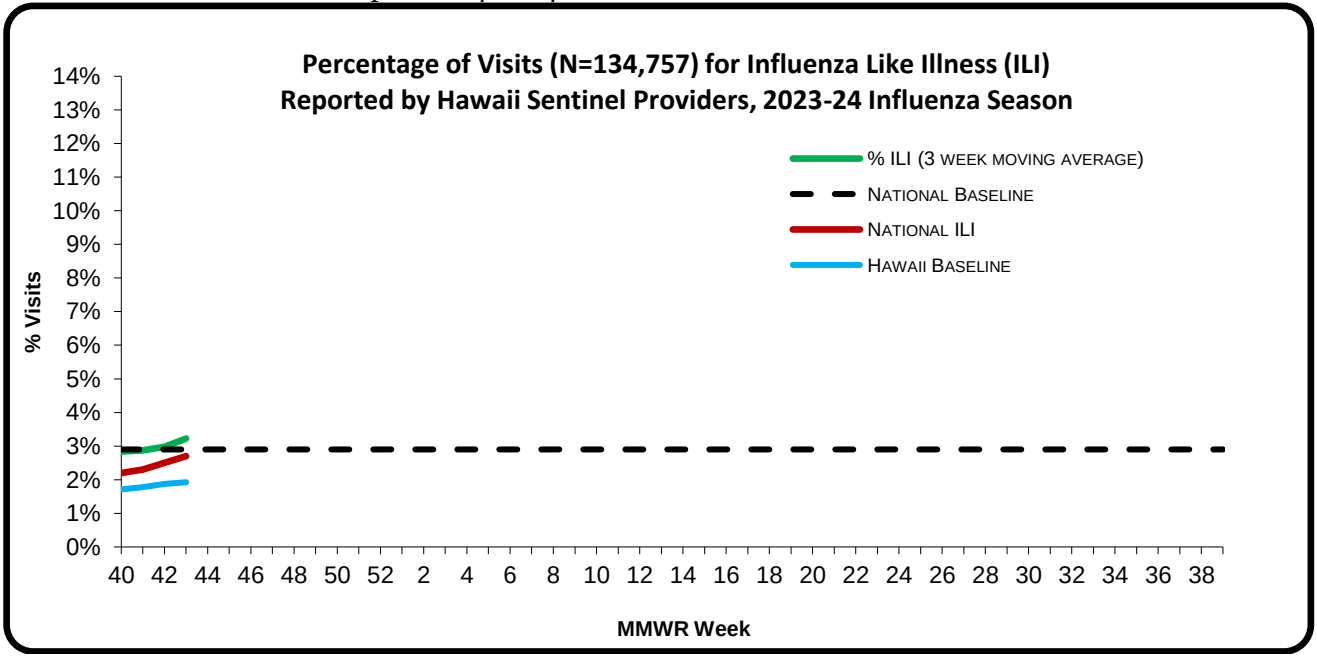
[1] MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week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

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. 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:

- ***3.5****% (season to date:* ***3.1****%) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.*
- *ILI visits were comparable to the historical baseline in Hawaii[2,3] (i.e., inside the 95% confidence interval).*
- *Hawaii's ILI outpatient visits were higher than the national baseline (**2.9%**)[4] (i.e., outside the 95% confidence interval) and higher than the national ILI rate (**2.7%**) (i.e. outside the 95% confidence interval).*
- *ILI activity level: Low*[5]
- *Geographic Spread: Sporadic Activity*[6].
- *ILI Cluster Activity: A cluster was reported to HDOH during week 43. The cluster occurred at a school in Honolulu. The cluster tested positive for influenza A.*



[2] The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022 and 2022-2023).

[3] 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.

[4] 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.

[5] There are 10 activity levels classified as minimal (levels 1-3), low (levels 4-5), moderate (levels 6-7), and high (levels 8-10).

[6] 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[7] 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*).

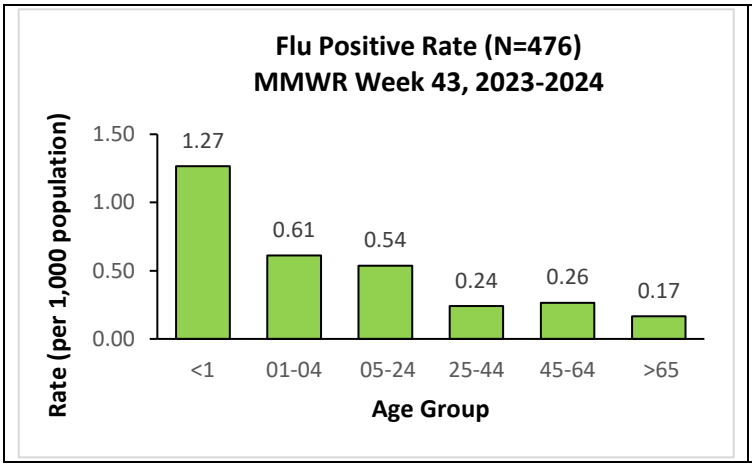
A. INFLUENZA:

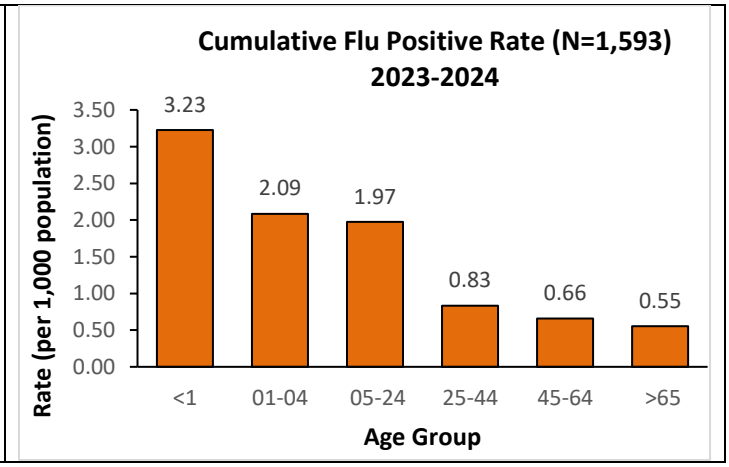
- The following reflects laboratory findings for week 43 of the 2023–24 influenza season:
  - *A total of **3,237** specimens have been tested statewide for influenza viruses (positive: 476 [**14.7%**]). (Season to date: 12,153 tested (**13.1%** positive])*
    - *331 (10.2%) were screened only by rapid antigen tests with no confirmatory testing.*
    - *2,906 (89.8%) underwent confirmatory testing (either RT-PCR or viral culture).*
    - *2,761 (85.3%) were negative.*

Influenza type	*Current week 43 (%)*	*Season to date (%)*[8]
Influenza A (H1)[9]	*18 (3.8)*	*56 (3.5)*
Influenza A (H3)	*5 (1.1)*	*18 (1.1)*
Influenza A no subtyping	*353 (74.2)*	*1,056 (66.3)*
Influenza B (Yamagata)	*0 (0.0)*	*0 (0.0)*
Influenza B (Victoria)	*4 (0.8)*	*28 (1.8)*
Influenza B no genotyping	*96 (20.2)*	*435 (27.3)*

1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2023–24 influenza season.[10]

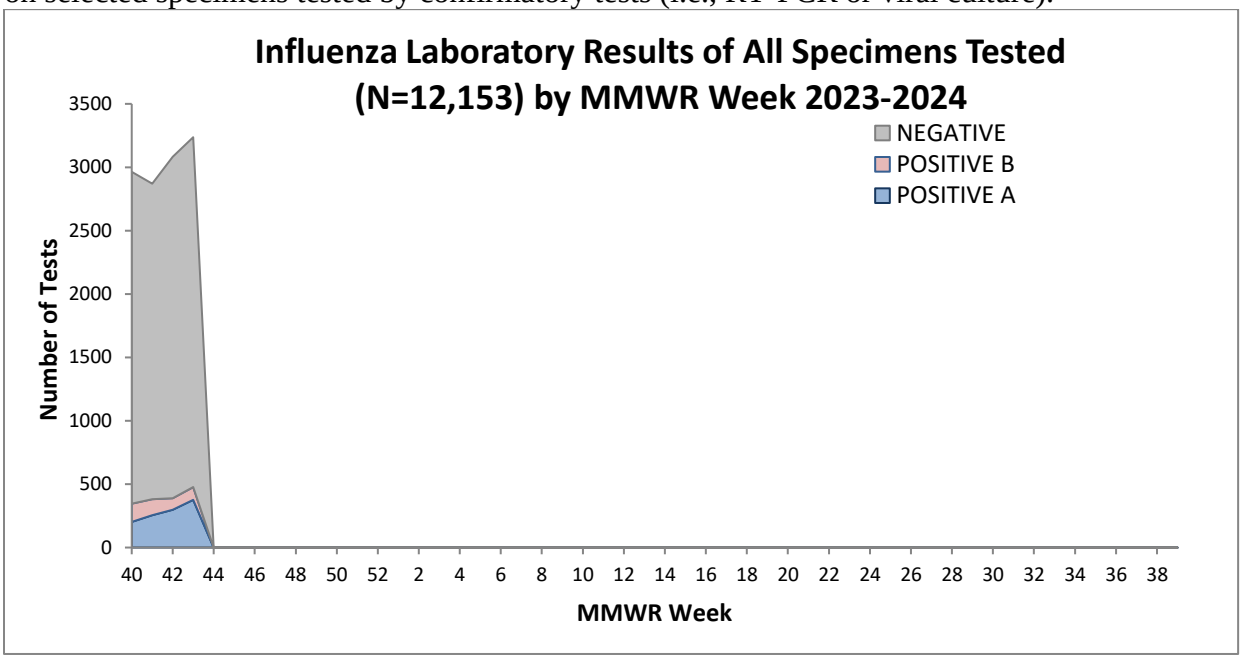


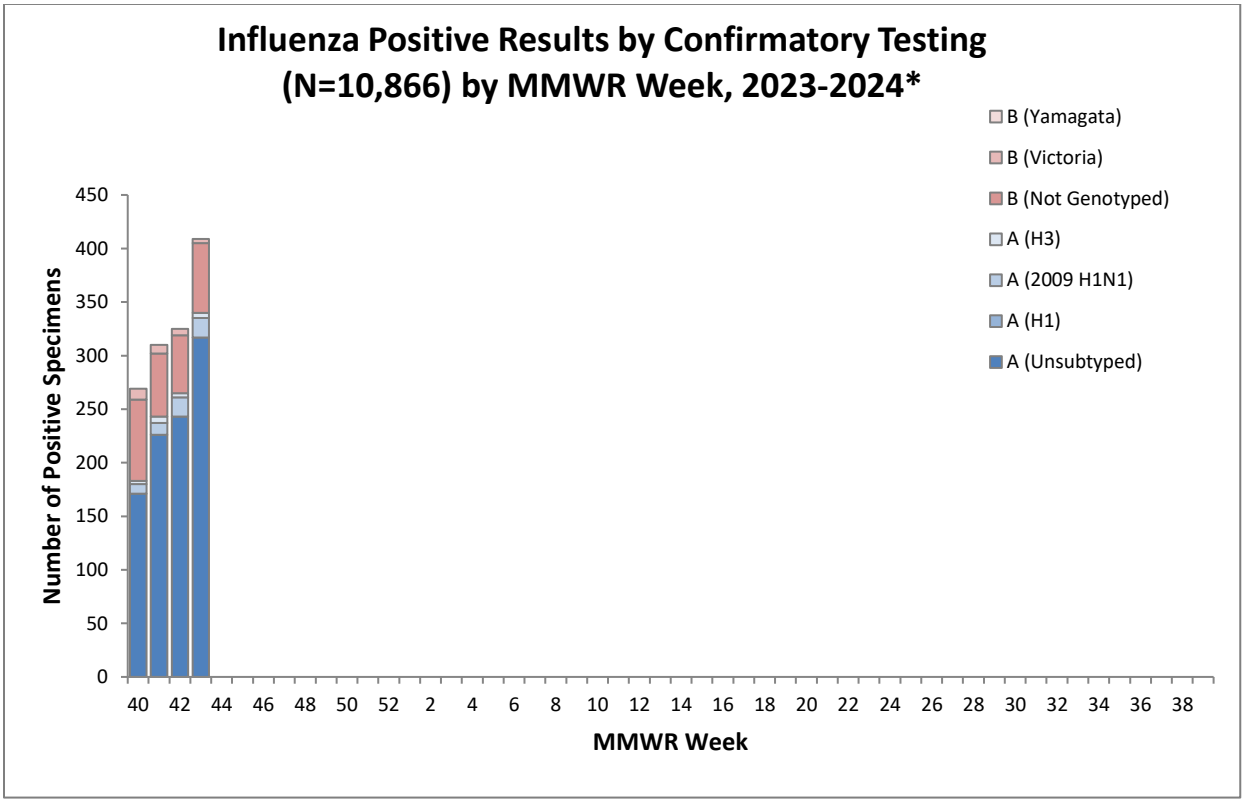


[7] Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.
[8] Influenza coding were updated to reflect a more accurate count.
[9] All influenza A H1 viruses detected this season have been 2009 H1N1.
[10] This represents an estimate of population-based rates based on available data.

2. LABORATORY TESTING

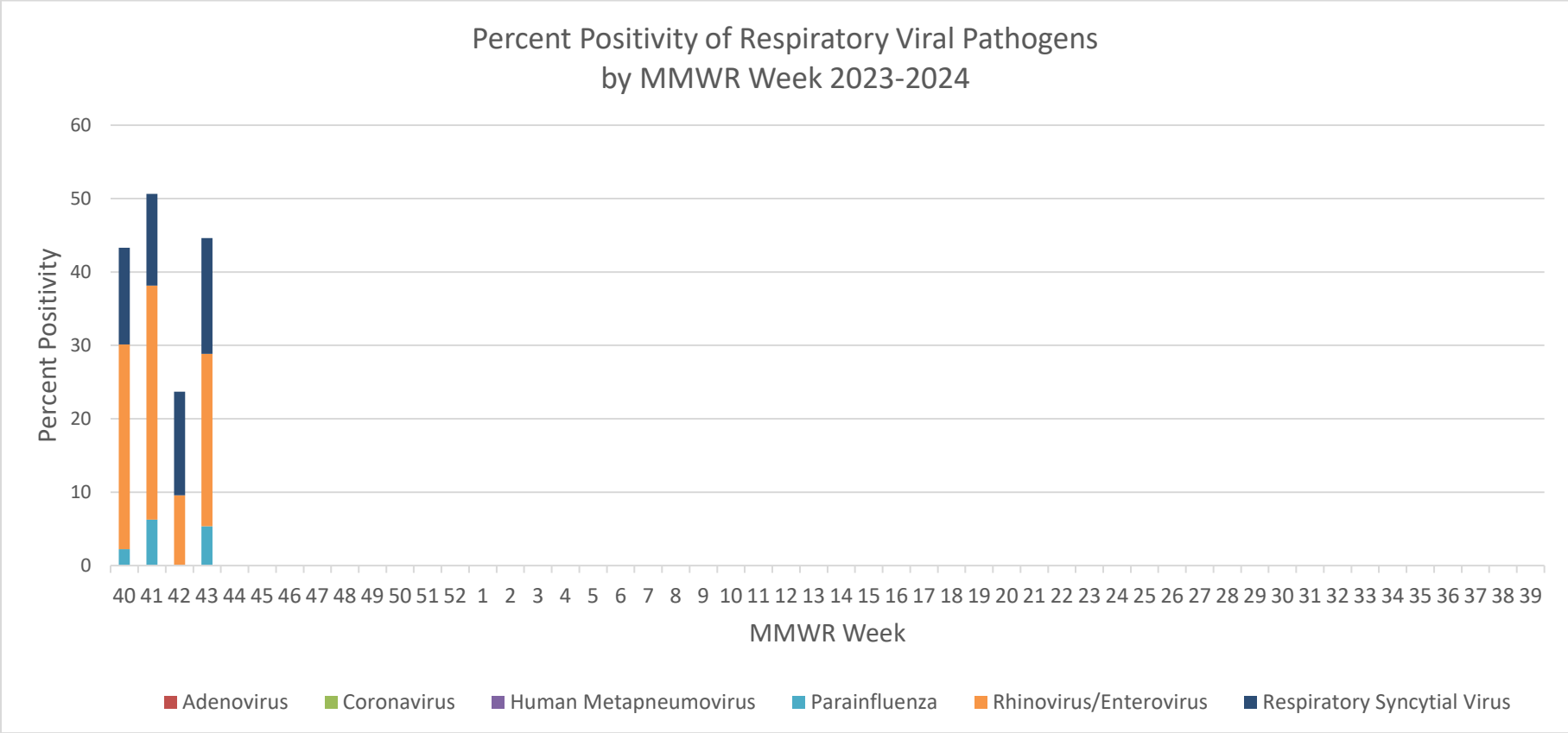
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2023–2024 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).





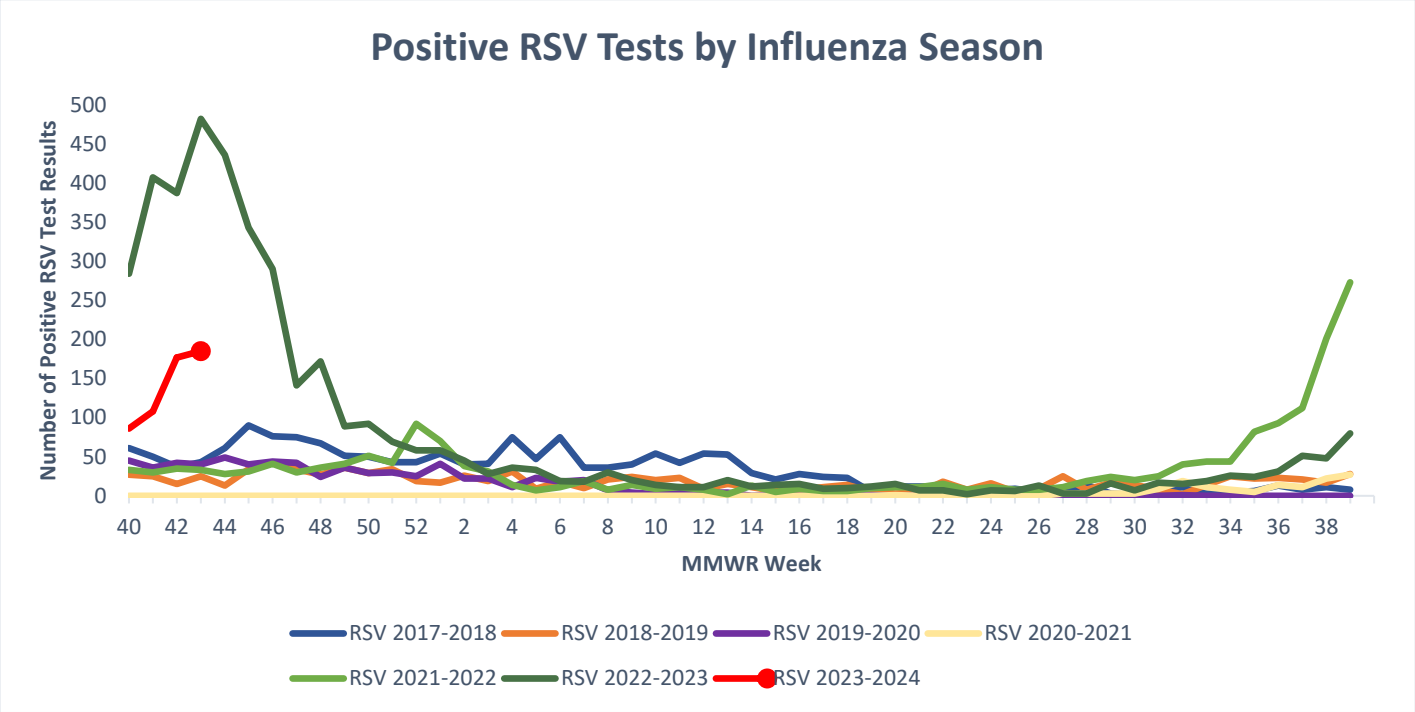
** Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.*

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**.

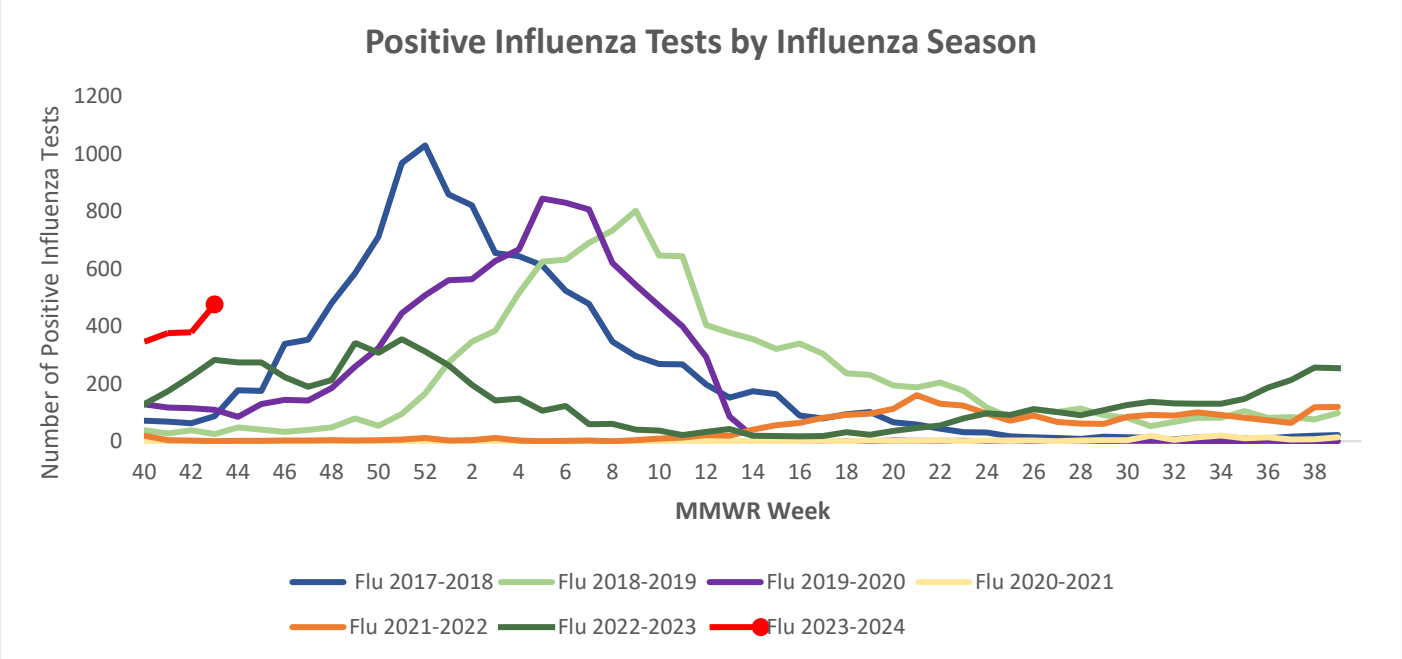


* *The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).*

RESPIRATORY SYNCYTIAL VIRUS (RSV) POSITIVE TEST RESULTS BY INFLUENZA SEASON: RSV case counts are significantly higher than previous seasons but may have already reached a peak for the 2023-2024 season. Of note, significantly more tests for RSV are being performed than in pre-COVID-19 seasons.



INFLUENZA POSITIVE TEST RESULTS BY INFLUENZA SEASON: Influenza cases appear to have increased earlier than past seasons in the 2023-2024 season, but it is not yet known whether case numbers will reach a peak similar to pre-COVID-19 seasons.



C. COVID-19 SENTINEL SURVEILLANCE: Due to the low volume of samples currently available through the influenza surveillance system, the COVID-19 sentinel surveillance data may not be accurately portraying COVID-19 activity in our communities. Reporting of the COVID-19 Sentinel Surveillance data will be paused while HODH re-evaluates the program to ensure that the reported data are accurate and representative.

HDOH is continuing to monitor COVID-19 activity throughout the state. To learn more, please visit the Hawaii's COVID-19 data website (*here*). For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website (*here*).

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

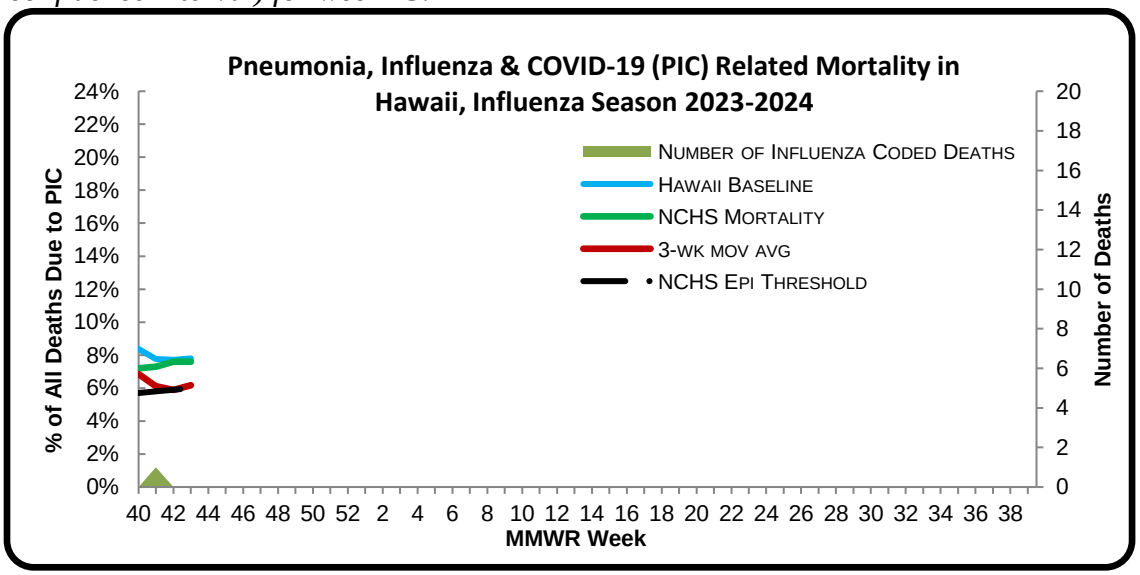
P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Due to the ongoing COVID-19 pandemic, CDC included total deaths from COVID-19 by age group to the death data. Previous studies had suggested that P&I is a good indicator of influenza-related deaths; however, data has shown that pneumonia deaths associated with influenza is now being impacted by COVID-19 related pneumonia. Due to this, CDC had added COVID-19 deaths into P&I to create the PIC (pneumonia, influenza, and/or COVID-19) classification.

To standardize Hawaii's influenza surveillance with CDC influenza surveillance guidelines, PIC deaths will be reported in lieu of P&I. Hawaii's baseline will begin to include PIC deaths starting from 2019-2020 flu season.

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

- ***7.6%*** *of all deaths that occurred in Hawaii during week 43 were related to pneumonia, influenza or COVID-19 (PIC)[11]. For the current season (season to date:* ***6.8%****), there have been 1,312 deaths from any cause, 89 of which were due to PIC[12].*
- *The PIC rate was comparable to the historical baseline in Hawaii[13] (i.e., inside the 95% confidence interval).*

*The Hawaii PIC rate was comparable to the CDC's National Center for Health Statistics (NCHS) PIC mortality[14] (****7.6%****) (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 43.*



[11] The percent of deaths due to PIC displayed on the graph is the 3-week moving averages.

[12] PIC data reflect 57% of the data reported for the MMWR week. Changes to data are expected when PIC data reaches 100% completion.

[13] The Hawaii historical baseline (%PIC) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, and 2022-2023).

[14] 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, influenza, or COVID-19 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 COVID-19 death counts reported by NCHS are provisional and will not match counts in other sources, such as media reports or numbers from health departments. COVID-19 deaths may be classified or defined differently in various reporting and surveillance systems. The percentage of deaths due to pneumonia, influenza, and COVID-19 (PIC) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

INFLUENZA-ASSOCIATED PEDIATRIC DEATHS[15]:

- No new influenza-associated pediatric death was reported to Hawaii. There have been zero influenza-associated pediatric deaths reported in Hawaii during the 2023–2024 season.
- Nationally, one new influenza-associated pediatric deaths were reported to CDC during week 43. (2023-2024 season total: 1).

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 2023–2024 influenza season.*
- *One new human infection with novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (1), have been reported during the 2023–2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Netherlands during the 2023-2024 influenza season.*

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 15th, 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 3, 2023**.

[15] 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.

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 2023–2024 Influenza Vaccine:

The composition of the 2023–2024 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2023–2024 influenza trivalent vaccine contain an influenza A/Wisconsin/67/2022 (H1N1)pdm09-like virus, influenza A/Darwin/6/2021 (H3N2)-like virus, and influenza B/Austria/1359417/2021-like virus (B/Victoria lineage). 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/Wisconsin/67/2022 (H1N1)pdm09-like virus, an influenza A/Darwin/6/2021 (H3N2)-like virus, an influenza B/Austria/1359417/2021-like virus (B/Victoria lineage), 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.

Centers for Disease Control and Prevention	General Influenza National ILI and P&I Data Vaccine Virus Selection CDC Web Tool for Respiratory Viruses
Flu.gov	General Influenza Information
HDOH Flu and Pneumonia	General Influenza Surveillance To find out more information or join the sentinel physician program, email the Influenza Surveillance Coordinator
World Health Organization	General Global and Local Influenza Avian Influenza

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	2020	2021	2022	2023	2024
1	1/4/2020	1/9/2021	1/8/2022	1/7/2023	1/6/2024
2	1/11/2020	1/16/2021	1/15/2022	1/14/2023	1/13/2024
3	1/18/2020	1/23/2021	1/22/2022	1/21/2023	1/20/2024
4	1/25/2020	1/30/2021	1/29/2022	1/28/2023	1/27/2024
5	2/1/2020	2/6/2021	2/5/2022	2/4/2023	2/3/2024
6	2/8/2020	2/13/2021	2/12/2022	2/11/2023	2/10/2024
7	2/15/2020	2/20/2021	2/19/2022	2/18/2023	2/17/2024
8	2/22/2020	2/27/2021	2/26/2022	2/25/2023	2/24/2024
9	2/29/2020	3/6/2021	3/5/2022	3/4/2023	3/2/2024
10	3/7/2020	3/13/2021	3/12/2022	3/11/2023	3/9/2024
11	3/14/2020	3/20/2021	3/19/2022	3/18/2023	3/16/2024
12	3/21/2020	3/27/2021	3/26/2022	3/25/2023	3/23/2024
13	3/28/2020	4/3/2021	4/2/2022	4/1/2023	3/30/2024
14	4/4/2020	4/10/2021	4/9/2022	4/8/2023	4/6/2024
15	4/11/2020	4/17/2021	4/16/2022	4/15/2023	4/13/2024
16	4/18/2020	4/24/2021	4/23/2022	4/22/2023	4/20/2024
17	4/25/2020	5/1/2021	4/30/2022	4/29/2023	4/27/2024
18	5/2/2020	5/8/2021	5/7/2022	5/6/2023	5/4/2024
19	5/9/2020	5/15/2021	5/14/2022	5/13/2023	5/11/2024
20	5/16/2020	5/22/2021	5/21/2022	5/20/2023	5/18/2024
21	5/23/2020	5/29/2021	5/28/2022	5/27/2023	5/25/2024
22	5/30/2020	6/5/2021	6/4/2022	6/3/2023	6/1/2024
23	6/6/2020	6/12/2021	6/11/2022	6/10/2023	6/8/2024
24	6/13/2020	6/19/2021	6/18/2022	6/17/2023	6/15/2024
25	6/20/2020	6/26/2021	6/25/2022	6/24/2023	6/22/2024
26	6/27/2020	7/3/2021	7/2/2022	7/1/2023	6/29/2024
27	7/4/2020	7/10/2021	7/9/2022	7/8/2023	7/6/2024
28	7/11/2020	7/17/2021	7/16/2022	7/15/2023	7/13/2024
29	7/18/2020	7/24/2021	7/23/2022	7/22/2023	7/20/2024
30	7/25/2020	7/31/2021	7/30/2022	7/29/2023	7/27/2024
31	8/1/2020	8/7/2021	8/6/2022	8/5/2023	8/3/2024
32	8/8/2020	8/14/2021	8/13/2022	8/12/2023	8/10/2024
33	8/15/2020	8/21/2021	8/20/2022	8/19/2023	8/17/2024
34	8/22/2020	8/28/2021	8/27/2022	8/26/2023	8/24/2024
35	8/29/2020	9/4/2021	9/3/2022	9/2/2023	8/31/2024
36	9/5/2020	9/11/2021	9/10/2022	9/9/2023	9/7/2024
37	9/12/2020	9/18/2021	9/17/2022	9/16/2023	9/14/2024
38	9/19/2020	9/25/2021	9/24/2022	9/23/2023	9/21/2024
39	9/26/2020	10/2/2021	10/1/2022	9/30/2023	9/28/2024
40	10/3/2020	10/9/2021	10/8/2022	10/7/2023	10/5/2024
41	10/10/2020	10/16/2021	10/15/2022	10/14/2023	10/12/2024
42	10/17/2020	10/23/2021	10/22/2022	10/21/2023	10/19/2024
43	10/24/2020	10/30/2021	10/29/2022	10/28/2023	10/26/2024
44	10/31/2020	11/6/2021	11/5/2022	11/4/2023	11/2/2024
45	11/7/2020	11/13/2021	11/12/2022	11/11/2023	11/9/2024
46	11/14/2020	11/20/2021	11/19/2022	11/18/2023	11/16/2024
47	11/21/2020	11/27/2021	11/26/2022	11/25/2023	11/23/2024
48	11/28/2020	12/4/2021	12/3/2022	12/2/2023	11/30/2024
49	12/5/2020	12/11/2021	12/10/2022	12/9/2023	12/7/2024
50	12/12/2020	12/18/2021	12/17/2022	12/16/2023	12/14/2024
51	12/19/2020	12/25/2021	12/24/2022	12/23/2023	12/21/2024
52	12/26/2020	1/1/2022	12/31/2022	12/30/2023	12/28/2024
53	01/02/2021				

HAWAII STATE DEPARTMENT OF HEALTH
DISEASE OUTBREAK CONTROL DIVISION

Influenza/Respiratory Disease Surveillance Report

Morbidity and Mortality Weekly Report (MMWR)[1]

WEEK 44: OCTOBER 29, 2023– NOVEMBER 4, 2023

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 2023–2024 influenza season which began the week ending October 7, 2023 (week 40[1] 2023) and will end the week ending on September 28, 2024 (week 39 2024).

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	2.1%	Lower than the previous week. Comparable to the Hawaii's historical baseline, higher than the national ILI rate, and higher than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 4 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	13.9%	Lower than the previous week. This number means that many, if not all, of the 86.1% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	13.3%	

Surveillance for Severe Outcomes		
Pneumonia, influenza and COVID-19 (PIC) 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	0 influenza-associated pediatric deaths have been reported from Hawaii this season to date.

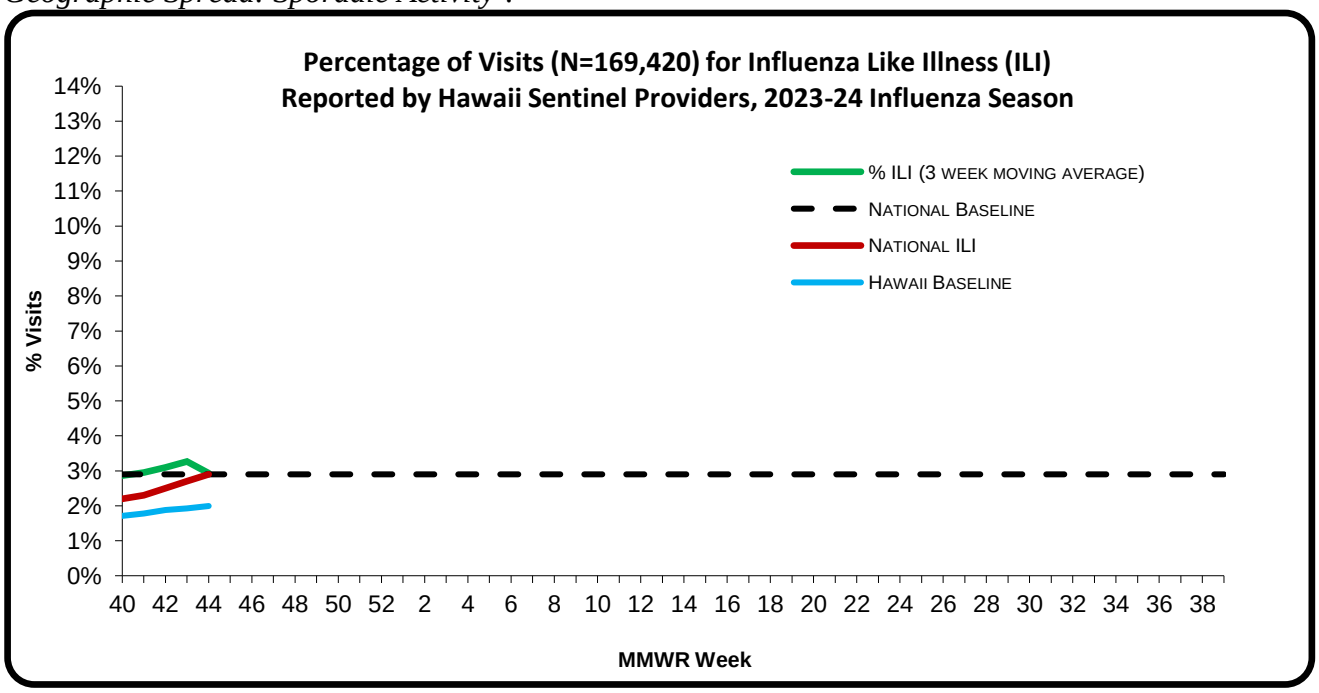
[1] MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week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

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. 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:

- ***2.1**% (season to date: **2.9**%) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.*
- *ILI visits were comparable to the historical baseline in Hawaii[2,3] (i.e., inside the 95% confidence interval).*
- *Hawaii's ILI outpatient visits were higher than the national baseline (**2.9%**)[4] (i.e., outside the 95% confidence interval) and higher than the national ILI rate (**2.9%**) (i.e. outside the 95% confidence interval).*
- *ILI activity level: Low*[5]
- *Geographic Spread: Sporadic Activity*[6].



[2] The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022 and 2022-2023).

[3] 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.

[4] 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.

[5] There are 10 activity levels classified as minimal (levels 1-3), low (levels 4-5), moderate (levels 6-7), and high (levels 8-10).

[6] 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[7] 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*).

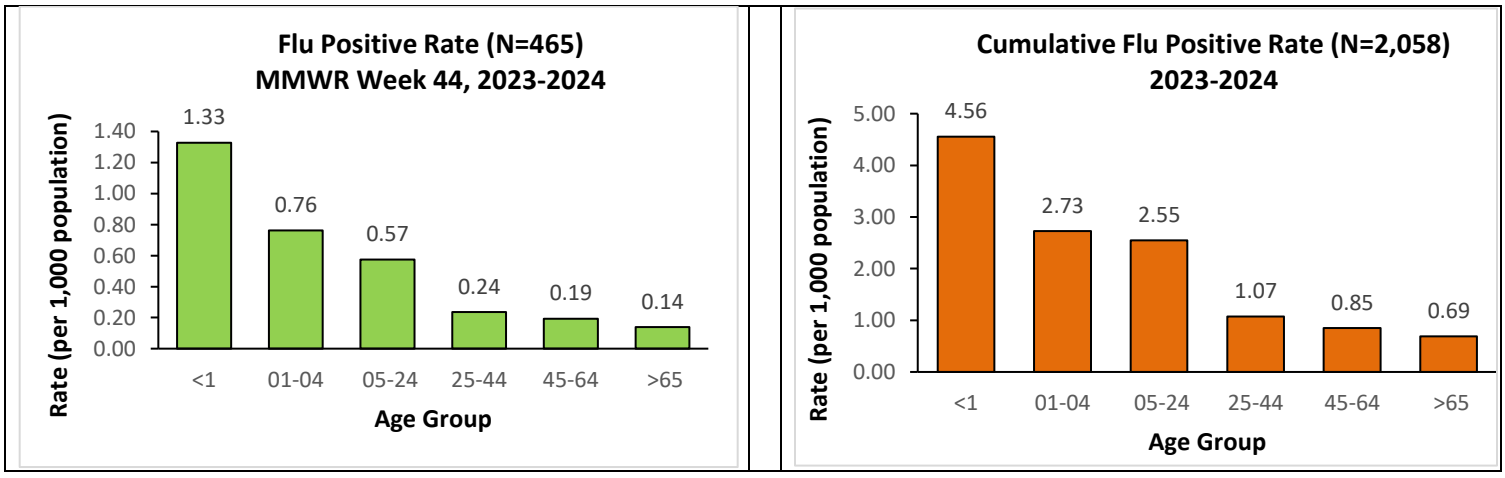
A. INFLUENZA:

- The following reflects laboratory findings for week 44 of the 2023–24 influenza season:
  - *A total of **3,350** specimens have been tested statewide for influenza viruses (positive: 465 [**13.9%**]). (Season to date: 15,503 tested (**13.3%** positive])*
    - *324 (9.7%) were screened only by rapid antigen tests with no confirmatory testing.*
    - *3,026 (90.3%) underwent confirmatory testing (either RT-PCR or viral culture).*
    - *2,885 (86.1%) were negative.*

Influenza type	*Current week 44 (%)*	*Season to date (%)*[8]
Influenza A (H1)[9]	*8 (1.7)*	*64 (3.1)*
Influenza A (H3)	*1 (0.2)*	*19 (0.9)*
Influenza A no subtyping	*343 (73.8)*	*1,399 (68.0)*
Influenza B (Yamagata)	*0 (0.0)*	*0 (0.0)*
Influenza B (Victoria)	*8 (1.7)*	*36 (1.7)*
Influenza B no genotyping	*105 (22.6)*	*540 (26.2)*

1. AGE DISTRIBUTION

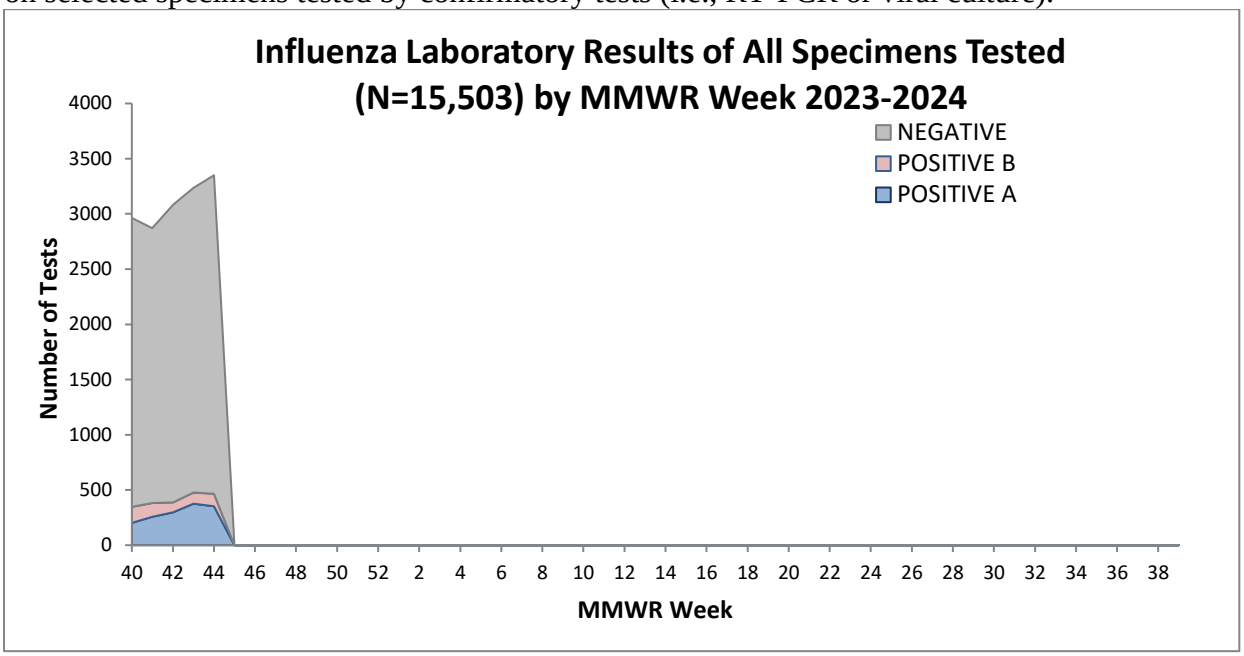
The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2023–24 influenza season.[10]

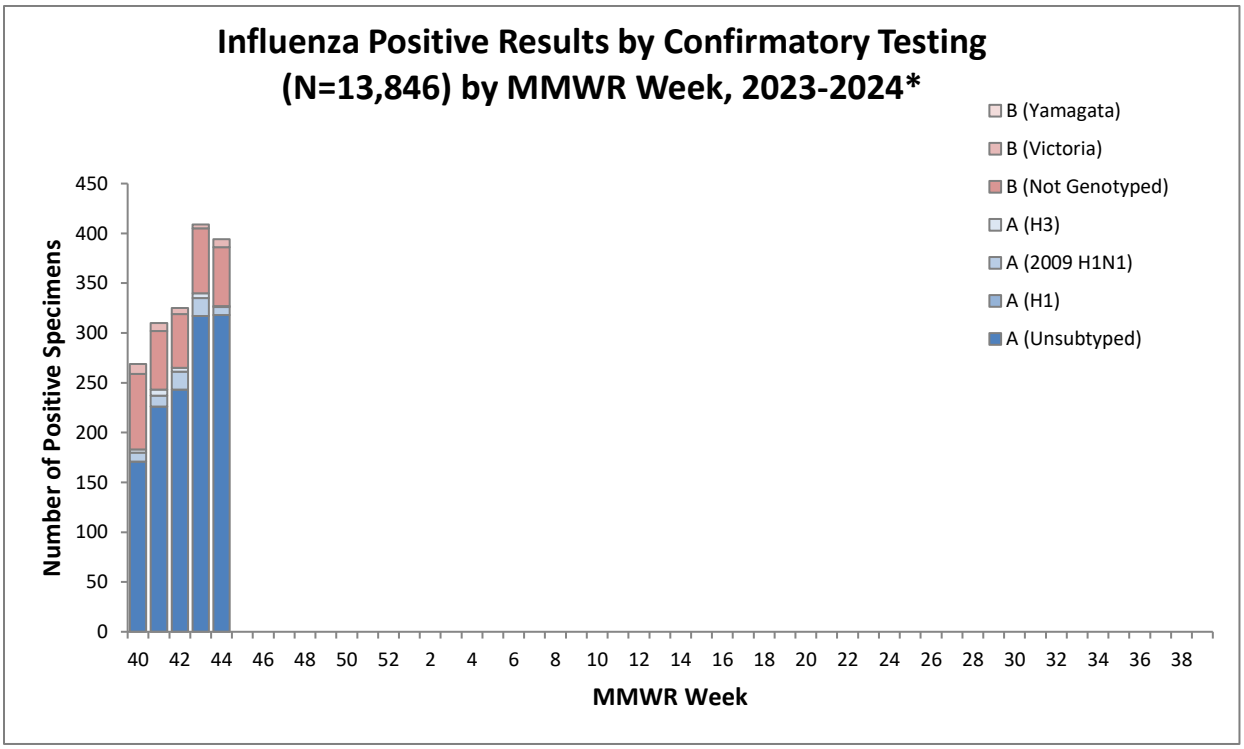


[7] Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.
[8] Influenza coding were updated to reflect a more accurate count.
[9] All influenza A H1 viruses detected this season have been 2009 H1N1.
[10] This represents an estimate of population-based rates based on available data.

2. LABORATORY TESTING

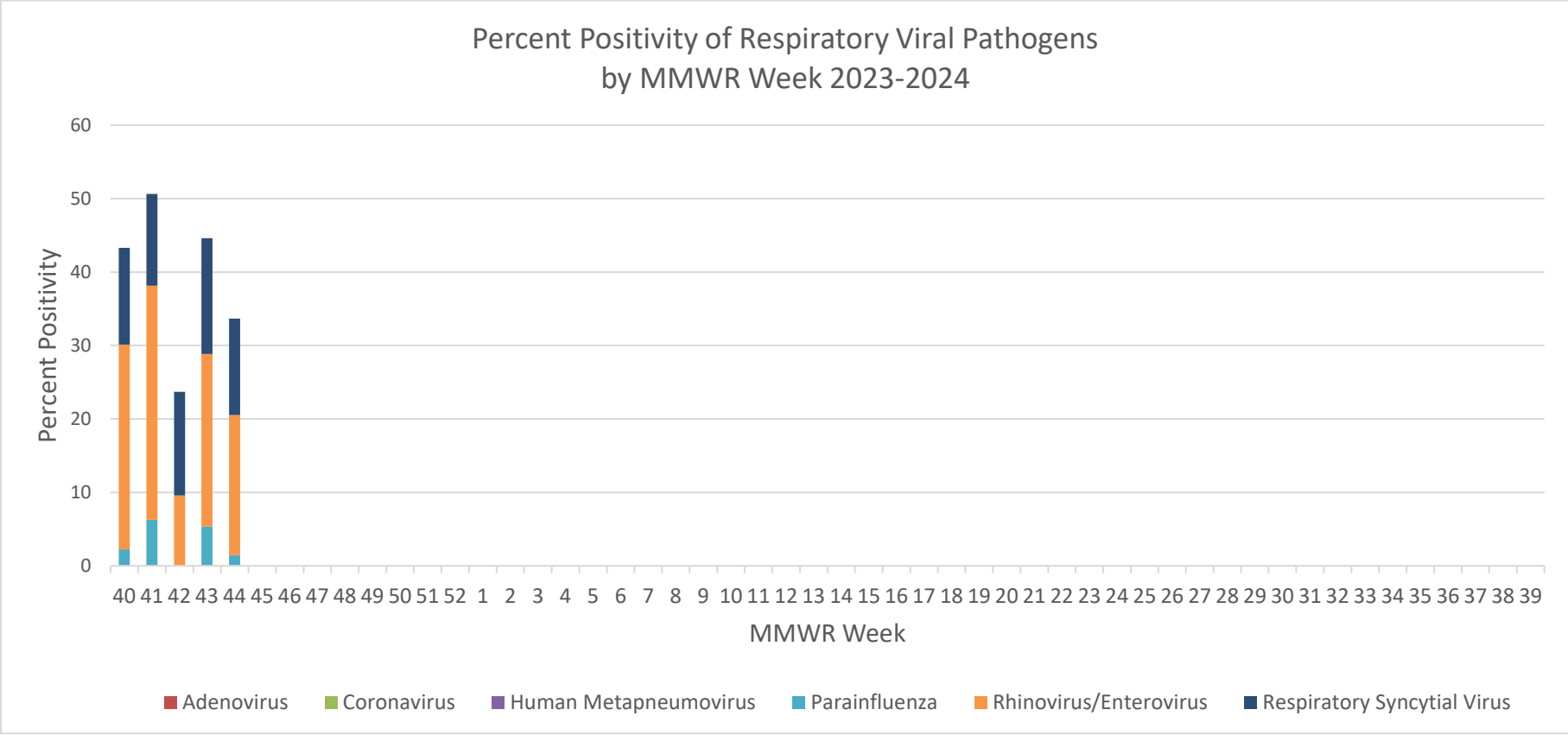
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2023–2024 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).





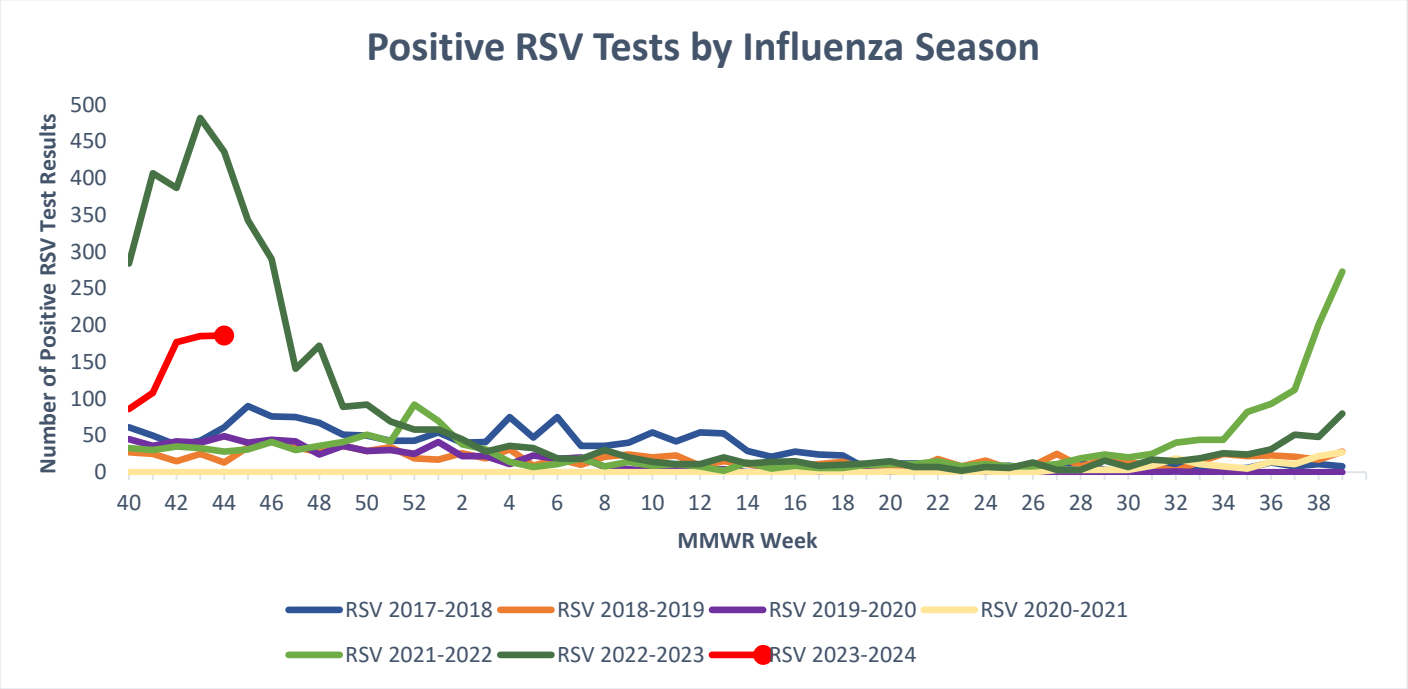
** Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.*

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**.

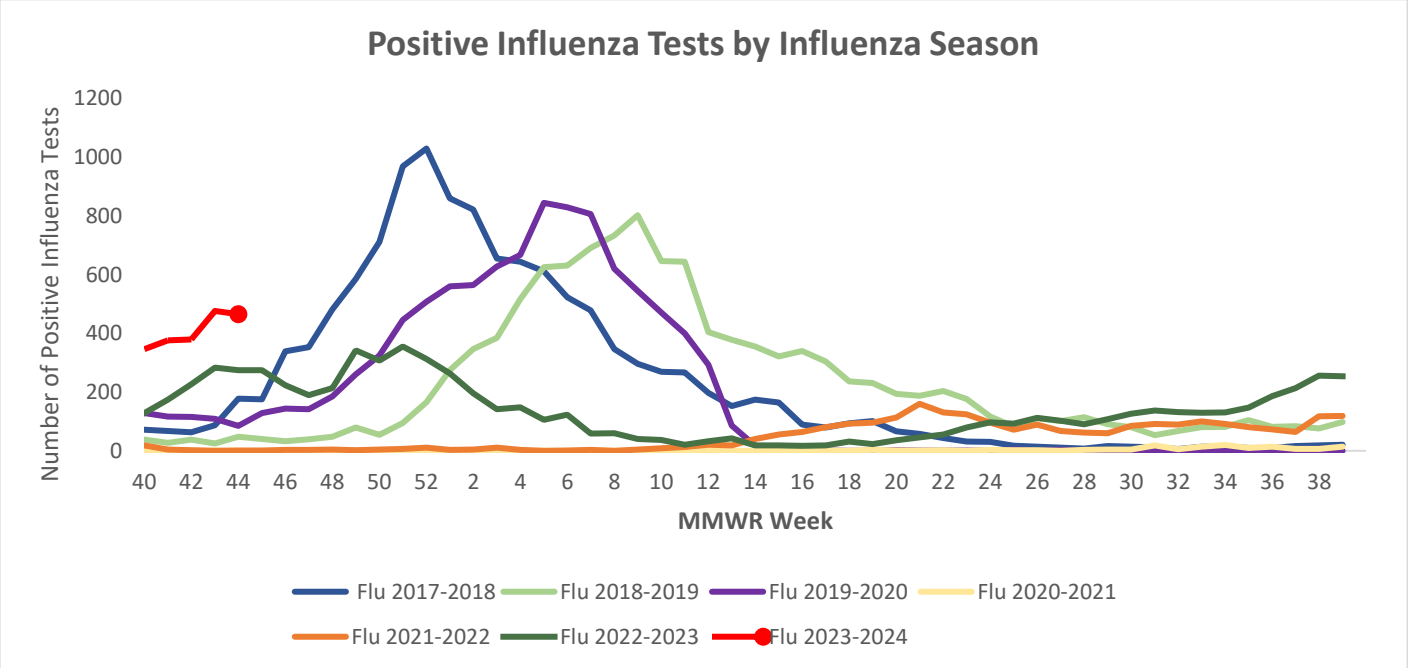


* *The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).*

RESPIRATORY SYNCYTIAL VIRUS (RSV) POSITIVE TEST RESULTS BY INFLUENZA SEASON: RSV case counts are significantly higher than previous seasons but may have already reached a peak for the 2023-2024 season. Of note, significantly more tests for RSV are being performed than in pre-COVID-19 seasons.



INFLUENZA POSITIVE TEST RESULTS BY INFLUENZA SEASON: Influenza cases appear to have increased earlier than past seasons in the 2023-2024 season, but it is not yet known whether case numbers will reach a peak similar to pre-COVID-19 seasons.



C. COVID-19 SENTINEL SURVEILLANCE: Due to the low volume of samples currently available through the influenza surveillance system, the COVID-19 sentinel surveillance data may not be accurately portraying COVID-19 activity in our communities. Reporting of the COVID-19 Sentinel Surveillance data will be paused while HODH re-evaluates the program to ensure that the reported data are accurate and representative.

HDOH is continuing to monitor COVID-19 activity throughout the state. To learn more, please visit the Hawaii's COVID-19 data website (*here*). For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website (*here*).

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

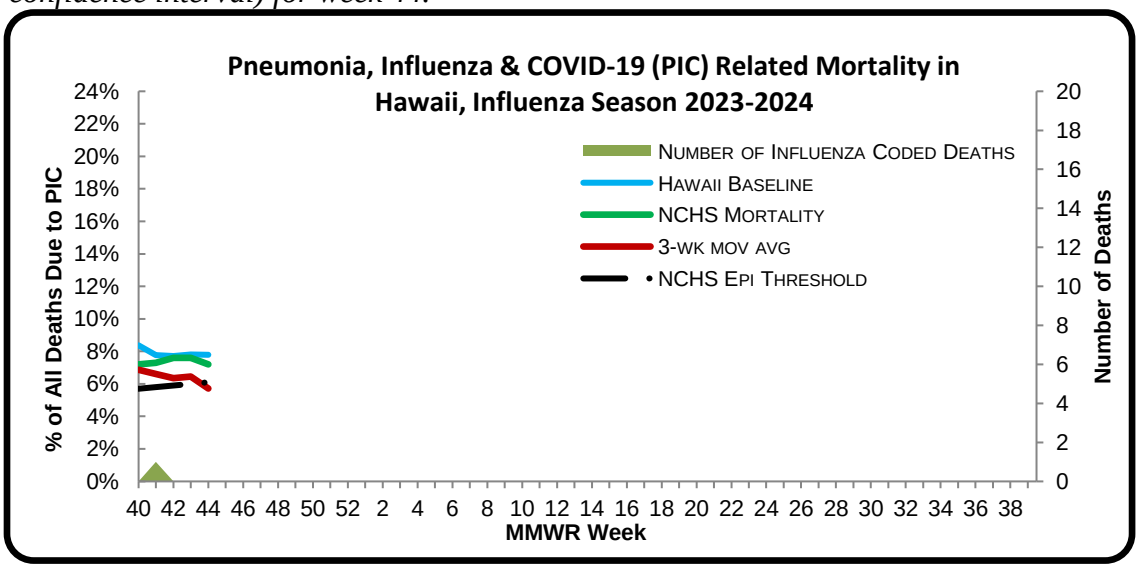
P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Due to the ongoing COVID-19 pandemic, CDC included total deaths from COVID-19 by age group to the death data. Previous studies had suggested that P&I is a good indicator of influenza-related deaths; however, data has shown that pneumonia deaths associated with influenza is now being impacted by COVID-19 related pneumonia. Due to this, CDC had added COVID-19 deaths into P&I to create the PIC (pneumonia, influenza, and/or COVID-19) classification.

To standardize Hawaii's influenza surveillance with CDC influenza surveillance guidelines, PIC deaths will be reported in lieu of P&I. Hawaii's baseline will begin to include PIC deaths starting from 2019-2020 flu season.

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

- ***4.6%*** *of all deaths that occurred in Hawaii during week 44 were related to pneumonia, influenza or COVID-19 (PIC)[11]. For the current season (season to date:* ***6.7%*** *there have been 1,541 deaths from any cause, 104 of which were due to PIC[12].*
- *The PIC rate was comparable to the historical baseline in Hawaii[13] (i.e., inside the 95% confidence interval).*

The Hawaii PIC rate was comparable to the CDC's National Center for Health Statistics (NCHS) PIC mortality[14] ***(7.2%)*** *(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 44.*



[11] The percent of deaths due to PIC displayed on the graph is the 3-week moving averages.

[12] PIC data reflect 57% of the data reported for the MMWR week. Changes to data are expected when PIC data reaches 100% completion.

[13] The Hawaii historical baseline (%PIC) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, and 2022-2023).

[14] 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, influenza, or COVID-19 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 COVID-19 death counts reported by NCHS are provisional and will not match counts in other sources, such as media reports or numbers from health departments. COVID-19 deaths may be classified or defined differently in various reporting and surveillance systems. The percentage of deaths due to pneumonia, influenza, and COVID-19 (PIC) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

INFLUENZA-ASSOCIATED PEDIATRIC DEATHS[15]:

- No new influenza-associated pediatric death was reported to Hawaii. There have been zero influenza-associated pediatric deaths reported in Hawaii during the 2023–2024 season.
- Nationally, no new influenza-associated pediatric deaths were reported to CDC during week 44. (2023-2024 season total: 1). One new influenza-associated pediatric deaths were reported during the 2022-2023 season (2022-2023 season total: 182).

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 2023–2024 influenza season.*
- *One new human infection with novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (1), have been reported during the 2023–2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Netherlands during the 2023-2024 influenza season.*

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 15th, 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

[15] 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.

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 3, 2023**.

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 2023–2024 Influenza Vaccine**:**

The composition of the 2023–2024 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2023–2024 influenza trivalent vaccine contain an influenza A/Wisconsin/67/2022 (H1N1)pdm09-like virus, influenza A/Darwin/6/2021 (H3N2)-like virus, and influenza B/Austria/1359417/2021-like virus (B/Victoria lineage). 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/Wisconsin/67/2022 (H1N1)pdm09-like virus, an influenza A/Darwin/6/2021 (H3N2)-like virus, an influenza B/Austria/1359417/2021-like virus (B/Victoria lineage), 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.

Centers for Disease Control and Prevention	General Influenza National ILI and P&I Data Vaccine Virus Selection CDC Web Tool for Respiratory Viruses
Flu.gov	General Influenza Information
HDOH Flu and Pneumonia	General Influenza Surveillance To find out more information or join the sentinel physician program, email the Influenza Surveillance Coordinator
World Health Organization	General Global and Local Influenza Avian Influenza

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	2020	2021	2022	2023	2024
1	1/4/2020	1/9/2021	1/8/2022	1/7/2023	1/6/2024
2	1/11/2020	1/16/2021	1/15/2022	1/14/2023	1/13/2024
3	1/18/2020	1/23/2021	1/22/2022	1/21/2023	1/20/2024
4	1/25/2020	1/30/2021	1/29/2022	1/28/2023	1/27/2024
5	2/1/2020	2/6/2021	2/5/2022	2/4/2023	2/3/2024
6	2/8/2020	2/13/2021	2/12/2022	2/11/2023	2/10/2024
7	2/15/2020	2/20/2021	2/19/2022	2/18/2023	2/17/2024
8	2/22/2020	2/27/2021	2/26/2022	2/25/2023	2/24/2024
9	2/29/2020	3/6/2021	3/5/2022	3/4/2023	3/2/2024
10	3/7/2020	3/13/2021	3/12/2022	3/11/2023	3/9/2024
11	3/14/2020	3/20/2021	3/19/2022	3/18/2023	3/16/2024
12	3/21/2020	3/27/2021	3/26/2022	3/25/2023	3/23/2024
13	3/28/2020	4/3/2021	4/2/2022	4/1/2023	3/30/2024
14	4/4/2020	4/10/2021	4/9/2022	4/8/2023	4/6/2024
15	4/11/2020	4/17/2021	4/16/2022	4/15/2023	4/13/2024
16	4/18/2020	4/24/2021	4/23/2022	4/22/2023	4/20/2024
17	4/25/2020	5/1/2021	4/30/2022	4/29/2023	4/27/2024
18	5/2/2020	5/8/2021	5/7/2022	5/6/2023	5/4/2024
19	5/9/2020	5/15/2021	5/14/2022	5/13/2023	5/11/2024
20	5/16/2020	5/22/2021	5/21/2022	5/20/2023	5/18/2024
21	5/23/2020	5/29/2021	5/28/2022	5/27/2023	5/25/2024
22	5/30/2020	6/5/2021	6/4/2022	6/3/2023	6/1/2024
23	6/6/2020	6/12/2021	6/11/2022	6/10/2023	6/8/2024
24	6/13/2020	6/19/2021	6/18/2022	6/17/2023	6/15/2024
25	6/20/2020	6/26/2021	6/25/2022	6/24/2023	6/22/2024
26	6/27/2020	7/3/2021	7/2/2022	7/1/2023	6/29/2024
27	7/4/2020	7/10/2021	7/9/2022	7/8/2023	7/6/2024
28	7/11/2020	7/17/2021	7/16/2022	7/15/2023	7/13/2024
29	7/18/2020	7/24/2021	7/23/2022	7/22/2023	7/20/2024
30	7/25/2020	7/31/2021	7/30/2022	7/29/2023	7/27/2024
31	8/1/2020	8/7/2021	8/6/2022	8/5/2023	8/3/2024
32	8/8/2020	8/14/2021	8/13/2022	8/12/2023	8/10/2024
33	8/15/2020	8/21/2021	8/20/2022	8/19/2023	8/17/2024
34	8/22/2020	8/28/2021	8/27/2022	8/26/2023	8/24/2024
35	8/29/2020	9/4/2021	9/3/2022	9/2/2023	8/31/2024
36	9/5/2020	9/11/2021	9/10/2022	9/9/2023	9/7/2024
37	9/12/2020	9/18/2021	9/17/2022	9/16/2023	9/14/2024
38	9/19/2020	9/25/2021	9/24/2022	9/23/2023	9/21/2024
39	9/26/2020	10/2/2021	10/1/2022	9/30/2023	9/28/2024
40	10/3/2020	10/9/2021	10/8/2022	10/7/2023	10/5/2024
41	10/10/2020	10/16/2021	10/15/2022	10/14/2023	10/12/2024
42	10/17/2020	10/23/2021	10/22/2022	10/21/2023	10/19/2024
43	10/24/2020	10/30/2021	10/29/2022	10/28/2023	10/26/2024
44	10/31/2020	11/6/2021	11/5/2022	11/4/2023	11/2/2024
45	11/7/2020	11/13/2021	11/12/2022	11/11/2023	11/9/2024
46	11/14/2020	11/20/2021	11/19/2022	11/18/2023	11/16/2024
47	11/21/2020	11/27/2021	11/26/2022	11/25/2023	11/23/2024
48	11/28/2020	12/4/2021	12/3/2022	12/2/2023	11/30/2024
49	12/5/2020	12/11/2021	12/10/2022	12/9/2023	12/7/2024
50	12/12/2020	12/18/2021	12/17/2022	12/16/2023	12/14/2024
51	12/19/2020	12/25/2021	12/24/2022	12/23/2023	12/21/2024
52	12/26/2020	1/1/2022	12/31/2022	12/30/2023	12/28/2024
53	01/02/2021				

HAWAII STATE DEPARTMENT OF HEALTH
DISEASE OUTBREAK CONTROL DIVISION

Influenza/Respiratory Disease Surveillance Report

Morbidity and Mortality Weekly Report (MMWR)[1]

WEEK 45: NOVEMBER 5, 2023– NOVEMBER 11, 2023

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 2023–2024 influenza season which began the week ending October 7, 2023 (week 40[1] 2023) and will end the week ending on September 28, 2024 (week 39 2024).

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	4.0%	Higher than the previous week. Comparable to the Hawaii's historical baseline, higher than the national ILI rate, and higher than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 4 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	14.4%	Higher than the previous week. This number means that many, if not all, of the 85.6% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	13.5%	

Surveillance for Severe Outcomes		
Pneumonia, influenza and COVID-19 (PIC) mortality rate	5.7%	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	0 influenza-associated pediatric deaths have been reported from Hawaii this season to date.

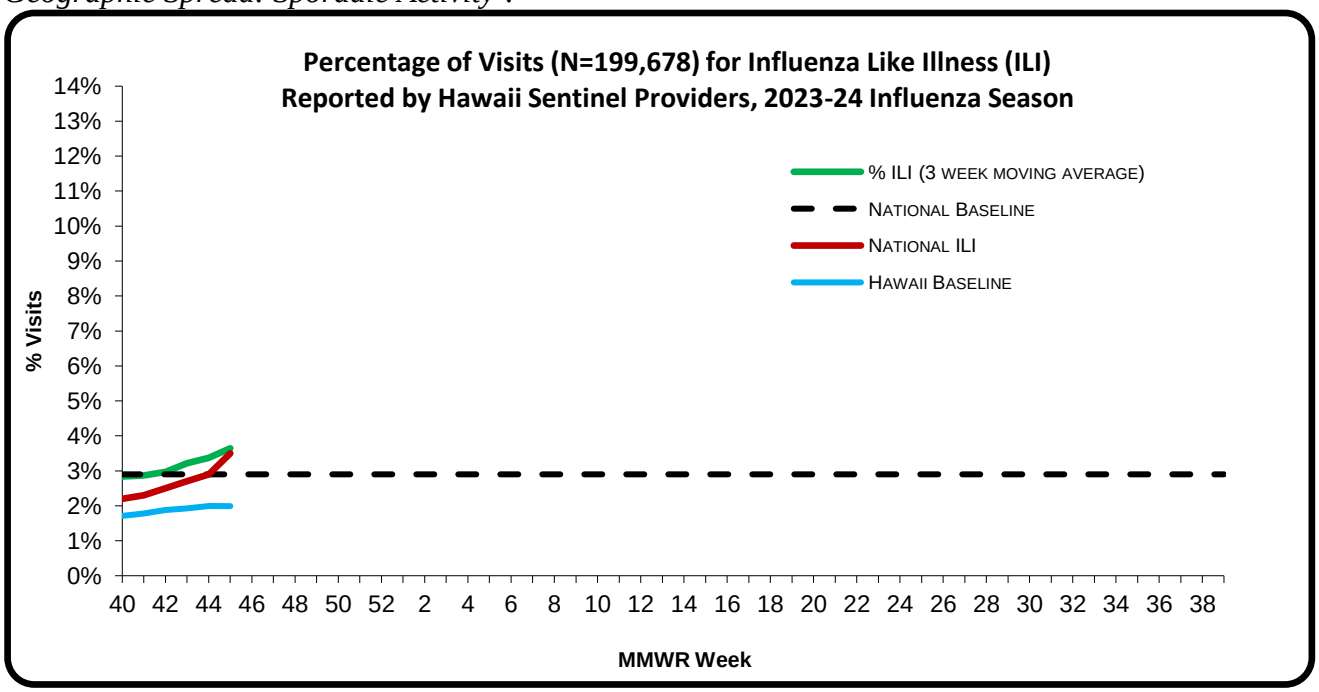
[1] MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week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

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. 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:

- ***4.0**% (season to date: **3.3**%) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.*
- *ILI visits were comparable to the historical baseline in Hawaii[2,3] (i.e., inside the 95% confidence interval).*
- *Hawaii's ILI outpatient visits were higher than the national baseline (**2.9%**)[4] (i.e., outside the 95% confidence interval) and higher than the national ILI rate (**3.5%**) (i.e. outside the 95% confidence interval).*
- *ILI activity level: Low*[5]
- *Geographic Spread: Sporadic Activity*[6].



[2] The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022 and 2022-2023).

[3] 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.

[4] 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.

[5] There are 10 activity levels classified as minimal (levels 1-3), low (levels 4-5), moderate (levels 6-7), and high (levels 8-10).

[6] 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[7] 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*).

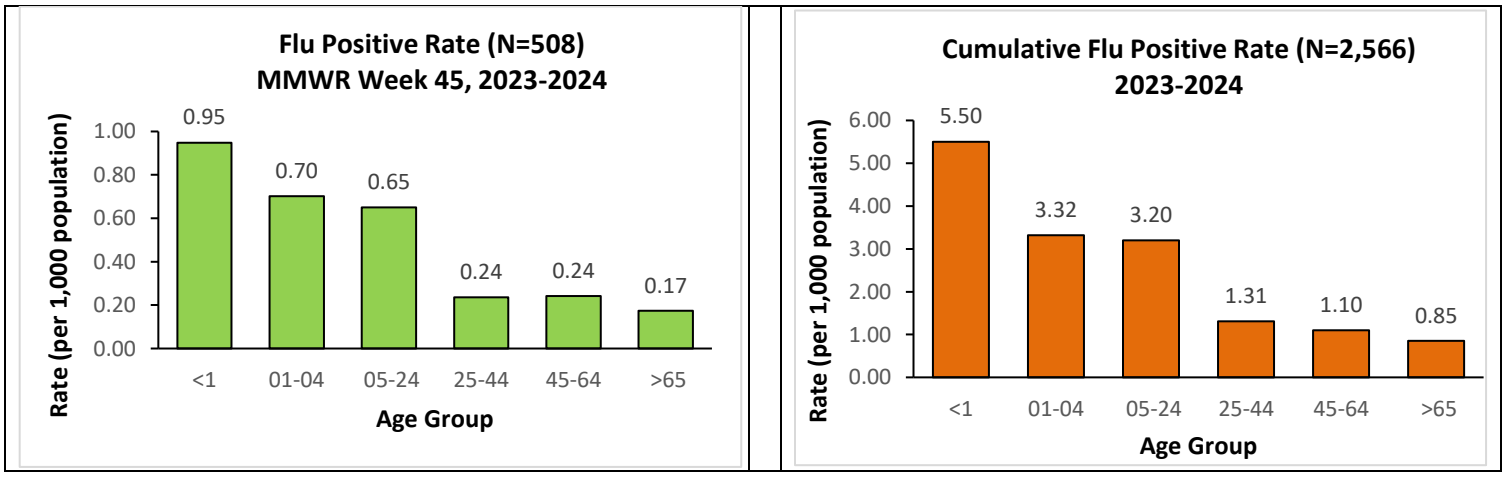
A. INFLUENZA:

- The following reflects laboratory findings for week 45 of the 2023–24 influenza season:
  - *A total of **3,526** specimens have been tested statewide for influenza viruses (positive: 508 [**14.4%**]). (Season to date: 19,029 tested (**13.5%** positive])*
    - *302 (8.6%) were screened only by rapid antigen tests with no confirmatory testing.*
    - *3,224 (91.4%) underwent confirmatory testing (either RT-PCR or viral culture).*
    - *3.018 (85.6%) were negative.*

Influenza type	*Current week 45 (%)*	*Season to date (%)*[8]
Influenza A (H1)[9]	*11 (2.2)*	*75 (2.9)*
Influenza A (H3)	*1 (0.2)*	*20 (0.8)*
Influenza A no subtyping	*398 (78.4)*	*1,797 (70.0)*
Influenza B (Yamagata)	*0 (0.0)*	*0 (0.0)*
Influenza B (Victoria)	*1 (0.2)*	*37 (1.4)*
Influenza B no genotyping	*97 (19.1)*	*637 (24.8*

1. AGE DISTRIBUTION

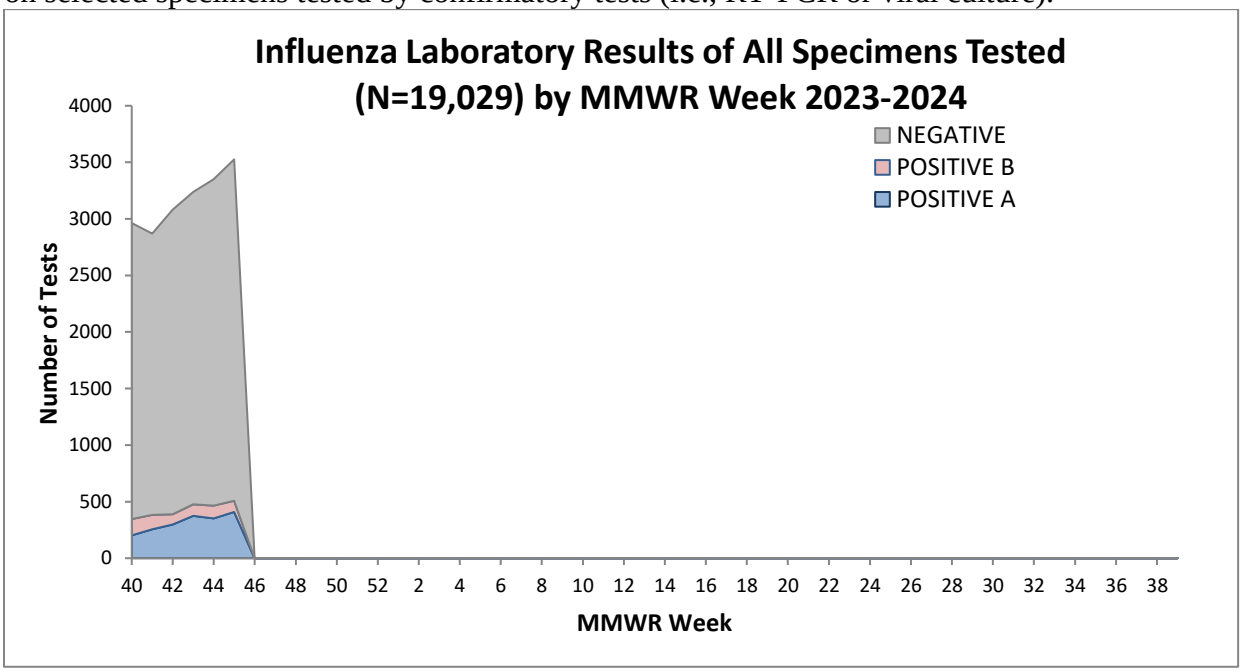
The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2023–24 influenza season.[10]

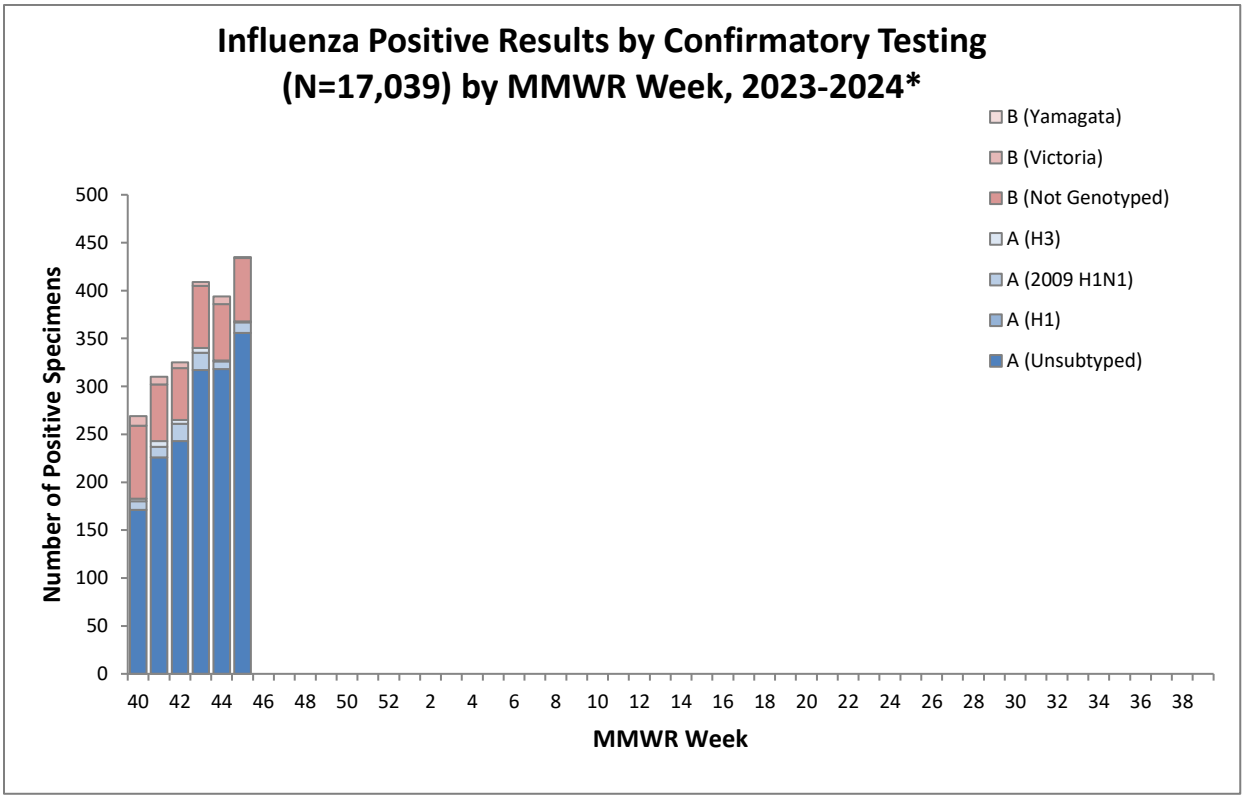


[7] Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.
[8] Influenza coding were updated to reflect a more accurate count.
[9] All influenza A H1 viruses detected this season have been 2009 H1N1.
[10] This represents an estimate of population-based rates based on available data.

2. LABORATORY TESTING

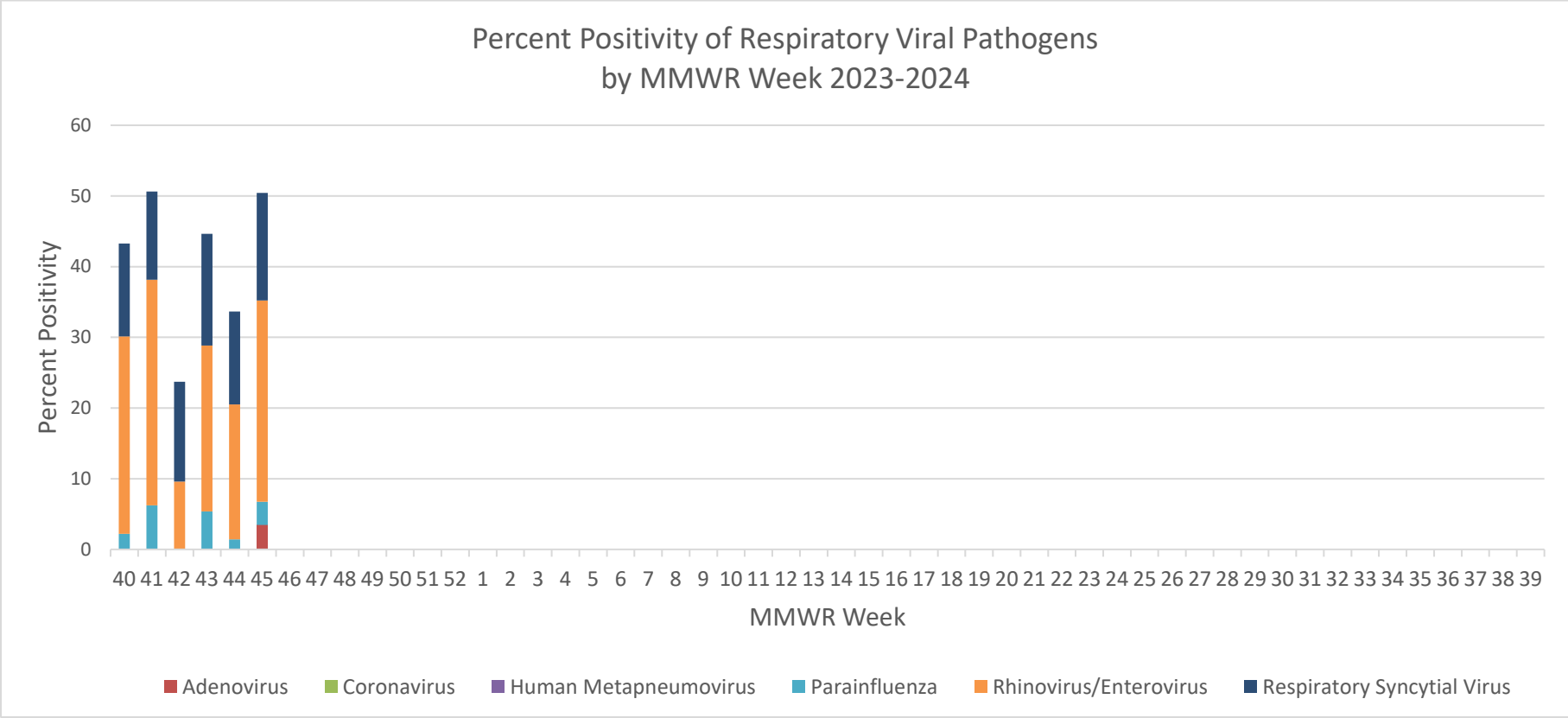
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2023–2024 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).





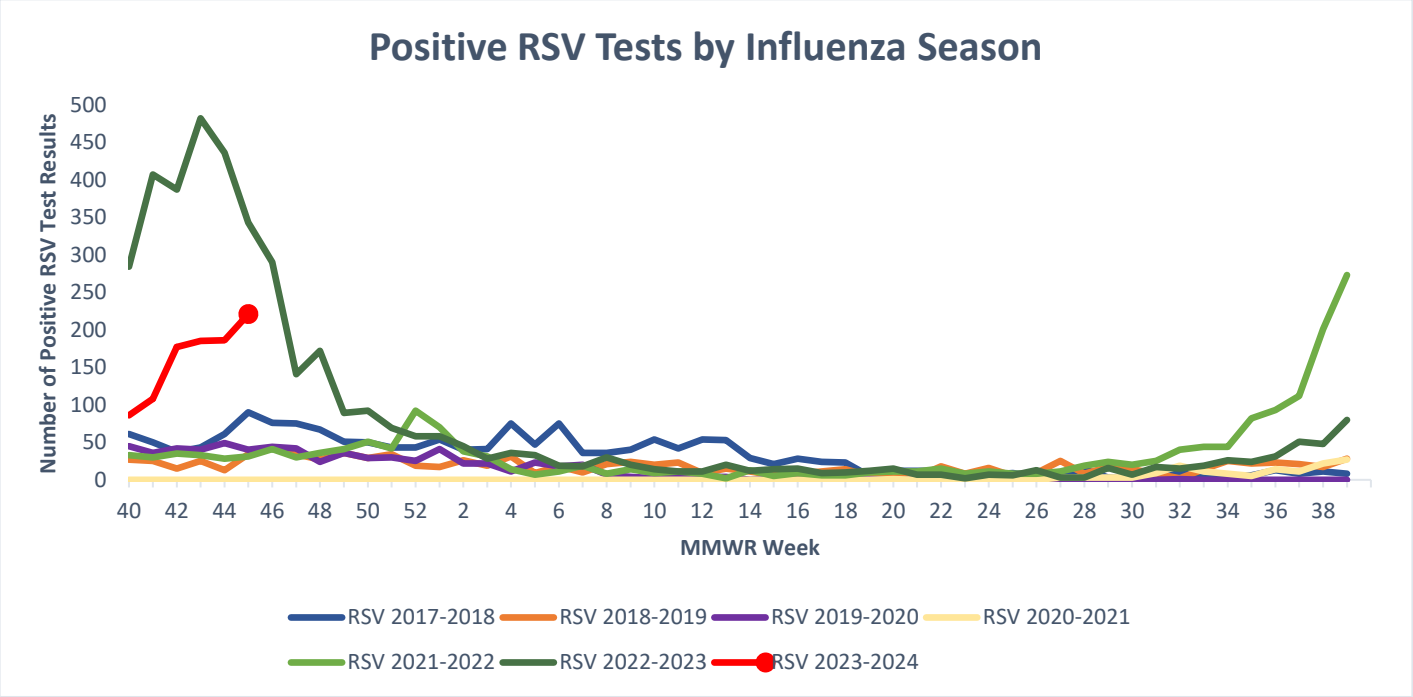
** Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.*

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**.

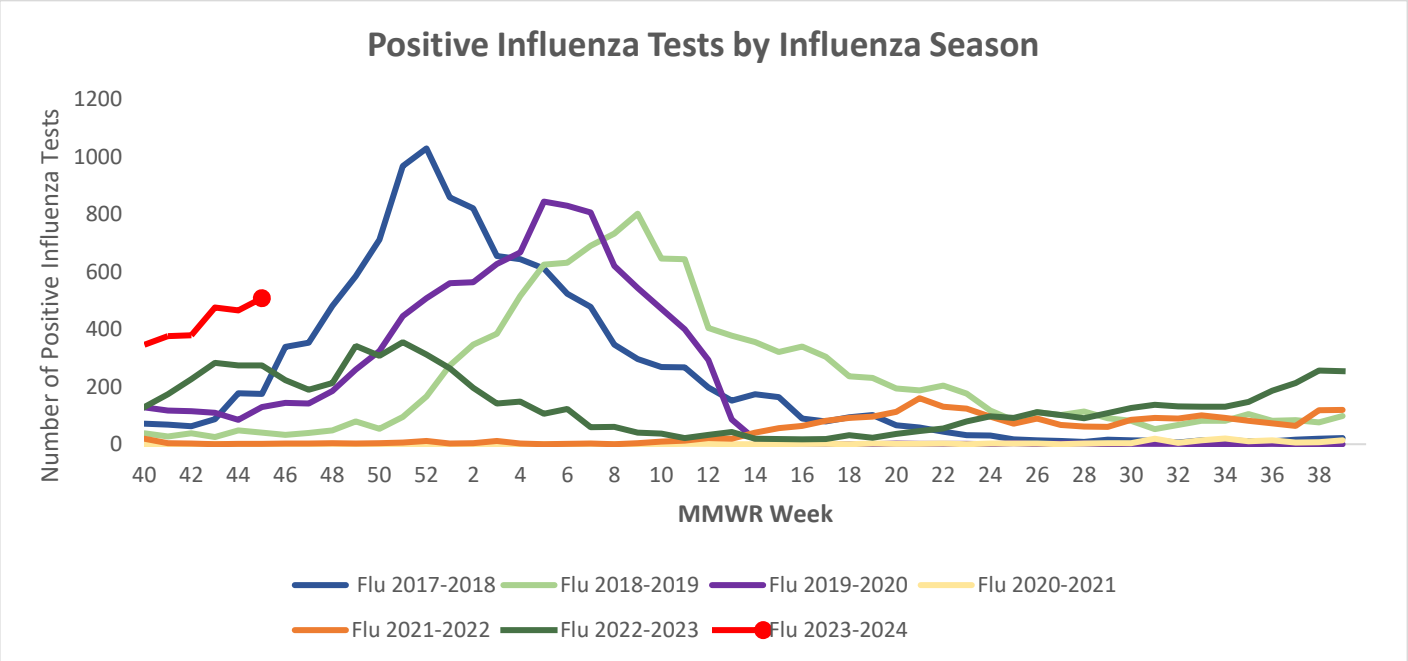


* *The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).*

RESPIRATORY SYNCYTIAL VIRUS (RSV) POSITIVE TEST RESULTS BY INFLUENZA SEASON: RSV case counts are lower than the previous season but is currently trending upwards for the 2023-2024 season. Of note, significantly more tests for RSV are being performed than in pre-COVID-19 seasons.



INFLUENZA POSITIVE TEST RESULTS BY INFLUENZA SEASON: Influenza cases appear to have increased earlier than past seasons in the 2023-2024 season, but it is not yet known whether case numbers will reach a peak similar to pre-COVID-19 seasons.



C. COVID-19 SENTINEL SURVEILLANCE: Due to the low volume of samples currently available through the influenza surveillance system, the COVID-19 sentinel surveillance data may not be accurately portraying COVID-19 activity in our communities. Reporting of the COVID-19 Sentinel Surveillance data will be paused while HODH re-evaluates the program to ensure that the reported data are accurate and representative.

HDOH is continuing to monitor COVID-19 activity throughout the state. To learn more, please visit the Hawaii's COVID-19 data website (*here*). For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website (*here*).

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

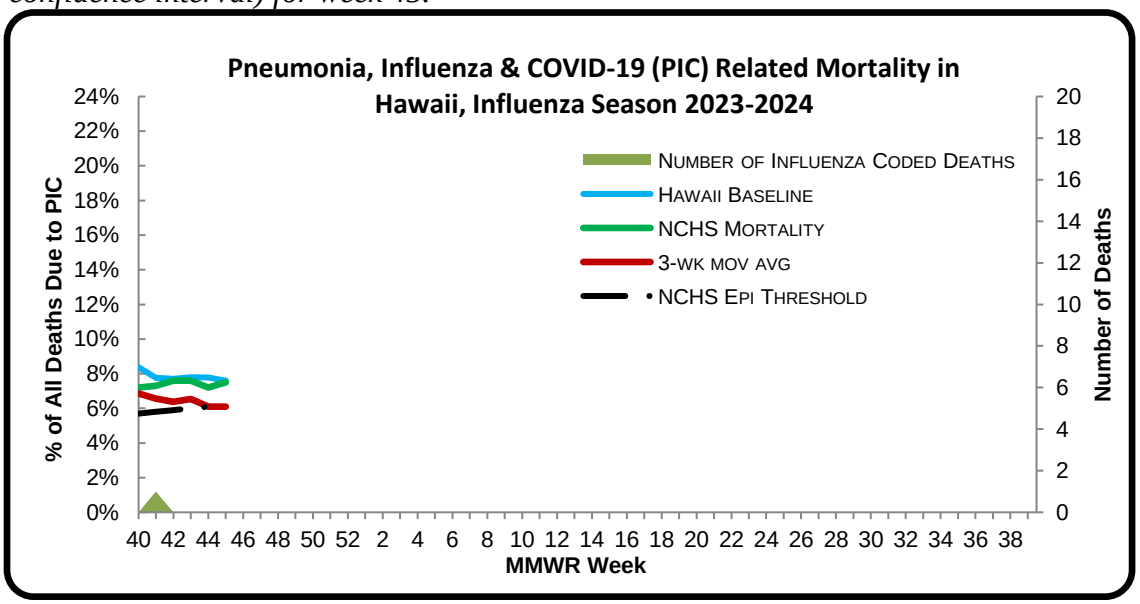
P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Due to the ongoing COVID-19 pandemic, CDC included total deaths from COVID-19 by age group to the death data. Previous studies had suggested that P&I is a good indicator of influenza-related deaths; however, data has shown that pneumonia deaths associated with influenza is now being impacted by COVID-19 related pneumonia. Due to this, CDC had added COVID-19 deaths into P&I to create the PIC (pneumonia, influenza, and/or COVID-19) classification.

To standardize Hawaii's influenza surveillance with CDC influenza surveillance guidelines, PIC deaths will be reported in lieu of P&I. Hawaii's baseline will begin to include PIC deaths starting from 2019-2020 flu season.

For **week 45** of the current influenza season:

- ***5.7%*** *of all deaths that occurred in Hawaii during week 45 were related to pneumonia, influenza or COVID-19 (PIC)*[11]*. For the current season (season to date:* ***6.7%*** *there have been 1,726 deaths from any cause, 116 of which were due to PIC*[12]*.*
- *The PIC rate was comparable to the historical baseline in Hawaii*[13] *(i.e., inside the 95% confidence interval).*

The Hawaii PIC rate was comparable to the CDC's National Center for Health Statistics (NCHS) PIC mortality[14] *(**7.5%**) (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 45.*



[11] The percent of deaths due to PIC displayed on the graph is the 3-week moving averages.

[12] PIC data reflect 57% of the data reported for the MMWR week. Changes to data are expected when PIC data reaches 100% completion.

[13] The Hawaii historical baseline (%PIC) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, and 2022-2023).

[14] 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, influenza, or COVID-19 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 COVID-19 death counts reported by NCHS are provisional and will not match counts in other sources, such as media reports or numbers from health departments. COVID-19 deaths may be classified or defined differently in various reporting and surveillance systems. The percentage of deaths due to pneumonia, influenza, and COVID-19 (PIC) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

INFLUENZA-ASSOCIATED PEDIATRIC DEATHS[15]:

- No new influenza-associated pediatric death was reported to Hawaii. There have been zero influenza-associated pediatric deaths reported in Hawaii during the 2023–2024 season.
- Nationally, no new influenza-associated pediatric deaths were reported to CDC during week 45. (2023-2024 season total: 1).

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 2023–2024 influenza season.*
- *One new human infection with novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (1), have been reported during the 2023–2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Netherlands during the 2023-2024 influenza season.*

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 15th, 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 **November 1,**

[15] 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.

2023. Two human cases of influenza A(H5N1) were reported to WHO by Cambodia. Both cases were hospitalized and passed away. Both cases had exposure to sick and dead chickens 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 2023–2024 Influenza Vaccine**:**

The composition of the 2023–2024 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2023–2024 influenza trivalent vaccine contain an influenza A/Wisconsin/67/2022 (H1N1)pdm09-like virus, influenza A/Darwin/6/2021 (H3N2)-like virus, and influenza B/Austria/1359417/2021-like virus (B/Victoria lineage). 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/Wisconsin/67/2022 (H1N1)pdm09-like virus, an influenza A/Darwin/6/2021 (H3N2)-like virus, an influenza B/Austria/1359417/2021-like virus (B/Victoria lineage), 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.

Centers for Disease Control and Prevention	General Influenza National ILI and P&I Data Vaccine Virus Selection CDC Web Tool for Respiratory Viruses
Flu.gov	General Influenza Information
HDOH Flu and Pneumonia	General Influenza Surveillance To find out more information or join the sentinel physician program, email the Influenza Surveillance Coordinator
World Health Organization	General Global and Local Influenza Avian Influenza

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	2020	2021	2022	2023	2024
1	1/4/2020	1/9/2021	1/8/2022	1/7/2023	1/6/2024
2	1/11/2020	1/16/2021	1/15/2022	1/14/2023	1/13/2024
3	1/18/2020	1/23/2021	1/22/2022	1/21/2023	1/20/2024
4	1/25/2020	1/30/2021	1/29/2022	1/28/2023	1/27/2024
5	2/1/2020	2/6/2021	2/5/2022	2/4/2023	2/3/2024
6	2/8/2020	2/13/2021	2/12/2022	2/11/2023	2/10/2024
7	2/15/2020	2/20/2021	2/19/2022	2/18/2023	2/17/2024
8	2/22/2020	2/27/2021	2/26/2022	2/25/2023	2/24/2024
9	2/29/2020	3/6/2021	3/5/2022	3/4/2023	3/2/2024
10	3/7/2020	3/13/2021	3/12/2022	3/11/2023	3/9/2024
11	3/14/2020	3/20/2021	3/19/2022	3/18/2023	3/16/2024
12	3/21/2020	3/27/2021	3/26/2022	3/25/2023	3/23/2024
13	3/28/2020	4/3/2021	4/2/2022	4/1/2023	3/30/2024
14	4/4/2020	4/10/2021	4/9/2022	4/8/2023	4/6/2024
15	4/11/2020	4/17/2021	4/16/2022	4/15/2023	4/13/2024
16	4/18/2020	4/24/2021	4/23/2022	4/22/2023	4/20/2024
17	4/25/2020	5/1/2021	4/30/2022	4/29/2023	4/27/2024
18	5/2/2020	5/8/2021	5/7/2022	5/6/2023	5/4/2024
19	5/9/2020	5/15/2021	5/14/2022	5/13/2023	5/11/2024
20	5/16/2020	5/22/2021	5/21/2022	5/20/2023	5/18/2024
21	5/23/2020	5/29/2021	5/28/2022	5/27/2023	5/25/2024
22	5/30/2020	6/5/2021	6/4/2022	6/3/2023	6/1/2024
23	6/6/2020	6/12/2021	6/11/2022	6/10/2023	6/8/2024
24	6/13/2020	6/19/2021	6/18/2022	6/17/2023	6/15/2024
25	6/20/2020	6/26/2021	6/25/2022	6/24/2023	6/22/2024
26	6/27/2020	7/3/2021	7/2/2022	7/1/2023	6/29/2024
27	7/4/2020	7/10/2021	7/9/2022	7/8/2023	7/6/2024
28	7/11/2020	7/17/2021	7/16/2022	7/15/2023	7/13/2024
29	7/18/2020	7/24/2021	7/23/2022	7/22/2023	7/20/2024
30	7/25/2020	7/31/2021	7/30/2022	7/29/2023	7/27/2024
31	8/1/2020	8/7/2021	8/6/2022	8/5/2023	8/3/2024
32	8/8/2020	8/14/2021	8/13/2022	8/12/2023	8/10/2024
33	8/15/2020	8/21/2021	8/20/2022	8/19/2023	8/17/2024
34	8/22/2020	8/28/2021	8/27/2022	8/26/2023	8/24/2024
35	8/29/2020	9/4/2021	9/3/2022	9/2/2023	8/31/2024
36	9/5/2020	9/11/2021	9/10/2022	9/9/2023	9/7/2024
37	9/12/2020	9/18/2021	9/17/2022	9/16/2023	9/14/2024
38	9/19/2020	9/25/2021	9/24/2022	9/23/2023	9/21/2024
39	9/26/2020	10/2/2021	10/1/2022	9/30/2023	9/28/2024
40	10/3/2020	10/9/2021	10/8/2022	10/7/2023	10/5/2024
41	10/10/2020	10/16/2021	10/15/2022	10/14/2023	10/12/2024
42	10/17/2020	10/23/2021	10/22/2022	10/21/2023	10/19/2024
43	10/24/2020	10/30/2021	10/29/2022	10/28/2023	10/26/2024
44	10/31/2020	11/6/2021	11/5/2022	11/4/2023	11/2/2024
45	11/7/2020	11/13/2021	11/12/2022	11/11/2023	11/9/2024
46	11/14/2020	11/20/2021	11/19/2022	11/18/2023	11/16/2024
47	11/21/2020	11/27/2021	11/26/2022	11/25/2023	11/23/2024
48	11/28/2020	12/4/2021	12/3/2022	12/2/2023	11/30/2024
49	12/5/2020	12/11/2021	12/10/2022	12/9/2023	12/7/2024
50	12/12/2020	12/18/2021	12/17/2022	12/16/2023	12/14/2024
51	12/19/2020	12/25/2021	12/24/2022	12/23/2023	12/21/2024
52	12/26/2020	1/1/2022	12/31/2022	12/30/2023	12/28/2024
53	01/02/2021				

HAWAII STATE DEPARTMENT OF HEALTH
DISEASE OUTBREAK CONTROL DIVISION

Influenza/Respiratory Disease Surveillance Report

Morbidity and Mortality Weekly Report (MMWR)[1]

WEEK 46: NOVEMBER 12, 2023– NOVEMBER 18, 2023

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 2023–2024 influenza season which began the week ending October 7, 2023 (week 40[1] 2023) and will end the week ending on September 28, 2024 (week 39 2024).

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	3.4%	Higher than the previous week. Comparable to the Hawaii's historical baseline, lower than the national ILI rate, and higher than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 4 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	14.7%	Lower than the previous week. This number means that many, if not all, of the 86.3% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	13.5%	

Surveillance for Severe Outcomes		
Pneumonia, influenza and COVID-19 (PIC) mortality rate	3.9%	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	2	0 influenza-associated pediatric deaths have been reported from Hawaii this season to date.

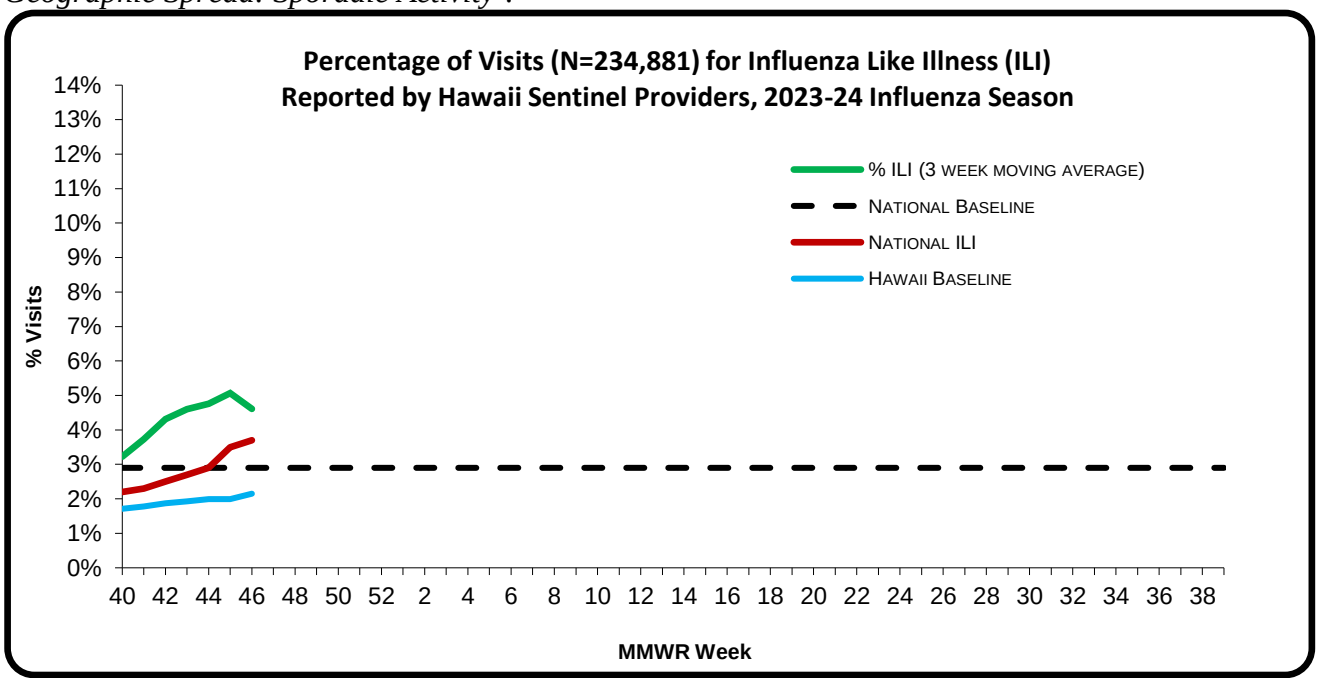
[1] MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week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

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. 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:

- ***3.4****% (season to date:* ***4.5****%) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.*
- *ILI visits were comparable to the historical baseline in Hawaii[2,3] (i.e., inside the 95% confidence interval).*
- *Hawaii's ILI outpatient visits were higher than the national baseline (**2.9%**)[4] (i.e., outside the 95% confidence interval) and lower than the national ILI rate (**3.9%**) (i.e. outside the 95% confidence interval).*
- *ILI activity level: Low*[5]
- *Geographic Spread: Sporadic Activity*[6].



[2] The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022 and 2022-2023).

[3] 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.

[4] 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.

[5] There are 10 activity levels classified as minimal (levels 1-3), low (levels 4-5), moderate (levels 6-7), and high (levels 8-10).

[6] 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[7] 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*).

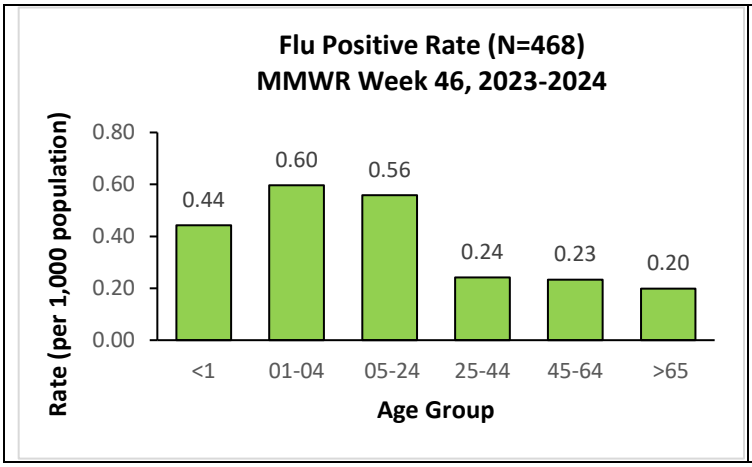
A. INFLUENZA:

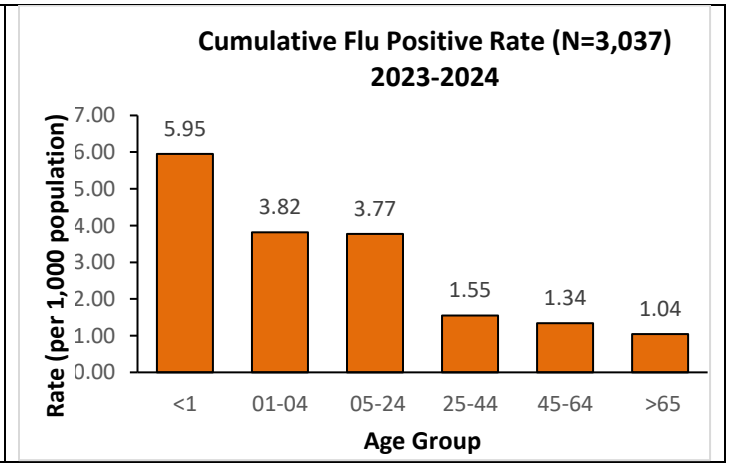
- The following reflects laboratory findings for week 46 of the 2023–24 influenza season:
  - *A total of **3,423** specimens have been tested statewide for influenza viruses (positive: 468 [**14.7%**]). (Season to date: 22,455 tested (**13.5%** positive])*
    - *318 (9.3%) were screened only by rapid antigen tests with no confirmatory testing.*
    - *3,105 (90.7%) underwent confirmatory testing (either RT-PCR or viral culture).*
    - *2,955 (86.3%) were negative.*

Influenza type	*Current week 46 (%)*	*Season to date (%)*[8]
Influenza A (H1)[9]	*22 (4.7)*	*108 (3.6)*
Influenza A (H3)	*3 (0.6)*	*24 (0.8)*
Influenza A no subtyping	*367 (78.4)*	*2,153 (70.9)*
Influenza B (Yamagata)	*0 (0.0)*	*0 (0.0)*
Influenza B (Victoria)	*5 (1.1)*	*44 (1.4)*
Influenza B no genotyping	*71 (15.2)*	*708 (23.3)*

1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2023–24 influenza season.[10]

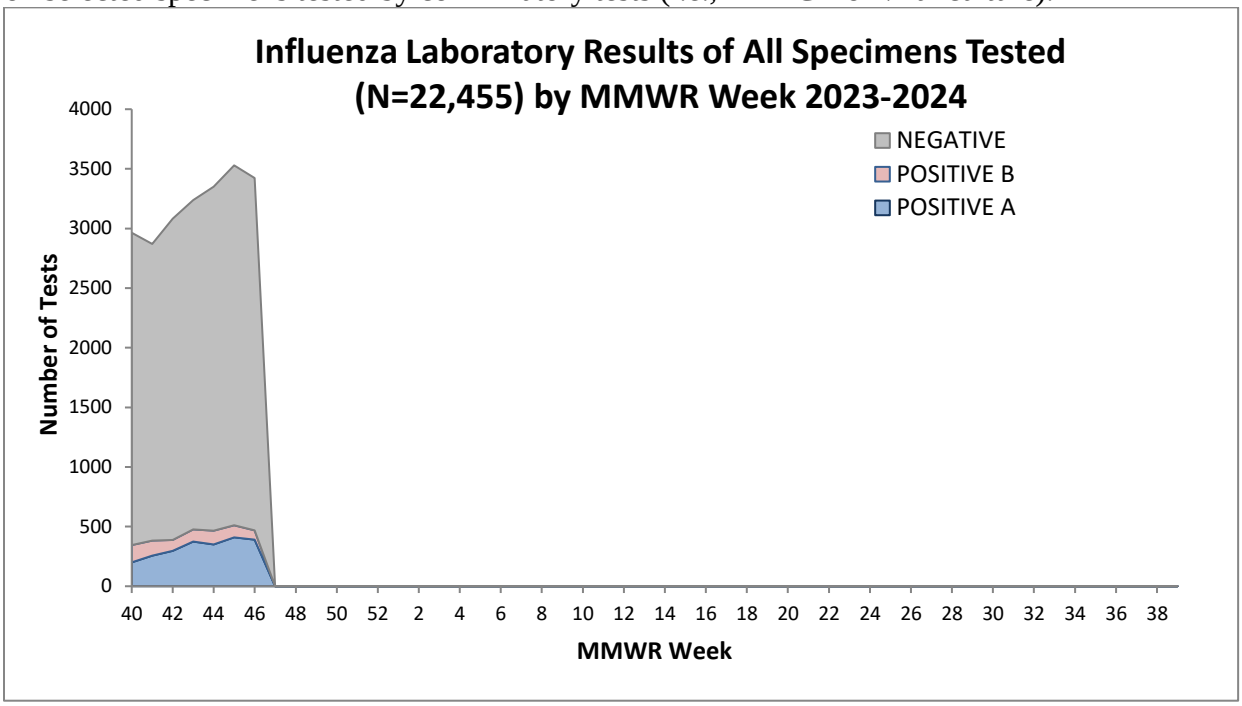


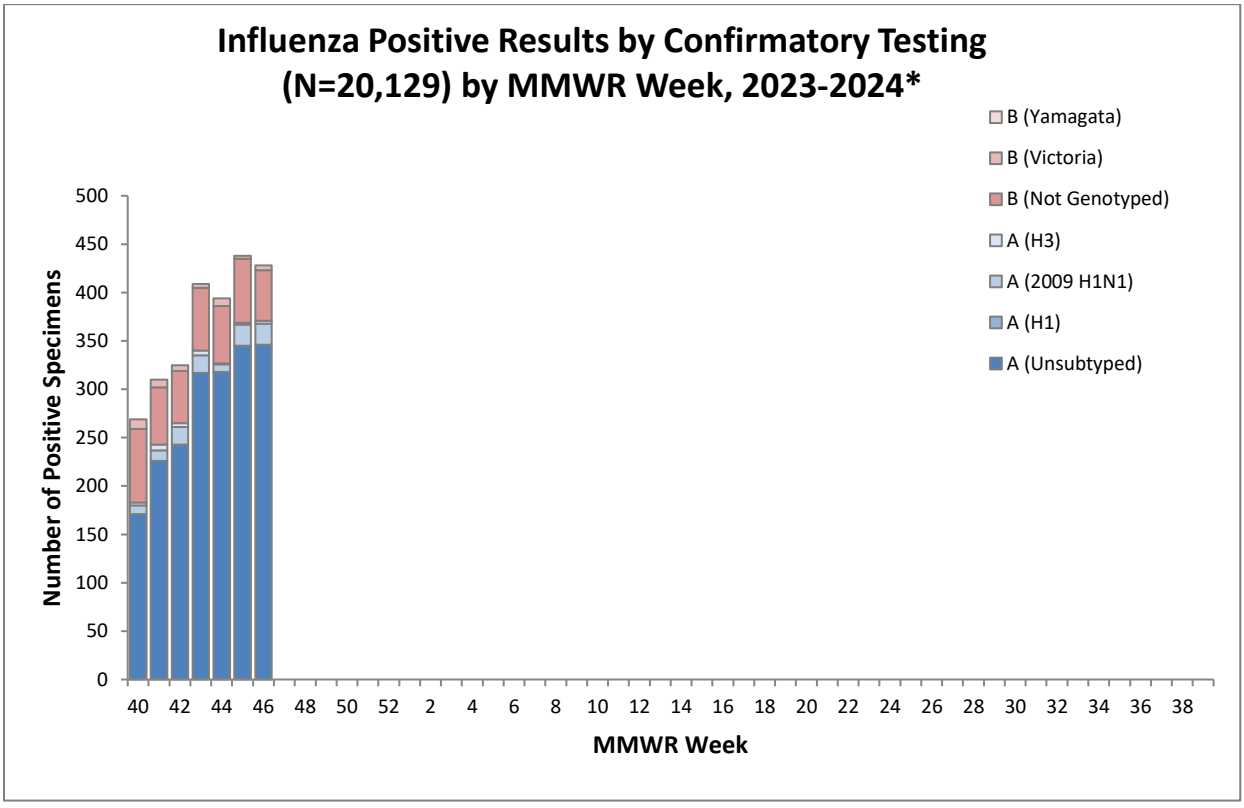


[7] Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.
[8] Influenza coding were updated to reflect a more accurate count.
[9] All influenza A H1 viruses detected this season have been 2009 H1N1.
[10] This represents an estimate of population-based rates based on available data.

2. LABORATORY TESTING

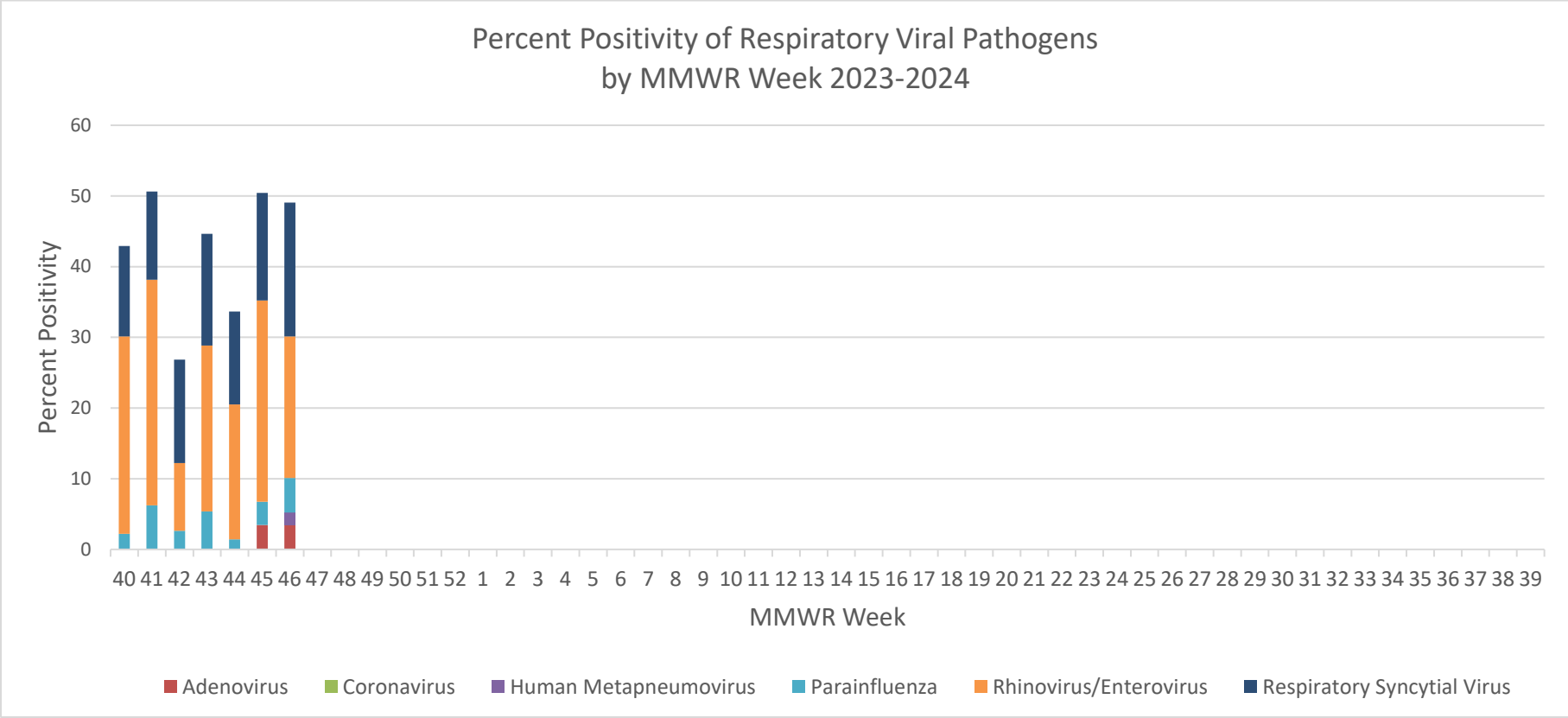
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2023–2024 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).





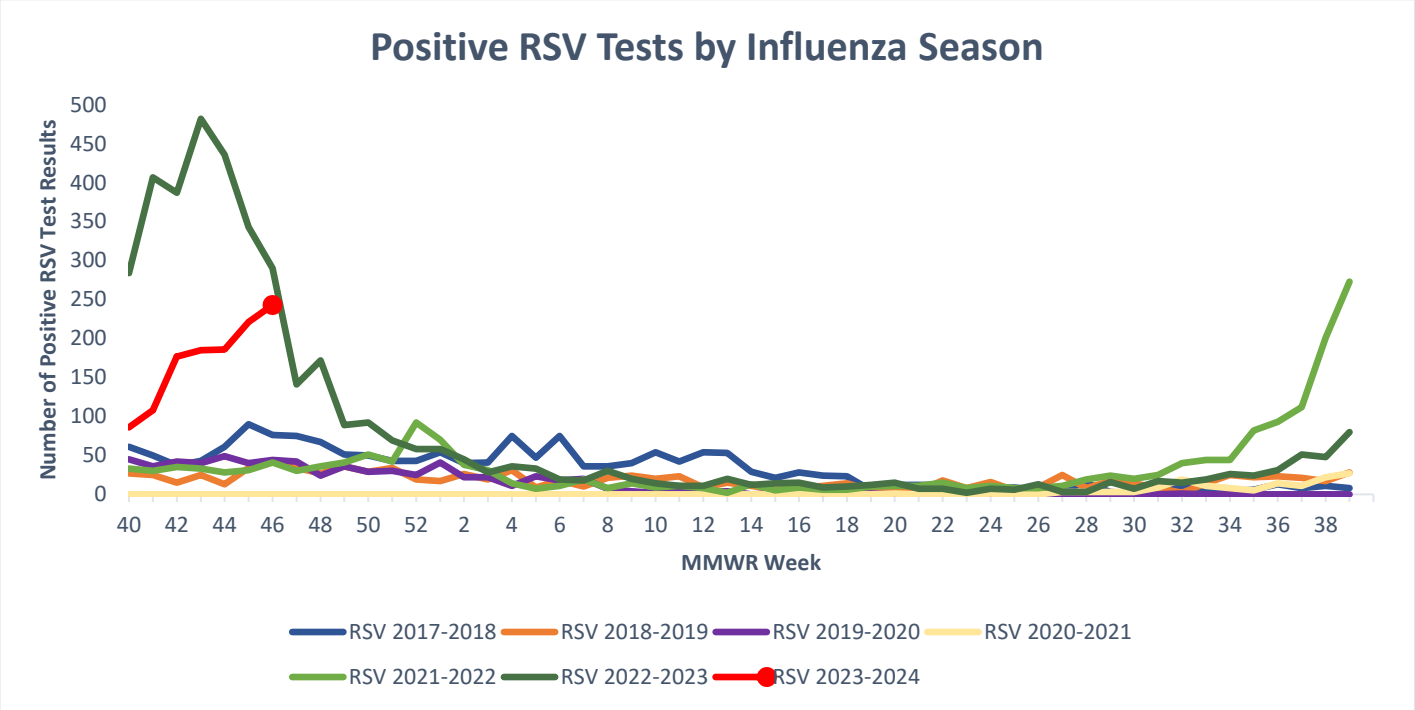
** Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.*

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**.

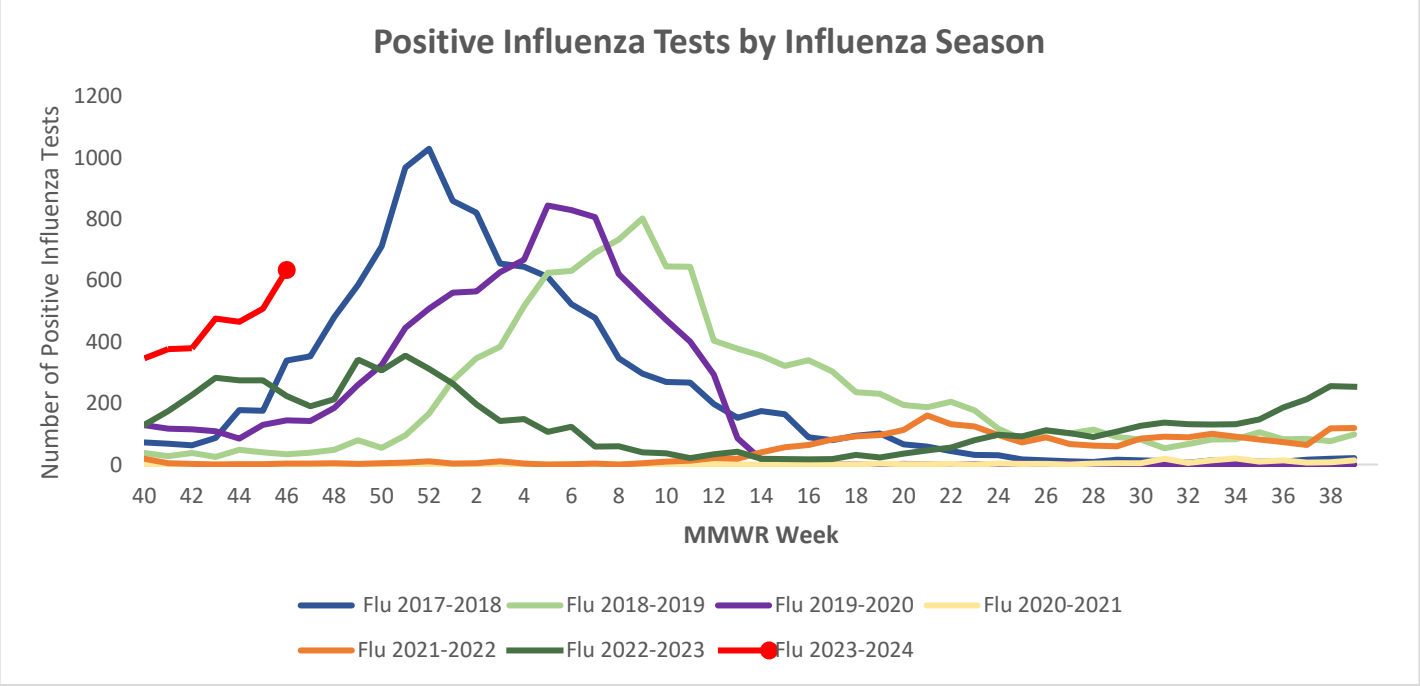


* *The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).*

RESPIRATORY SYNCYTIAL VIRUS (RSV) POSITIVE TEST RESULTS BY INFLUENZA SEASON: RSV case counts are lower than the previous season but is currently trending upwards for the 2023-2024 season. Of note, significantly more tests for RSV are being performed than in pre-COVID-19 seasons.



INFLUENZA POSITIVE TEST RESULTS BY INFLUENZA SEASON: Influenza cases appear to have increased earlier than past seasons in the 2023-2024 season, but it is not yet known whether case numbers will reach a peak similar to pre-COVID-19 seasons.



C. COVID-19 SENTINEL SURVEILLANCE: Due to the low volume of samples currently available through the influenza surveillance system, the COVID-19 sentinel surveillance data may not be accurately portraying COVID-19 activity in our communities. Reporting of the COVID-19 Sentinel Surveillance data will be paused while HODH re-evaluates the program to ensure that the reported data are accurate and representative.

HDOH is continuing to monitor COVID-19 activity throughout the state. To learn more, please visit the Hawaii's COVID-19 data website (*here*). For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website (*here*).

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

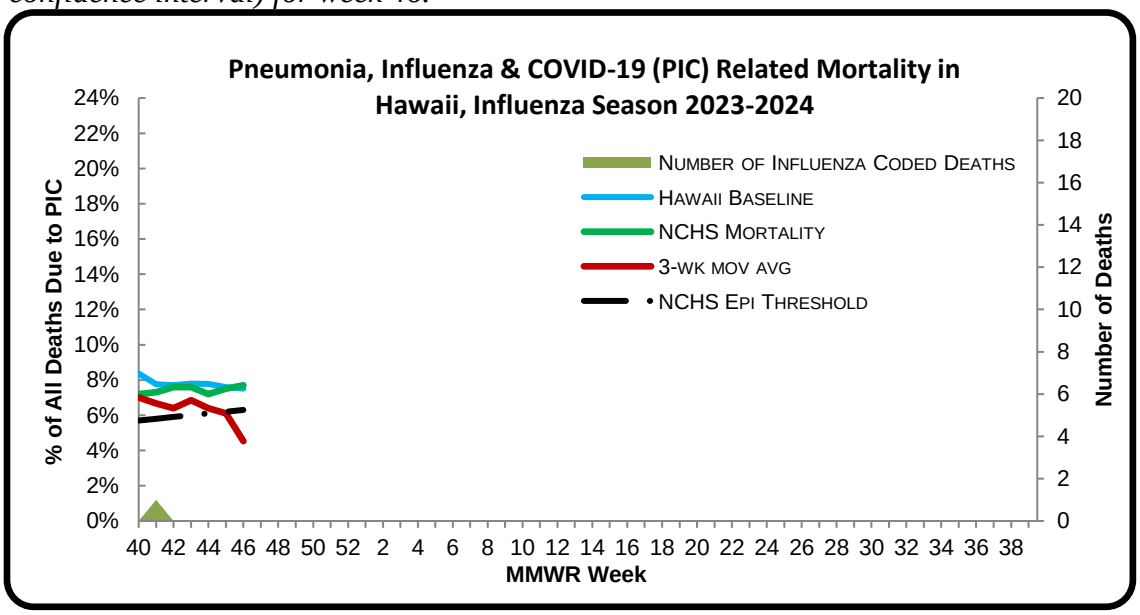
P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Due to the ongoing COVID-19 pandemic, CDC included total deaths from COVID-19 by age group to the death data. Previous studies had suggested that P&I is a good indicator of influenza-related deaths; however, data has shown that pneumonia deaths associated with influenza is now being impacted by COVID-19 related pneumonia. Due to this, CDC had added COVID-19 deaths into P&I to create the PIC (pneumonia, influenza, and/or COVID-19) classification.

To standardize Hawaii's influenza surveillance with CDC influenza surveillance guidelines, PIC deaths will be reported in lieu of P&I. Hawaii's baseline will begin to include PIC deaths starting from 2019-2020 flu season.

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

- ***3.9%*** *of all deaths that occurred in Hawaii during week 46 were related to pneumonia, influenza or COVID-19 (PIC)[11]. For the current season (season to date:* ***6.6%*** *there have been 1,955 deaths from any cause, 129 of which were due to PIC[12].*
- *The PIC rate was comparable to the historical baseline in Hawaii[13] (i.e., inside the 95% confidence interval).*

*The Hawaii PIC rate was comparable to the CDC's National Center for Health Statistics (NCHS) PIC mortality[14] (**7.7%**) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (**6.3**%) (i.e., inside the 95% confidence interval) for week 46.*



[11] The percent of deaths due to PIC displayed on the graph is the 3-week moving averages.

[12] PIC data reflect 37% of the data reported for the MMWR week. Changes to data are expected when PIC data reaches 100% completion.

[13] The Hawaii historical baseline (%PIC) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, and 2022-2023).

[14] 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, influenza, or COVID-19 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 COVID-19 death counts reported by NCHS are provisional and will not match counts in other sources, such as media reports or numbers from health departments. COVID-19 deaths may be classified or defined differently in various reporting and surveillance systems. The percentage of deaths due to pneumonia, influenza, and COVID-19 (PIC) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

INFLUENZA-ASSOCIATED PEDIATRIC DEATHS[15]:

- No new influenza-associated pediatric death was reported to Hawaii. There have been zero influenza-associated pediatric deaths reported in Hawaii during the 2023–2024 season.
- Nationally, two new influenza-associated pediatric deaths were reported to CDC during week 46. (2023-2024 season total: 3).

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 2023–2024 influenza season.*
- *One new human infection with novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (1), have been reported during the 2023–2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Netherlands during the 2023-2024 influenza season.*

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 15th, 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

[15] 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.

influenza viruses and posts current avian influenza case counts (*here*), which were last updated on **November 1, 2023**.

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 2023–2024 Influenza Vaccine**:**

The composition of the 2023–2024 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2023–2024 influenza trivalent vaccine contain an influenza A/Wisconsin/67/2022 (H1N1)pdm09-like virus, influenza A/Darwin/6/2021 (H3N2)-like virus, and influenza B/Austria/1359417/2021-like virus (B/Victoria lineage). 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/Wisconsin/67/2022 (H1N1)pdm09-like virus, an influenza A/Darwin/6/2021 (H3N2)-like virus, an influenza B/Austria/1359417/2021-like virus (B/Victoria lineage), 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.

Centers for Disease Control and Prevention	General Influenza National ILI and P&I Data Vaccine Virus Selection CDC Web Tool for Respiratory Viruses
Flu.gov	General Influenza Information
HDOH Flu and Pneumonia	General Influenza Surveillance To find out more information or join the sentinel physician program, email the Influenza Surveillance Coordinator
World Health Organization	General Global and Local Influenza Avian Influenza

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	2020	2021	2022	2023	2024
1	1/4/2020	1/9/2021	1/8/2022	1/7/2023	1/6/2024
2	1/11/2020	1/16/2021	1/15/2022	1/14/2023	1/13/2024
3	1/18/2020	1/23/2021	1/22/2022	1/21/2023	1/20/2024
4	1/25/2020	1/30/2021	1/29/2022	1/28/2023	1/27/2024
5	2/1/2020	2/6/2021	2/5/2022	2/4/2023	2/3/2024
6	2/8/2020	2/13/2021	2/12/2022	2/11/2023	2/10/2024
7	2/15/2020	2/20/2021	2/19/2022	2/18/2023	2/17/2024
8	2/22/2020	2/27/2021	2/26/2022	2/25/2023	2/24/2024
9	2/29/2020	3/6/2021	3/5/2022	3/4/2023	3/2/2024
10	3/7/2020	3/13/2021	3/12/2022	3/11/2023	3/9/2024
11	3/14/2020	3/20/2021	3/19/2022	3/18/2023	3/16/2024
12	3/21/2020	3/27/2021	3/26/2022	3/25/2023	3/23/2024
13	3/28/2020	4/3/2021	4/2/2022	4/1/2023	3/30/2024
14	4/4/2020	4/10/2021	4/9/2022	4/8/2023	4/6/2024
15	4/11/2020	4/17/2021	4/16/2022	4/15/2023	4/13/2024
16	4/18/2020	4/24/2021	4/23/2022	4/22/2023	4/20/2024
17	4/25/2020	5/1/2021	4/30/2022	4/29/2023	4/27/2024
18	5/2/2020	5/8/2021	5/7/2022	5/6/2023	5/4/2024
19	5/9/2020	5/15/2021	5/14/2022	5/13/2023	5/11/2024
20	5/16/2020	5/22/2021	5/21/2022	5/20/2023	5/18/2024
21	5/23/2020	5/29/2021	5/28/2022	5/27/2023	5/25/2024
22	5/30/2020	6/5/2021	6/4/2022	6/3/2023	6/1/2024
23	6/6/2020	6/12/2021	6/11/2022	6/10/2023	6/8/2024
24	6/13/2020	6/19/2021	6/18/2022	6/17/2023	6/15/2024
25	6/20/2020	6/26/2021	6/25/2022	6/24/2023	6/22/2024
26	6/27/2020	7/3/2021	7/2/2022	7/1/2023	6/29/2024
27	7/4/2020	7/10/2021	7/9/2022	7/8/2023	7/6/2024
28	7/11/2020	7/17/2021	7/16/2022	7/15/2023	7/13/2024
29	7/18/2020	7/24/2021	7/23/2022	7/22/2023	7/20/2024
30	7/25/2020	7/31/2021	7/30/2022	7/29/2023	7/27/2024
31	8/1/2020	8/7/2021	8/6/2022	8/5/2023	8/3/2024
32	8/8/2020	8/14/2021	8/13/2022	8/12/2023	8/10/2024
33	8/15/2020	8/21/2021	8/20/2022	8/19/2023	8/17/2024
34	8/22/2020	8/28/2021	8/27/2022	8/26/2023	8/24/2024
35	8/29/2020	9/4/2021	9/3/2022	9/2/2023	8/31/2024
36	9/5/2020	9/11/2021	9/10/2022	9/9/2023	9/7/2024
37	9/12/2020	9/18/2021	9/17/2022	9/16/2023	9/14/2024
38	9/19/2020	9/25/2021	9/24/2022	9/23/2023	9/21/2024
39	9/26/2020	10/2/2021	10/1/2022	9/30/2023	9/28/2024
40	10/3/2020	10/9/2021	10/8/2022	10/7/2023	10/5/2024
41	10/10/2020	10/16/2021	10/15/2022	10/14/2023	10/12/2024
42	10/17/2020	10/23/2021	10/22/2022	10/21/2023	10/19/2024
43	10/24/2020	10/30/2021	10/29/2022	10/28/2023	10/26/2024
44	10/31/2020	11/6/2021	11/5/2022	11/4/2023	11/2/2024
45	11/7/2020	11/13/2021	11/12/2022	11/11/2023	11/9/2024
46	11/14/2020	11/20/2021	11/19/2022	11/18/2023	11/16/2024
47	11/21/2020	11/27/2021	11/26/2022	11/25/2023	11/23/2024
48	11/28/2020	12/4/2021	12/3/2022	12/2/2023	11/30/2024
49	12/5/2020	12/11/2021	12/10/2022	12/9/2023	12/7/2024
50	12/12/2020	12/18/2021	12/17/2022	12/16/2023	12/14/2024
51	12/19/2020	12/25/2021	12/24/2022	12/23/2023	12/21/2024
52	12/26/2020	1/1/2022	12/31/2022	12/30/2023	12/28/2024
53	01/02/2021				

HAWAII STATE DEPARTMENT OF HEALTH
DISEASE OUTBREAK CONTROL DIVISION

Influenza/Respiratory Disease Surveillance Report

Morbidity and Mortality Weekly Report (MMWR)[1]

WEEK 47: NOVEMBER 19, 2023– NOVEMBER 25, 2023

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 2023–2024 influenza season which began the week ending October 7, 2023 (week 40[1] 2023) and will end the week ending on September 28, 2024 (week 39 2024).

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	3.7%	Higher than the previous week. Comparable to the Hawaii's historical baseline, comparable to the national ILI rate, and higher than the 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	13.3%	Lower than the previous week. This number means that many, if not all, of the 86.7% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	13.5%	

Surveillance for Severe Outcomes		
Pneumonia, influenza and COVID-19 (PIC) mortality rate	7.6%	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	5	0 influenza-associated pediatric deaths have been reported from Hawaii this season to date.

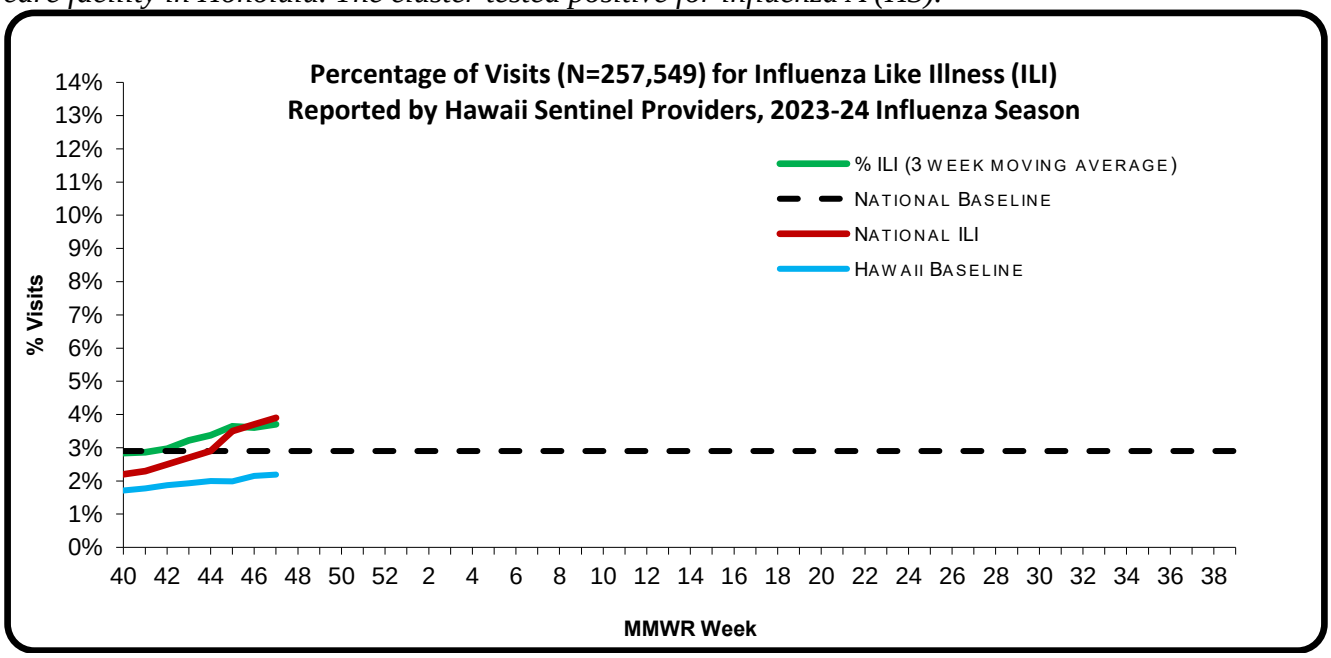
[1] MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week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

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. 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:

- ***3.7%** (season to date: **3.3**%) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.*
- *ILI visits were comparable to the historical baseline in Hawaii[2,3] (i.e., inside the 95% confidence interval).*
- *Hawaii's ILI outpatient visits were higher than the national baseline (**2.9%**)[4] (i.e., outside the 95% confidence interval) and comparable to the national ILI rate (**3.9%**) (i.e. inside the 95% confidence interval).*
- *ILI activity level: Low*[5]
- *Geographic Spread: Sporadic Activity*[6].
- *ILI Cluster Activity: A cluster was reported to HDOH during week 47. The cluster occurred at a long-term care facility in Honolulu. The cluster tested positive for influenza A (H3).*



[2] The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022 and 2022-2023).

[3] 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.

[4] 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.

[5] There are 10 activity levels classified as minimal (levels 1-3), low (levels 4-5), moderate (levels 6-7), and high (levels 8-10).

[6] 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[7] 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*).

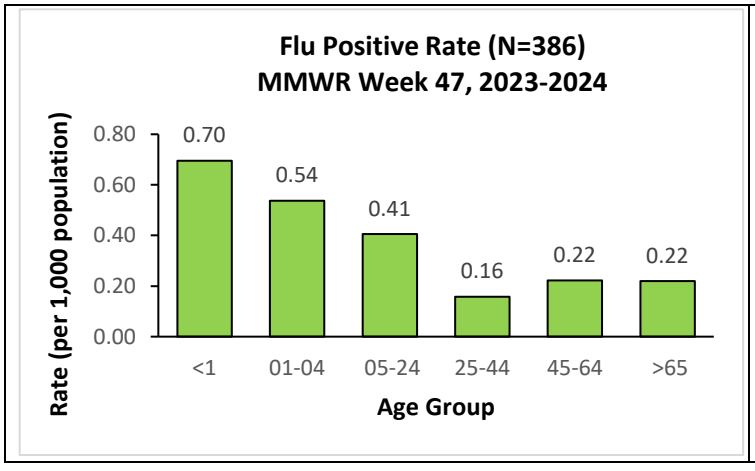
A. INFLUENZA:

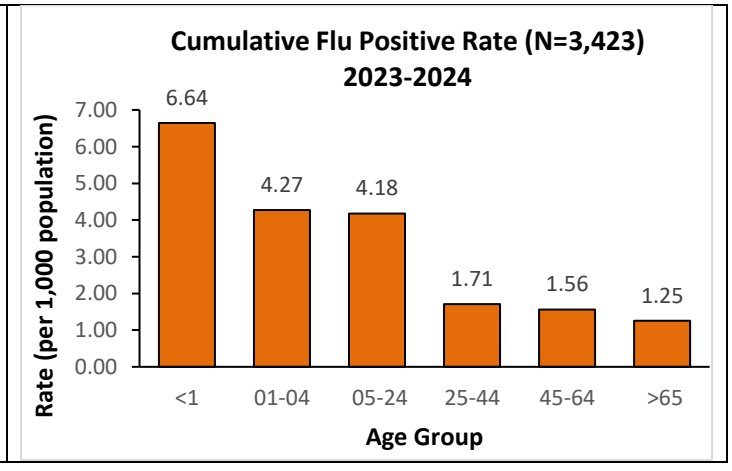
- The following reflects laboratory findings for week 47 of the 2023–24 influenza season:
  - *A total of **2,894** specimens have been tested statewide for influenza viruses (positive: 386 [**13.3%**]). (Season to date: 25,349 tested (**13.5%** positive])*
    - *237 (8.2%) were screened only by rapid antigen tests with no confirmatory testing.*
    - *2,657 (91.8%) underwent confirmatory testing (either RT-PCR or viral culture).*
    - *2,508 (86.7%) were negative.*

Influenza type	*Current week 47 (%)*	*Season to date (%)[8]*
Influenza A (H1)[9]	*8 (2.1)*	*116 (3.4)*
Influenza A (H3)	*7 (1.8)*	*31 (0.9)*
Influenza A no subtyping	*310 (80.3)*	*2,463 (72.0)*
Influenza B (Yamagata)	*0 (0.0)*	*0 (0.0)*
Influenza B (Victoria)	*1 (0.3)*	*45 (1.3)*
Influenza B no genotyping	*60 (15.5)*	*768 (22.4)*

1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2023–24 influenza season.[10]

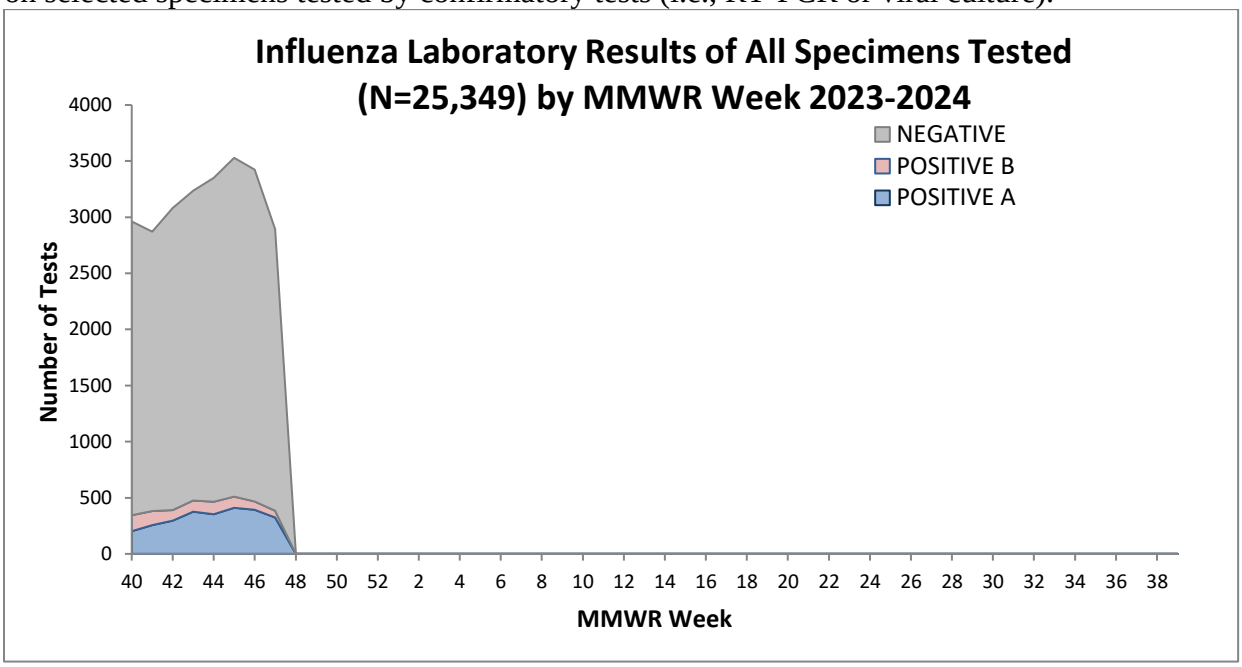


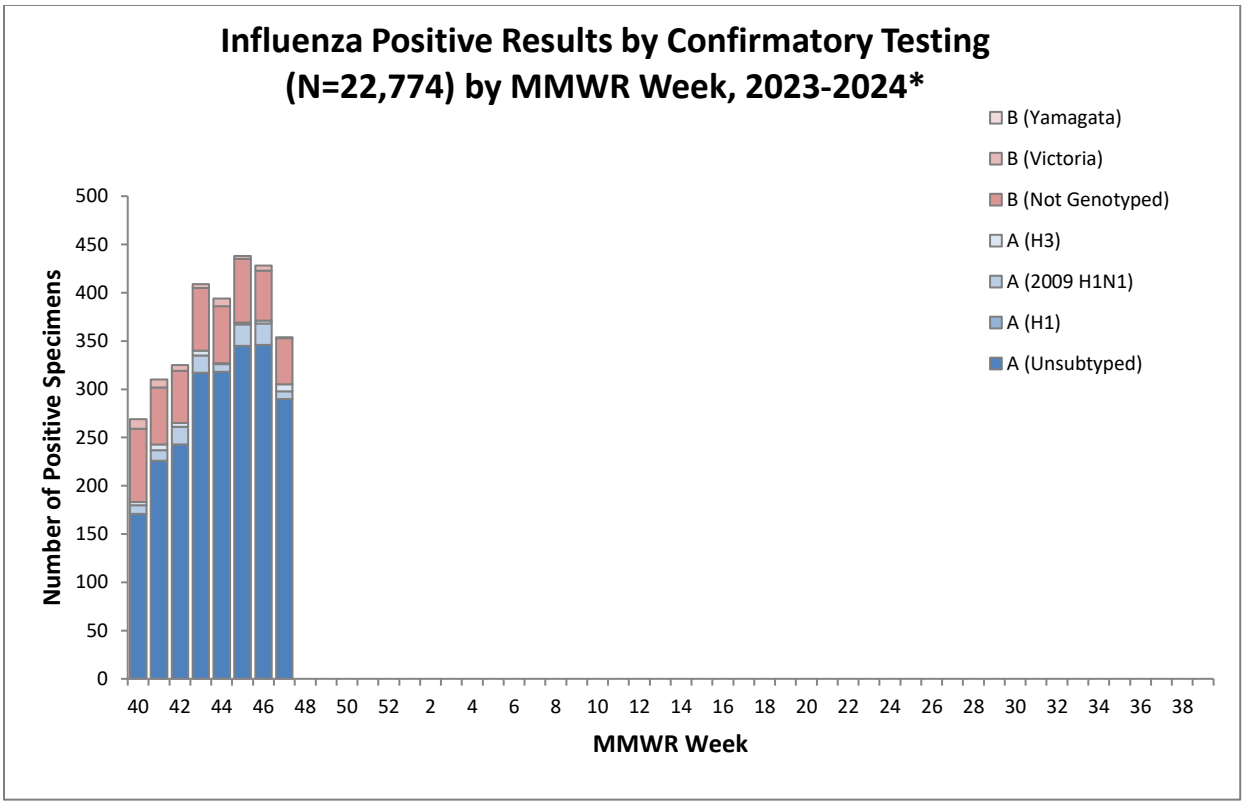


[7] Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.
[8] Influenza coding were updated to reflect a more accurate count.
[9] All influenza A H1 viruses detected this season have been 2009 H1N1.
[10] This represents an estimate of population-based rates based on available data.

2. LABORATORY TESTING

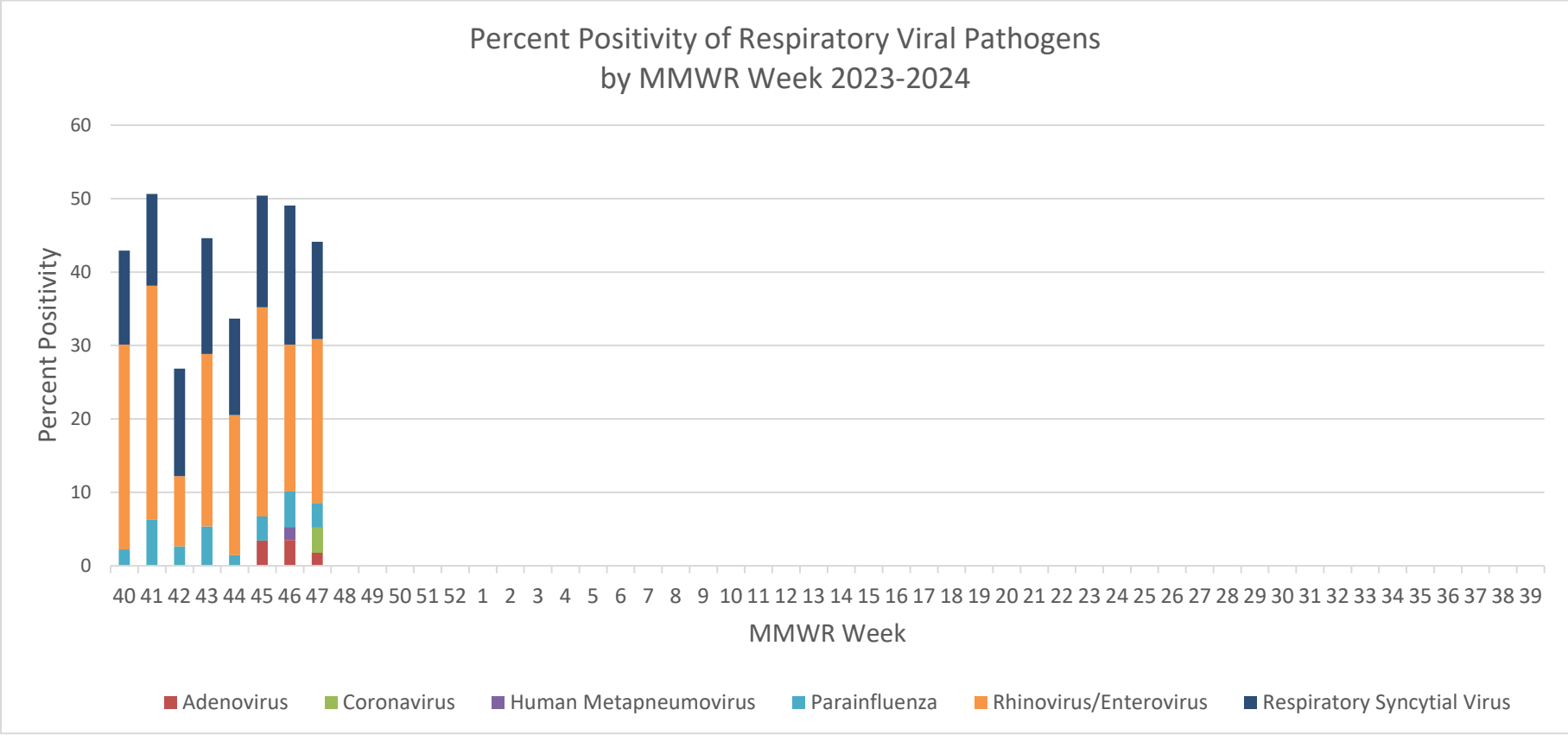
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2023–2024 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).





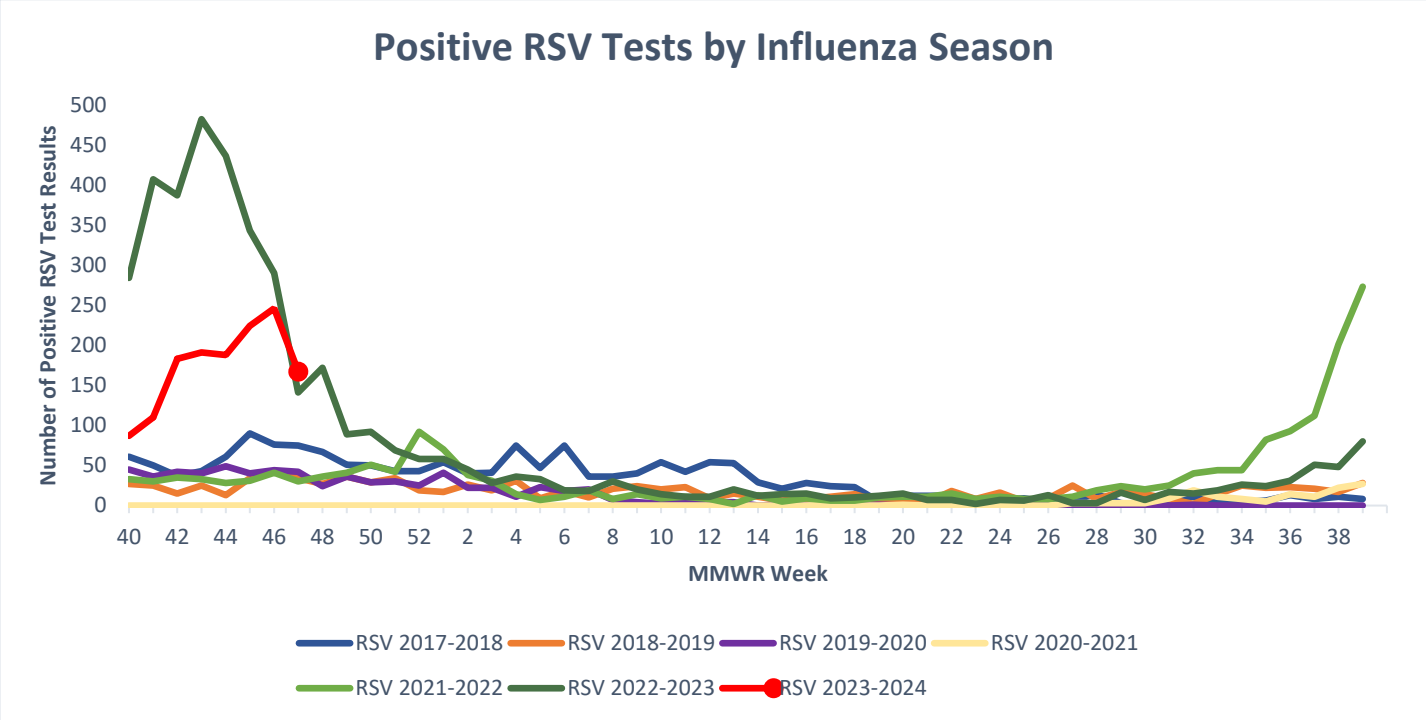
** Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.*

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**.

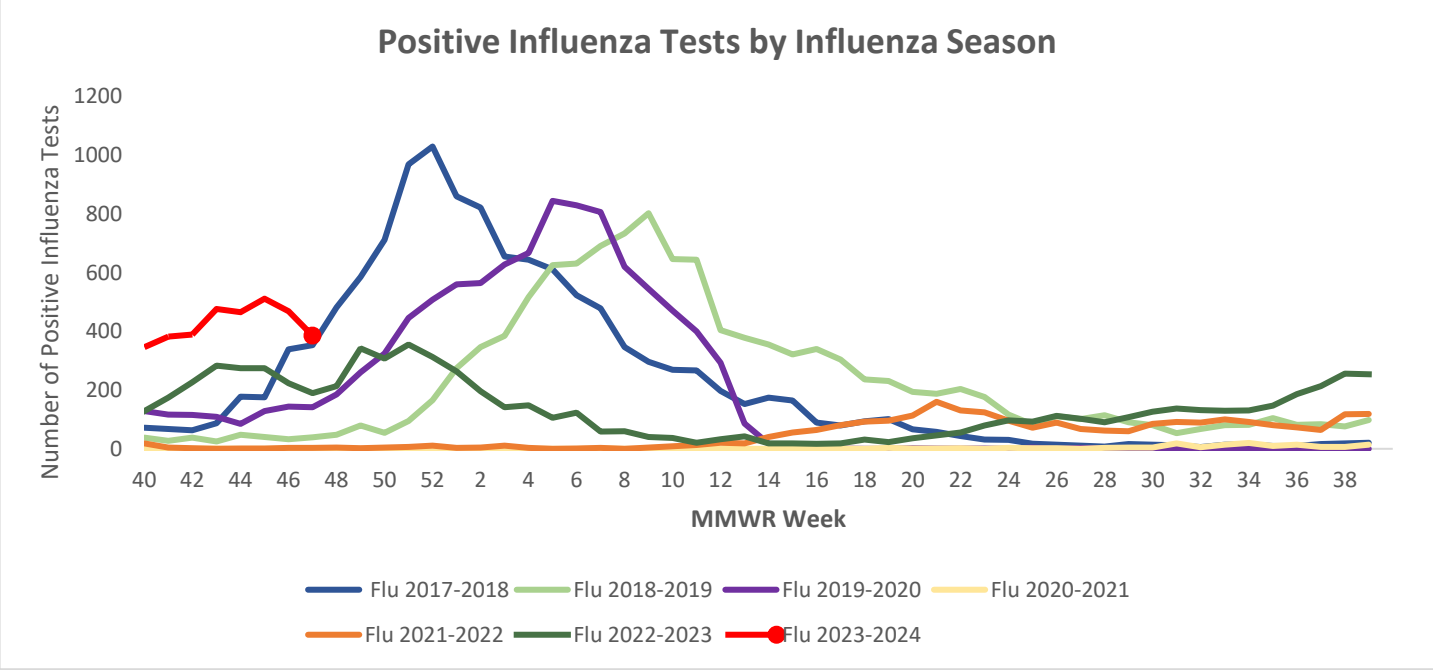


* *The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).*

RESPIRATORY SYNCYTIAL VIRUS (RSV) POSITIVE TEST RESULTS BY INFLUENZA SEASON: RSV case counts are lower than the previous season but is currently trending upwards for the 2023-2024 season. Of note, significantly more tests for RSV are being performed than in pre-COVID-19 seasons.



INFLUENZA POSITIVE TEST RESULTS BY INFLUENZA SEASON: Influenza cases appear to have increased earlier than past seasons in the 2023-2024 season, but it is not yet known whether case numbers will reach a peak similar to pre-COVID-19 seasons.



C. COVID-19 SENTINEL SURVEILLANCE: Due to the low volume of samples currently available through the influenza surveillance system, the COVID-19 sentinel surveillance data may not be accurately portraying COVID-19 activity in our communities. Reporting of the COVID-19 Sentinel Surveillance data will be paused while HODH re-evaluates the program to ensure that the reported data are accurate and representative.

HDOH is continuing to monitor COVID-19 activity throughout the state. To learn more, please visit the Hawaii's COVID-19 data website (*here*). For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website (*here*).

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

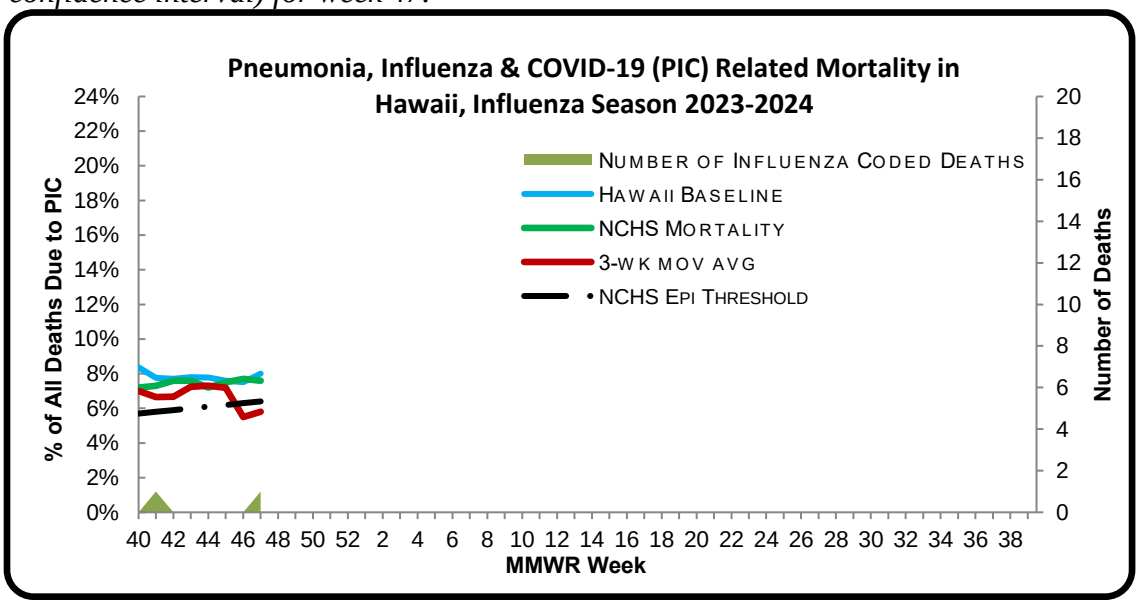
P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Due to the ongoing COVID-19 pandemic, CDC included total deaths from COVID-19 by age group to the death data. Previous studies had suggested that P&I is a good indicator of influenza-related deaths; however, data has shown that pneumonia deaths associated with influenza is now being impacted by COVID-19 related pneumonia. Due to this, CDC had added COVID-19 deaths into P&I to create the PIC (pneumonia, influenza, and/or COVID-19) classification.

To standardize Hawaii's influenza surveillance with CDC influenza surveillance guidelines, PIC deaths will be reported in lieu of P&I. Hawaii's baseline will begin to include PIC deaths starting from 2019-2020 flu season.

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

- ***7.6%*** *of all deaths that occurred in Hawaii during week 47 were related to pneumonia, influenza or COVID-19 (PIC)*[11]*. For the current season (season to date:* ***6.9%*** *there have been 2,187 deaths from any cause, 150 of which were due to PIC*[12]*.*
- *The PIC rate was comparable to the historical baseline in Hawaii*[13] *(i.e., inside the 95% confidence interval).*

The Hawaii PIC rate was comparable to the CDC's National Center for Health Statistics (NCHS) PIC mortality[14] *(**7.6%**) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (**6.4**%) (i.e., inside the 95% confidence interval) for week 47.*



[11] The percent of deaths due to PIC displayed on the graph is the 3-week moving averages.

[12] PIC data reflect 38% of the data reported for the MMWR week. Changes to data are expected when PIC data reaches 100% completion.

[13] The Hawaii historical baseline (%PIC) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, and 2022-2023).

[14] 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, influenza, or COVID-19 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 COVID-19 death counts reported by NCHS are provisional and will not match counts in other sources, such as media reports or numbers from health departments. COVID-19 deaths may be classified or defined differently in various reporting and surveillance systems. The percentage of deaths due to pneumonia, influenza, and COVID-19 (PIC) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

INFLUENZA-ASSOCIATED PEDIATRIC DEATHS[15]:

- No new influenza-associated pediatric death was reported to Hawaii. There have been zero influenza-associated pediatric deaths reported in Hawaii during the 2023–2024 season.
- Nationally, five new influenza-associated pediatric deaths were reported to CDC during week 47. (2023-2024 season total: 8).

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 2023–2024 influenza season.*
- *One new human infection with novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (1), have been reported during the 2023–2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Netherlands during the 2023-2024 influenza season.*

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 15th, 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

[15] 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.

influenza viruses and posts current avian influenza case counts (*here*), which were last updated on **November 1, 2023**.

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 2023–2024 Influenza Vaccine**:**

The composition of the 2023–2024 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2023–2024 influenza trivalent vaccine contain an influenza A/Wisconsin/67/2022 (H1N1)pdm09-like virus, influenza A/Darwin/6/2021 (H3N2)-like virus, and influenza B/Austria/1359417/2021-like virus (B/Victoria lineage). 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/Wisconsin/67/2022 (H1N1)pdm09-like virus, an influenza A/Darwin/6/2021 (H3N2)-like virus, an influenza B/Austria/1359417/2021-like virus (B/Victoria lineage), 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.

Centers for Disease Control and Prevention	General Influenza National ILI and P&I Data Vaccine Virus Selection CDC Web Tool for Respiratory Viruses
Flu.gov	General Influenza Information
HDOH Flu and Pneumonia	General Influenza Surveillance To find out more information or join the sentinel physician program, email the Influenza Surveillance Coordinator
World Health Organization	General Global and Local Influenza Avian Influenza

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	2020	2021	2022	2023	2024
1	1/4/2020	1/9/2021	1/8/2022	1/7/2023	1/6/2024
2	1/11/2020	1/16/2021	1/15/2022	1/14/2023	1/13/2024
3	1/18/2020	1/23/2021	1/22/2022	1/21/2023	1/20/2024
4	1/25/2020	1/30/2021	1/29/2022	1/28/2023	1/27/2024
5	2/1/2020	2/6/2021	2/5/2022	2/4/2023	2/3/2024
6	2/8/2020	2/13/2021	2/12/2022	2/11/2023	2/10/2024
7	2/15/2020	2/20/2021	2/19/2022	2/18/2023	2/17/2024
8	2/22/2020	2/27/2021	2/26/2022	2/25/2023	2/24/2024
9	2/29/2020	3/6/2021	3/5/2022	3/4/2023	3/2/2024
10	3/7/2020	3/13/2021	3/12/2022	3/11/2023	3/9/2024
11	3/14/2020	3/20/2021	3/19/2022	3/18/2023	3/16/2024
12	3/21/2020	3/27/2021	3/26/2022	3/25/2023	3/23/2024
13	3/28/2020	4/3/2021	4/2/2022	4/1/2023	3/30/2024
14	4/4/2020	4/10/2021	4/9/2022	4/8/2023	4/6/2024
15	4/11/2020	4/17/2021	4/16/2022	4/15/2023	4/13/2024
16	4/18/2020	4/24/2021	4/23/2022	4/22/2023	4/20/2024
17	4/25/2020	5/1/2021	4/30/2022	4/29/2023	4/27/2024
18	5/2/2020	5/8/2021	5/7/2022	5/6/2023	5/4/2024
19	5/9/2020	5/15/2021	5/14/2022	5/13/2023	5/11/2024
20	5/16/2020	5/22/2021	5/21/2022	5/20/2023	5/18/2024
21	5/23/2020	5/29/2021	5/28/2022	5/27/2023	5/25/2024
22	5/30/2020	6/5/2021	6/4/2022	6/3/2023	6/1/2024
23	6/6/2020	6/12/2021	6/11/2022	6/10/2023	6/8/2024
24	6/13/2020	6/19/2021	6/18/2022	6/17/2023	6/15/2024
25	6/20/2020	6/26/2021	6/25/2022	6/24/2023	6/22/2024
26	6/27/2020	7/3/2021	7/2/2022	7/1/2023	6/29/2024
27	7/4/2020	7/10/2021	7/9/2022	7/8/2023	7/6/2024
28	7/11/2020	7/17/2021	7/16/2022	7/15/2023	7/13/2024
29	7/18/2020	7/24/2021	7/23/2022	7/22/2023	7/20/2024
30	7/25/2020	7/31/2021	7/30/2022	7/29/2023	7/27/2024
31	8/1/2020	8/7/2021	8/6/2022	8/5/2023	8/3/2024
32	8/8/2020	8/14/2021	8/13/2022	8/12/2023	8/10/2024
33	8/15/2020	8/21/2021	8/20/2022	8/19/2023	8/17/2024
34	8/22/2020	8/28/2021	8/27/2022	8/26/2023	8/24/2024
35	8/29/2020	9/4/2021	9/3/2022	9/2/2023	8/31/2024
36	9/5/2020	9/11/2021	9/10/2022	9/9/2023	9/7/2024
37	9/12/2020	9/18/2021	9/17/2022	9/16/2023	9/14/2024
38	9/19/2020	9/25/2021	9/24/2022	9/23/2023	9/21/2024
39	9/26/2020	10/2/2021	10/1/2022	9/30/2023	9/28/2024
40	10/3/2020	10/9/2021	10/8/2022	10/7/2023	10/5/2024
41	10/10/2020	10/16/2021	10/15/2022	10/14/2023	10/12/2024
42	10/17/2020	10/23/2021	10/22/2022	10/21/2023	10/19/2024
43	10/24/2020	10/30/2021	10/29/2022	10/28/2023	10/26/2024
44	10/31/2020	11/6/2021	11/5/2022	11/4/2023	11/2/2024
45	11/7/2020	11/13/2021	11/12/2022	11/11/2023	11/9/2024
46	11/14/2020	11/20/2021	11/19/2022	11/18/2023	11/16/2024
47	11/21/2020	11/27/2021	11/26/2022	11/25/2023	11/23/2024
48	11/28/2020	12/4/2021	12/3/2022	12/2/2023	11/30/2024
49	12/5/2020	12/11/2021	12/10/2022	12/9/2023	12/7/2024
50	12/12/2020	12/18/2021	12/17/2022	12/16/2023	12/14/2024
51	12/19/2020	12/25/2021	12/24/2022	12/23/2023	12/21/2024
52	12/26/2020	1/1/2022	12/31/2022	12/30/2023	12/28/2024
53	01/02/2021				

HAWAII STATE DEPARTMENT OF HEALTH
DISEASE OUTBREAK CONTROL DIVISION

Influenza/Respiratory Disease Surveillance Report

Morbidity and Mortality Weekly Report (MMWR)[1]

WEEK 48: NOVEMBER 26, 2023– DECEMBER 2, 2023

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 2023–2024 influenza season which began the week ending October 7, 2023 (week 40[1] 2023) and will end the week ending on September 28, 2024 (week 39 2024).

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	3.2%	Lower than the previous week. Comparable to the Hawaii's historical baseline, lower to the national ILI rate, and higher than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 5 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	13.8%	Higher than the previous week. This number means that many, if not all, of the 86.2% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	13.5%	

Surveillance for Severe Outcomes		
Pneumonia, influenza and COVID-19 (PIC) mortality rate	8.5%	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	4	0 influenza-associated pediatric deaths have been reported from Hawaii this season to date.

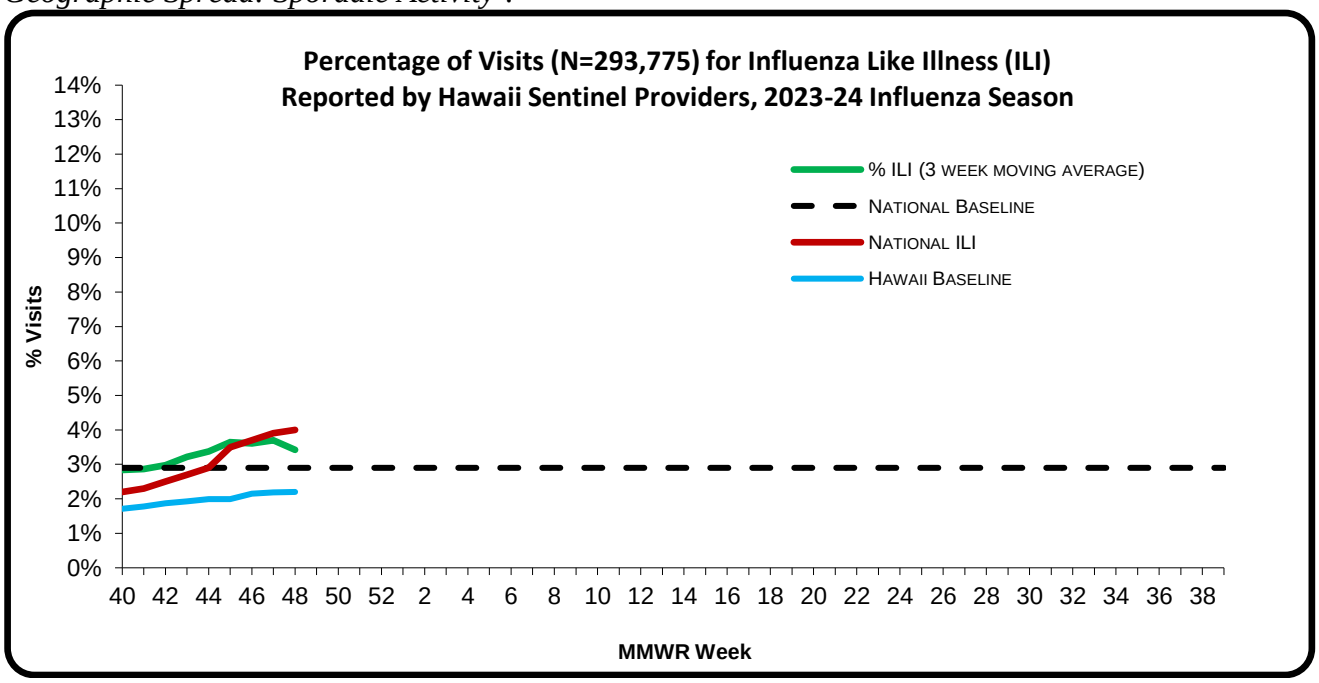
[1] MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week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

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. 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:

- ***3.2%** (season to date: **3.3%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.*
- *ILI visits were comparable to the historical baseline in Hawaii[2,3] (i.e., inside the 95% confidence interval).*
- *Hawaii's ILI outpatient visits were higher than the national baseline (**2.9%**)[4] (i.e., outside the 95% confidence interval) and lower to the national ILI rate (**4.0%**) (i.e. outside the 95% confidence interval).*
- *ILI activity level: Low[5]*
- *Geographic Spread: Sporadic Activity[6].*



[2] The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022 and 2022-2023).

[3] 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.

[4] 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.

[5] There are 10 activity levels classified as minimal (levels 1-3), low (levels 4-5), moderate (levels 6-7), and high (levels 8-10).

[6] 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[7] 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*).

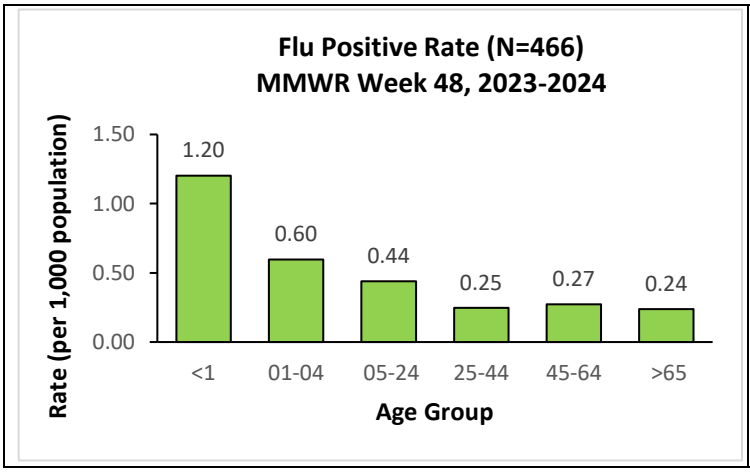
A. INFLUENZA:

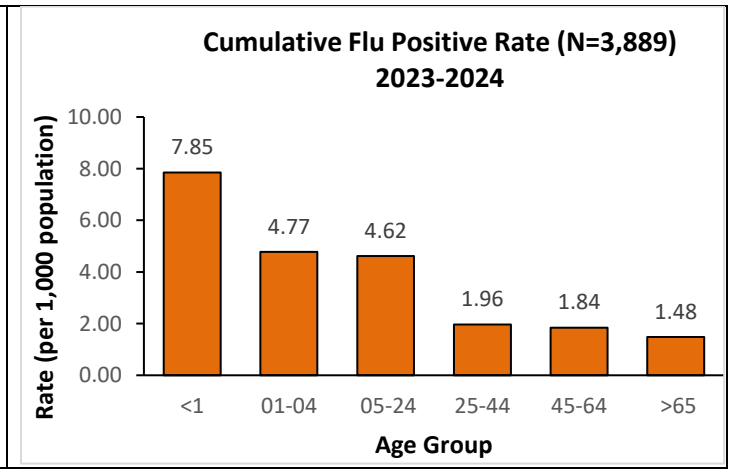
- The following reflects laboratory findings for week 48 of the 2023–24 influenza season:
  - *A total of **3,365** specimens have been tested statewide for influenza viruses (positive: 466 [**13.8%**]). (Season to date: 28,714 tested (**13.5%** positive])*
    - *360 (10.7%) were screened only by rapid antigen tests with no confirmatory testing.*
    - *3,005 (89.3%) underwent confirmatory testing (either RT-PCR or viral culture).*
    - *2,899 (86.2%) were negative.*

Influenza type	*Current week 48 (%)*	*Season to date (%)*[8]
Influenza A (H1)[9]	*22 (4.7)*	*138 (3.6)*
Influenza A (H3)	*11 (2.4)*	*42 (1.1)*
Influenza A no subtyping	*376 (80.7)*	*2,839 (73.0)*
Influenza B (Yamagata)	*0 (0.0)*	*0 (0.0)*
Influenza B (Victoria)	*3 (0.6)*	*48 (1.2)*
Influenza B no genotyping	*54 (11.6)*	*822 (21.1)*

1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2023–24 influenza season.[10]

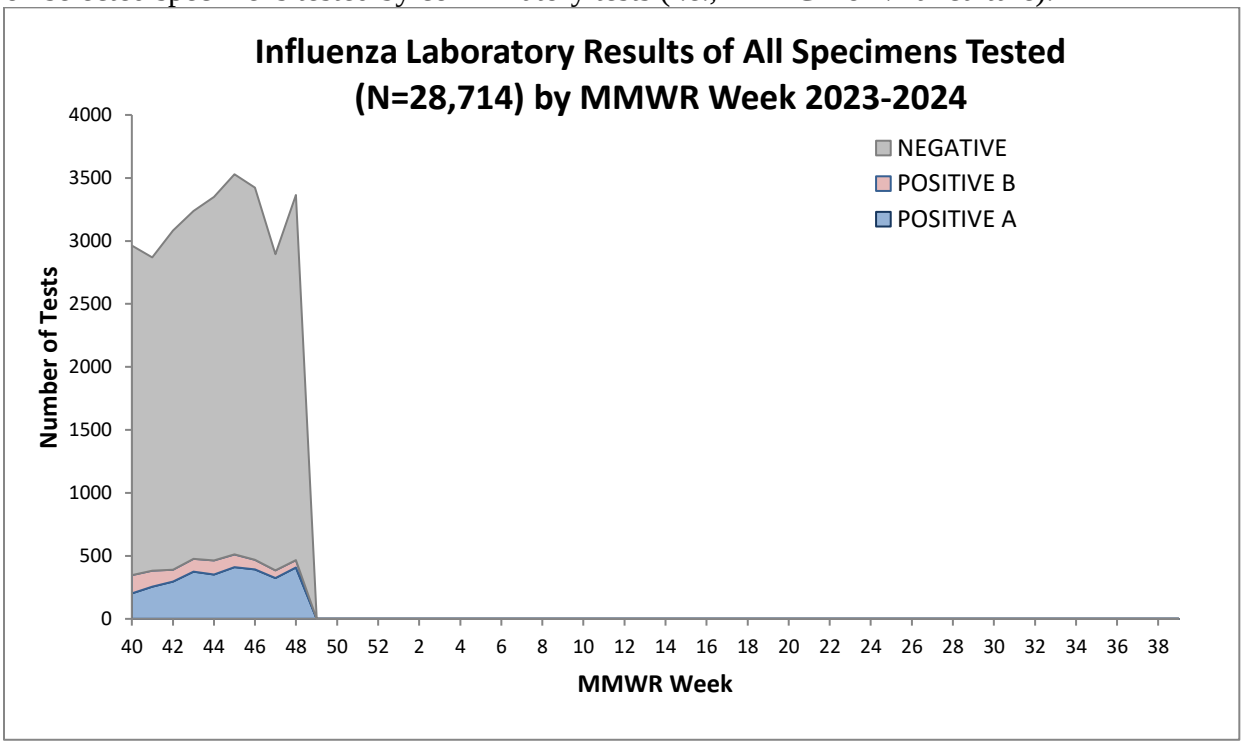


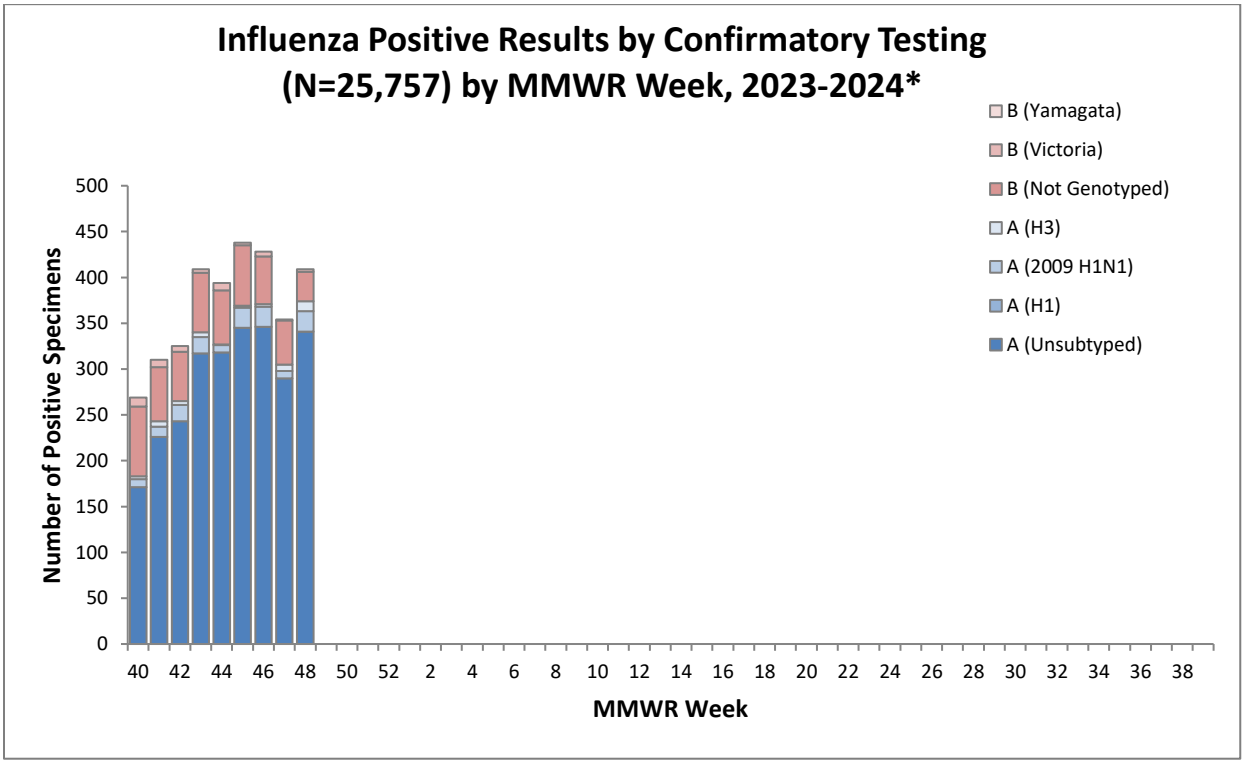


[7] Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.
[8] Influenza coding were updated to reflect a more accurate count.
[9] All influenza A H1 viruses detected this season have been 2009 H1N1.
[10] This represents an estimate of population-based rates based on available data.

2. LABORATORY TESTING

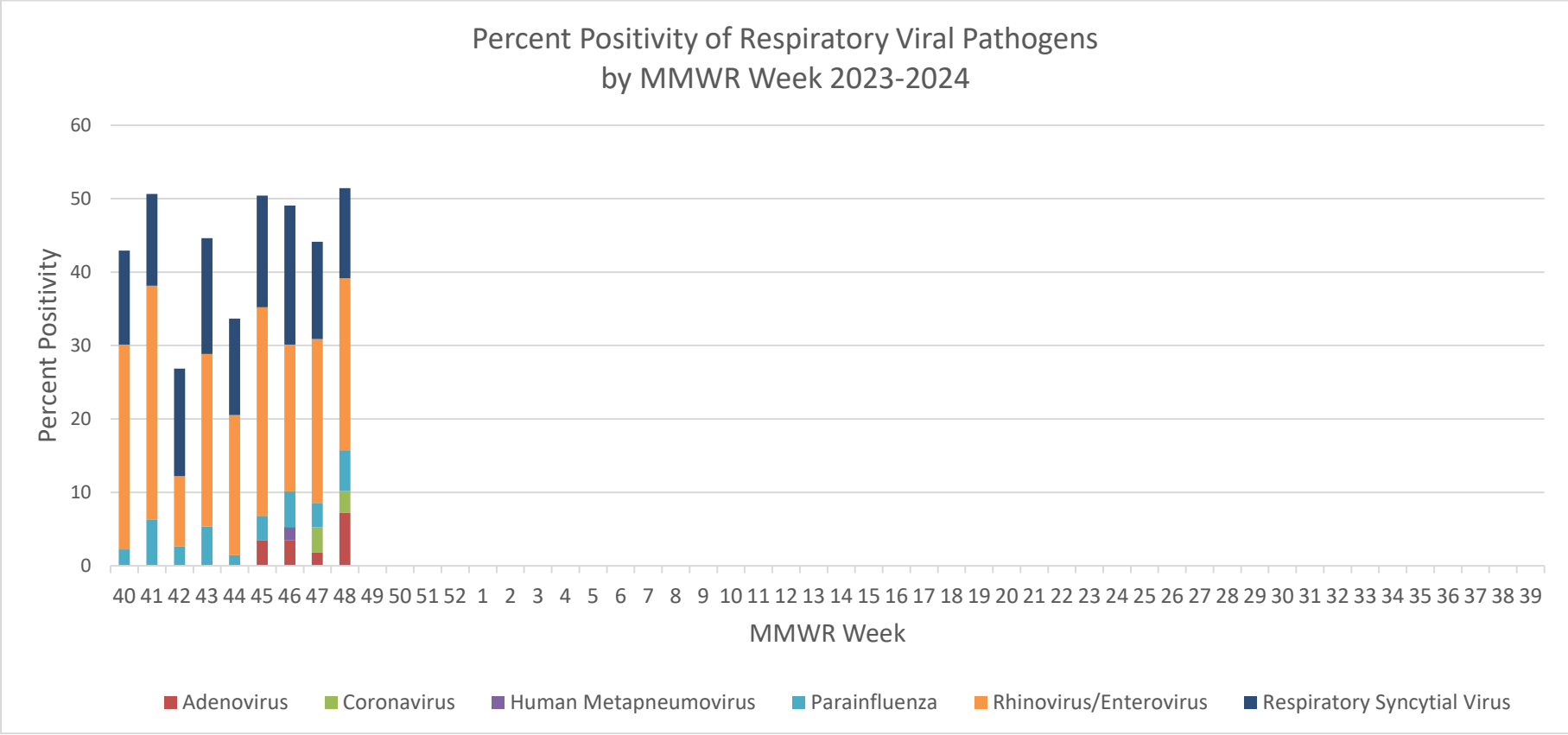
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2023–2024 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).





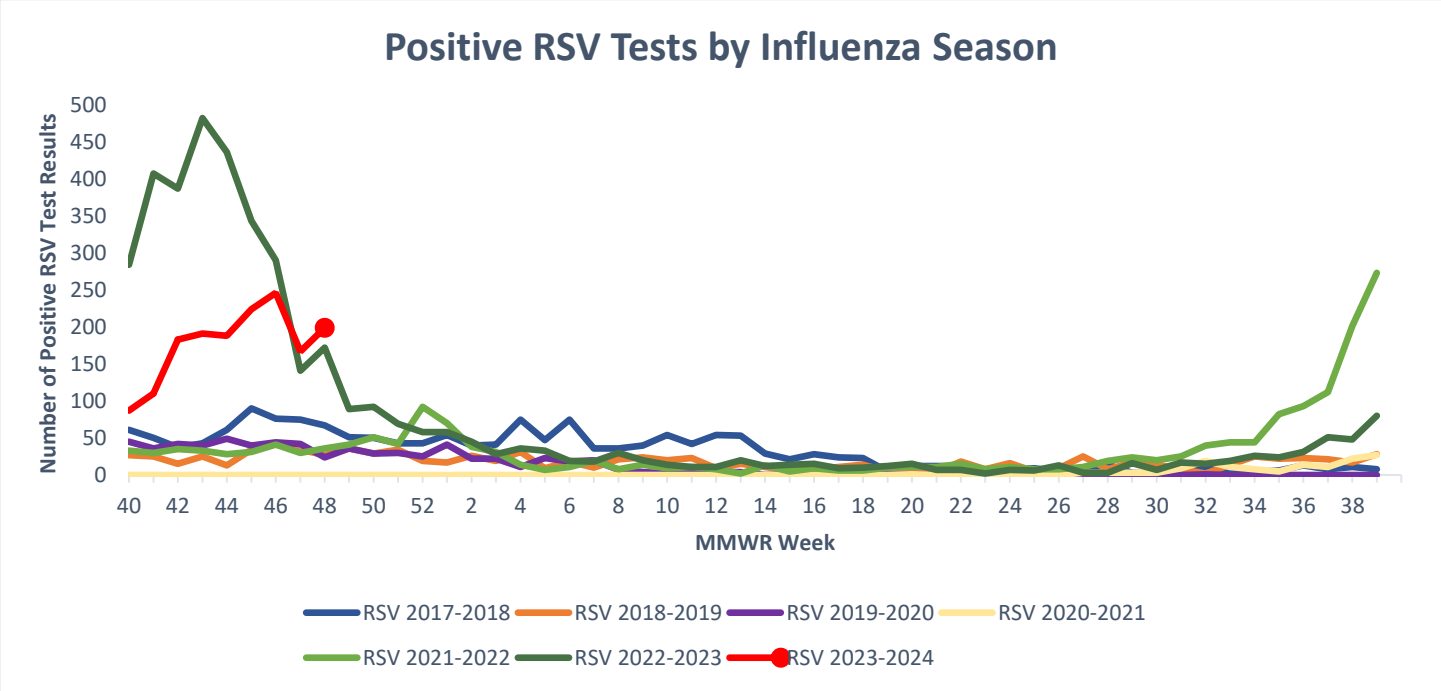
** Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.*

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**.

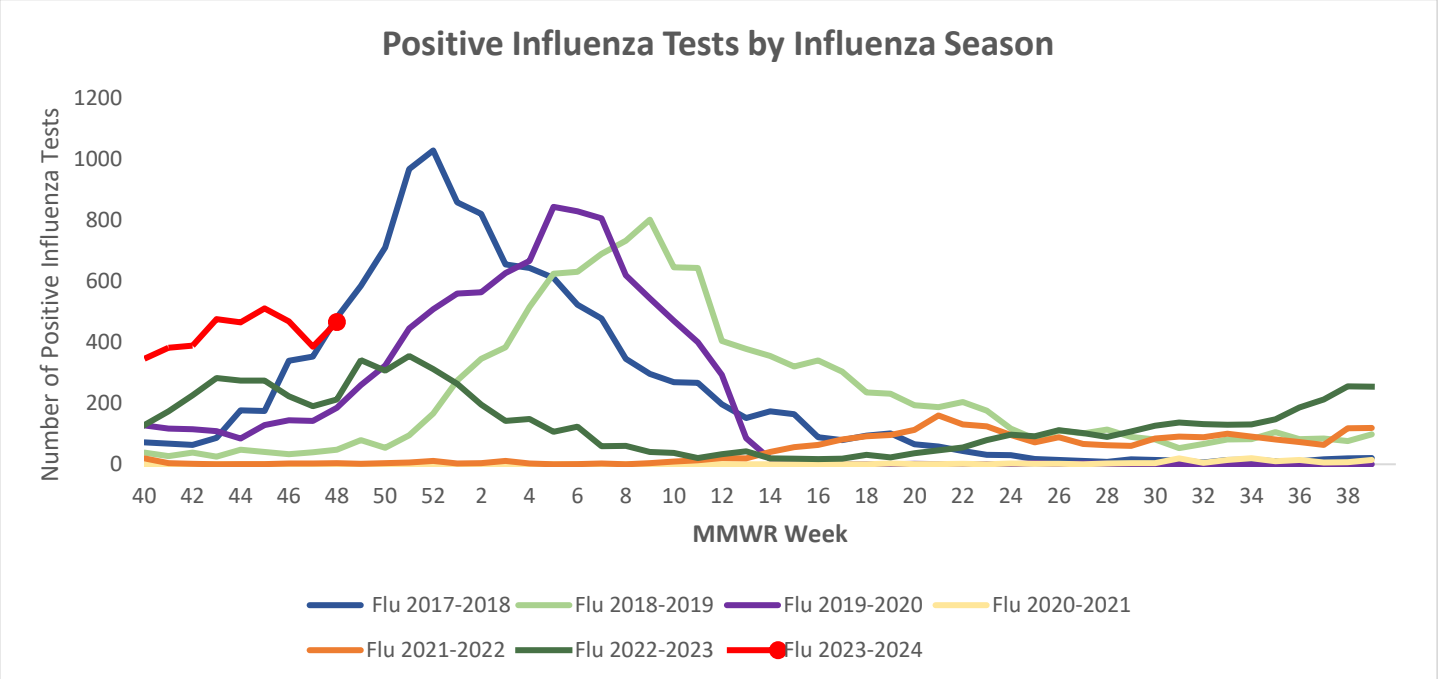


* *The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).*

RESPIRATORY SYNCYTIAL VIRUS (RSV) POSITIVE TEST RESULTS BY INFLUENZA SEASON: RSV case counts are lower than the previous season but is currently trending upwards for the 2023-2024 season. Of note, significantly more tests for RSV are being performed than in pre-COVID-19 seasons.



INFLUENZA POSITIVE TEST RESULTS BY INFLUENZA SEASON: Influenza cases appear to have increased earlier than past seasons in the 2023-2024 season, but it is not yet known whether case numbers will reach a peak similar to pre-COVID-19 seasons.



C. COVID-19 SENTINEL SURVEILLANCE: Due to the low volume of samples currently available through the influenza surveillance system, the COVID-19 sentinel surveillance data may not be accurately portraying COVID-19 activity in our communities. Reporting of the COVID-19 Sentinel Surveillance data will be paused while HODH re-evaluates the program to ensure that the reported data are accurate and representative.

HDOH is continuing to monitor COVID-19 activity throughout the state. To learn more, please visit the Hawaii's COVID-19 data website (*here*). For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website (*here*).

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

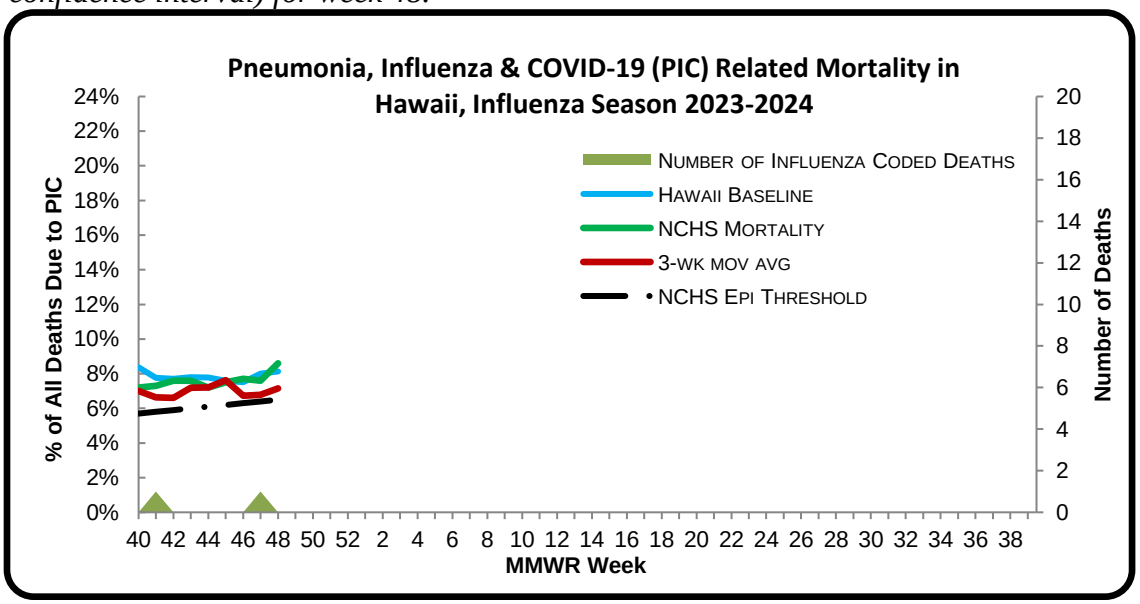
P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Due to the ongoing COVID-19 pandemic, CDC included total deaths from COVID-19 by age group to the death data. Previous studies had suggested that P&I is a good indicator of influenza-related deaths; however, data has shown that pneumonia deaths associated with influenza is now being impacted by COVID-19 related pneumonia. Due to this, CDC had added COVID-19 deaths into P&I to create the PIC (pneumonia, influenza, and/or COVID-19) classification.

To standardize Hawaii's influenza surveillance with CDC influenza surveillance guidelines, PIC deaths will be reported in lieu of P&I. Hawaii's baseline will begin to include PIC deaths starting from 2019-2020 flu season.

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

- ***8.5%*** *of all deaths that occurred in Hawaii during week 48 were related to pneumonia, influenza or COVID-19 (PIC)*[11]*. For the current season (season to date:* ***7.2%;*** *there have been 2,615 deaths from any cause, 188 of which were due to PIC*[12]*.*
- *The PIC rate was comparable to the historical baseline in Hawaii*[13] *(i.e., inside the 95% confidence interval).*

The Hawaii PIC rate was comparable to the CDC's National Center for Health Statistics (NCHS) PIC mortality[14] *(**8.6%**) (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 48.*



[11] The percent of deaths due to PIC displayed on the graph is the 3-week moving averages.

[12] PIC data reflect 100% of the data reported for the MMWR week. Changes to data are expected when PIC data reaches 100% completion.

[13] The Hawaii historical baseline (%PIC) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, and 2022-2023).

[14] 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, influenza, or COVID-19 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 COVID-19 death counts reported by NCHS are provisional and will not match counts in other sources, such as media reports or numbers from health departments. COVID-19 deaths may be classified or defined differently in various reporting and surveillance systems. The percentage of deaths due to pneumonia, influenza, and COVID-19 (PIC) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

INFLUENZA-ASSOCIATED PEDIATRIC DEATHS[15]:

- No new influenza-associated pediatric death was reported to Hawaii. There have been zero influenza-associated pediatric deaths reported in Hawaii during the 2023–2024 season.
- Nationally, four new influenza-associated pediatric deaths were reported to CDC during week 48. (2023-2024 season total: 12).

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 2023–2024 influenza season.*
- *One new human infection with novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (1), have been reported during the 2023–2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Netherlands during the 2023-2024 influenza season.*

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 15th, 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

[15] 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.

influenza viruses and posts current avian influenza case counts (*here*), which were last updated on **November 1, 2023**.

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 2023–2024 Influenza Vaccine**:**

The composition of the 2023–2024 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2023–2024 influenza trivalent vaccine contain an influenza A/Wisconsin/67/2022 (H1N1)pdm09-like virus, influenza A/Darwin/6/2021 (H3N2)-like virus, and influenza B/Austria/1359417/2021-like virus (B/Victoria lineage). 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/Wisconsin/67/2022 (H1N1)pdm09-like virus, an influenza A/Darwin/6/2021 (H3N2)-like virus, an influenza B/Austria/1359417/2021-like virus (B/Victoria lineage), 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.

Centers for Disease Control and Prevention	General Influenza National ILI and P&I Data Vaccine Virus Selection CDC Web Tool for Respiratory Viruses
Flu.gov	General Influenza Information
HDOH Flu and Pneumonia	General Influenza Surveillance To find out more information or join the sentinel physician program, email the Influenza Surveillance Coordinator
World Health Organization	General Global and Local Influenza Avian Influenza

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	2020	2021	2022	2023	2024
1	1/4/2020	1/9/2021	1/8/2022	1/7/2023	1/6/2024
2	1/11/2020	1/16/2021	1/15/2022	1/14/2023	1/13/2024
3	1/18/2020	1/23/2021	1/22/2022	1/21/2023	1/20/2024
4	1/25/2020	1/30/2021	1/29/2022	1/28/2023	1/27/2024
5	2/1/2020	2/6/2021	2/5/2022	2/4/2023	2/3/2024
6	2/8/2020	2/13/2021	2/12/2022	2/11/2023	2/10/2024
7	2/15/2020	2/20/2021	2/19/2022	2/18/2023	2/17/2024
8	2/22/2020	2/27/2021	2/26/2022	2/25/2023	2/24/2024
9	2/29/2020	3/6/2021	3/5/2022	3/4/2023	3/2/2024
10	3/7/2020	3/13/2021	3/12/2022	3/11/2023	3/9/2024
11	3/14/2020	3/20/2021	3/19/2022	3/18/2023	3/16/2024
12	3/21/2020	3/27/2021	3/26/2022	3/25/2023	3/23/2024
13	3/28/2020	4/3/2021	4/2/2022	4/1/2023	3/30/2024
14	4/4/2020	4/10/2021	4/9/2022	4/8/2023	4/6/2024
15	4/11/2020	4/17/2021	4/16/2022	4/15/2023	4/13/2024
16	4/18/2020	4/24/2021	4/23/2022	4/22/2023	4/20/2024
17	4/25/2020	5/1/2021	4/30/2022	4/29/2023	4/27/2024
18	5/2/2020	5/8/2021	5/7/2022	5/6/2023	5/4/2024
19	5/9/2020	5/15/2021	5/14/2022	5/13/2023	5/11/2024
20	5/16/2020	5/22/2021	5/21/2022	5/20/2023	5/18/2024
21	5/23/2020	5/29/2021	5/28/2022	5/27/2023	5/25/2024
22	5/30/2020	6/5/2021	6/4/2022	6/3/2023	6/1/2024
23	6/6/2020	6/12/2021	6/11/2022	6/10/2023	6/8/2024
24	6/13/2020	6/19/2021	6/18/2022	6/17/2023	6/15/2024
25	6/20/2020	6/26/2021	6/25/2022	6/24/2023	6/22/2024
26	6/27/2020	7/3/2021	7/2/2022	7/1/2023	6/29/2024
27	7/4/2020	7/10/2021	7/9/2022	7/8/2023	7/6/2024
28	7/11/2020	7/17/2021	7/16/2022	7/15/2023	7/13/2024
29	7/18/2020	7/24/2021	7/23/2022	7/22/2023	7/20/2024
30	7/25/2020	7/31/2021	7/30/2022	7/29/2023	7/27/2024
31	8/1/2020	8/7/2021	8/6/2022	8/5/2023	8/3/2024
32	8/8/2020	8/14/2021	8/13/2022	8/12/2023	8/10/2024
33	8/15/2020	8/21/2021	8/20/2022	8/19/2023	8/17/2024
34	8/22/2020	8/28/2021	8/27/2022	8/26/2023	8/24/2024
35	8/29/2020	9/4/2021	9/3/2022	9/2/2023	8/31/2024
36	9/5/2020	9/11/2021	9/10/2022	9/9/2023	9/7/2024
37	9/12/2020	9/18/2021	9/17/2022	9/16/2023	9/14/2024
38	9/19/2020	9/25/2021	9/24/2022	9/23/2023	9/21/2024
39	9/26/2020	10/2/2021	10/1/2022	9/30/2023	9/28/2024
40	10/3/2020	10/9/2021	10/8/2022	10/7/2023	10/5/2024
41	10/10/2020	10/16/2021	10/15/2022	10/14/2023	10/12/2024
42	10/17/2020	10/23/2021	10/22/2022	10/21/2023	10/19/2024
43	10/24/2020	10/30/2021	10/29/2022	10/28/2023	10/26/2024
44	10/31/2020	11/6/2021	11/5/2022	11/4/2023	11/2/2024
45	11/7/2020	11/13/2021	11/12/2022	11/11/2023	11/9/2024
46	11/14/2020	11/20/2021	11/19/2022	11/18/2023	11/16/2024
47	11/21/2020	11/27/2021	11/26/2022	11/25/2023	11/23/2024
48	11/28/2020	12/4/2021	12/3/2022	12/2/2023	11/30/2024
49	12/5/2020	12/11/2021	12/10/2022	12/9/2023	12/7/2024
50	12/12/2020	12/18/2021	12/17/2022	12/16/2023	12/14/2024
51	12/19/2020	12/25/2021	12/24/2022	12/23/2023	12/21/2024
52	12/26/2020	1/1/2022	12/31/2022	12/30/2023	12/28/2024
53	01/02/2021				

HAWAII STATE DEPARTMENT OF HEALTH
DISEASE OUTBREAK CONTROL DIVISION

Influenza/Respiratory Disease Surveillance Report

Morbidity and Mortality Weekly Report (MMWR)[1]

WEEK 49: DECEMBER 3, 2023– DECEMBER 9, 2023

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 2023–2024 influenza season which began the week ending October 7, 2023 (week 40[1] 2023) and will end the week ending on September 28, 2024 (week 39 2024).

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	3.5%	Higher than the previous week. Comparable to the Hawaii's historical baseline, lower to the national ILI rate, and higher than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 5 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	16.3%	Higher than the previous week. This number means that many, if not all, of the 83.7% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	13.9%	

Surveillance for Severe Outcomes		
Pneumonia, influenza and COVID-19 (PIC) mortality rate	7.1%	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	2	0 influenza-associated pediatric deaths have been reported from Hawaii this season to date.

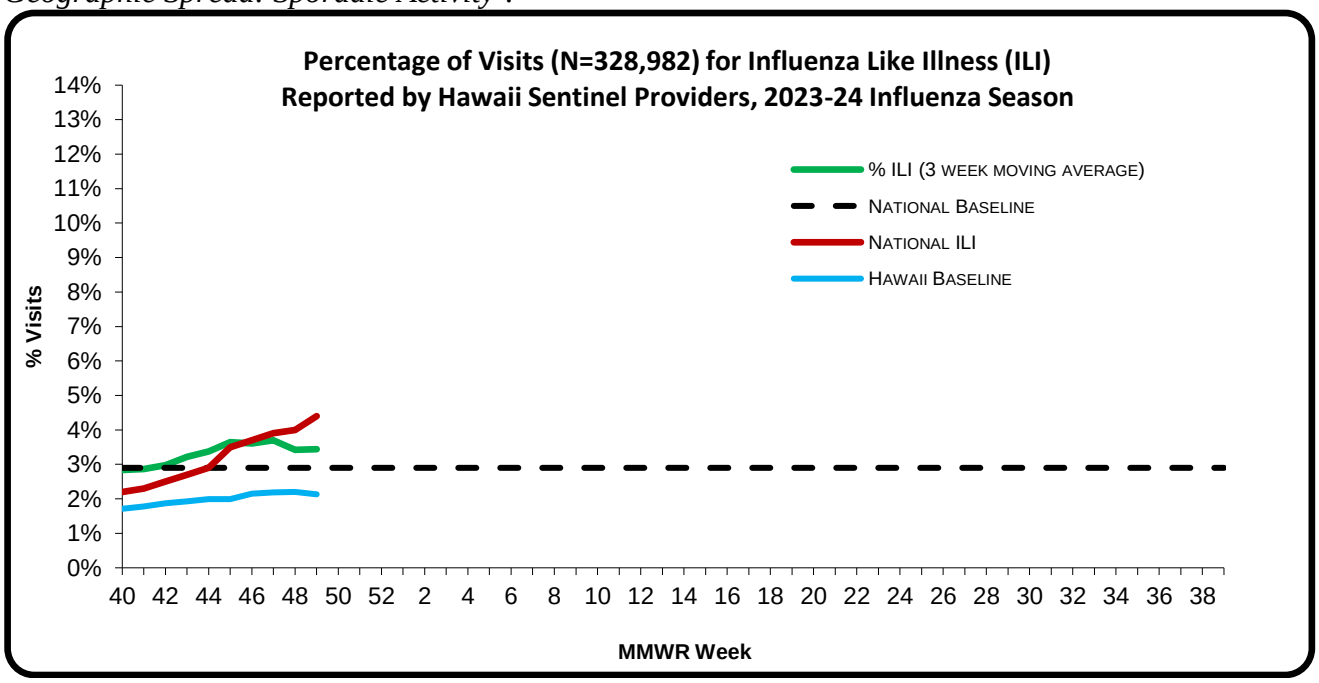
[1] MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week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

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. 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:

- ***3.5%** (season to date: **3.3%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.*
- *ILI visits were comparable to the historical baseline in Hawaii[2,3] (i.e., inside the 95% confidence interval).*
- *Hawaii's ILI outpatient visits were higher than the national baseline (**2.9%**)[4] (i.e., outside the 95% confidence interval) and lower to the national ILI rate (**4.4%**) (i.e. outside the 95% confidence interval).*
- *ILI activity level: Low*[5]
- *Geographic Spread: Sporadic Activity*[6].



[2] The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022 and 2022-2023).

[3] 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.

[4] 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.

[5] There are 10 activity levels classified as minimal (levels 1-3), low (levels 4-5), moderate (levels 6-7), and high (levels 8-10).

[6] 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[7] 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*).

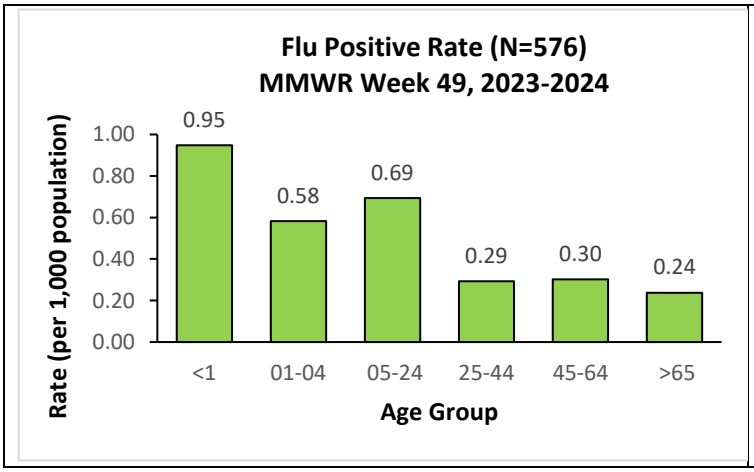
A. INFLUENZA:

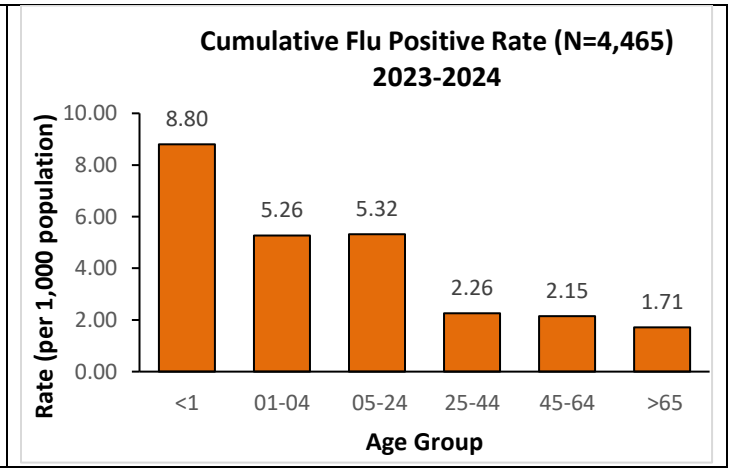
- The following reflects laboratory findings for week 49 of the 2023–24 influenza season:
  - *A total of **3,538** specimens have been tested statewide for influenza viruses (positive: 576 [**16.3%**]). (Season to date: 32,252 tested (**13.9%** positive])*
    - *339 (9.6%) were screened only by rapid antigen tests with no confirmatory testing.*
    - *3,199 (90.4%) underwent confirmatory testing (either RT-PCR or viral culture).*
    - *2,962 (83.7%) were negative.*

Influenza type	*Current week 49 (%)*	*Season to date (%)*[8]
Influenza A (H1)[9]	*15 (2.6)*	*153 (3.4)*
Influenza A (H3)	*9 (1.6)*	*51 (1.1)*
Influenza A no subtyping	*500 (86.8)*	*3,339 (74.8)*
Influenza B (Yamagata)	*0 (0.0)*	*0 (0.0)*
Influenza B (Victoria)	*3 (0.5)*	*51 (1.1)*
Influenza B no genotyping	*49 (8.5)*	*871 (19.5)*

1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2023–24 influenza season.[10]

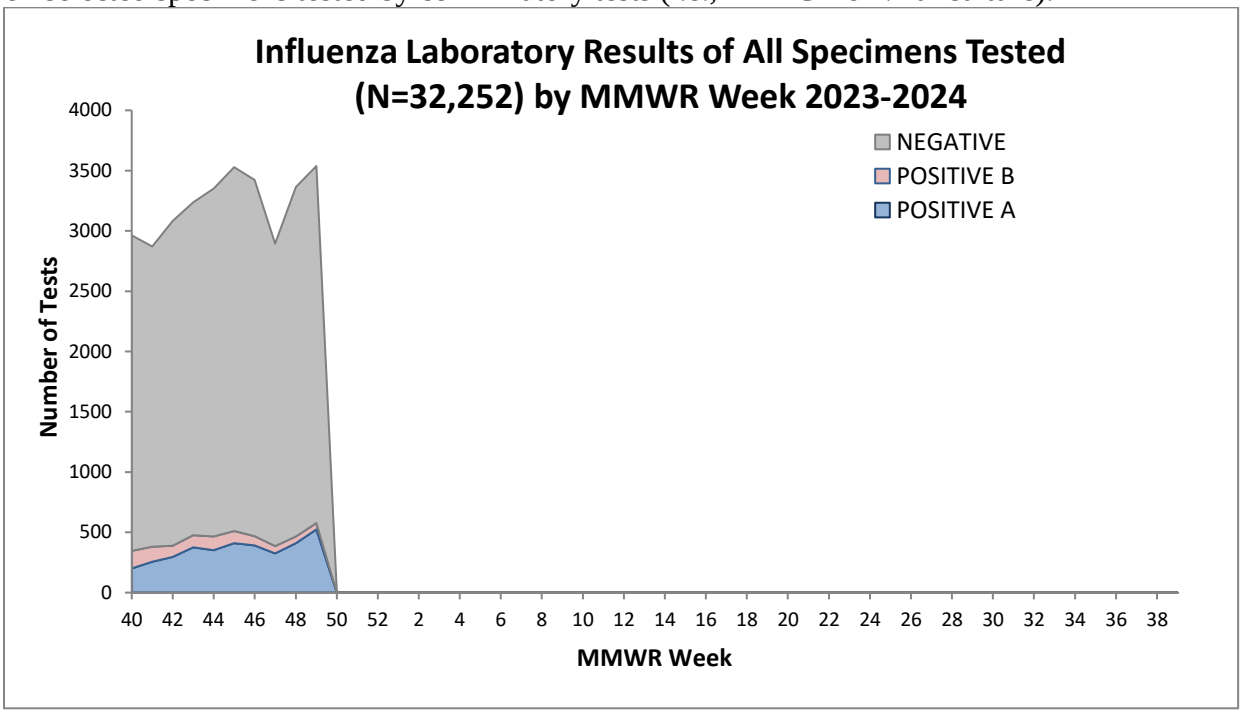


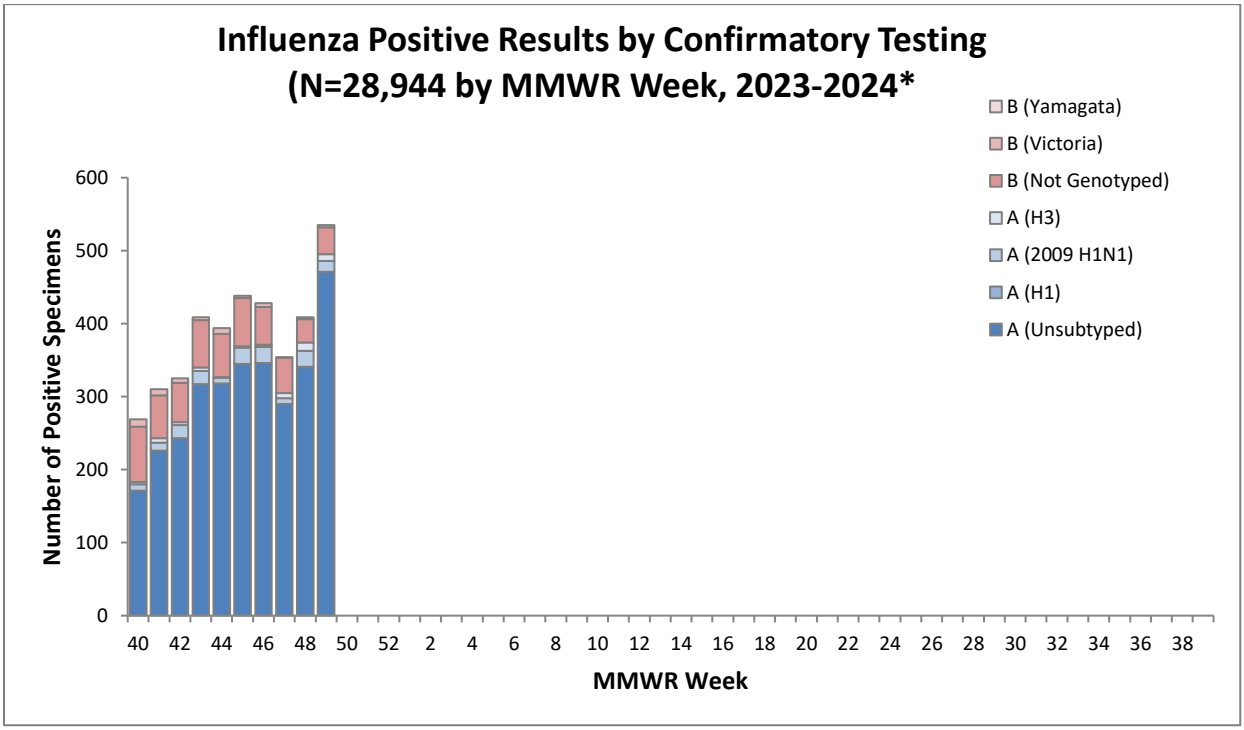


[7] Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.
[8] Influenza coding were updated to reflect a more accurate count.
[9] All influenza A H1 viruses detected this season have been 2009 H1N1.
[10] This represents an estimate of population-based rates based on available data.

2. LABORATORY TESTING

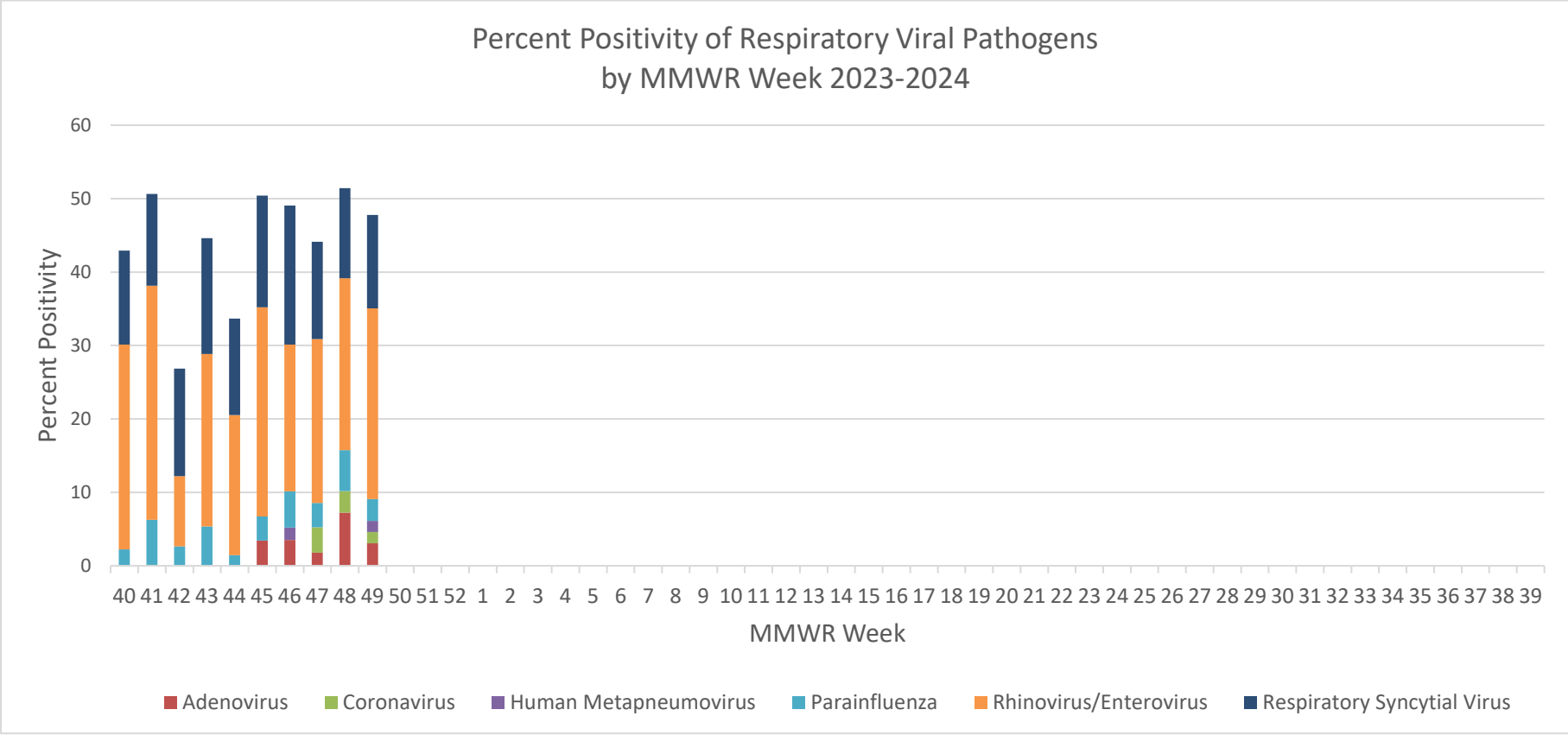
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2023–2024 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).





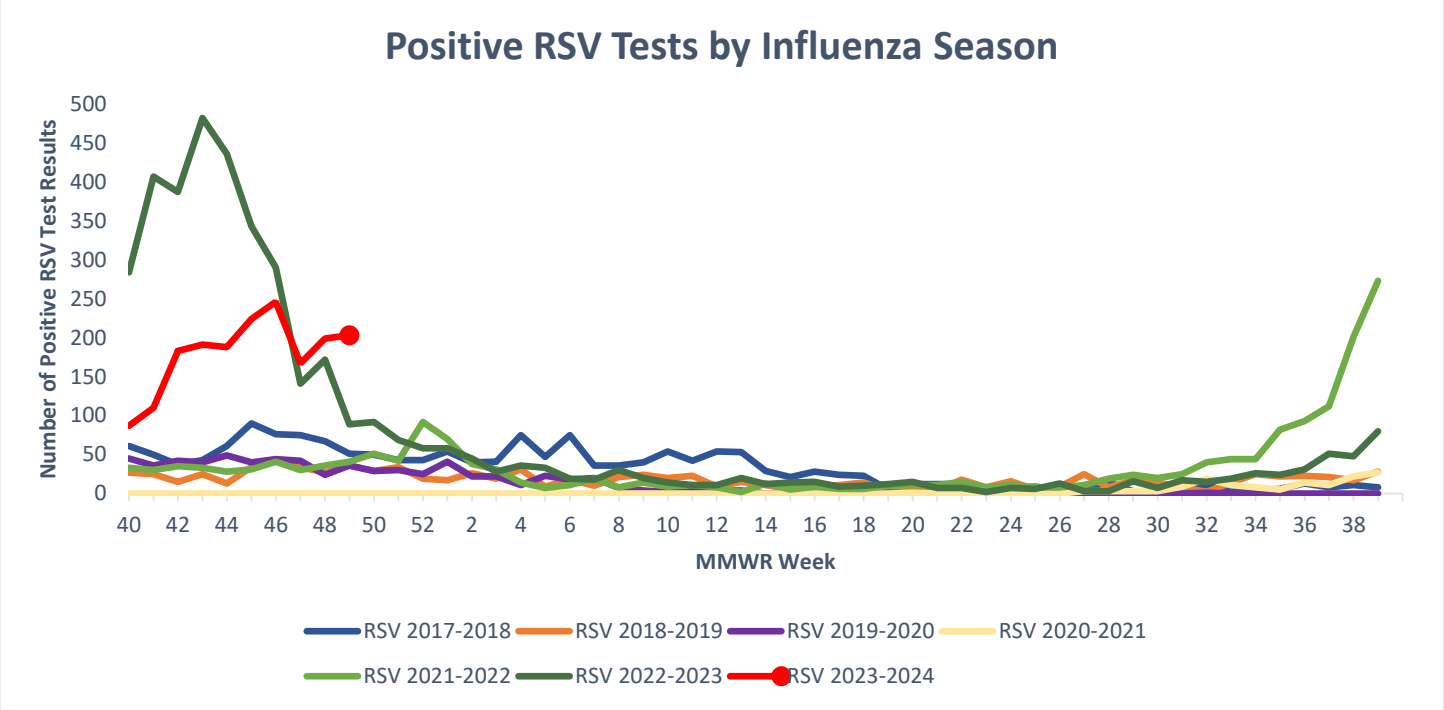
** Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.*

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**.

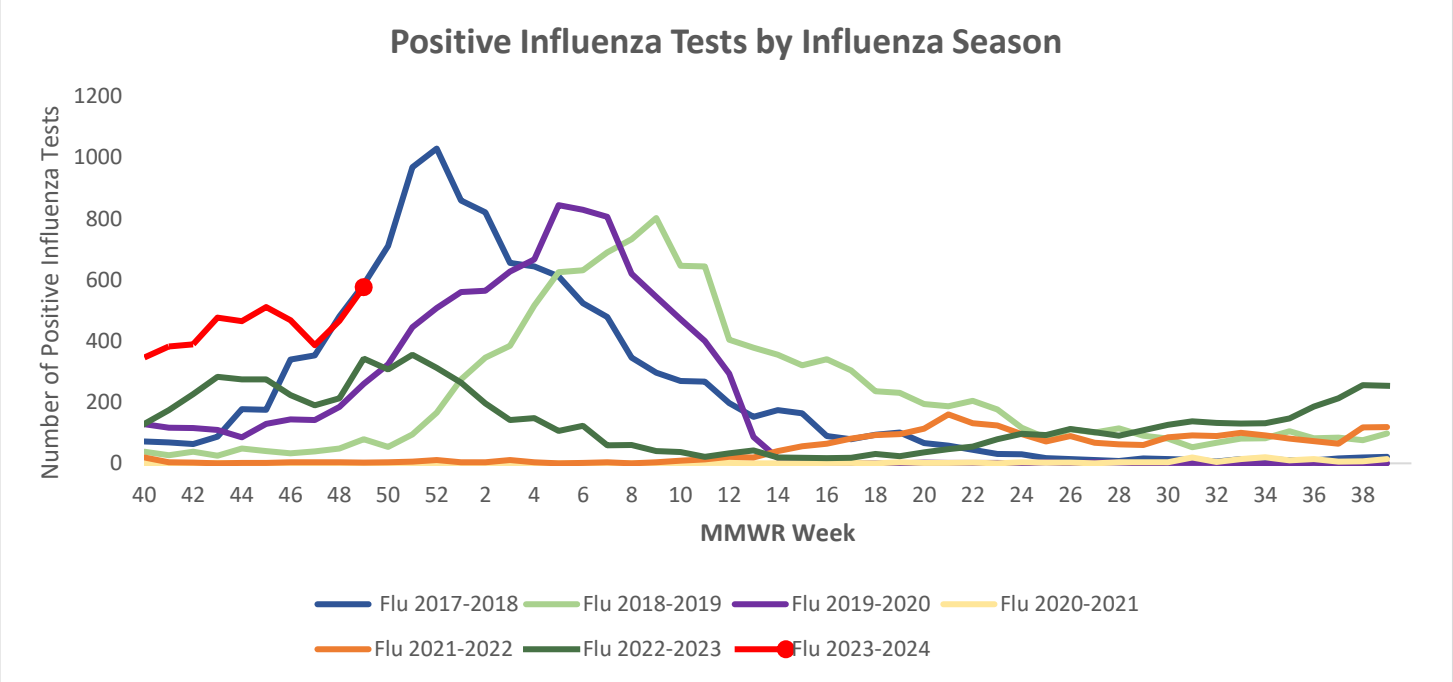


* *The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).*

RESPIRATORY SYNCYTIAL VIRUS (RSV) POSITIVE TEST RESULTS BY INFLUENZA SEASON: RSV case counts are lower than the previous season but is currently trending upwards for the 2023-2024 season. Of note, significantly more tests for RSV are being performed than in pre-COVID-19 seasons.



INFLUENZA POSITIVE TEST RESULTS BY INFLUENZA SEASON: Influenza cases appear to have increased earlier than past seasons in the 2023-2024 season, but it is not yet known whether case numbers will reach a peak similar to pre-COVID-19 seasons.



C. COVID-19 SENTINEL SURVEILLANCE: Due to the low volume of samples currently available through the influenza surveillance system, the COVID-19 sentinel surveillance data may not be accurately portraying COVID-19 activity in our communities. Reporting of the COVID-19 Sentinel Surveillance data will be paused while HODH re-evaluates the program to ensure that the reported data are accurate and representative.

HDOH is continuing to monitor COVID-19 activity throughout the state. To learn more, please visit the Hawaii's COVID-19 data website (*here*). For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website (*here*).

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

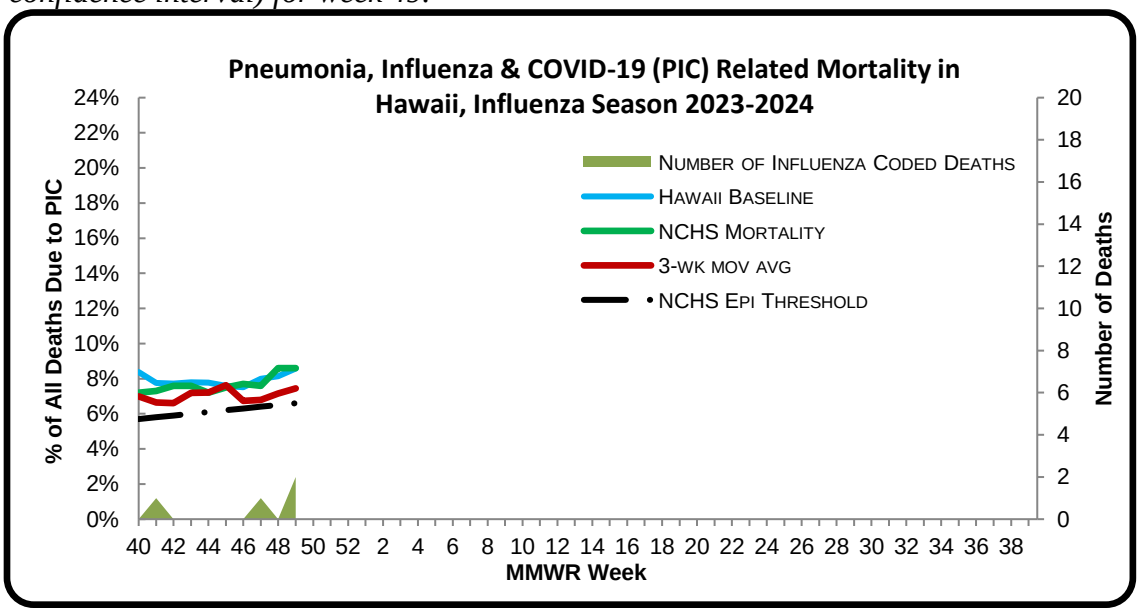
P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Due to the ongoing COVID-19 pandemic, CDC included total deaths from COVID-19 by age group to the death data. Previous studies had suggested that P&I is a good indicator of influenza-related deaths; however, data has shown that pneumonia deaths associated with influenza is now being impacted by COVID-19 related pneumonia. Due to this, CDC had added COVID-19 deaths into P&I to create the PIC (pneumonia, influenza, and/or COVID-19) classification.

To standardize Hawaii's influenza surveillance with CDC influenza surveillance guidelines, PIC deaths will be reported in lieu of P&I. Hawaii's baseline will begin to include PIC deaths starting from 2019-2020 flu season.

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

- ***7.1%*** *of all deaths that occurred in Hawaii during week 49 were related to pneumonia, influenza or COVID-19 (PIC)*[11]*. For the current season (season to date:* ***7.2%;*** *there have been 2,713 deaths from any cause, 195 of which were due to PIC*[12]*.*
- *The PIC rate was comparable to the historical baseline in Hawaii*[13] *(i.e., inside the 95% confidence interval).*

The Hawaii PIC rate was comparable to the CDC's National Center for Health Statistics (NCHS) PIC mortality[14] *(**7.6%**) (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 49.*



[11] The percent of deaths due to PIC displayed on the graph is the 3-week moving averages.

[12] PIC data reflect 58% of the data reported for the MMWR week. Changes to data are expected when PIC data reaches 100% completion.

[13] The Hawaii historical baseline (%PIC) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, and 2022-2023).

[14] 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, influenza, or COVID-19 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 COVID-19 death counts reported by NCHS are provisional and will not match counts in other sources, such as media reports or numbers from health departments. COVID-19 deaths may be classified or defined differently in various reporting and surveillance systems. The percentage of deaths due to pneumonia, influenza, and COVID-19 (PIC) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

INFLUENZA-ASSOCIATED PEDIATRIC DEATHS[15]:

- No new influenza-associated pediatric death was reported to Hawaii. There have been zero influenza-associated pediatric deaths reported in Hawaii during the 2023–2024 season.
- Nationally, two new influenza-associated pediatric deaths were reported to CDC during week 49. (2023-2024 season total: 14).

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 2023–2024 influenza season.*
- *One new human infection with novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (1), have been reported during the 2023–2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Netherlands during the 2023-2024 influenza season.*

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 15th, 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

[15] 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.

influenza viruses and posts current avian influenza case counts (*here*), which were last updated on **November 1, 2023**.

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 2023–2024 Influenza Vaccine**:**

The composition of the 2023–2024 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2023–2024 influenza trivalent vaccine contain an influenza A/Wisconsin/67/2022 (H1N1)pdm09-like virus, influenza A/Darwin/6/2021 (H3N2)-like virus, and influenza B/Austria/1359417/2021-like virus (B/Victoria lineage). 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/Wisconsin/67/2022 (H1N1)pdm09-like virus, an influenza A/Darwin/6/2021 (H3N2)-like virus, an influenza B/Austria/1359417/2021-like virus (B/Victoria lineage), 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.

Centers for Disease Control and Prevention	General Influenza National ILI and P&I Data Vaccine Virus Selection CDC Web Tool for Respiratory Viruses
Flu.gov	General Influenza Information
HDOH Flu and Pneumonia	General Influenza Surveillance To find out more information or join the sentinel physician program, email the Influenza Surveillance Coordinator
World Health Organization	General Global and Local Influenza Avian Influenza

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	2020	2021	2022	2023	2024
1	1/4/2020	1/9/2021	1/8/2022	1/7/2023	1/6/2024
2	1/11/2020	1/16/2021	1/15/2022	1/14/2023	1/13/2024
3	1/18/2020	1/23/2021	1/22/2022	1/21/2023	1/20/2024
4	1/25/2020	1/30/2021	1/29/2022	1/28/2023	1/27/2024
5	2/1/2020	2/6/2021	2/5/2022	2/4/2023	2/3/2024
6	2/8/2020	2/13/2021	2/12/2022	2/11/2023	2/10/2024
7	2/15/2020	2/20/2021	2/19/2022	2/18/2023	2/17/2024
8	2/22/2020	2/27/2021	2/26/2022	2/25/2023	2/24/2024
9	2/29/2020	3/6/2021	3/5/2022	3/4/2023	3/2/2024
10	3/7/2020	3/13/2021	3/12/2022	3/11/2023	3/9/2024
11	3/14/2020	3/20/2021	3/19/2022	3/18/2023	3/16/2024
12	3/21/2020	3/27/2021	3/26/2022	3/25/2023	3/23/2024
13	3/28/2020	4/3/2021	4/2/2022	4/1/2023	3/30/2024
14	4/4/2020	4/10/2021	4/9/2022	4/8/2023	4/6/2024
15	4/11/2020	4/17/2021	4/16/2022	4/15/2023	4/13/2024
16	4/18/2020	4/24/2021	4/23/2022	4/22/2023	4/20/2024
17	4/25/2020	5/1/2021	4/30/2022	4/29/2023	4/27/2024
18	5/2/2020	5/8/2021	5/7/2022	5/6/2023	5/4/2024
19	5/9/2020	5/15/2021	5/14/2022	5/13/2023	5/11/2024
20	5/16/2020	5/22/2021	5/21/2022	5/20/2023	5/18/2024
21	5/23/2020	5/29/2021	5/28/2022	5/27/2023	5/25/2024
22	5/30/2020	6/5/2021	6/4/2022	6/3/2023	6/1/2024
23	6/6/2020	6/12/2021	6/11/2022	6/10/2023	6/8/2024
24	6/13/2020	6/19/2021	6/18/2022	6/17/2023	6/15/2024
25	6/20/2020	6/26/2021	6/25/2022	6/24/2023	6/22/2024
26	6/27/2020	7/3/2021	7/2/2022	7/1/2023	6/29/2024
27	7/4/2020	7/10/2021	7/9/2022	7/8/2023	7/6/2024
28	7/11/2020	7/17/2021	7/16/2022	7/15/2023	7/13/2024
29	7/18/2020	7/24/2021	7/23/2022	7/22/2023	7/20/2024
30	7/25/2020	7/31/2021	7/30/2022	7/29/2023	7/27/2024
31	8/1/2020	8/7/2021	8/6/2022	8/5/2023	8/3/2024
32	8/8/2020	8/14/2021	8/13/2022	8/12/2023	8/10/2024
33	8/15/2020	8/21/2021	8/20/2022	8/19/2023	8/17/2024
34	8/22/2020	8/28/2021	8/27/2022	8/26/2023	8/24/2024
35	8/29/2020	9/4/2021	9/3/2022	9/2/2023	8/31/2024
36	9/5/2020	9/11/2021	9/10/2022	9/9/2023	9/7/2024
37	9/12/2020	9/18/2021	9/17/2022	9/16/2023	9/14/2024
38	9/19/2020	9/25/2021	9/24/2022	9/23/2023	9/21/2024
39	9/26/2020	10/2/2021	10/1/2022	9/30/2023	9/28/2024
40	10/3/2020	10/9/2021	10/8/2022	10/7/2023	10/5/2024
41	10/10/2020	10/16/2021	10/15/2022	10/14/2023	10/12/2024
42	10/17/2020	10/23/2021	10/22/2022	10/21/2023	10/19/2024
43	10/24/2020	10/30/2021	10/29/2022	10/28/2023	10/26/2024
44	10/31/2020	11/6/2021	11/5/2022	11/4/2023	11/2/2024
45	11/7/2020	11/13/2021	11/12/2022	11/11/2023	11/9/2024
46	11/14/2020	11/20/2021	11/19/2022	11/18/2023	11/16/2024
47	11/21/2020	11/27/2021	11/26/2022	11/25/2023	11/23/2024
48	11/28/2020	12/4/2021	12/3/2022	12/2/2023	11/30/2024
49	12/5/2020	12/11/2021	12/10/2022	12/9/2023	12/7/2024
50	12/12/2020	12/18/2021	12/17/2022	12/16/2023	12/14/2024
51	12/19/2020	12/25/2021	12/24/2022	12/23/2023	12/21/2024
52	12/26/2020	1/1/2022	12/31/2022	12/30/2023	12/28/2024
53	01/02/2021				

HAWAII STATE DEPARTMENT OF HEALTH
DISEASE OUTBREAK CONTROL DIVISION

Influenza/Respiratory Disease Surveillance Report

Morbidity and Mortality Weekly Report (MMWR)[1]

WEEK 50: DECEMBER 10, 2023– DECEMBER 16, 2023

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 2023–2024 influenza season which began the week ending October 7, 2023 (week 40[1] 2023) and will end the week ending on September 28, 2024 (week 39 2024).

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	3.9%	Higher than the previous week. Comparable to the Hawaii's historical baseline, lower to the national ILI rate, and higher than the 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	16.9%	Higher than the previous week. This number means that many, if not all, of the 83.1% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	14.1%	

Surveillance for Severe Outcomes		
Pneumonia, influenza and COVID-19 (PIC) mortality rate	7.5%	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	0 influenza-associated pediatric deaths have been reported from Hawaii this season to date.

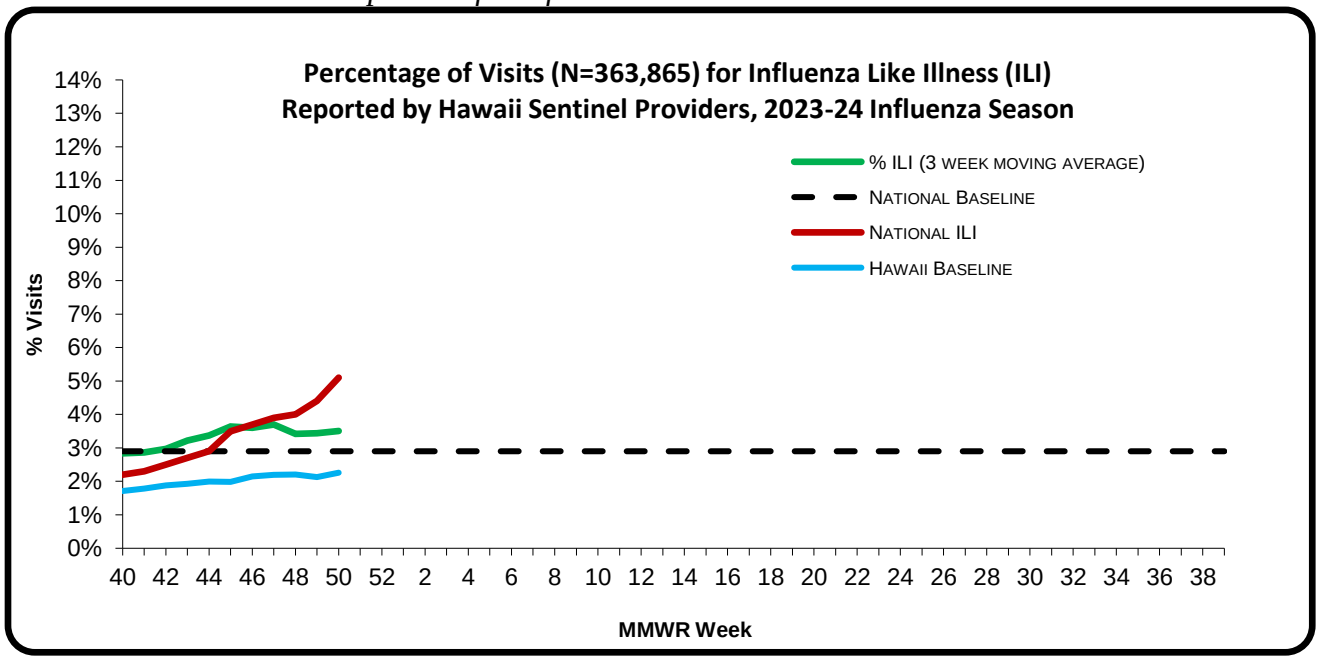
[1] MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week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

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. 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:

- ***3.9%** (season to date: **3.4%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.*
- *ILI visits were comparable to the historical baseline in Hawaii[2,3] (i.e., inside the 95% confidence interval).*
- *Hawaii's ILI outpatient visits were higher than the national baseline (**2.9%**)[4] (i.e., outside the 95% confidence interval) and lower to the national ILI rate (**5.1%**) (i.e. outside the 95% confidence interval).*
- *ILI activity level: Low[5]*
- *Geographic Spread: Sporadic Activity[6].*
- *ILI Cluster Activity: A cluster was reported to HDOH during week 50. The cluster occurred at a school in Honolulu. The cluster tested positive for influenza A.*



[2] The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022 and 2022-2023).

[3] 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.

[4] 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.

[5] There are 10 activity levels classified as minimal (levels 1-3), low (levels 4-5), moderate (levels 6-7), and high (levels 8-10).

[6] 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[7] 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*).

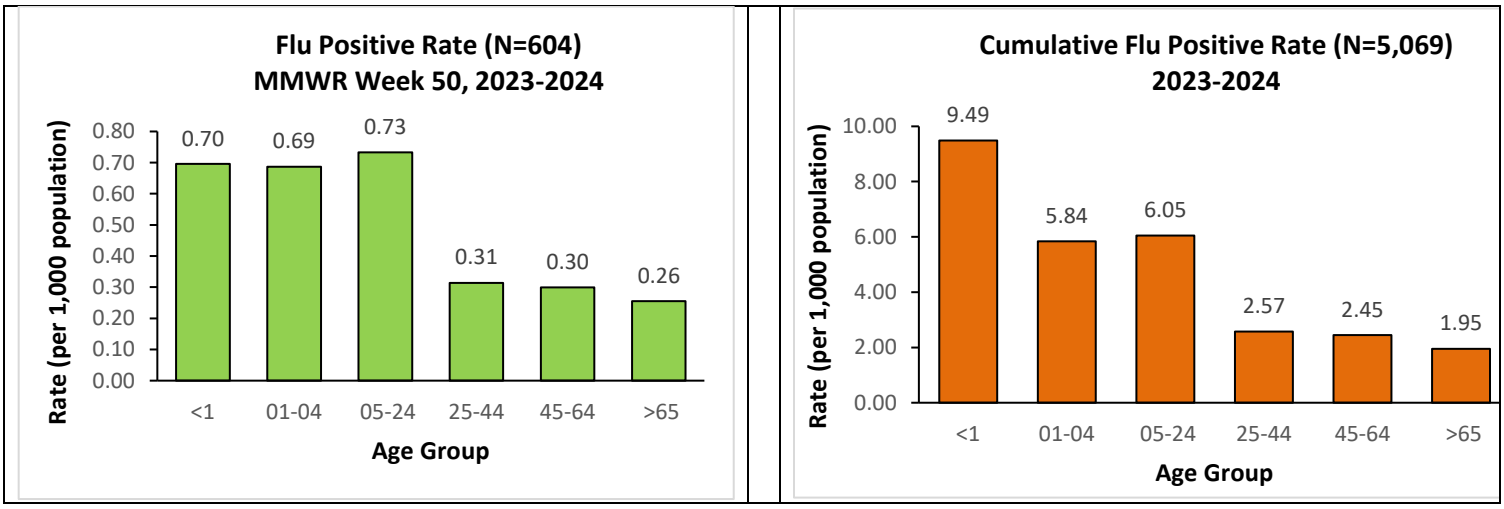
A. INFLUENZA:

- The following reflects laboratory findings for week 50 of the 2023–24 influenza season:
  - *A total of **3,573** specimens have been tested statewide for influenza viruses (positive: 604 [**16.9%**]). (Season to date: 35,825 tested (**14.1%** positive])*
    - *404 (11.3%) were screened only by rapid antigen tests with no confirmatory testing.*
    - *3,169 (88.7%) underwent confirmatory testing (either RT-PCR or viral culture).*
    - *2,969 (83.1%) were negative.*

Influenza type	*Current week 50 (%)*	*Season to date (%)*[8]
Influenza A (H1)[9]	*22 (3.6)*	*175 (3.4)*
Influenza A (H3)	*7 (1.2)*	*58 (1.1)*
Influenza A no subtyping	*528 (87.4)*	*3,867 (76.3)*
Influenza B (Yamagata)	*0 (0.0)*	*0 (0.0)*
Influenza B (Victoria)	*1 (0.2)*	*52 (1.0)*
Influenza B no genotyping	*46 (7.6)*	*917 (18.1)*

1. AGE DISTRIBUTION

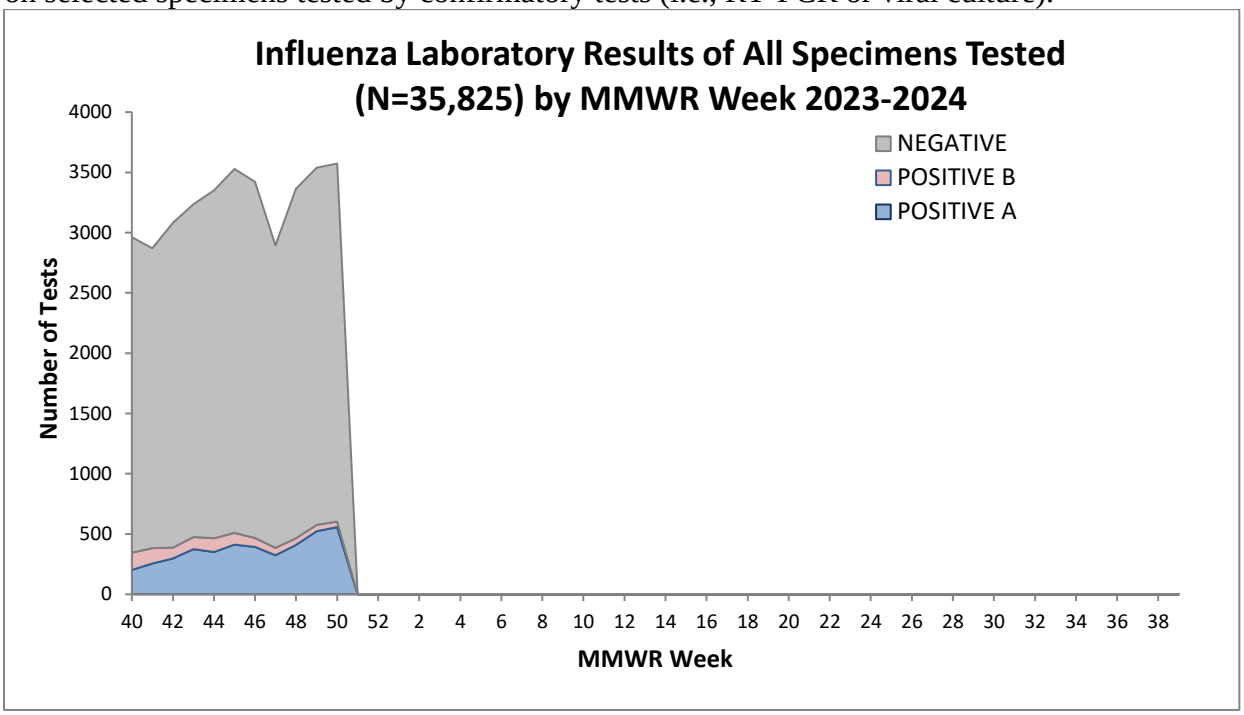
The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2023–24 influenza season.[10]

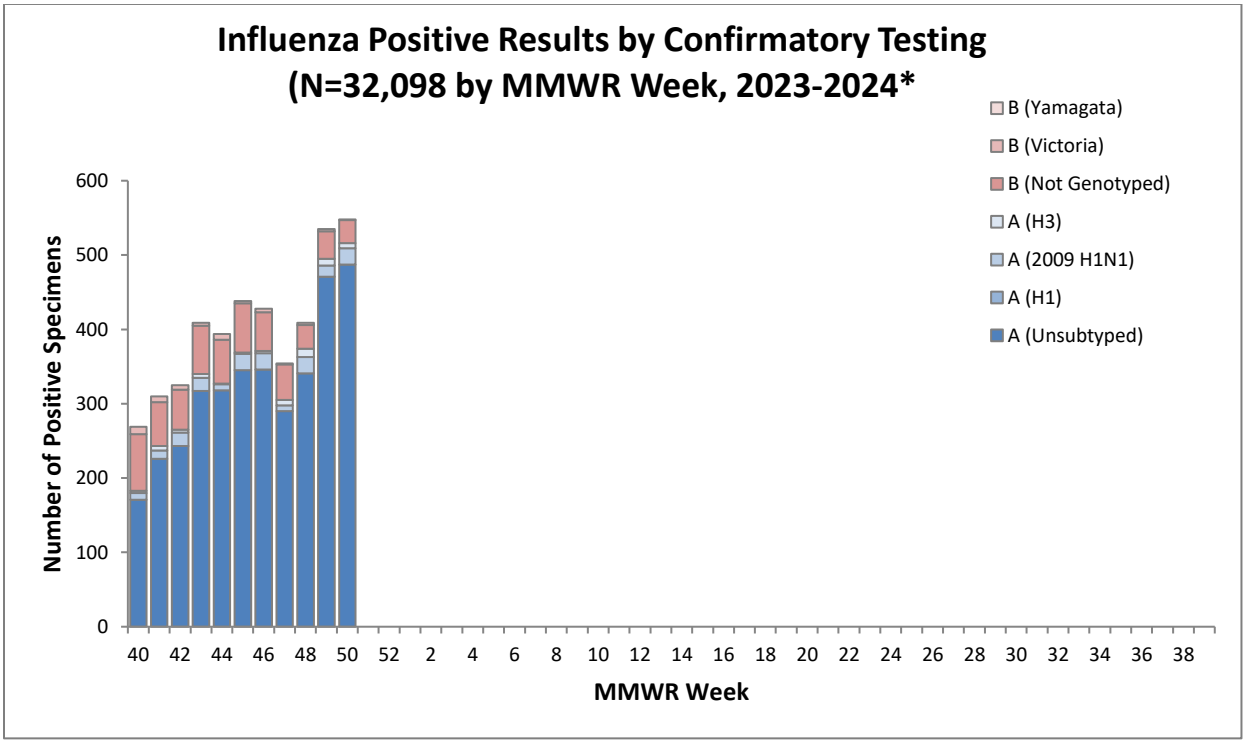


[7] Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.
[8] Influenza coding were updated to reflect a more accurate count.
[9] All influenza A H1 viruses detected this season have been 2009 H1N1.
[10] This represents an estimate of population-based rates based on available data.

2. LABORATORY TESTING

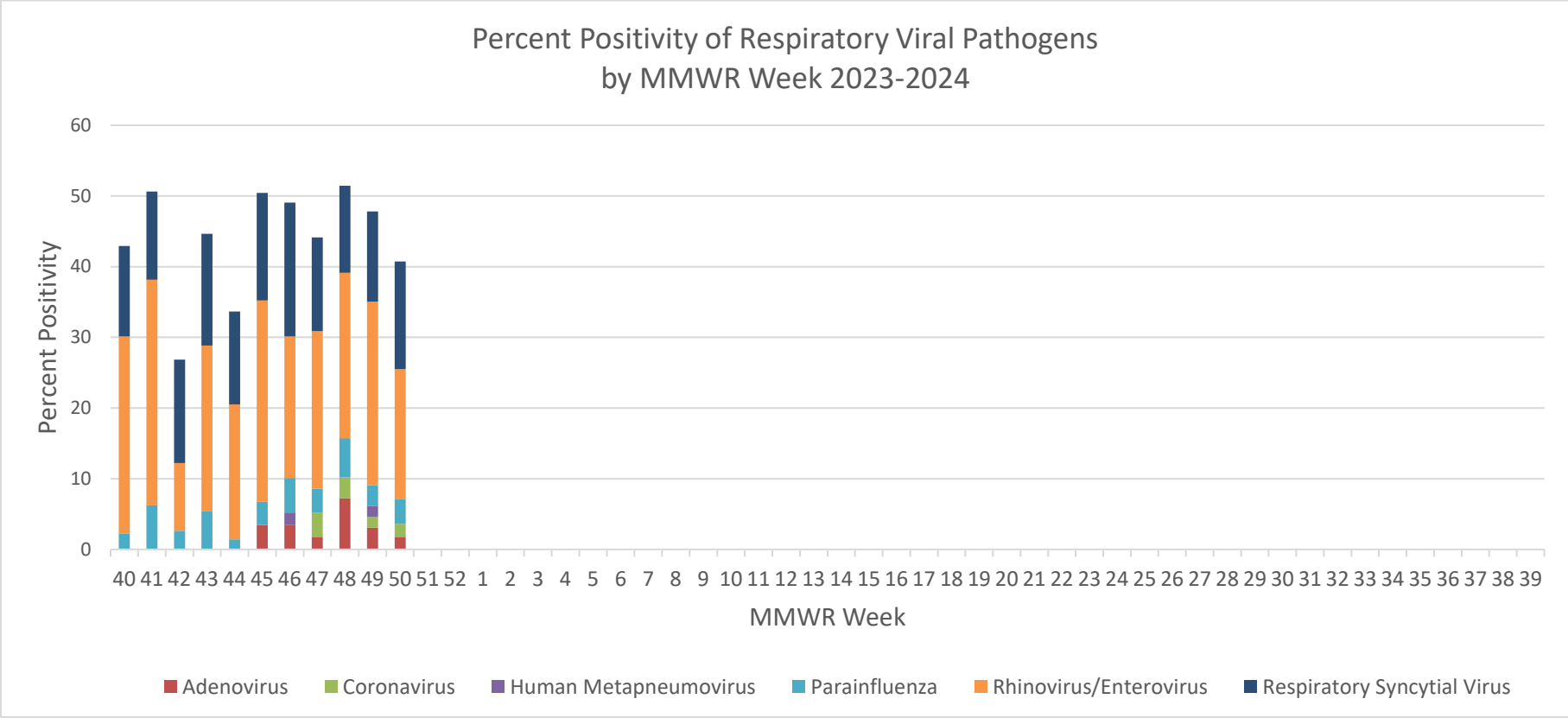
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2023–2024 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).





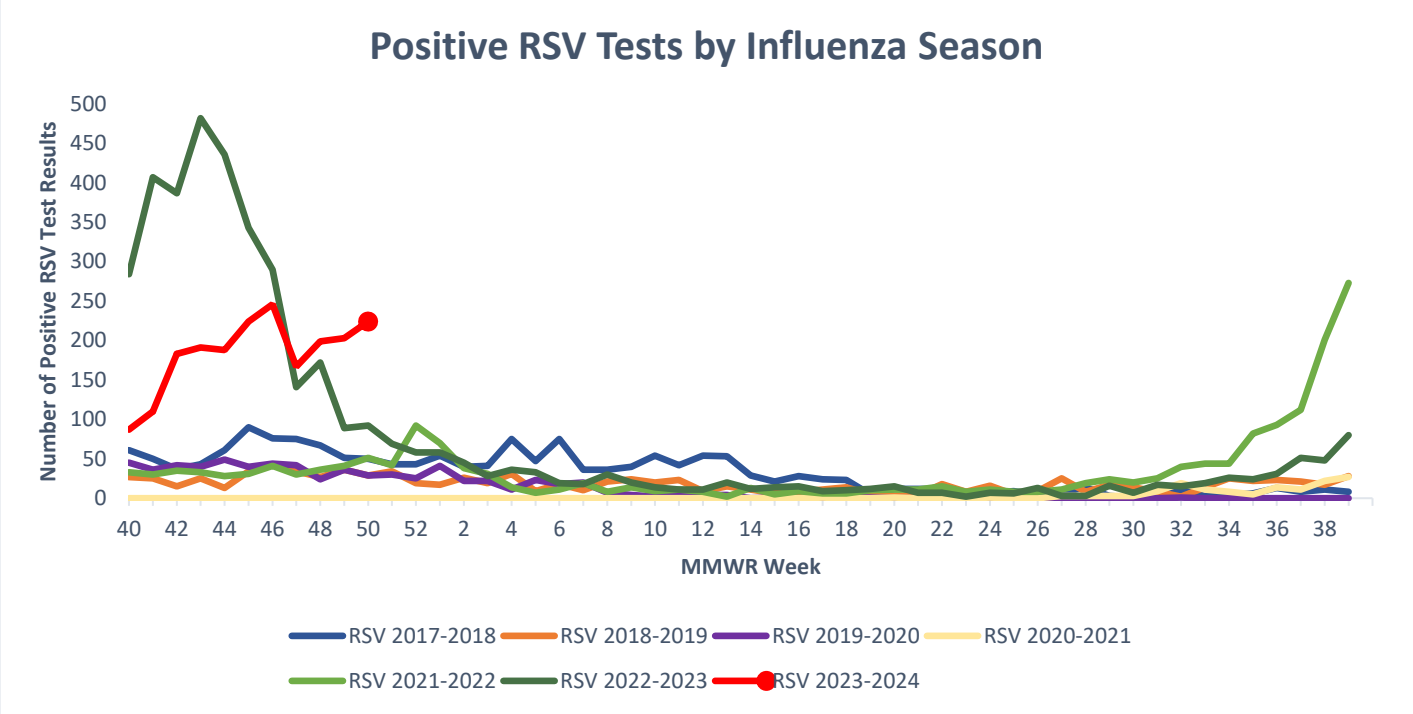
** Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.*

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**.

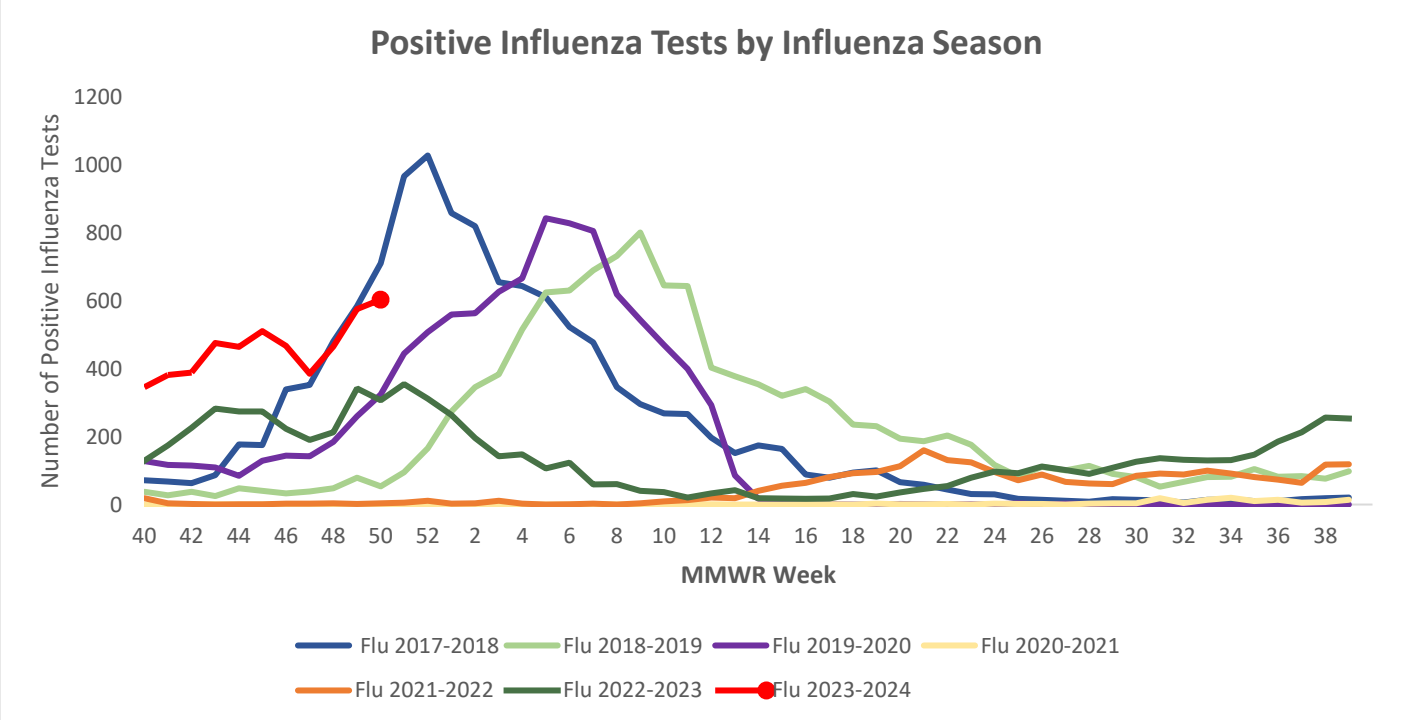


* *The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).*

RESPIRATORY SYNCYTIAL VIRUS (RSV) POSITIVE TEST RESULTS BY INFLUENZA SEASON: RSV case counts are lower than the previous season but is currently trending upwards for the 2023-2024 season. Of note, significantly more tests for RSV are being performed than in pre-COVID-19 seasons.



INFLUENZA POSITIVE TEST RESULTS BY INFLUENZA SEASON: Influenza cases appear to have increased earlier than past seasons in the 2023-2024 season, but it is not yet known whether case numbers will reach a peak similar to pre-COVID-19 seasons.



C. COVID-19 SENTINEL SURVEILLANCE: Due to the low volume of samples currently available through the influenza surveillance system, the COVID-19 sentinel surveillance data may not be accurately portraying COVID-19 activity in our communities. Reporting of the COVID-19 Sentinel Surveillance data will be paused while HODH re-evaluates the program to ensure that the reported data are accurate and representative.

HDOH is continuing to monitor COVID-19 activity throughout the state. To learn more, please visit the Hawaii's COVID-19 data website (*here*). For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website (*here*).

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

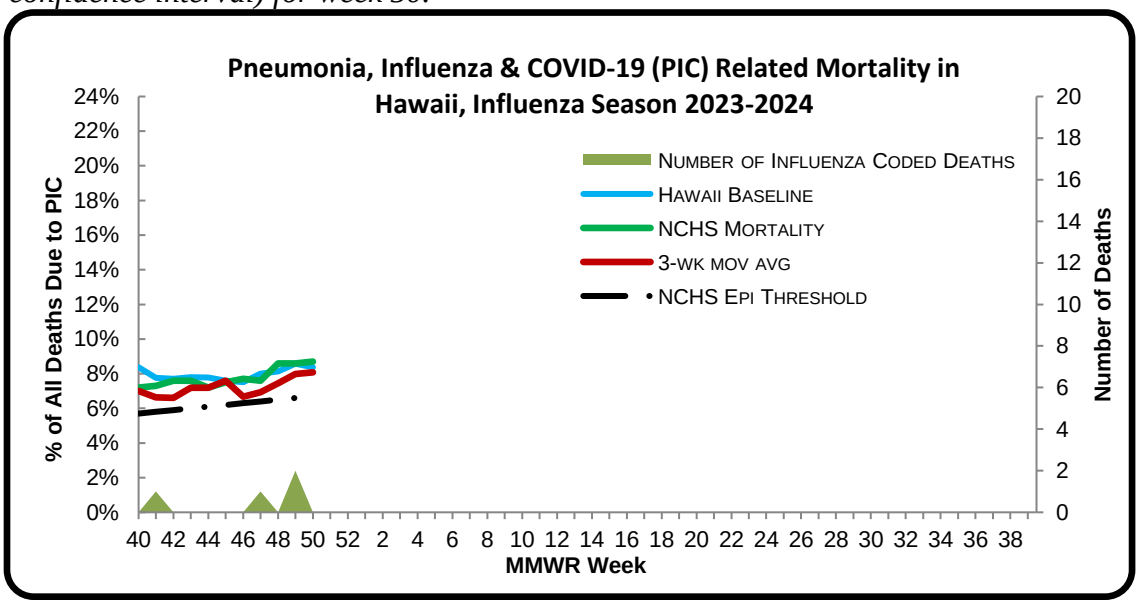
P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Due to the ongoing COVID-19 pandemic, CDC included total deaths from COVID-19 by age group to the death data. Previous studies had suggested that P&I is a good indicator of influenza-related deaths; however, data has shown that pneumonia deaths associated with influenza is now being impacted by COVID-19 related pneumonia. Due to this, CDC had added COVID-19 deaths into P&I to create the PIC (pneumonia, influenza, and/or COVID-19) classification.

To standardize Hawaii's influenza surveillance with CDC influenza surveillance guidelines, PIC deaths will be reported in lieu of P&I. Hawaii's baseline will begin to include PIC deaths starting from 2019-2020 flu season.

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

- ***7.5%*** *of all deaths that occurred in Hawaii during week 50 were related to pneumonia, influenza or COVID-19 (PIC)*[11]*. For the current season (season to date:* ***7.2%;*** *there have been 2,930 deaths from any cause, 214 of which were due to PIC*[12]*.*
- *The PIC rate was comparable to the historical baseline in Hawaii*[13] *(i.e., inside the 95% confidence interval).*

The Hawaii PIC rate was comparable to the CDC's National Center for Health Statistics (NCHS) PIC mortality[14] ***(8.7%)*** *(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 50.*



[11] The percent of deaths due to PIC displayed on the graph is the 3-week moving averages.

[12] PIC data reflect 67% of the data reported for the MMWR week. Changes to data are expected when PIC data reaches 100% completion.

[13] The Hawaii historical baseline (%PIC) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, and 2022-2023).

[14] 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, influenza, or COVID-19 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 COVID-19 death counts reported by NCHS are provisional and will not match counts in other sources, such as media reports or numbers from health departments. COVID-19 deaths may be classified or defined differently in various reporting and surveillance systems. The percentage of deaths due to pneumonia, influenza, and COVID-19 (PIC) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

INFLUENZA-ASSOCIATED PEDIATRIC DEATHS[15]:

- No new influenza-associated pediatric death was reported to Hawaii. There have been zero influenza-associated pediatric deaths reported in Hawaii during the 2023–2024 season.
- Nationally, no new influenza-associated pediatric deaths were reported to CDC during week 50. (2023-2024 season total: 14).

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 2023–2024 influenza season.*
- *One new human infection with novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (1), have been reported during the 2023–2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Netherlands during the 2023-2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Switzerland during the 2023-2024 influenza season.*
    - *One new human infection with influenza A(H1N2v) virus has been reported to WHO from Great Britain and Northern Ireland during the 2023-2024 influenza season.*

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 15th, 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

[15] 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.

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 21, 2023**. Two human cases of influenza A(H5N1) were reported to WHO by Cambodia. One case was hospitalized and passed away. The other case was treated and remain at the hospital for further care. Both cases had exposure to sick and dead chickens prior to the illness onset. One human cases of influenza A(H5N6) were reported to WHO by China. Case was hospitalized in severe condition with pneumonia and later passed away. Case was exposed to a live poultry market. Three human cases of influenza A(H9N2) were reported to WHO by China. One case was hospitalized and recovered. Two other cases were from the same village but was not hospitalized. Two cases were exposed to backyard poultry while one case was exposed to a live poultry market.

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 2023–2024 Influenza Vaccine:

The composition of the 2023–2024 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2023–2024 influenza trivalent vaccine contain an influenza A/Wisconsin/67/2022 (H1N1)pdm09-like virus, influenza A/Darwin/6/2021 (H3N2)-like virus, and influenza B/Austria/1359417/2021-like virus (B/Victoria lineage). 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/Wisconsin/67/2022 (H1N1)pdm09-like virus, an influenza A/Darwin/6/2021 (H3N2)-like virus, an influenza B/Austria/1359417/2021-like virus (B/Victoria lineage), 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.

Centers for Disease Control and Prevention	General Influenza National ILI and P&I Data Vaccine Virus Selection CDC Web Tool for Respiratory Viruses
Flu.gov	General Influenza Information
HDOH Flu and Pneumonia	General Influenza Surveillance To find out more information or join the sentinel physician program, email the Influenza Surveillance Coordinator
World Health Organization	General Global and Local Influenza Avian Influenza

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	2020	2021	2022	2023	2024
1	1/4/2020	1/9/2021	1/8/2022	1/7/2023	1/6/2024
2	1/11/2020	1/16/2021	1/15/2022	1/14/2023	1/13/2024
3	1/18/2020	1/23/2021	1/22/2022	1/21/2023	1/20/2024
4	1/25/2020	1/30/2021	1/29/2022	1/28/2023	1/27/2024
5	2/1/2020	2/6/2021	2/5/2022	2/4/2023	2/3/2024
6	2/8/2020	2/13/2021	2/12/2022	2/11/2023	2/10/2024
7	2/15/2020	2/20/2021	2/19/2022	2/18/2023	2/17/2024
8	2/22/2020	2/27/2021	2/26/2022	2/25/2023	2/24/2024
9	2/29/2020	3/6/2021	3/5/2022	3/4/2023	3/2/2024
10	3/7/2020	3/13/2021	3/12/2022	3/11/2023	3/9/2024
11	3/14/2020	3/20/2021	3/19/2022	3/18/2023	3/16/2024
12	3/21/2020	3/27/2021	3/26/2022	3/25/2023	3/23/2024
13	3/28/2020	4/3/2021	4/2/2022	4/1/2023	3/30/2024
14	4/4/2020	4/10/2021	4/9/2022	4/8/2023	4/6/2024
15	4/11/2020	4/17/2021	4/16/2022	4/15/2023	4/13/2024
16	4/18/2020	4/24/2021	4/23/2022	4/22/2023	4/20/2024
17	4/25/2020	5/1/2021	4/30/2022	4/29/2023	4/27/2024
18	5/2/2020	5/8/2021	5/7/2022	5/6/2023	5/4/2024
19	5/9/2020	5/15/2021	5/14/2022	5/13/2023	5/11/2024
20	5/16/2020	5/22/2021	5/21/2022	5/20/2023	5/18/2024
21	5/23/2020	5/29/2021	5/28/2022	5/27/2023	5/25/2024
22	5/30/2020	6/5/2021	6/4/2022	6/3/2023	6/1/2024
23	6/6/2020	6/12/2021	6/11/2022	6/10/2023	6/8/2024
24	6/13/2020	6/19/2021	6/18/2022	6/17/2023	6/15/2024
25	6/20/2020	6/26/2021	6/25/2022	6/24/2023	6/22/2024
26	6/27/2020	7/3/2021	7/2/2022	7/1/2023	6/29/2024
27	7/4/2020	7/10/2021	7/9/2022	7/8/2023	7/6/2024
28	7/11/2020	7/17/2021	7/16/2022	7/15/2023	7/13/2024
29	7/18/2020	7/24/2021	7/23/2022	7/22/2023	7/20/2024
30	7/25/2020	7/31/2021	7/30/2022	7/29/2023	7/27/2024
31	8/1/2020	8/7/2021	8/6/2022	8/5/2023	8/3/2024
32	8/8/2020	8/14/2021	8/13/2022	8/12/2023	8/10/2024
33	8/15/2020	8/21/2021	8/20/2022	8/19/2023	8/17/2024
34	8/22/2020	8/28/2021	8/27/2022	8/26/2023	8/24/2024
35	8/29/2020	9/4/2021	9/3/2022	9/2/2023	8/31/2024
36	9/5/2020	9/11/2021	9/10/2022	9/9/2023	9/7/2024
37	9/12/2020	9/18/2021	9/17/2022	9/16/2023	9/14/2024
38	9/19/2020	9/25/2021	9/24/2022	9/23/2023	9/21/2024
39	9/26/2020	10/2/2021	10/1/2022	9/30/2023	9/28/2024
40	10/3/2020	10/9/2021	10/8/2022	10/7/2023	10/5/2024
41	10/10/2020	10/16/2021	10/15/2022	10/14/2023	10/12/2024
42	10/17/2020	10/23/2021	10/22/2022	10/21/2023	10/19/2024
43	10/24/2020	10/30/2021	10/29/2022	10/28/2023	10/26/2024
44	10/31/2020	11/6/2021	11/5/2022	11/4/2023	11/2/2024
45	11/7/2020	11/13/2021	11/12/2022	11/11/2023	11/9/2024
46	11/14/2020	11/20/2021	11/19/2022	11/18/2023	11/16/2024
47	11/21/2020	11/27/2021	11/26/2022	11/25/2023	11/23/2024
48	11/28/2020	12/4/2021	12/3/2022	12/2/2023	11/30/2024
49	12/5/2020	12/11/2021	12/10/2022	12/9/2023	12/7/2024
50	12/12/2020	12/18/2021	12/17/2022	12/16/2023	12/14/2024
51	12/19/2020	12/25/2021	12/24/2022	12/23/2023	12/21/2024
52	12/26/2020	1/1/2022	12/31/2022	12/30/2023	12/28/2024
53	01/02/2021				

HAWAII STATE DEPARTMENT OF HEALTH
DISEASE OUTBREAK CONTROL DIVISION

Influenza/Respiratory Disease Surveillance Report

Morbidity and Mortality Weekly Report (MMWR)[1]

WEEK 51: DECEMBER 17, 2023– DECEMBER 23, 2023

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 2023–2024 influenza season which began the week ending October 7, 2023 (week 40[1] 2023) and will end the week ending on September 28, 2024 (week 39 2024).

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	3.5%	Lower than the previous week. Comparable to the Hawaii's historical baseline, lower to the national ILI rate, and comparable to the national baseline.
Number of ILI clusters reported to HDOH	3	There have been 9 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	17.9%	Higher than the previous week. This number means that many, if not all, of the 82.1% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	14.5%	

Surveillance for Severe Outcomes		
Pneumonia, influenza and COVID-19 (PIC) mortality rate	4.4%	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	7	0 influenza-associated pediatric deaths have been reported from Hawaii this season to date.

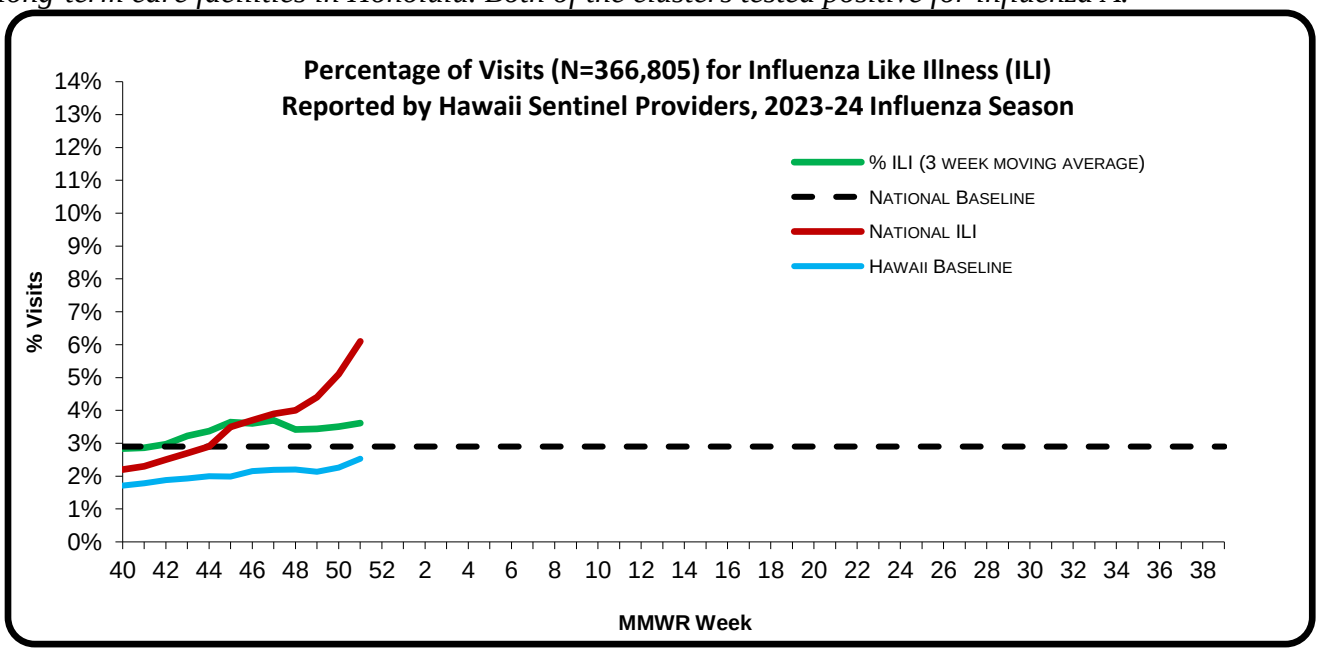
[1] MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week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

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. 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:

- ***3.5%** (season to date: **3.4%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.*
- *ILI visits were comparable to the historical baseline in Hawaii[2,3] (i.e., inside the 95% confidence interval).*
- *Hawaii's ILI outpatient visits were comparable to the national baseline (**2.9%**)[4] (i.e., inside the 95% confidence interval) and lower to the national ILI rate (**6.1%**) (i.e. outside the 95% confidence interval).*
- *ILI activity level: Low[5]*
- *Geographic Spread: Sporadic Activity[6].*
- *ILI Cluster Activity: Two clusters were reported to HDOH during week 51. The clusters occurred at different long-term care facilities in Honolulu. Both of the clusters tested positive for influenza A.*



[2] The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022 and 2022-2023).

[3] 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.

[4] 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.

[5] There are 10 activity levels classified as minimal (levels 1-3), low (levels 4-5), moderate (levels 6-7), and high (levels 8-10).

[6] 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[7] 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*).

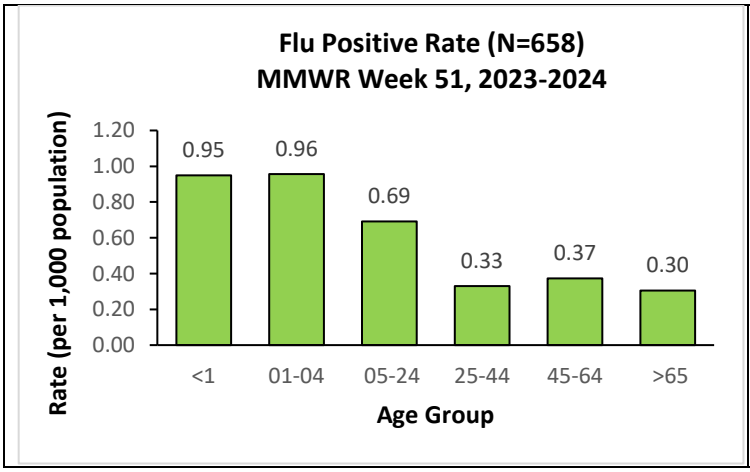
A. INFLUENZA:

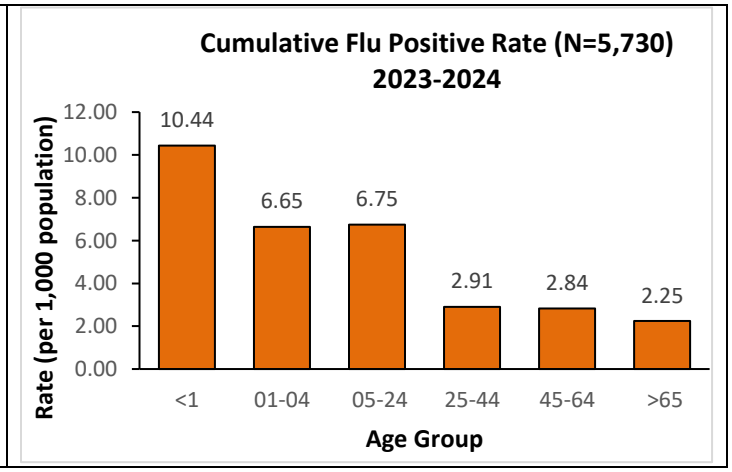
- The following reflects laboratory findings for week 51 of the 2023–24 influenza season:
  - *A total of **3,672** specimens have been tested statewide for influenza viruses (positive: 658 [**17.9%**]). (Season to date: 39,499 tested (**14.5%** positive])*
    - *317 (8.6%) were screened only by rapid antigen tests with no confirmatory testing.*
    - *3,355 (91.4%) underwent confirmatory testing (either RT-PCR or viral culture).*
    - *3,014 (82.1%) were negative.*

Influenza type	*Current week 51 (%)*	*Season to date (%)*[8]
Influenza A (H1)[9]	*29 (4.4)*	*210 (3.7)*
Influenza A (H3)	*6 (0.9)*	*66 (1.1)*
Influenza A no subtyping	*580 (88.2)*	*4,440 (77.5)*
Influenza B (Yamagata)	*0 (0.0)*	*0 (0.0)*
Influenza B (Victoria)	*4 (0.6)*	*58 (1.0)*
Influenza B no genotyping	*39 (5.9)*	*956 (16.7)*

1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2023–24 influenza season.[10]

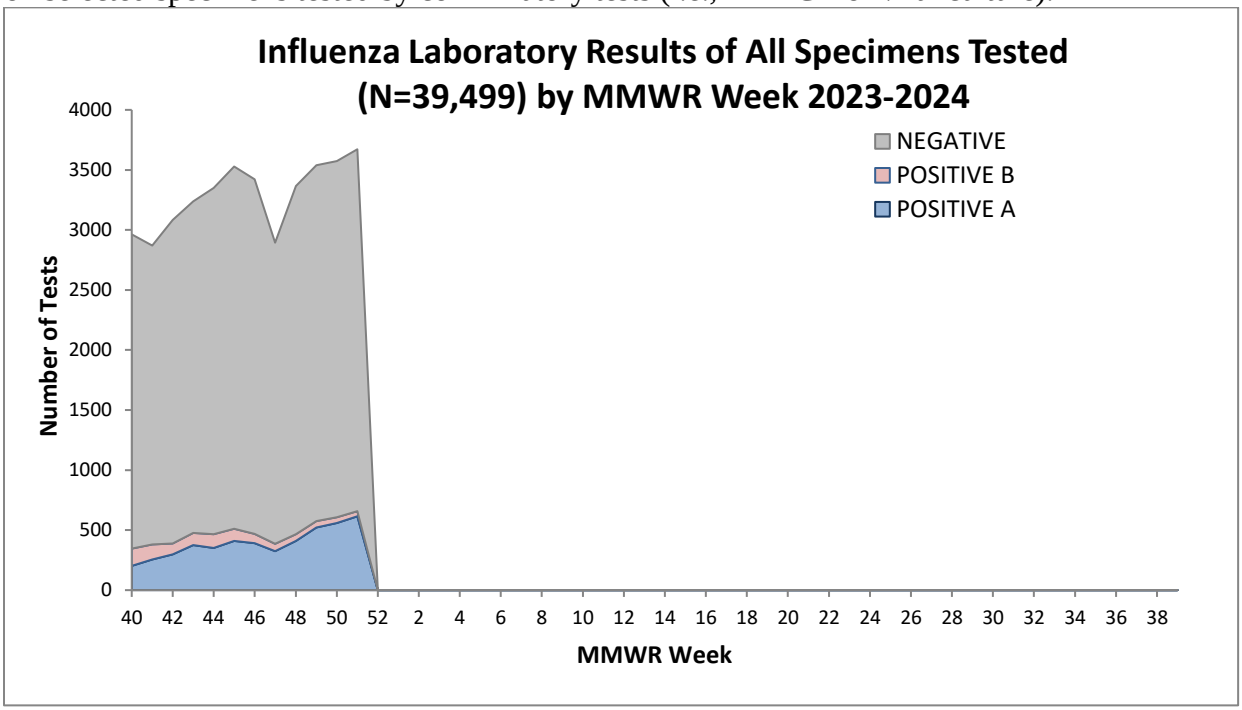


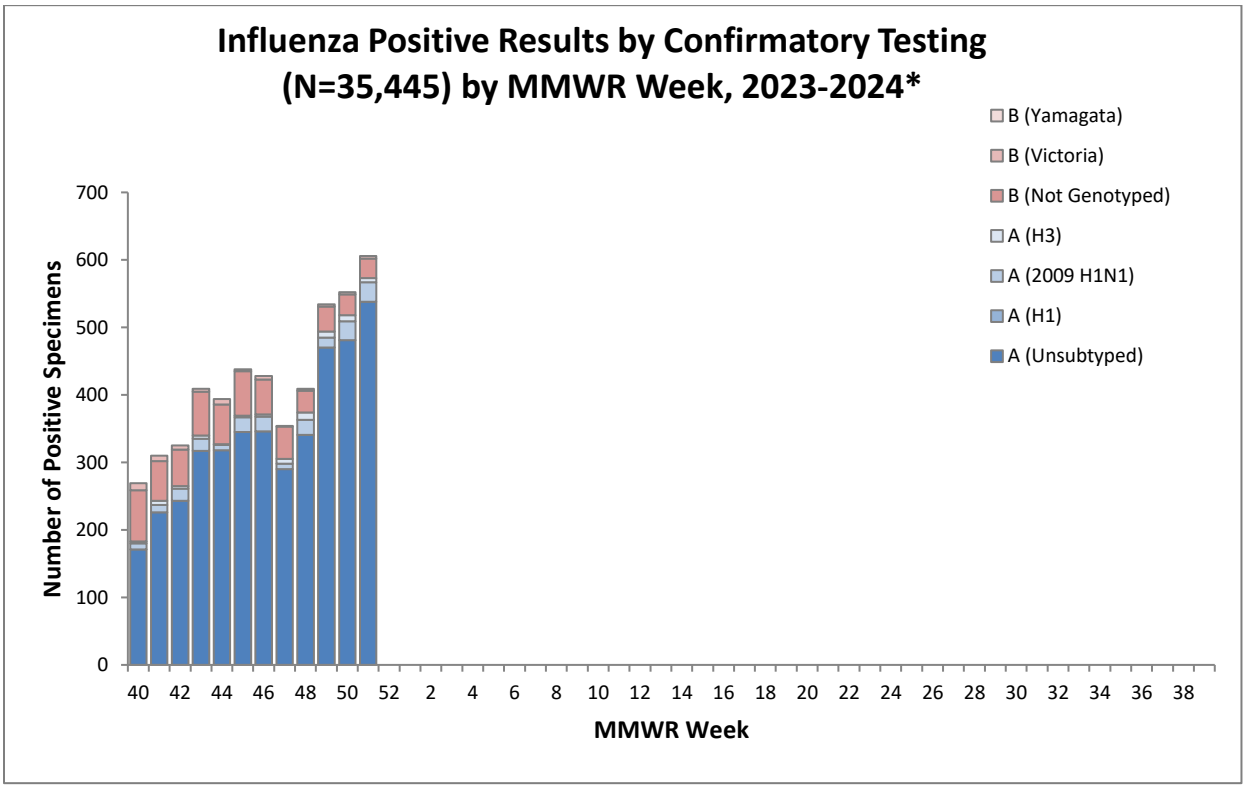


[7] Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.
[8] Influenza coding were updated to reflect a more accurate count.
[9] All influenza A H1 viruses detected this season have been 2009 H1N1.
[10] This represents an estimate of population-based rates based on available data.

2. LABORATORY TESTING

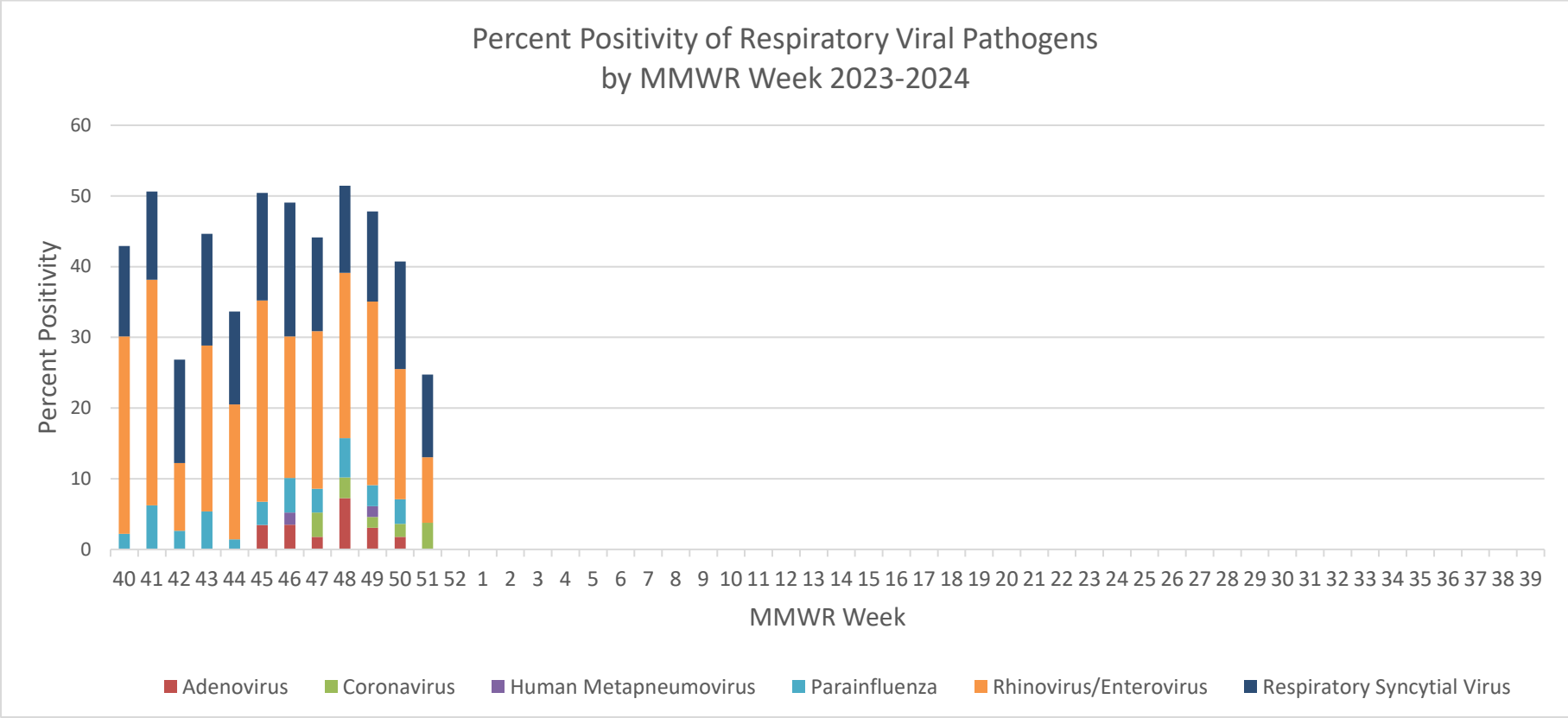
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2023–2024 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).





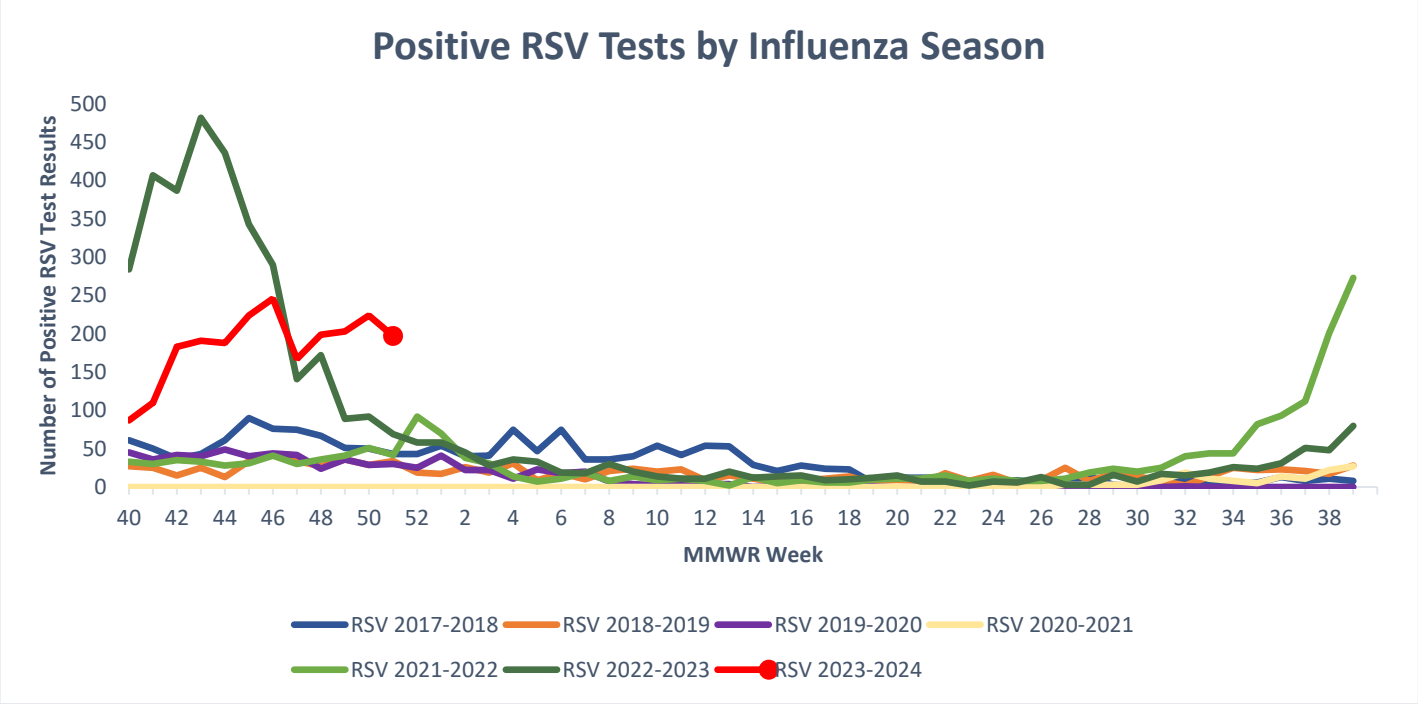
** Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.*

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**.

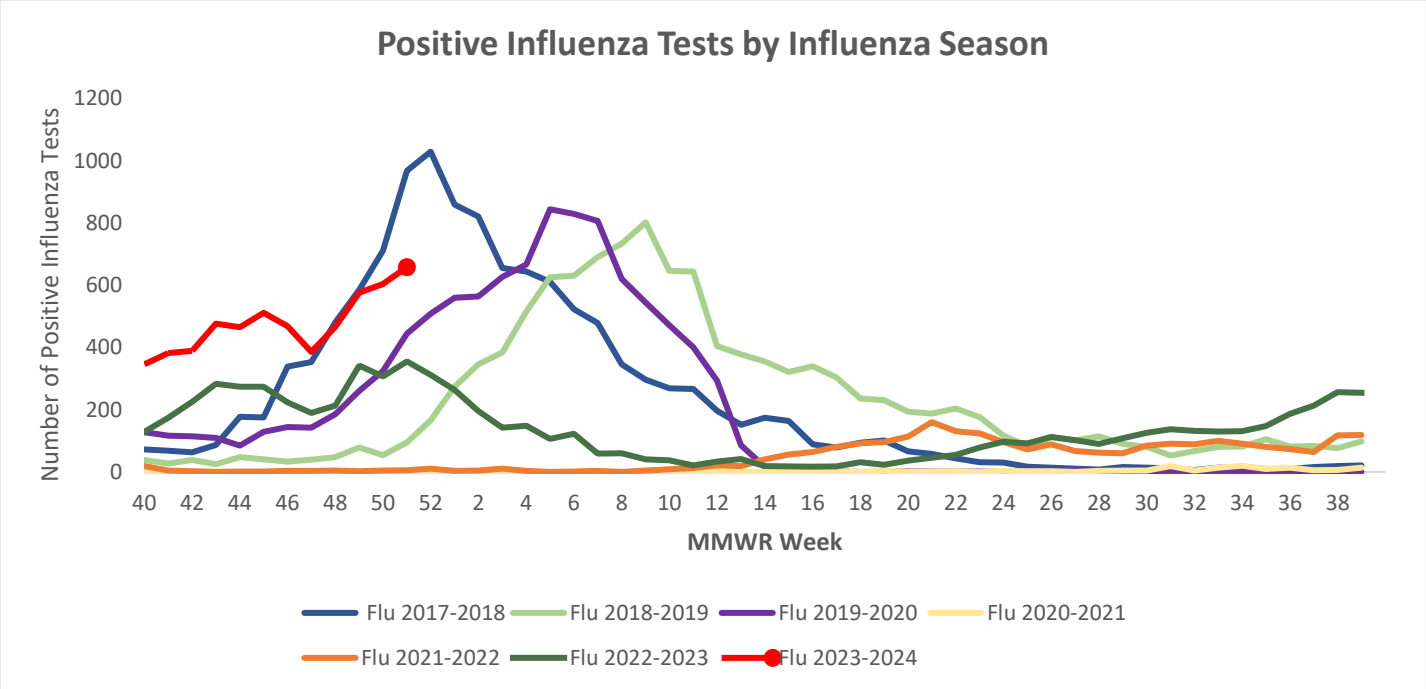


* *The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).*

RESPIRATORY SYNCYTIAL VIRUS (RSV) POSITIVE TEST RESULTS BY INFLUENZA SEASON: RSV case counts are lower than the previous season but is currently trending upwards for the 2023-2024 season. Of note, significantly more tests for RSV are being performed than in pre-COVID-19 seasons.



INFLUENZA POSITIVE TEST RESULTS BY INFLUENZA SEASON: Influenza cases appear to have increased earlier than past seasons in the 2023-2024 season, but it is not yet known whether case numbers will reach a peak similar to pre-COVID-19 seasons.



C. COVID-19 SENTINEL SURVEILLANCE: Due to the low volume of samples currently available through the influenza surveillance system, the COVID-19 sentinel surveillance data may not be accurately portraying COVID-19 activity in our communities. Reporting of the COVID-19 Sentinel Surveillance data will be paused while HODH re-evaluates the program to ensure that the reported data are accurate and representative.

HDOH is continuing to monitor COVID-19 activity throughout the state. To learn more, please visit the Hawaii's COVID-19 data website (*here*). For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website (*here*).

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

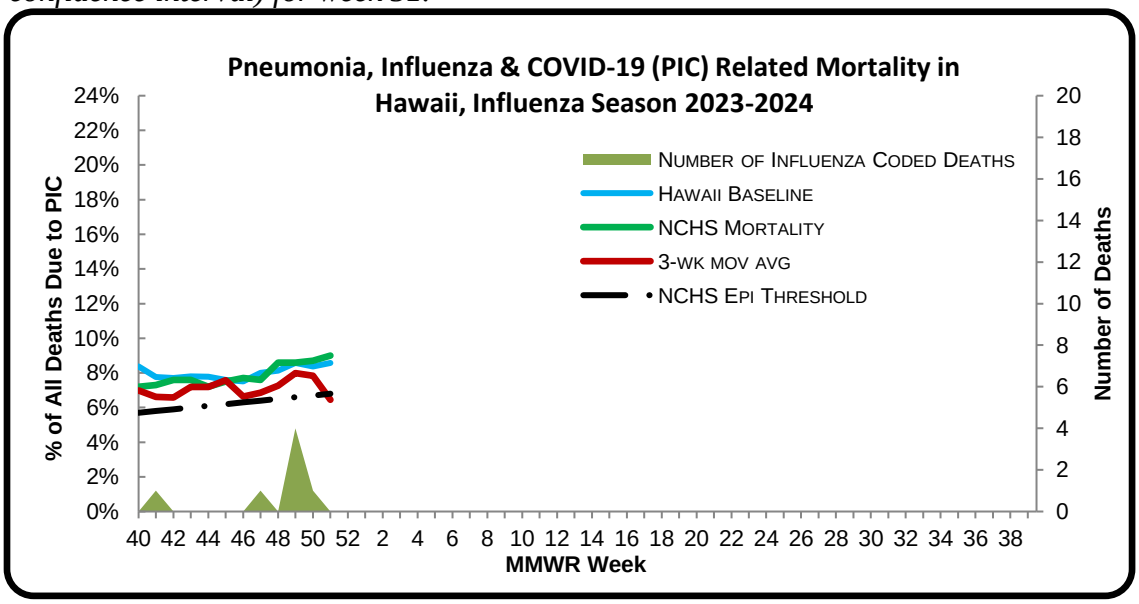
P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Due to the ongoing COVID-19 pandemic, CDC included total deaths from COVID-19 by age group to the death data. Previous studies had suggested that P&I is a good indicator of influenza-related deaths; however, data has shown that pneumonia deaths associated with influenza is now being impacted by COVID-19 related pneumonia. Due to this, CDC had added COVID-19 deaths into P&I to create the PIC (pneumonia, influenza, and/or COVID-19) classification.

To standardize Hawaii's influenza surveillance with CDC influenza surveillance guidelines, PIC deaths will be reported in lieu of P&I. Hawaii's baseline will begin to include PIC deaths starting from 2019-2020 flu season.

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

- ***4.4%*** *of all deaths that occurred in Hawaii during week 51 were related to pneumonia, influenza or COVID-19 (PIC)*[11]*. For the current season (season to date:* ***7.2%;*** *there have been 3,142 deaths from any cause, 225 of which were due to PIC*[12]*.*
- *The PIC rate was comparable to the historical baseline in Hawaii*[13] *(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[14] *(**9.0%**) (i.e., outside the 95% confidence interval) and comparable to the national epidemic threshold (**6.8**%) (i.e., inside the 95% confidence interval) for week 51.*



[11] The percent of deaths due to PIC displayed on the graph is the 3-week moving averages.

[12] PIC data reflect 58.9% of the data reported for the MMWR week. Changes to data are expected when PIC data reaches 100% completion.

[13] The Hawaii historical baseline (%PIC) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, and 2022-2023).

[14] 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, influenza, or COVID-19 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 COVID-19 death counts reported by NCHS are provisional and will not match counts in other sources, such as media reports or numbers from health departments. COVID-19 deaths may be classified or defined differently in various reporting and surveillance systems. The percentage of deaths due to pneumonia, influenza, and COVID-19 (PIC) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

INFLUENZA-ASSOCIATED PEDIATRIC DEATHS[15]:

- No new influenza-associated pediatric death was reported to Hawaii. There have been zero influenza-associated pediatric deaths reported in Hawaii during the 2023–2024 season.
- Nationally, seven new influenza-associated pediatric deaths were reported to CDC during week 51. Six deaths occurred during Weeks 49, 50 and 51 (2023-2024 season total: 20). One death occurred during the 2022-2023 season (2022-2023 season total: 183)

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 2023–2024 influenza season.*
- *One new human infection with novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (1), have been reported during the 2023–2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Netherlands during the 2023-2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Switzerland during the 2023-2024 influenza season.*
    - *One new human infection with influenza A(H1N2v) virus has been reported to WHO from Great Britain and Northern Ireland during the 2023-2024 influenza season.*

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 15th, 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

[15] 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.

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 21, 2023**.

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 2023–2024 Influenza Vaccine**:**

The composition of the 2023–2024 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2023–2024 influenza trivalent vaccine contain an influenza A/Wisconsin/67/2022 (H1N1)pdm09-like virus, influenza A/Darwin/6/2021 (H3N2)-like virus, and influenza B/Austria/1359417/2021-like virus (B/Victoria lineage). 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/Wisconsin/67/2022 (H1N1)pdm09-like virus, an influenza A/Darwin/6/2021 (H3N2)-like virus, an influenza B/Austria/1359417/2021-like virus (B/Victoria lineage), 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.

Centers for Disease Control and Prevention	General Influenza National ILI and P&I Data Vaccine Virus Selection CDC Web Tool for Respiratory Viruses
Flu.gov	General Influenza Information
HDOH Flu and Pneumonia	General Influenza Surveillance To find out more information or join the sentinel physician program, email the Influenza Surveillance Coordinator
World Health Organization	General Global and Local Influenza Avian Influenza

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	2020	2021	2022	2023	2024
1	1/4/2020	1/9/2021	1/8/2022	1/7/2023	1/6/2024
2	1/11/2020	1/16/2021	1/15/2022	1/14/2023	1/13/2024
3	1/18/2020	1/23/2021	1/22/2022	1/21/2023	1/20/2024
4	1/25/2020	1/30/2021	1/29/2022	1/28/2023	1/27/2024
5	2/1/2020	2/6/2021	2/5/2022	2/4/2023	2/3/2024
6	2/8/2020	2/13/2021	2/12/2022	2/11/2023	2/10/2024
7	2/15/2020	2/20/2021	2/19/2022	2/18/2023	2/17/2024
8	2/22/2020	2/27/2021	2/26/2022	2/25/2023	2/24/2024
9	2/29/2020	3/6/2021	3/5/2022	3/4/2023	3/2/2024
10	3/7/2020	3/13/2021	3/12/2022	3/11/2023	3/9/2024
11	3/14/2020	3/20/2021	3/19/2022	3/18/2023	3/16/2024
12	3/21/2020	3/27/2021	3/26/2022	3/25/2023	3/23/2024
13	3/28/2020	4/3/2021	4/2/2022	4/1/2023	3/30/2024
14	4/4/2020	4/10/2021	4/9/2022	4/8/2023	4/6/2024
15	4/11/2020	4/17/2021	4/16/2022	4/15/2023	4/13/2024
16	4/18/2020	4/24/2021	4/23/2022	4/22/2023	4/20/2024
17	4/25/2020	5/1/2021	4/30/2022	4/29/2023	4/27/2024
18	5/2/2020	5/8/2021	5/7/2022	5/6/2023	5/4/2024
19	5/9/2020	5/15/2021	5/14/2022	5/13/2023	5/11/2024
20	5/16/2020	5/22/2021	5/21/2022	5/20/2023	5/18/2024
21	5/23/2020	5/29/2021	5/28/2022	5/27/2023	5/25/2024
22	5/30/2020	6/5/2021	6/4/2022	6/3/2023	6/1/2024
23	6/6/2020	6/12/2021	6/11/2022	6/10/2023	6/8/2024
24	6/13/2020	6/19/2021	6/18/2022	6/17/2023	6/15/2024
25	6/20/2020	6/26/2021	6/25/2022	6/24/2023	6/22/2024
26	6/27/2020	7/3/2021	7/2/2022	7/1/2023	6/29/2024
27	7/4/2020	7/10/2021	7/9/2022	7/8/2023	7/6/2024
28	7/11/2020	7/17/2021	7/16/2022	7/15/2023	7/13/2024
29	7/18/2020	7/24/2021	7/23/2022	7/22/2023	7/20/2024
30	7/25/2020	7/31/2021	7/30/2022	7/29/2023	7/27/2024
31	8/1/2020	8/7/2021	8/6/2022	8/5/2023	8/3/2024
32	8/8/2020	8/14/2021	8/13/2022	8/12/2023	8/10/2024
33	8/15/2020	8/21/2021	8/20/2022	8/19/2023	8/17/2024
34	8/22/2020	8/28/2021	8/27/2022	8/26/2023	8/24/2024
35	8/29/2020	9/4/2021	9/3/2022	9/2/2023	8/31/2024
36	9/5/2020	9/11/2021	9/10/2022	9/9/2023	9/7/2024
37	9/12/2020	9/18/2021	9/17/2022	9/16/2023	9/14/2024
38	9/19/2020	9/25/2021	9/24/2022	9/23/2023	9/21/2024
39	9/26/2020	10/2/2021	10/1/2022	9/30/2023	9/28/2024
40	10/3/2020	10/9/2021	10/8/2022	10/7/2023	10/5/2024
41	10/10/2020	10/16/2021	10/15/2022	10/14/2023	10/12/2024
42	10/17/2020	10/23/2021	10/22/2022	10/21/2023	10/19/2024
43	10/24/2020	10/30/2021	10/29/2022	10/28/2023	10/26/2024
44	10/31/2020	11/6/2021	11/5/2022	11/4/2023	11/2/2024
45	11/7/2020	11/13/2021	11/12/2022	11/11/2023	11/9/2024
46	11/14/2020	11/20/2021	11/19/2022	11/18/2023	11/16/2024
47	11/21/2020	11/27/2021	11/26/2022	11/25/2023	11/23/2024
48	11/28/2020	12/4/2021	12/3/2022	12/2/2023	11/30/2024
49	12/5/2020	12/11/2021	12/10/2022	12/9/2023	12/7/2024
50	12/12/2020	12/18/2021	12/17/2022	12/16/2023	12/14/2024
51	12/19/2020	12/25/2021	12/24/2022	12/23/2023	12/21/2024
52	12/26/2020	1/1/2022	12/31/2022	12/30/2023	12/28/2024
53	01/02/2021				

HAWAII STATE DEPARTMENT OF HEALTH
DISEASE OUTBREAK CONTROL DIVISION

Influenza/Respiratory Disease Surveillance Report

Morbidity and Mortality Weekly Report (MMWR)[1]

WEEK 52: DECEMBER 24, 2023– DECEMBER 30, 2023

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 2023–2024 influenza season which began the week ending October 7, 2023 (week 40[1] 2023) and will end the week ending on September 28, 2024 (week 39 2024).

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	4.8%	Higher than the previous week. Comparable to the Hawaii's historical baseline, lower to the national ILI rate, and higher than the national baseline.
Number of ILI clusters reported to HDOH	1	There have been 10 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	18.9%	Higher than the previous week. This number means that many, if not all, of the 81.1% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	14.9%	

Surveillance for Severe Outcomes		
Pneumonia, influenza and COVID-19 (PIC) mortality rate	4.0%	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	27	0 influenza-associated pediatric deaths have been reported from Hawaii this season to date.

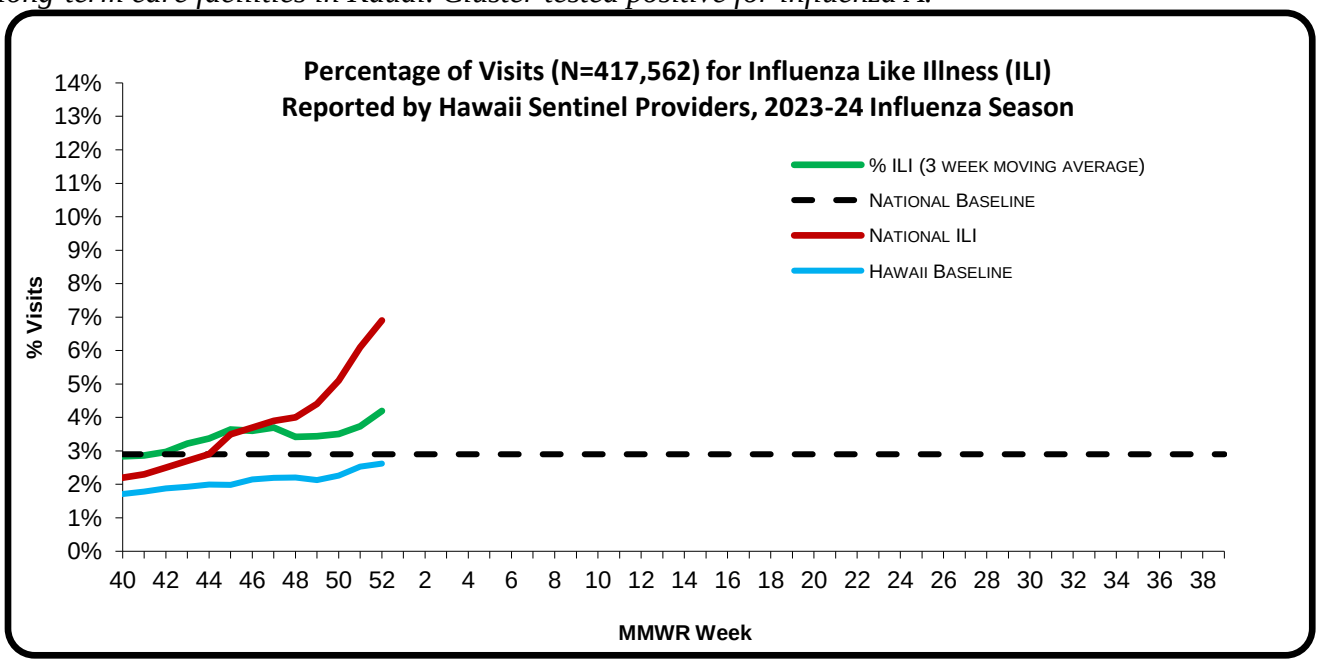
[1] MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week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

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. 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:

- ***4.8**% (season to date: **3.5**%) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.*
- *ILI visits were comparable to the historical baseline in Hawaii[2,3] (i.e., inside the 95% confidence interval).*
- *Hawaii's ILI outpatient visits were higher than the national baseline (**2.9%**)[4] (i.e., outside the 95% confidence interval) and lower to the national ILI rate (**6.9%**) (i.e. outside the 95% confidence interval).*
- *ILI activity level: Low[5]*
- *Geographic Spread: Sporadic Activity[6].*
- *ILI Cluster Activity: One cluster were reported to HDOH during week 52. The cluster occurred at different long-term care facilities in Kauai. Cluster tested positive for influenza A.*



[2] The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022 and 2022-2023).

[3] 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.

[4] 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.

[5] There are 10 activity levels classified as minimal (levels 1-3), low (levels 4-5), moderate (levels 6-7), and high (levels 8-10).

[6] 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[7] 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*).

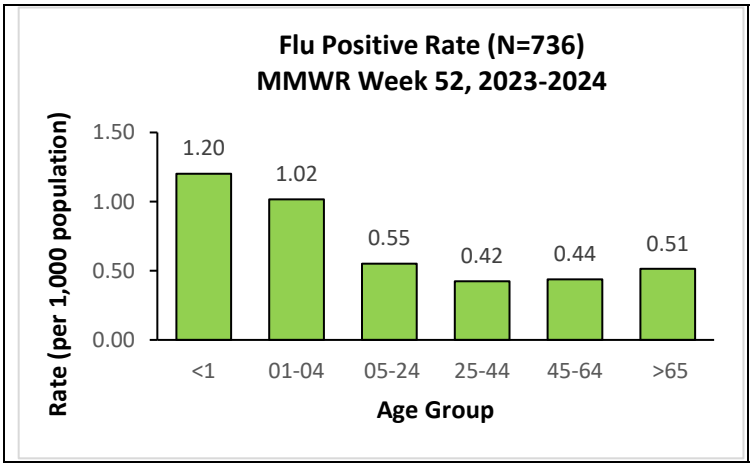
A. INFLUENZA:

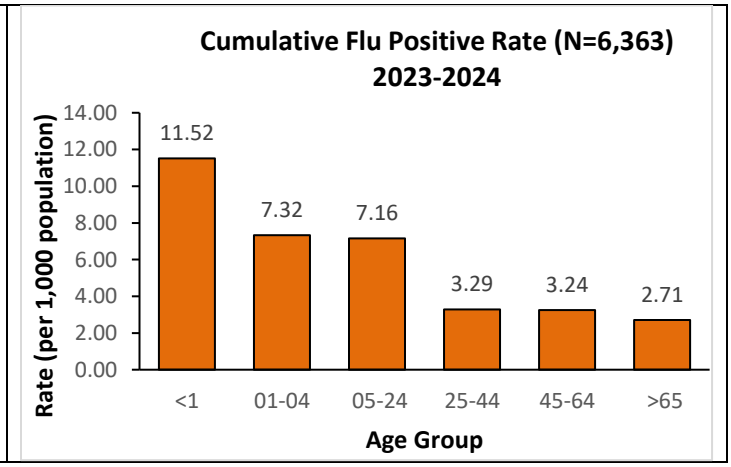
- The following reflects laboratory findings for week 52 of the 2023–24 influenza season:
  - *A total of **3,899** specimens have been tested statewide for influenza viruses (positive: 736 [**18.9%**]). (Season to date: 42,617 tested (**14.9%** positive])*
    - *263 (6.8%) were screened only by rapid antigen tests with no confirmatory testing.*
    - *3,636 (93.2%) underwent confirmatory testing (either RT-PCR or viral culture).*
    - *3,163 (81.1%) were negative.*

Influenza type	*Current week 52 (%)*	*Season to date (%)*[8]
Influenza A (H1)[9]	*31 (4.2)*	*241 (3.8)*
Influenza A (H3)	*9 (1.2)*	*74 (1.2)*
Influenza A no subtyping	*643 (87.4)*	*5,023 (78.9)*
Influenza B (Yamagata)	*0 (0.0)*	*0 (0.0)*
Influenza B (Victoria)	*2 (0.3)*	*59 (0.9)*
Influenza B no genotyping	*51 (6.9)*	*966 (15.2)*

1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2023–24 influenza season.[10]

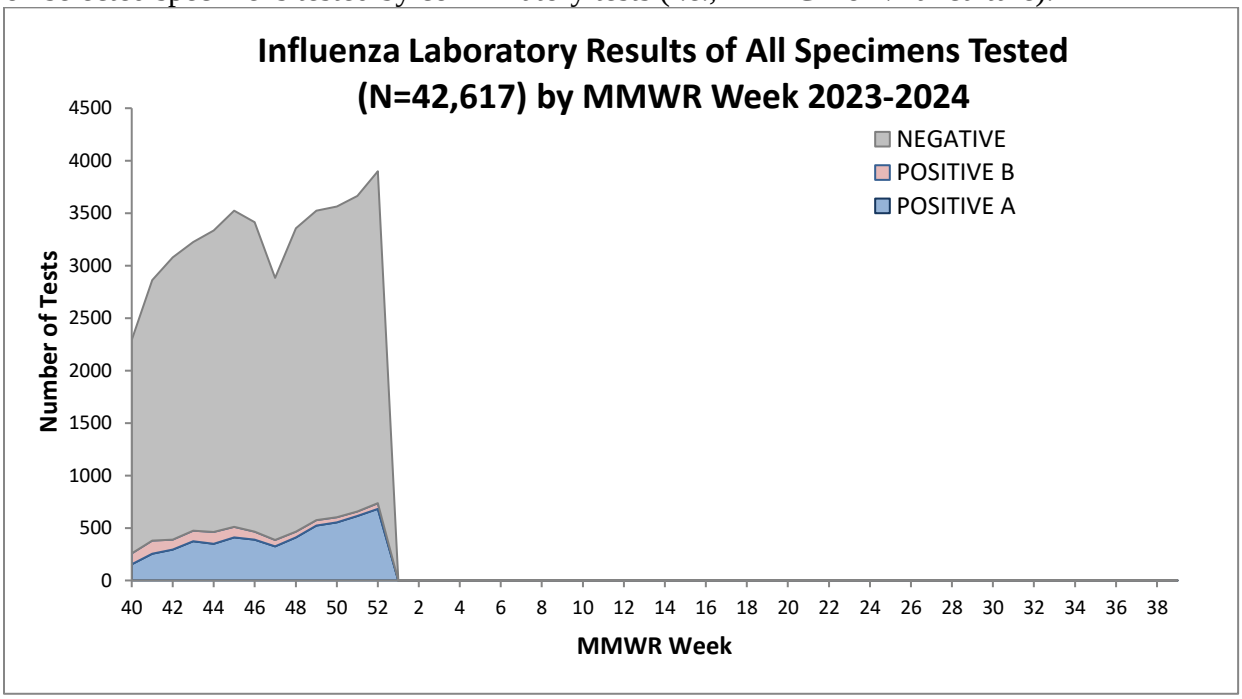


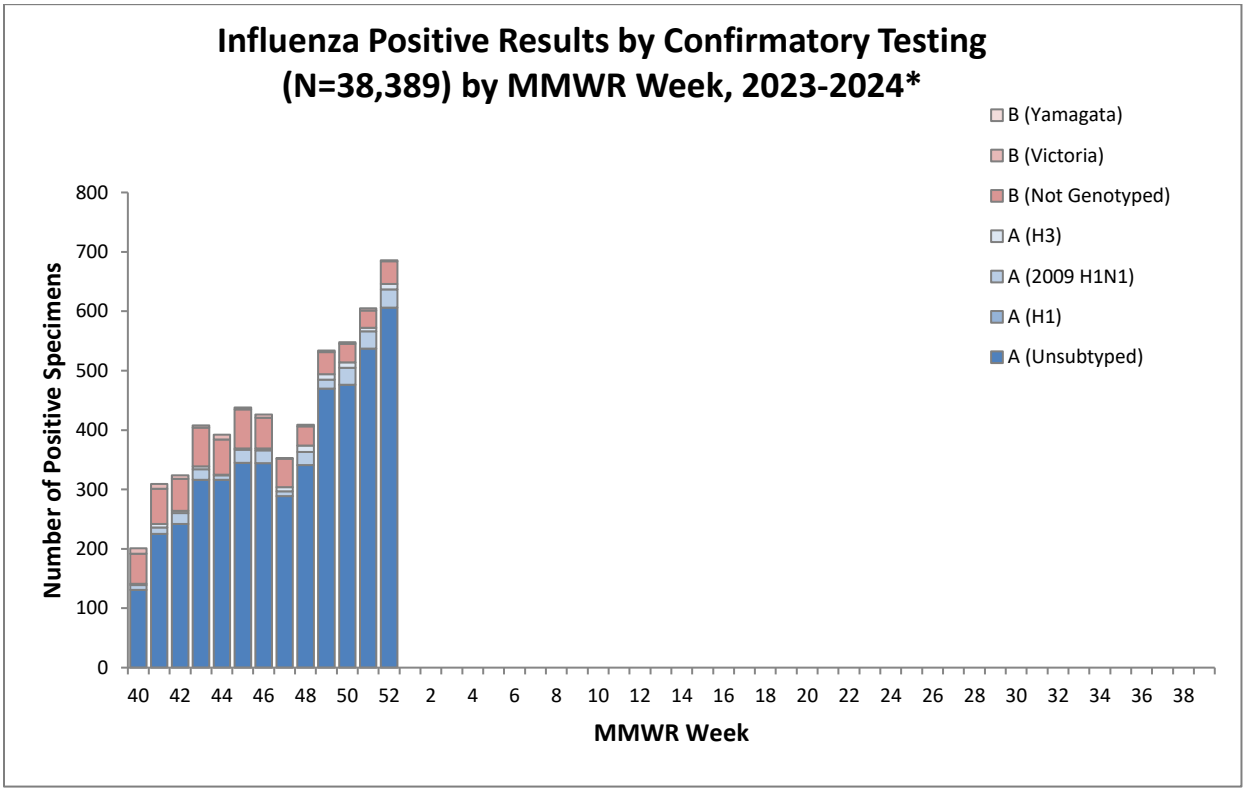


[7] Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.
[8] Influenza coding were updated to reflect a more accurate count.
[9] All influenza A H1 viruses detected this season have been 2009 H1N1.
[10] This represents an estimate of population-based rates based on available data.

2. LABORATORY TESTING

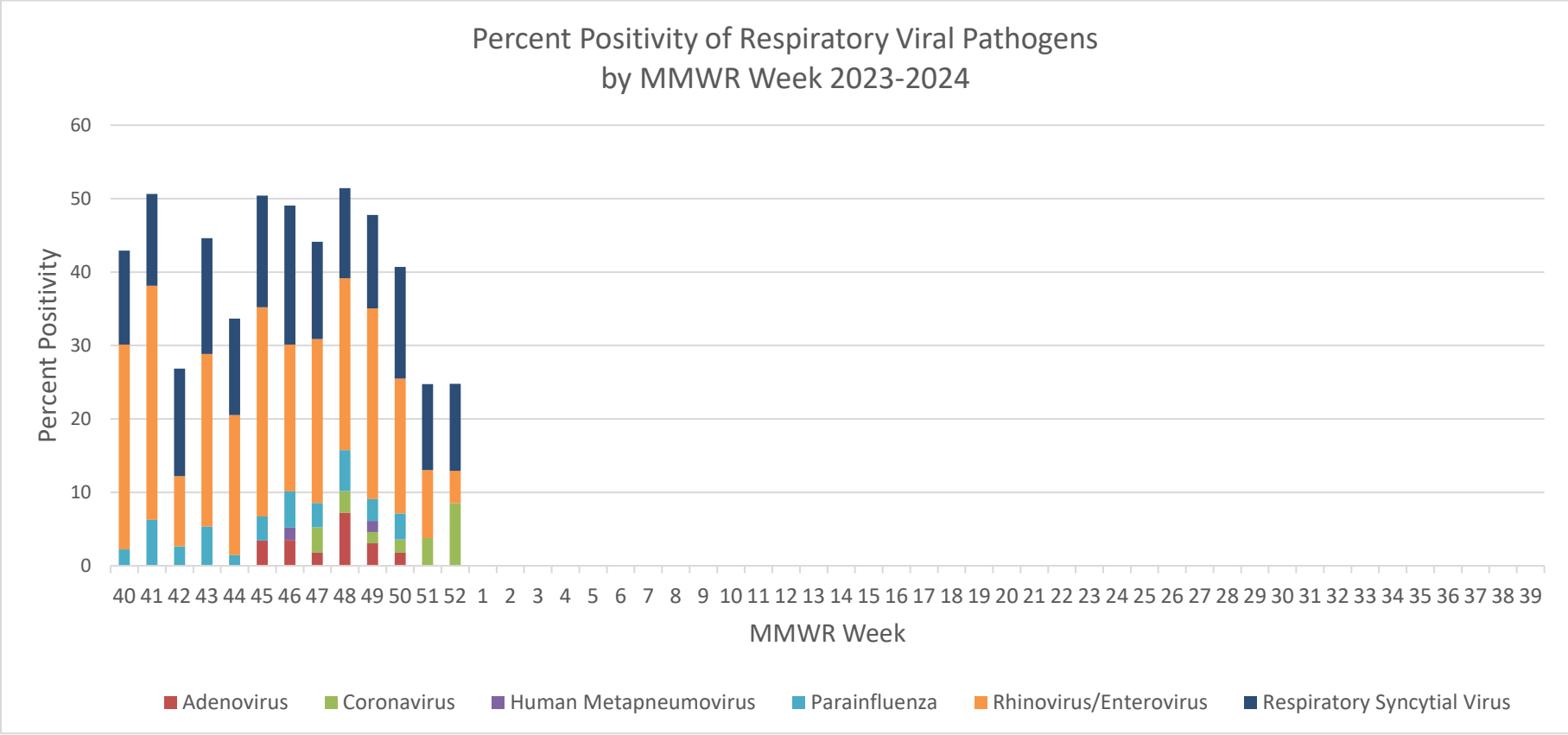
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2023–2024 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).





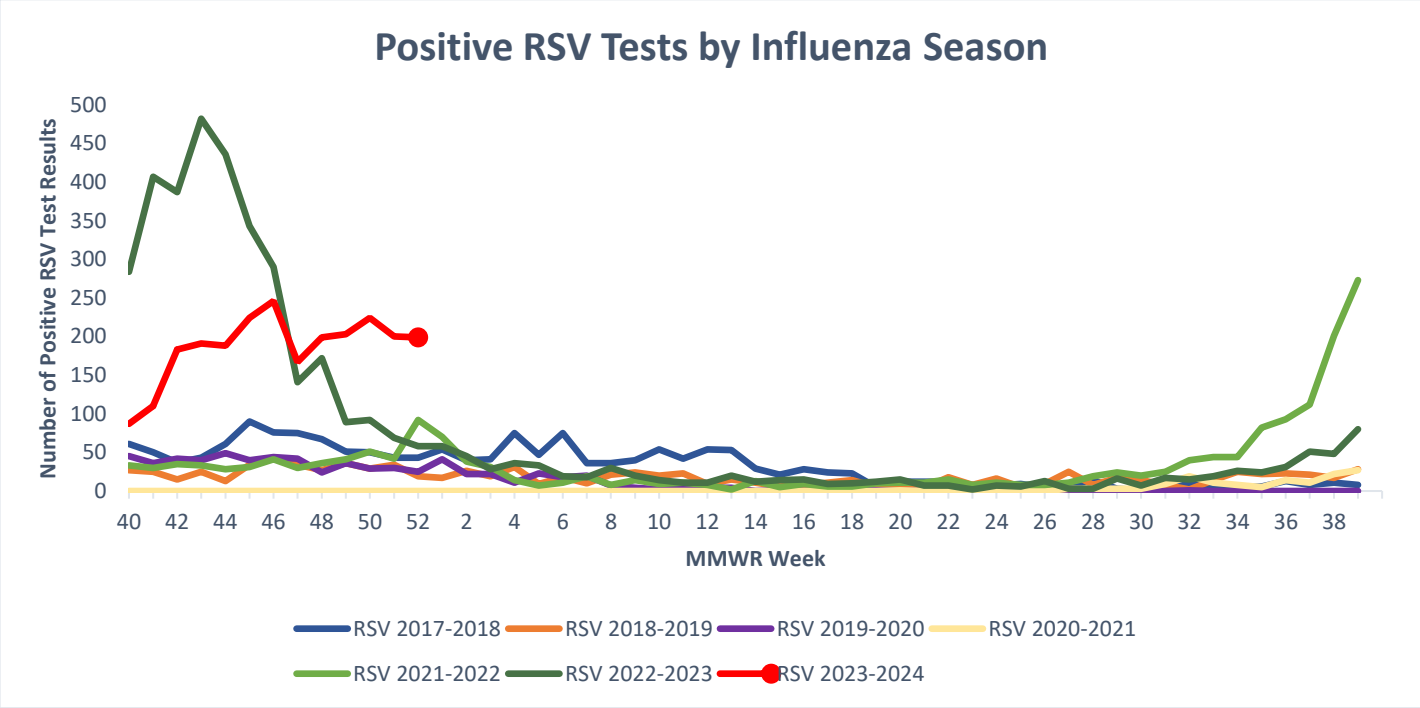
** Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.*

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**.

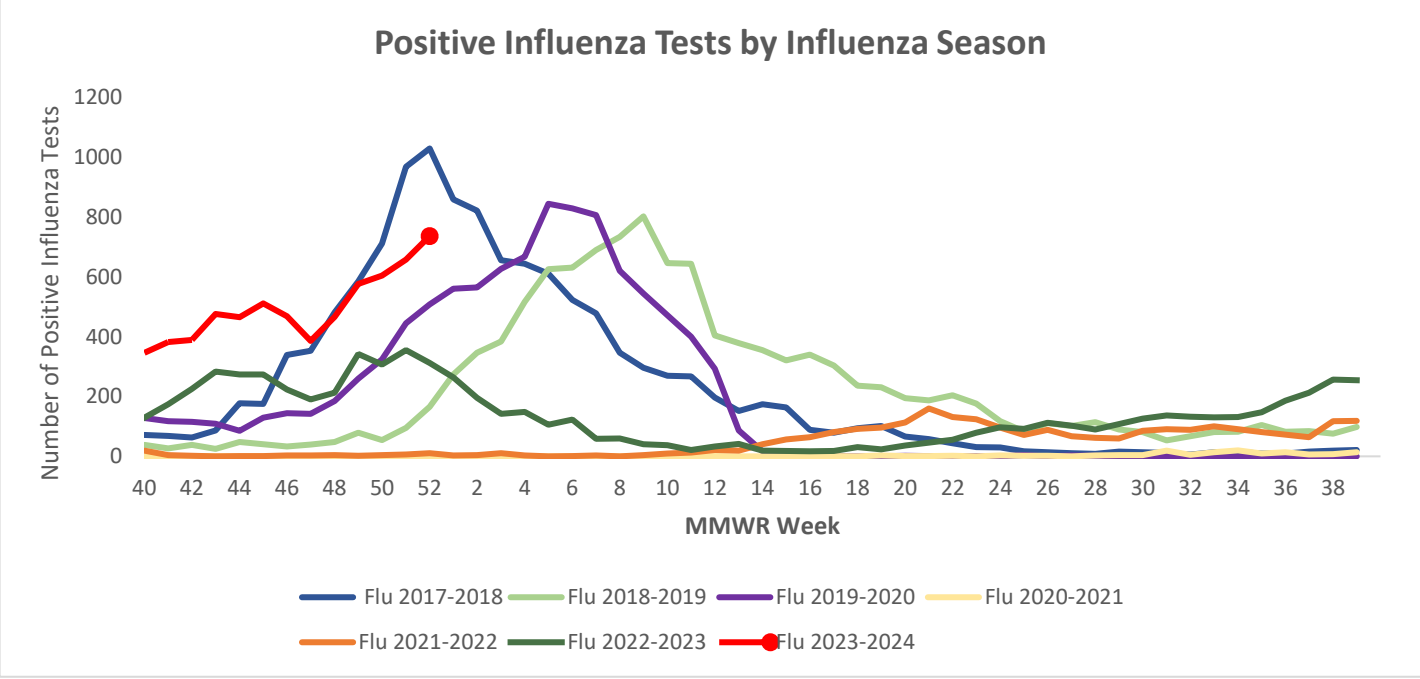


* *The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).*

RESPIRATORY SYNCYTIAL VIRUS (RSV) POSITIVE TEST RESULTS BY INFLUENZA SEASON: RSV case counts are lower than the previous season but is currently trending upwards for the 2023-2024 season. Of note, significantly more tests for RSV are being performed than in pre-COVID-19 seasons.



INFLUENZA POSITIVE TEST RESULTS BY INFLUENZA SEASON: Influenza cases appear to have increased earlier than past seasons in the 2023-2024 season, but it is not yet known whether case numbers will reach a peak similar to pre-COVID-19 seasons.



C. COVID-19 SENTINEL SURVEILLANCE: Due to the low volume of samples currently available through the influenza surveillance system, the COVID-19 sentinel surveillance data may not be accurately portraying COVID-19 activity in our communities. Reporting of the COVID-19 Sentinel Surveillance data will be paused while HODH re-evaluates the program to ensure that the reported data are accurate and representative.

HDOH is continuing to monitor COVID-19 activity throughout the state. To learn more, please visit the Hawaii's COVID-19 data website (*here*). For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website (*here*).

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

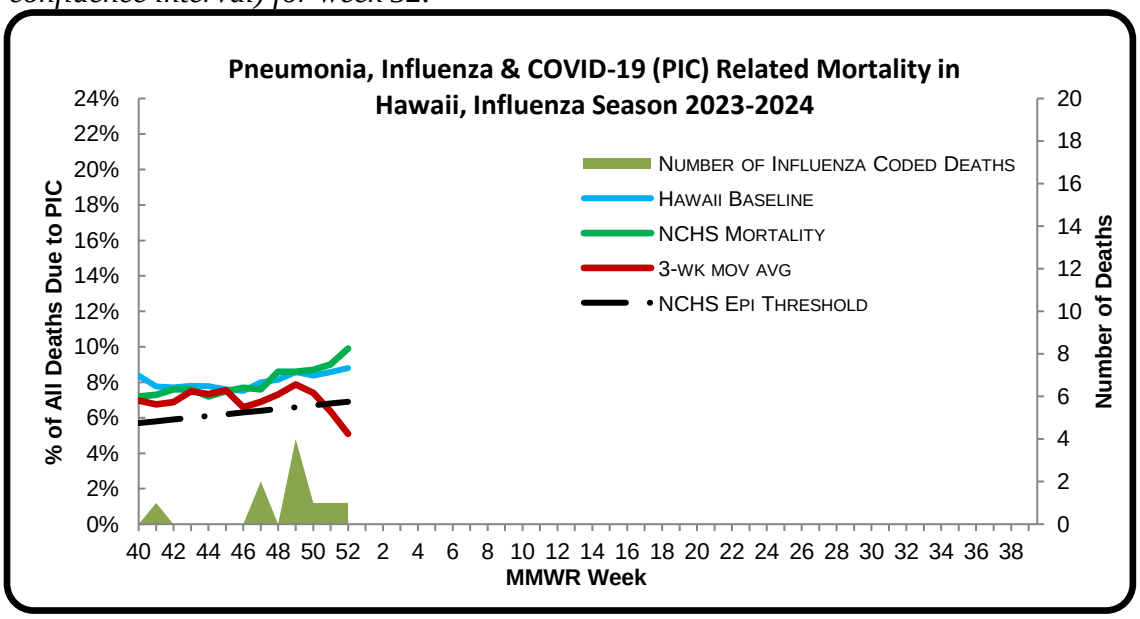
P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Due to the ongoing COVID-19 pandemic, CDC included total deaths from COVID-19 by age group to the death data. Previous studies had suggested that P&I is a good indicator of influenza-related deaths; however, data has shown that pneumonia deaths associated with influenza is now being impacted by COVID-19 related pneumonia. Due to this, CDC had added COVID-19 deaths into P&I to create the PIC (pneumonia, influenza, and/or COVID-19) classification.

To standardize Hawaii's influenza surveillance with CDC influenza surveillance guidelines, PIC deaths will be reported in lieu of P&I. Hawaii's baseline will begin to include PIC deaths starting from 2019-2020 flu season.

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

- ***4.0%*** *of all deaths that occurred in Hawaii during week 52 were related to pneumonia, influenza or COVID-19 (PIC)*[11]*. For the current season (season to date:* ***7.0%****) there have been 3,508 deaths from any cause, 244 of which were due to PIC*[12]*.*
- *The PIC rate was lower than the historical baseline in Hawaii*[13] *(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[14] *(**9.9%**) (i.e., outside the 95% confidence interval) and comparable to the national epidemic threshold (**6.9**%) (i.e., inside the 95% confidence interval) for week 52.*



[11] The percent of deaths due to PIC displayed on the graph is the 3-week moving averages.

[12] PIC data reflect 100% of the data reported for the MMWR week. Changes to data are expected when PIC data reaches 100% completion.

[13] The Hawaii historical baseline (%PIC) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, and 2022-2023).

[14] 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, influenza, or COVID-19 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 COVID-19 death counts reported by NCHS are provisional and will not match counts in other sources, such as media reports or numbers from health departments. COVID-19 deaths may be classified or defined differently in various reporting and surveillance systems. The percentage of deaths due to pneumonia, influenza, and COVID-19 (PIC) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

INFLUENZA-ASSOCIATED PEDIATRIC DEATHS[15]:

- No new influenza-associated pediatric death was reported to Hawaii. There have been zero influenza-associated pediatric deaths reported in Hawaii during the 2023–2024 season.
- Nationally, seven new influenza-associated pediatric deaths were reported to CDC during week 52 (2023-2024 season total: 27).

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 2023–2024 influenza season.*
- *One new human infection with novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (1), have been reported to CDC during the 2023–2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Netherlands during the 2023-2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Switzerland during the 2023-2024 influenza season.*
    - *One new human infection with influenza A(H1N2v) virus has been reported to WHO from Great Britain and Northern Ireland during the 2023-2024 influenza season.*

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 15th, 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

[15] 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.

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 21, 2023**.

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 2023–2024 Influenza Vaccine**:**

The composition of the 2023–2024 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2023–2024 influenza trivalent vaccine contain an influenza A/Wisconsin/67/2022 (H1N1)pdm09-like virus, influenza A/Darwin/6/2021 (H3N2)-like virus, and influenza B/Austria/1359417/2021-like virus (B/Victoria lineage). 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/Wisconsin/67/2022 (H1N1)pdm09-like virus, an influenza A/Darwin/6/2021 (H3N2)-like virus, an influenza B/Austria/1359417/2021-like virus (B/Victoria lineage), 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.

Centers for Disease Control and Prevention	General Influenza National ILI and P&I Data Vaccine Virus Selection CDC Web Tool for Respiratory Viruses
Flu.gov	General Influenza Information
HDOH Flu and Pneumonia	General Influenza Surveillance To find out more information or join the sentinel physician program, email the Influenza Surveillance Coordinator
World Health Organization	General Global and Local Influenza Avian Influenza

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	2020	2021	2022	2023	2024
1	1/4/2020	1/9/2021	1/8/2022	1/7/2023	1/6/2024
2	1/11/2020	1/16/2021	1/15/2022	1/14/2023	1/13/2024
3	1/18/2020	1/23/2021	1/22/2022	1/21/2023	1/20/2024
4	1/25/2020	1/30/2021	1/29/2022	1/28/2023	1/27/2024
5	2/1/2020	2/6/2021	2/5/2022	2/4/2023	2/3/2024
6	2/8/2020	2/13/2021	2/12/2022	2/11/2023	2/10/2024
7	2/15/2020	2/20/2021	2/19/2022	2/18/2023	2/17/2024
8	2/22/2020	2/27/2021	2/26/2022	2/25/2023	2/24/2024
9	2/29/2020	3/6/2021	3/5/2022	3/4/2023	3/2/2024
10	3/7/2020	3/13/2021	3/12/2022	3/11/2023	3/9/2024
11	3/14/2020	3/20/2021	3/19/2022	3/18/2023	3/16/2024
12	3/21/2020	3/27/2021	3/26/2022	3/25/2023	3/23/2024
13	3/28/2020	4/3/2021	4/2/2022	4/1/2023	3/30/2024
14	4/4/2020	4/10/2021	4/9/2022	4/8/2023	4/6/2024
15	4/11/2020	4/17/2021	4/16/2022	4/15/2023	4/13/2024
16	4/18/2020	4/24/2021	4/23/2022	4/22/2023	4/20/2024
17	4/25/2020	5/1/2021	4/30/2022	4/29/2023	4/27/2024
18	5/2/2020	5/8/2021	5/7/2022	5/6/2023	5/4/2024
19	5/9/2020	5/15/2021	5/14/2022	5/13/2023	5/11/2024
20	5/16/2020	5/22/2021	5/21/2022	5/20/2023	5/18/2024
21	5/23/2020	5/29/2021	5/28/2022	5/27/2023	5/25/2024
22	5/30/2020	6/5/2021	6/4/2022	6/3/2023	6/1/2024
23	6/6/2020	6/12/2021	6/11/2022	6/10/2023	6/8/2024
24	6/13/2020	6/19/2021	6/18/2022	6/17/2023	6/15/2024
25	6/20/2020	6/26/2021	6/25/2022	6/24/2023	6/22/2024
26	6/27/2020	7/3/2021	7/2/2022	7/1/2023	6/29/2024
27	7/4/2020	7/10/2021	7/9/2022	7/8/2023	7/6/2024
28	7/11/2020	7/17/2021	7/16/2022	7/15/2023	7/13/2024
29	7/18/2020	7/24/2021	7/23/2022	7/22/2023	7/20/2024
30	7/25/2020	7/31/2021	7/30/2022	7/29/2023	7/27/2024
31	8/1/2020	8/7/2021	8/6/2022	8/5/2023	8/3/2024
32	8/8/2020	8/14/2021	8/13/2022	8/12/2023	8/10/2024
33	8/15/2020	8/21/2021	8/20/2022	8/19/2023	8/17/2024
34	8/22/2020	8/28/2021	8/27/2022	8/26/2023	8/24/2024
35	8/29/2020	9/4/2021	9/3/2022	9/2/2023	8/31/2024
36	9/5/2020	9/11/2021	9/10/2022	9/9/2023	9/7/2024
37	9/12/2020	9/18/2021	9/17/2022	9/16/2023	9/14/2024
38	9/19/2020	9/25/2021	9/24/2022	9/23/2023	9/21/2024
39	9/26/2020	10/2/2021	10/1/2022	9/30/2023	9/28/2024
40	10/3/2020	10/9/2021	10/8/2022	10/7/2023	10/5/2024
41	10/10/2020	10/16/2021	10/15/2022	10/14/2023	10/12/2024
42	10/17/2020	10/23/2021	10/22/2022	10/21/2023	10/19/2024
43	10/24/2020	10/30/2021	10/29/2022	10/28/2023	10/26/2024
44	10/31/2020	11/6/2021	11/5/2022	11/4/2023	11/2/2024
45	11/7/2020	11/13/2021	11/12/2022	11/11/2023	11/9/2024
46	11/14/2020	11/20/2021	11/19/2022	11/18/2023	11/16/2024
47	11/21/2020	11/27/2021	11/26/2022	11/25/2023	11/23/2024
48	11/28/2020	12/4/2021	12/3/2022	12/2/2023	11/30/2024
49	12/5/2020	12/11/2021	12/10/2022	12/9/2023	12/7/2024
50	12/12/2020	12/18/2021	12/17/2022	12/16/2023	12/14/2024
51	12/19/2020	12/25/2021	12/24/2022	12/23/2023	12/21/2024
52	12/26/2020	1/1/2022	12/31/2022	12/30/2023	12/28/2024
53	01/02/2021				

HAWAII STATE DEPARTMENT OF HEALTH
DISEASE OUTBREAK CONTROL DIVISION

Influenza/Respiratory Disease Surveillance Report

Morbidity and Mortality Weekly Report (MMWR)[1]

WEEK 1: DECEMBER 31, 2023– JANUARY 6, 2024

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 2023–2024 influenza season which began the week ending October 7, 2023 (week 40[1] 2023) and will end the week ending on September 28, 2024 (week 39 2024).

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	3.9%	Lower than the previous week. Comparable to the Hawaii's historical baseline, lower to the national ILI rate, and higher than the national baseline.
Number of ILI clusters reported to HDOH	3	There have been 13 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	16.4%	Lower than the previous week. This number means that many, if not all, of the 83.6% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	15.0%	

Surveillance for Severe Outcomes		
Pneumonia, influenza and COVID-19 (PIC) mortality rate	6.0%	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	40	1 influenza-associated pediatric deaths have been reported from Hawaii this season to date.

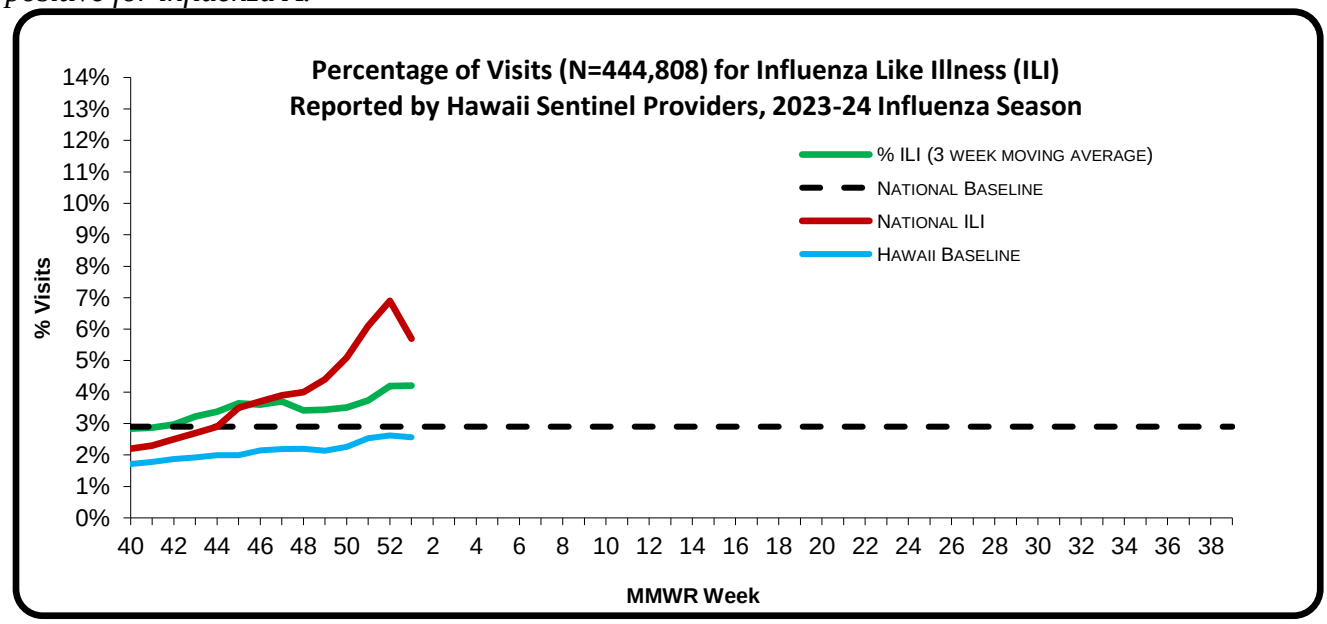
[1] MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week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

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. 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:

- ***3.9%** (season to date: **3.5%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.*
- *ILI visits were comparable to the historical baseline in Hawaii[2,3] (i.e., inside the 95% confidence interval).*
- *Hawaii's ILI outpatient visits were higher than the national baseline (**2.9%**)[4] (i.e., outside the 95% confidence interval) and lower to the national ILI rate (**5.7%**) (i.e. outside the 95% confidence interval).*
- *ILI activity level: Low[5]*
- *Geographic Spread: Sporadic Activity[6].*
- *ILI Cluster Activity: Two clusters were reported to HDOH during week 51. One cluster was reported to HDOH during week 1. The clusters occurred at different long-term care facilities in Honolulu. Clusters tested positive for influenza A.*



[2] The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022 and 2022-2023).

[3] 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.

[4] 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.

[5] There are 10 activity levels classified as minimal (levels 1-3), low (levels 4-5), moderate (levels 6-7), and high (levels 8-10).

[6] 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[7] 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*).

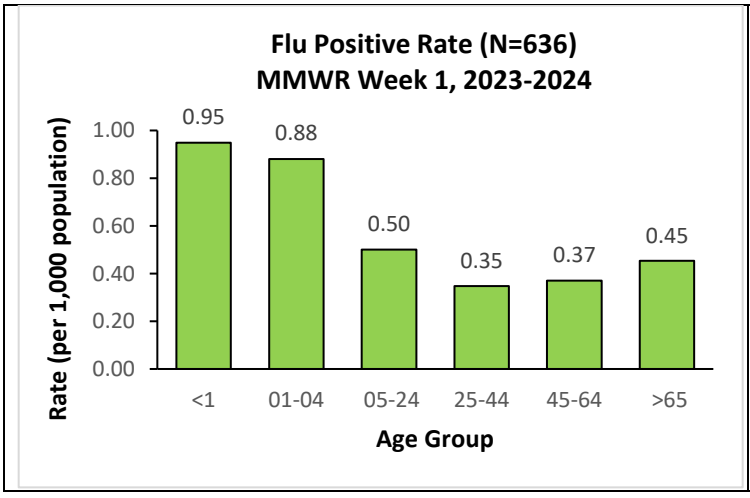
A. INFLUENZA:

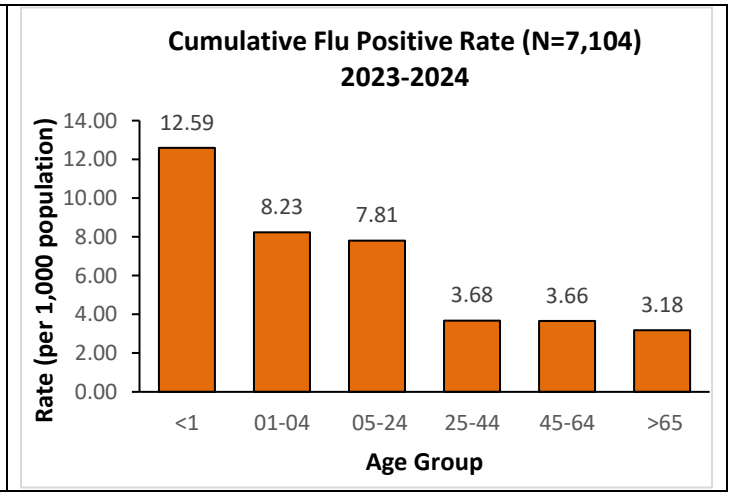
- The following reflects laboratory findings for week 1 of the 2023–24 influenza season:
  - *A total of **3,882** specimens have been tested statewide for influenza viruses (positive: 636 [**16.4%**]). (Season to date: 47,294 tested (**15.0%** positive])*
    - *345 (8.9%) were screened only by rapid antigen tests with no confirmatory testing.*
    - *3,537 (91.1%) underwent confirmatory testing (either RT-PCR or viral culture).*
    - *3,246 (83.6%) were negative.*

Influenza type	*Current week 1 (%)*	*Season to date (%)*[8]
Influenza A (H1)[9]	*27 (4.3)*	*270 (3.8)*
Influenza A (H3)	*9 (1.4)*	*85 (1.2)*
Influenza A no subtyping	*558 (87.7)*	*5,638 (79.4)*
Influenza B (Yamagata)	*0 (0.0)*	*0 (0.0)*
Influenza B (Victoria)	*5 (0.8)*	*67 (0.9)*
Influenza B no genotyping	*37 (5.8)*	*1,044 (14.7)*

1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2023–24 influenza season.[10]

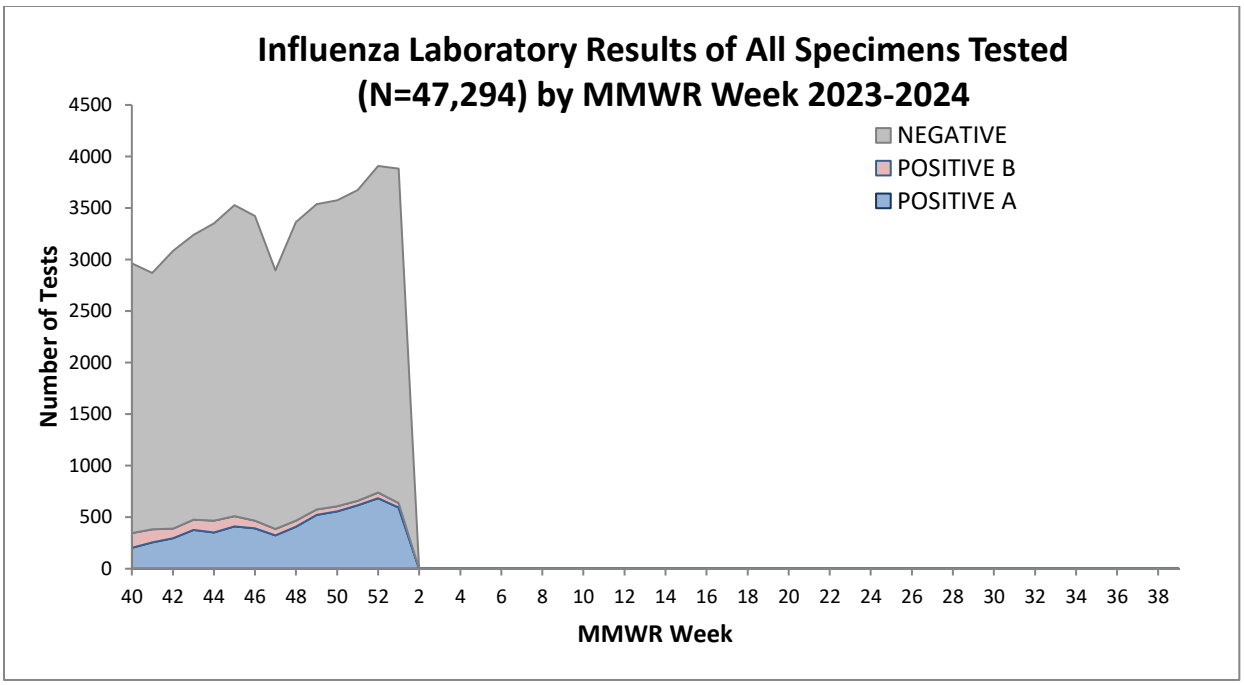


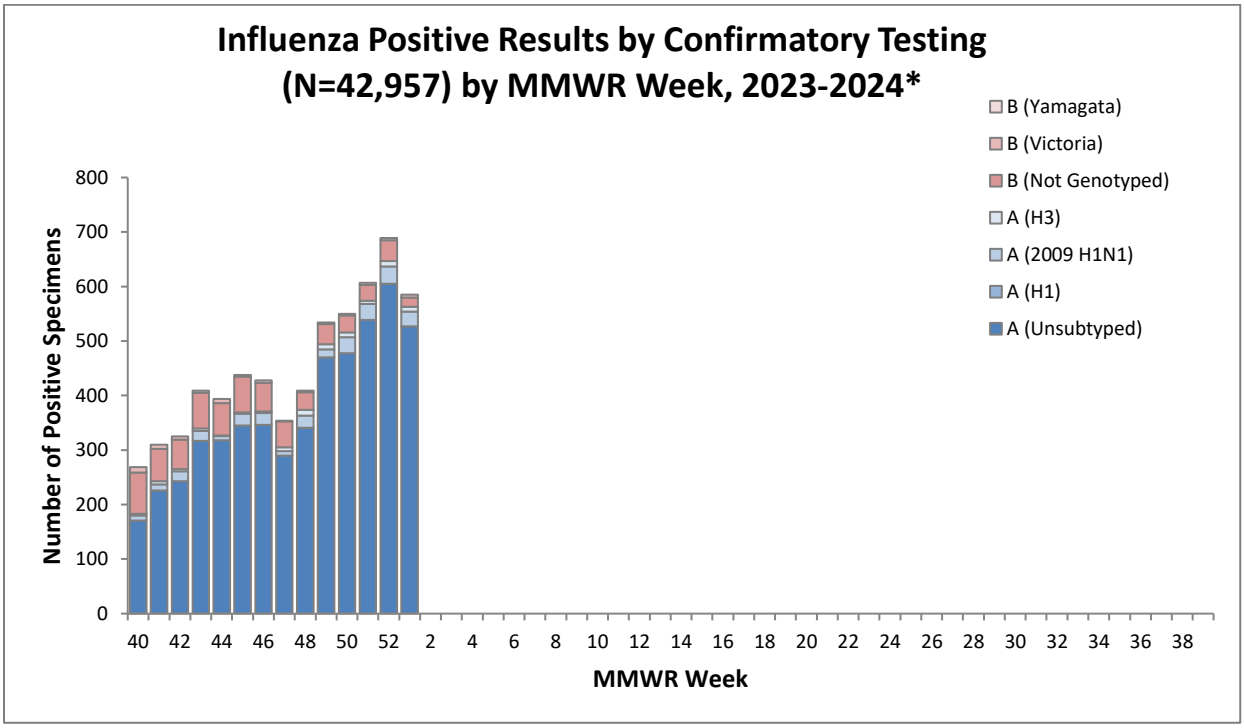


[7] Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.
[8] Influenza coding were updated to reflect a more accurate count.
[9] All influenza A H1 viruses detected this season have been 2009 H1N1.
[10] This represents an estimate of population-based rates based on available data.

2. LABORATORY TESTING

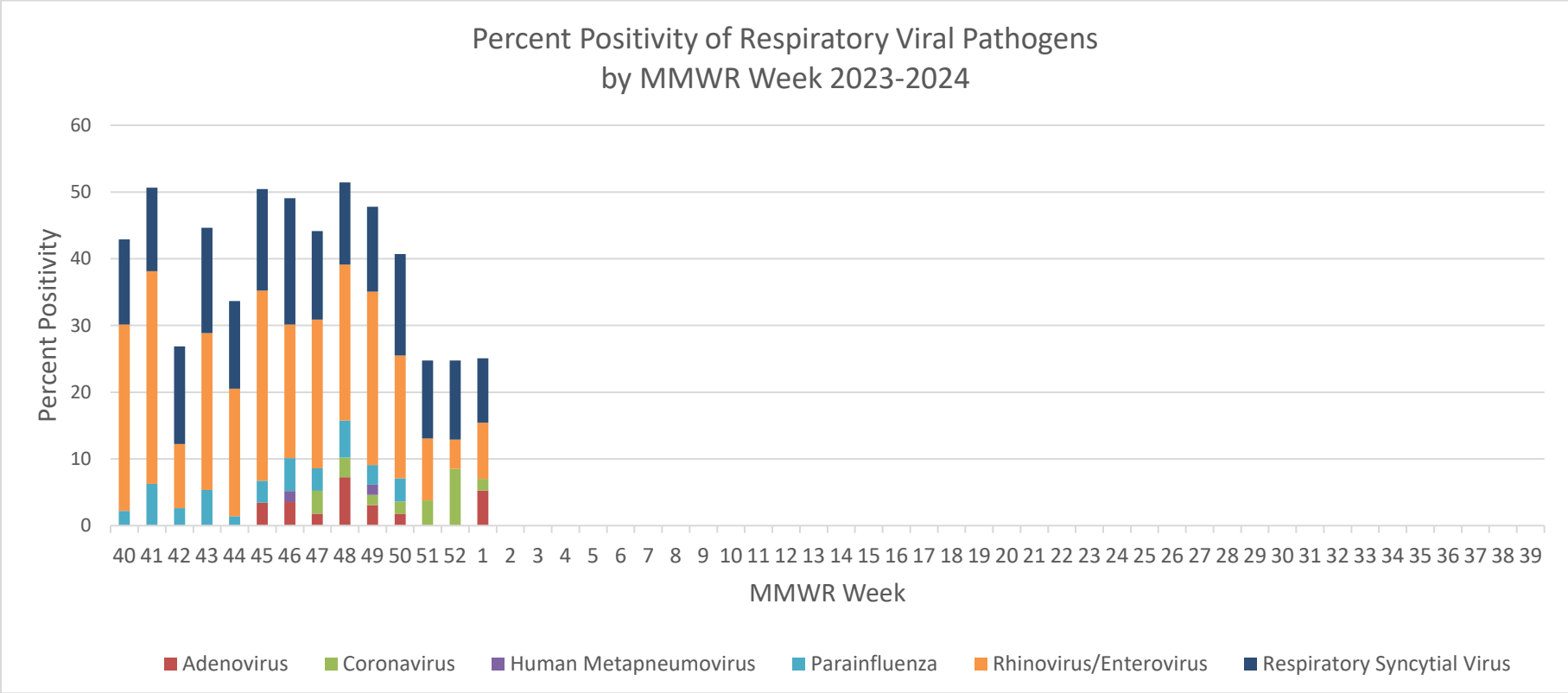
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2023–2024 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).





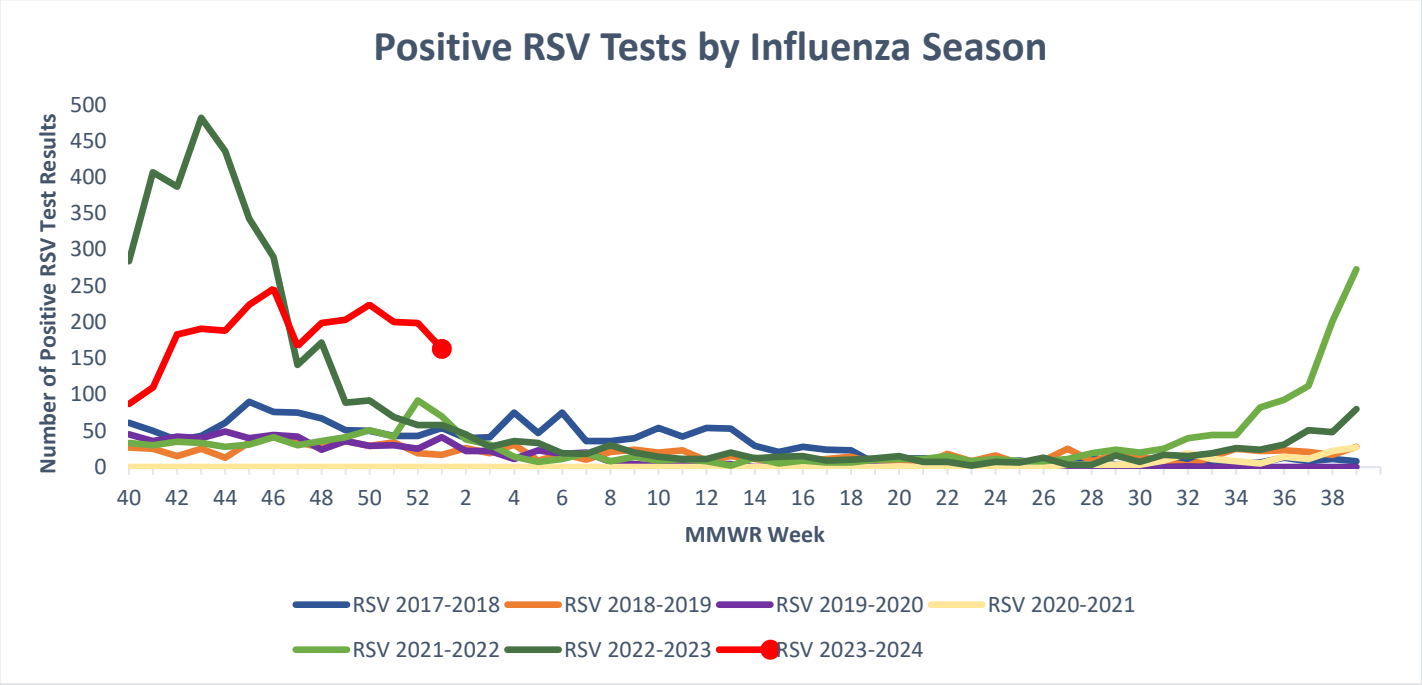
** Not all positive influenza specimens receive confirmatory testing, and results may not necessarily represent the proportion of types/subtypes that are circulating in Hawaii.*

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**.

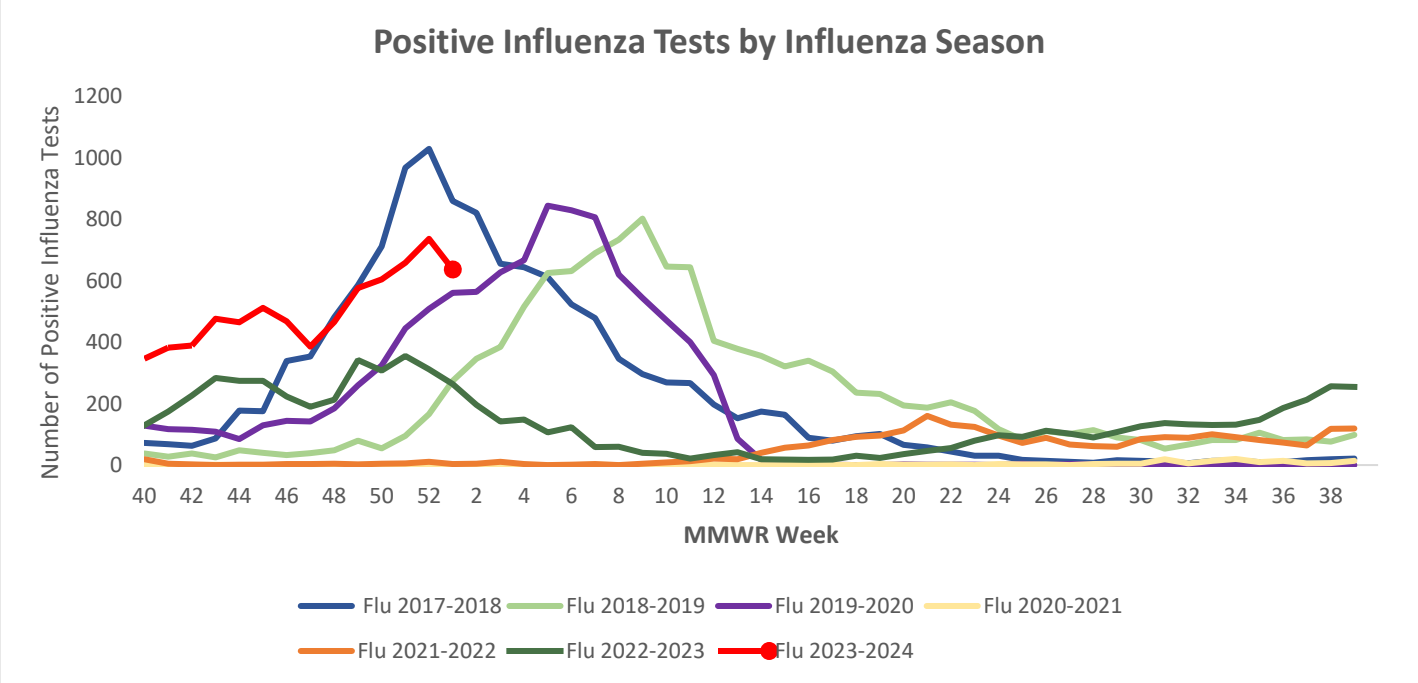


* *The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).*

RESPIRATORY SYNCYTIAL VIRUS (RSV) POSITIVE TEST RESULTS BY INFLUENZA SEASON: RSV case counts are lower than the previous season but is currently trending upwards for the 2023-2024 season. Of note, significantly more tests for RSV are being performed than in pre-COVID-19 seasons.



INFLUENZA POSITIVE TEST RESULTS BY INFLUENZA SEASON: Influenza cases appear to have increased earlier than past seasons in the 2023-2024 season, but it is not yet known whether case numbers will reach a peak similar to pre-COVID-19 seasons.



C. COVID-19 SENTINEL SURVEILLANCE: Due to the low volume of samples currently available through the influenza surveillance system, the COVID-19 sentinel surveillance data may not be accurately portraying COVID-19 activity in our communities. Reporting of the COVID-19 Sentinel Surveillance data will be paused while HODH re-evaluates the program to ensure that the reported data are accurate and representative.

HDOH is continuing to monitor COVID-19 activity throughout the state. To learn more, please visit the Hawaii's COVID-19 data website (*here*). For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website (*here*).

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

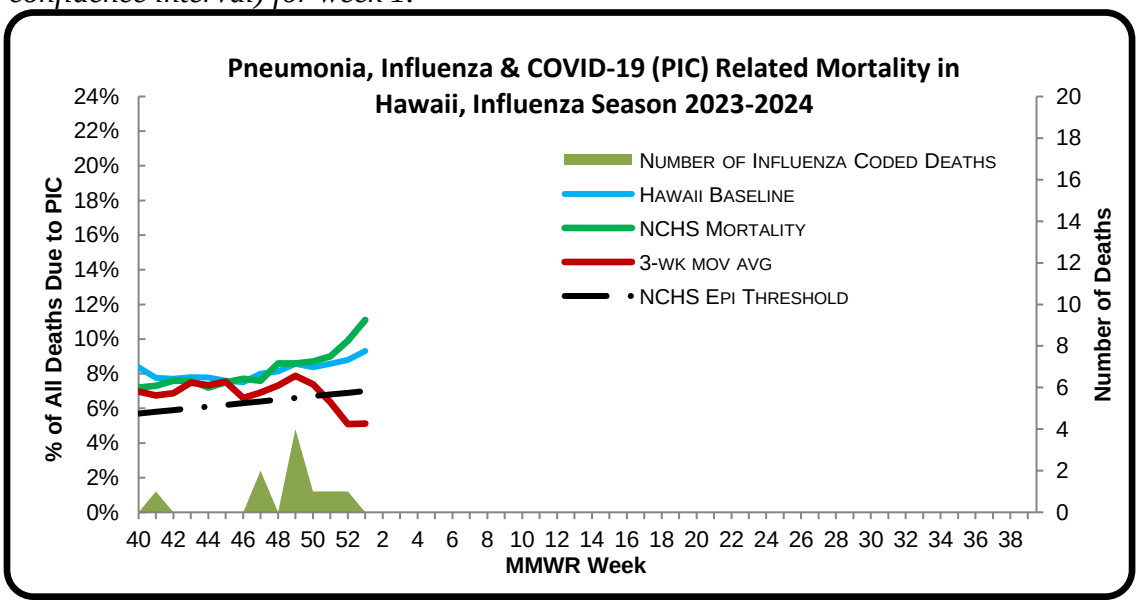
P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Due to the ongoing COVID-19 pandemic, CDC included total deaths from COVID-19 by age group to the death data. Previous studies had suggested that P&I is a good indicator of influenza-related deaths; however, data has shown that pneumonia deaths associated with influenza is now being impacted by COVID-19 related pneumonia. Due to this, CDC had added COVID-19 deaths into P&I to create the PIC (pneumonia, influenza, and/or COVID-19) classification.

To standardize Hawaii's influenza surveillance with CDC influenza surveillance guidelines, PIC deaths will be reported in lieu of P&I. Hawaii's baseline will begin to include PIC deaths starting from 2019-2020 flu season.

For **week 1** of the current influenza season:

- ***6.0%*** *of all deaths that occurred in Hawaii during week 1 were related to pneumonia, influenza or COVID-19 (PIC)*[11]*. For the current season (season to date:* ***6.9%****) there have been 3,608 deaths from any cause, 250 of which were due to PIC*[12]*.*
- *The PIC rate was comparable to the historical baseline in Hawaii*[13] *(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[14] *(**11.1%**) (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.*



[11] The percent of deaths due to PIC displayed on the graph is the 3-week moving averages.

[12] PIC data reflect 64.5% of the data reported for the MMWR week. Changes to data are expected when PIC data reaches 100% completion.

[13] The Hawaii historical baseline (%PIC) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, and 2022-2023).

[14] 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, influenza, or COVID-19 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 COVID-19 death counts reported by NCHS are provisional and will not match counts in other sources, such as media reports or numbers from health departments. COVID-19 deaths may be classified or defined differently in various reporting and surveillance systems. The percentage of deaths due to pneumonia, influenza, and COVID-19 (PIC) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

INFLUENZA-ASSOCIATED PEDIATRIC DEATHS[15]:

- One new influenza-associated pediatric death was reported to Hawaii. There have been one influenza-associated pediatric deaths reported in Hawaii during the 2023–2024 season. Death was associated with an influenza A(H1N1) pdm09 virus and occurred during week 52 of 2023 (the week ending December 30, 2023).
- Nationally, thirteen new influenza-associated pediatric deaths were reported to CDC during week 1 (2023-2024 season total: 40).

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 2023–2024 influenza season.*
- *One new human infection with novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (1), have been reported to CDC during the 2023–2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Netherlands during the 2023-2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Switzerland during the 2023-2024 influenza season.*
    - *One new human infection with influenza A(H1N2v) virus has been reported to WHO from Great Britain and Northern Ireland during the 2023-2024 influenza season.*

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 15th, 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

[15] 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.

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 21, 2023**.

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 2023–2024 Influenza Vaccine**:**

The composition of the 2023–2024 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2023–2024 influenza trivalent vaccine contain an influenza A/Wisconsin/67/2022 (H1N1)pdm09-like virus, influenza A/Darwin/6/2021 (H3N2)-like virus, and influenza B/Austria/1359417/2021-like virus (B/Victoria lineage). 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/Wisconsin/67/2022 (H1N1)pdm09-like virus, an influenza A/Darwin/6/2021 (H3N2)-like virus, an influenza B/Austria/1359417/2021-like virus (B/Victoria lineage), 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.

Centers for Disease Control and Prevention	General Influenza National ILI and P&I Data Vaccine Virus Selection CDC Web Tool for Respiratory Viruses
Flu.gov	General Influenza Information
HDOH Flu and Pneumonia	General Influenza Surveillance To find out more information or join the sentinel physician program, email the Influenza Surveillance Coordinator
World Health Organization	General Global and Local Influenza Avian Influenza

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	2020	2021	2022	2023	2024
1	1/4/2020	1/9/2021	1/8/2022	1/7/2023	1/6/2024
2	1/11/2020	1/16/2021	1/15/2022	1/14/2023	1/13/2024
3	1/18/2020	1/23/2021	1/22/2022	1/21/2023	1/20/2024
4	1/25/2020	1/30/2021	1/29/2022	1/28/2023	1/27/2024
5	2/1/2020	2/6/2021	2/5/2022	2/4/2023	2/3/2024
6	2/8/2020	2/13/2021	2/12/2022	2/11/2023	2/10/2024
7	2/15/2020	2/20/2021	2/19/2022	2/18/2023	2/17/2024
8	2/22/2020	2/27/2021	2/26/2022	2/25/2023	2/24/2024
9	2/29/2020	3/6/2021	3/5/2022	3/4/2023	3/2/2024
10	3/7/2020	3/13/2021	3/12/2022	3/11/2023	3/9/2024
11	3/14/2020	3/20/2021	3/19/2022	3/18/2023	3/16/2024
12	3/21/2020	3/27/2021	3/26/2022	3/25/2023	3/23/2024
13	3/28/2020	4/3/2021	4/2/2022	4/1/2023	3/30/2024
14	4/4/2020	4/10/2021	4/9/2022	4/8/2023	4/6/2024
15	4/11/2020	4/17/2021	4/16/2022	4/15/2023	4/13/2024
16	4/18/2020	4/24/2021	4/23/2022	4/22/2023	4/20/2024
17	4/25/2020	5/1/2021	4/30/2022	4/29/2023	4/27/2024
18	5/2/2020	5/8/2021	5/7/2022	5/6/2023	5/4/2024
19	5/9/2020	5/15/2021	5/14/2022	5/13/2023	5/11/2024
20	5/16/2020	5/22/2021	5/21/2022	5/20/2023	5/18/2024
21	5/23/2020	5/29/2021	5/28/2022	5/27/2023	5/25/2024
22	5/30/2020	6/5/2021	6/4/2022	6/3/2023	6/1/2024
23	6/6/2020	6/12/2021	6/11/2022	6/10/2023	6/8/2024
24	6/13/2020	6/19/2021	6/18/2022	6/17/2023	6/15/2024
25	6/20/2020	6/26/2021	6/25/2022	6/24/2023	6/22/2024
26	6/27/2020	7/3/2021	7/2/2022	7/1/2023	6/29/2024
27	7/4/2020	7/10/2021	7/9/2022	7/8/2023	7/6/2024
28	7/11/2020	7/17/2021	7/16/2022	7/15/2023	7/13/2024
29	7/18/2020	7/24/2021	7/23/2022	7/22/2023	7/20/2024
30	7/25/2020	7/31/2021	7/30/2022	7/29/2023	7/27/2024
31	8/1/2020	8/7/2021	8/6/2022	8/5/2023	8/3/2024
32	8/8/2020	8/14/2021	8/13/2022	8/12/2023	8/10/2024
33	8/15/2020	8/21/2021	8/20/2022	8/19/2023	8/17/2024
34	8/22/2020	8/28/2021	8/27/2022	8/26/2023	8/24/2024
35	8/29/2020	9/4/2021	9/3/2022	9/2/2023	8/31/2024
36	9/5/2020	9/11/2021	9/10/2022	9/9/2023	9/7/2024
37	9/12/2020	9/18/2021	9/17/2022	9/16/2023	9/14/2024
38	9/19/2020	9/25/2021	9/24/2022	9/23/2023	9/21/2024
39	9/26/2020	10/2/2021	10/1/2022	9/30/2023	9/28/2024
40	10/3/2020	10/9/2021	10/8/2022	10/7/2023	10/5/2024
41	10/10/2020	10/16/2021	10/15/2022	10/14/2023	10/12/2024
42	10/17/2020	10/23/2021	10/22/2022	10/21/2023	10/19/2024
43	10/24/2020	10/30/2021	10/29/2022	10/28/2023	10/26/2024
44	10/31/2020	11/6/2021	11/5/2022	11/4/2023	11/2/2024
45	11/7/2020	11/13/2021	11/12/2022	11/11/2023	11/9/2024
46	11/14/2020	11/20/2021	11/19/2022	11/18/2023	11/16/2024
47	11/21/2020	11/27/2021	11/26/2022	11/25/2023	11/23/2024
48	11/28/2020	12/4/2021	12/3/2022	12/2/2023	11/30/2024
49	12/5/2020	12/11/2021	12/10/2022	12/9/2023	12/7/2024
50	12/12/2020	12/18/2021	12/17/2022	12/16/2023	12/14/2024
51	12/19/2020	12/25/2021	12/24/2022	12/23/2023	12/21/2024
52	12/26/2020	1/1/2022	12/31/2022	12/30/2023	12/28/2024
53	01/02/2021				

HAWAII STATE DEPARTMENT OF HEALTH
DISEASE OUTBREAK CONTROL DIVISION

Influenza/Respiratory Disease Surveillance Report

Morbidity and Mortality Weekly Report (MMWR)[1]

WEEK 2: JANUARY 7, 2024– JANUARY 13, 2024

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 2023–2024 influenza season which began the week ending October 7, 2023 (week 40[1] 2023) and will end the week ending on September 28, 2024 (week 39 2024).

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	3.5%	Lower than the previous week. Comparable to the Hawaii's historical baseline, lower to the national ILI rate, and higher than the national baseline.
Number of ILI clusters reported to HDOH	1	There have been 14 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	12.0%	Lower than the previous week. This number means that many, if not all, of the 84.0% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	14.8%	

Surveillance for Severe Outcomes		
Pneumonia, influenza and COVID-19 (PIC) mortality rate	5.8%	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	47	1 influenza-associated pediatric death has been reported from Hawaii this season to date.

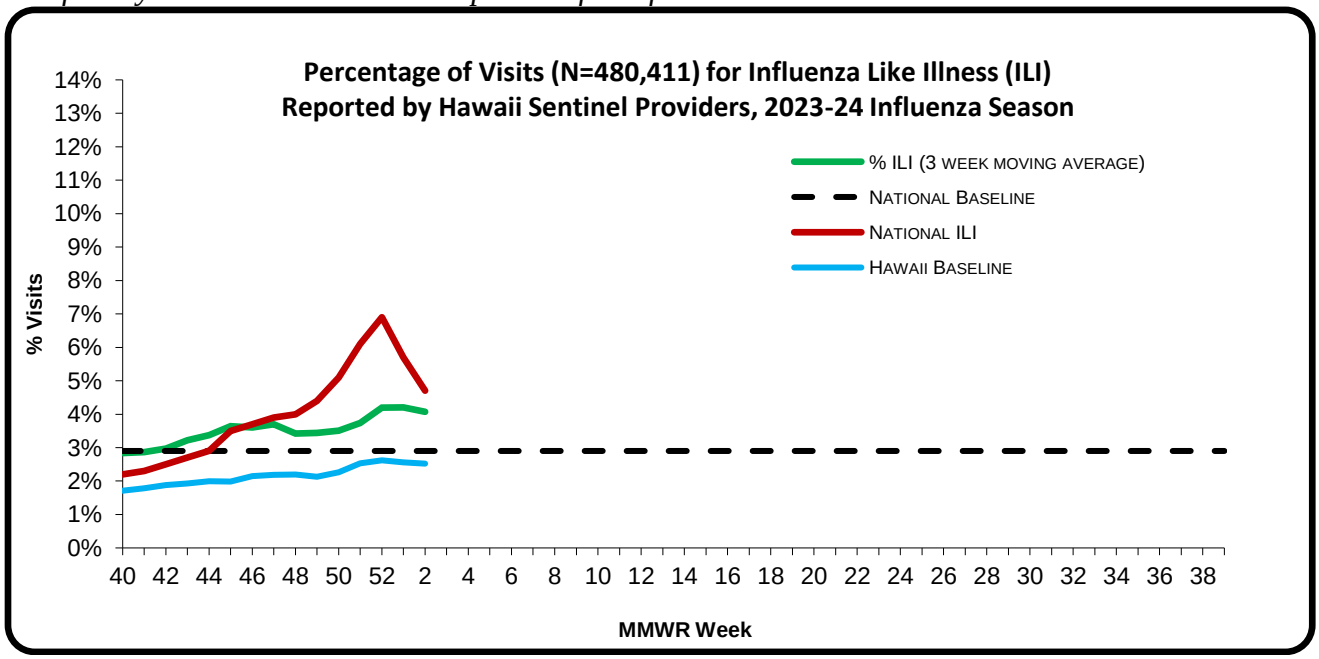
[1] MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week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

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. 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:

- ***3.5%** (season to date: **3.5%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.*
- *ILI visits were comparable to the historical baseline in Hawaii[2,3] (i.e., inside the 95% confidence interval).*
- *Hawaii's ILI outpatient visits were higher than the national baseline (**2.9%**)[4] (i.e., outside the 95% confidence interval) and lower to the national ILI rate (**4.7%**) (i.e. outside the 95% confidence interval).*
- *ILI activity level: Low[5]*
- *Geographic Spread: Sporadic Activity[6].*
- *ILI Cluster Activity: One cluster was reported to HDOH during week 2. The clusters occurred at a long-term care facility in Kauai. Cluster tested positive for influenza A.*



[2] The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022 and 2022-2023).

[3] 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.

[4] 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.

[5] There are 10 activity levels classified as minimal (levels 1-3), low (levels 4-5), moderate (levels 6-7), and high (levels 8-10).

[6] 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[7] 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*).

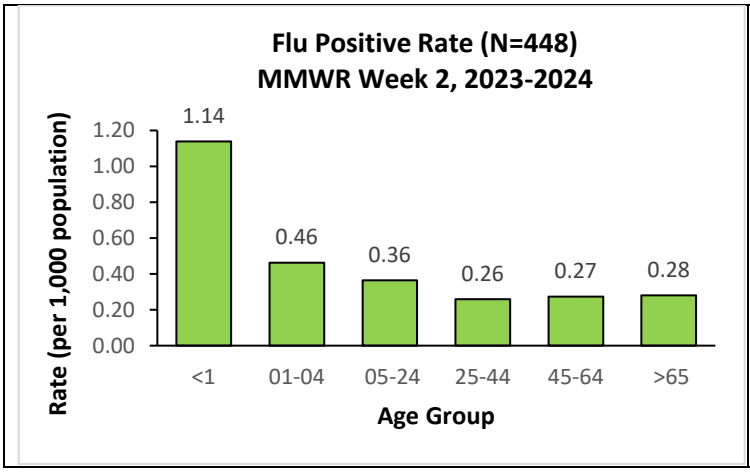
A. INFLUENZA:

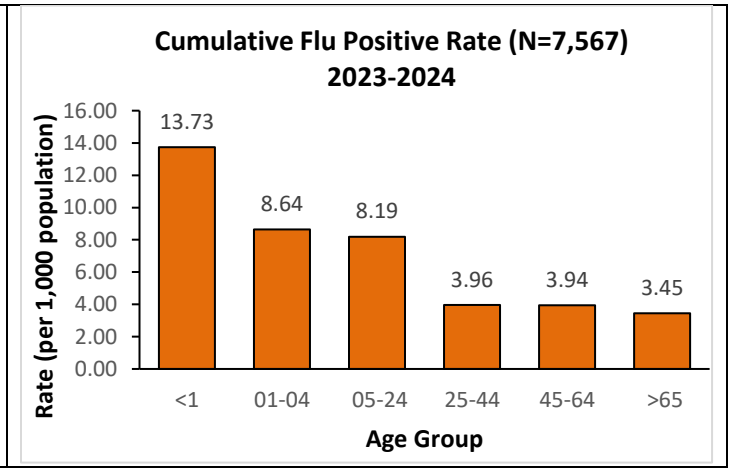
- The following reflects laboratory findings for week 2 of the 2023–24 influenza season:
  - *A total of **3,720** specimens have been tested statewide for influenza viruses (positive: 448 [**12.0%**]). (Season to date: 51,030 tested (**14.8%** positive])*
    - *351 (9.4%) were screened only by rapid antigen tests with no confirmatory testing.*
    - *3,369 (90.6%) underwent confirmatory testing (either RT-PCR or viral culture).*
    - *3,272 (88.0%) were negative.*

Influenza type	*Current week 2 (%)*	*Season to date (%)*[8]
Influenza A (H1)[9]	*26 (5.8)*	*298 (3.9)*
Influenza A (H3)	*3 (0.7)*	*88 (1.2)*
Influenza A no subtyping	*369 (82.4)*	*6,020 (79.6)*
Influenza B (Yamagata)	*0 (0.0)*	*0 (0.0)*
Influenza B (Victoria)	*1 (0.2)*	*68 (0.9)*
Influenza B no genotyping	*49 (10.9)*	*1,093 (14.4)*

1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2023–24 influenza season.[10]

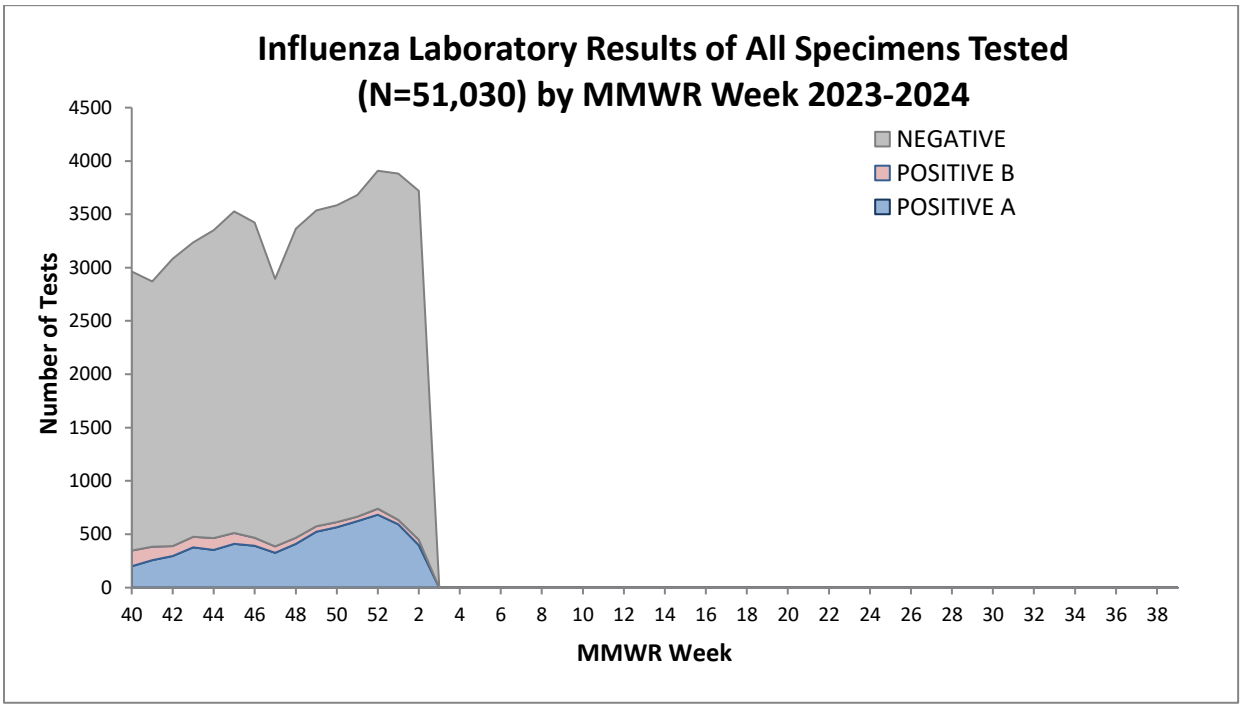


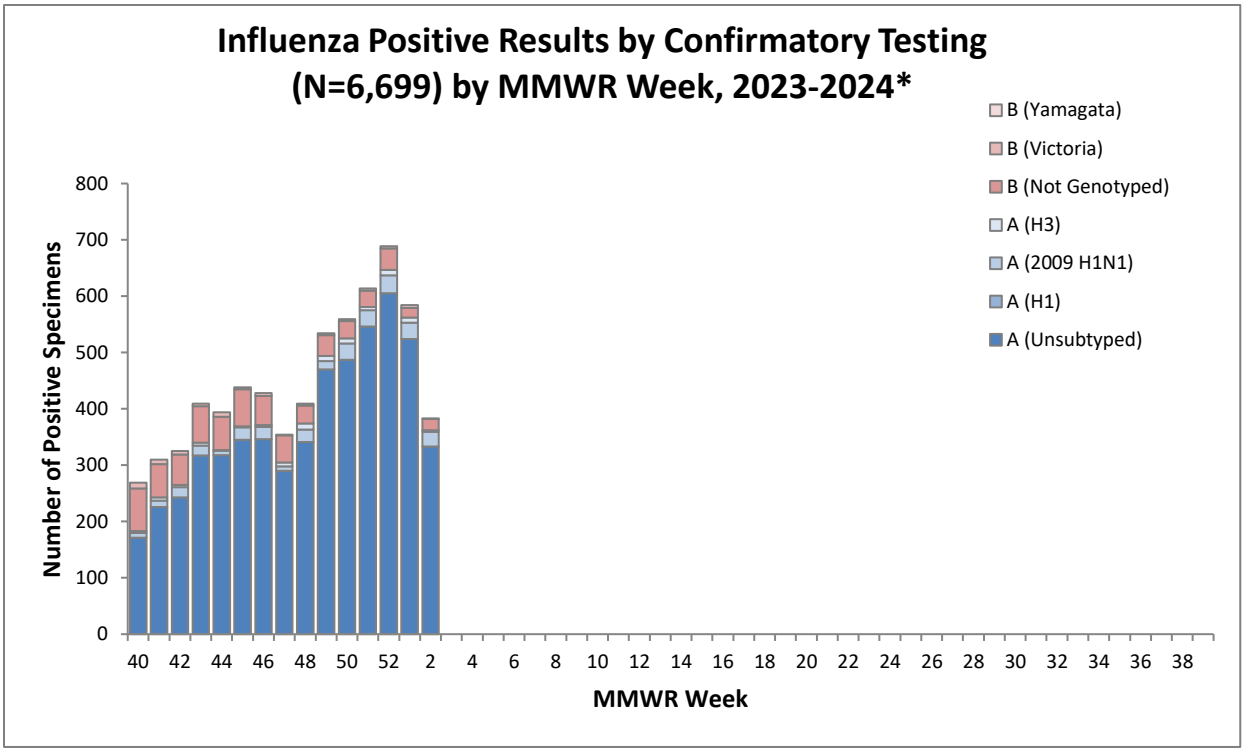


[7] Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.
[8] Influenza coding were updated to reflect a more accurate count.
[9] All influenza A H1 viruses detected this season have been 2009 H1N1.
[10] This represents an estimate of population-based rates based on available data.

2. LABORATORY TESTING

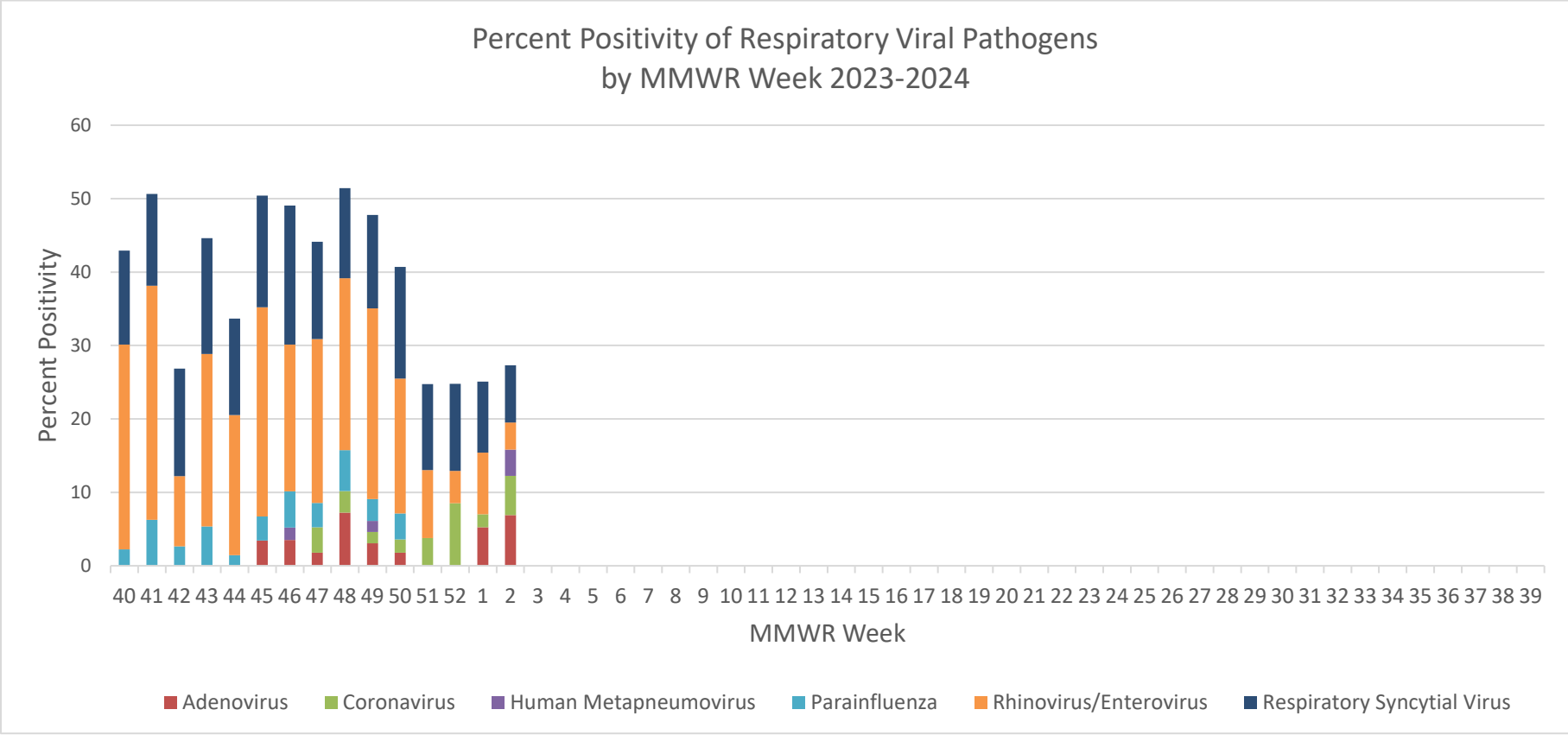
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2023–2024 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).





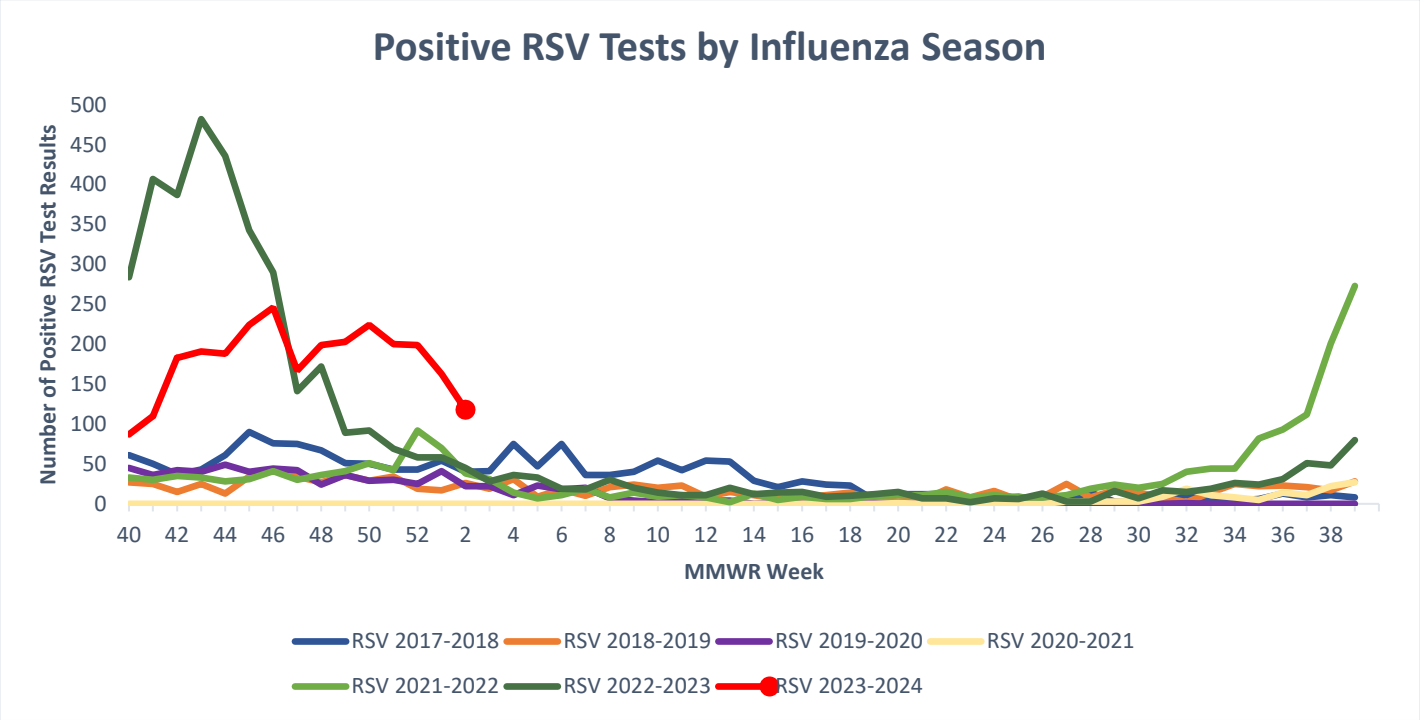
** A total of 45,954 specimens underwent confirmatory testing but not all positive influenza specimens receive confirmatory testing that are circulating in Hawaii.*

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**.

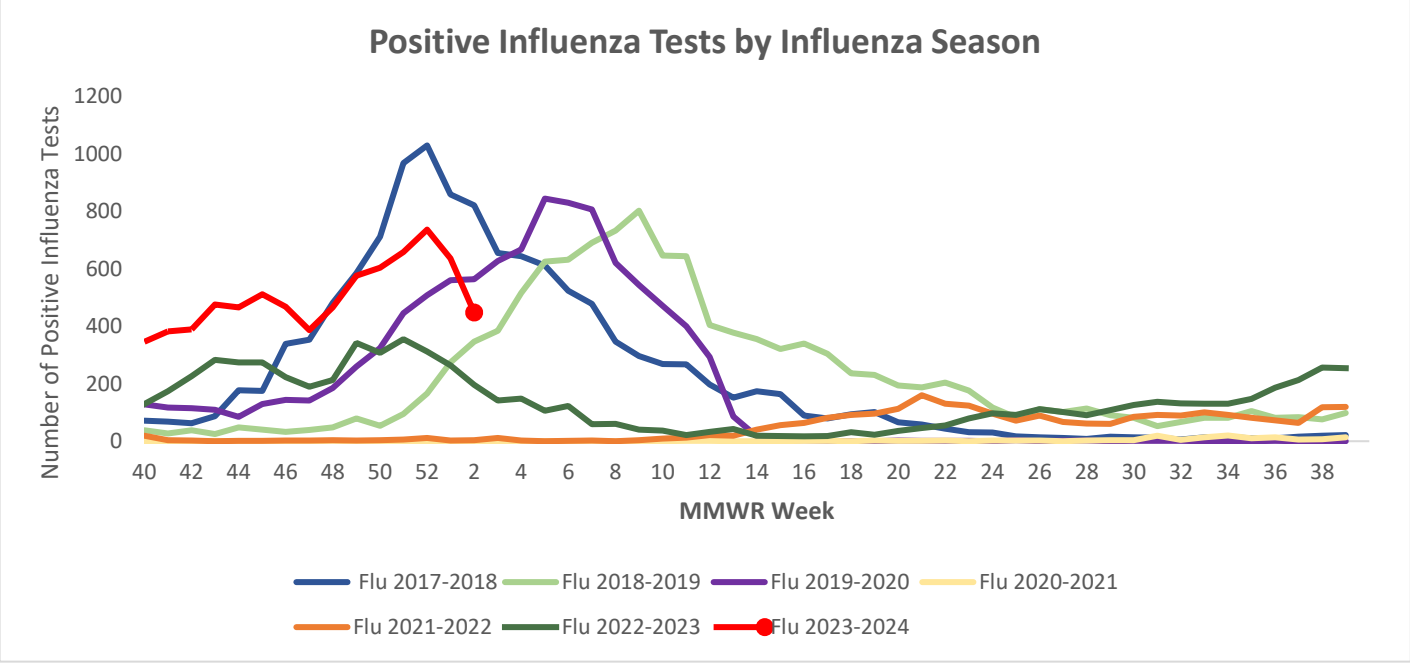


* *The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).*

RESPIRATORY SYNCYTIAL VIRUS (RSV) POSITIVE TEST RESULTS BY INFLUENZA SEASON: RSV case counts are lower than the previous season but is currently trending upwards for the 2023-2024 season. Of note, significantly more tests for RSV are being performed than in pre-COVID-19 seasons.



INFLUENZA POSITIVE TEST RESULTS BY INFLUENZA SEASON: Influenza cases appear to have increased earlier than past seasons in the 2023-2024 season, but it is not yet known whether case numbers will reach a peak similar to pre-COVID-19 seasons.



C. COVID-19 SENTINEL SURVEILLANCE: Due to the low volume of samples currently available through the influenza surveillance system, the COVID-19 sentinel surveillance data may not be accurately portraying COVID-19 activity in our communities. Reporting of the COVID-19 Sentinel Surveillance data will be paused while HODH re-evaluates the program to ensure that the reported data are accurate and representative.

HDOH is continuing to monitor COVID-19 activity throughout the state. To learn more, please visit the Hawaii's COVID-19 data website (*here*). For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website (*here*).

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

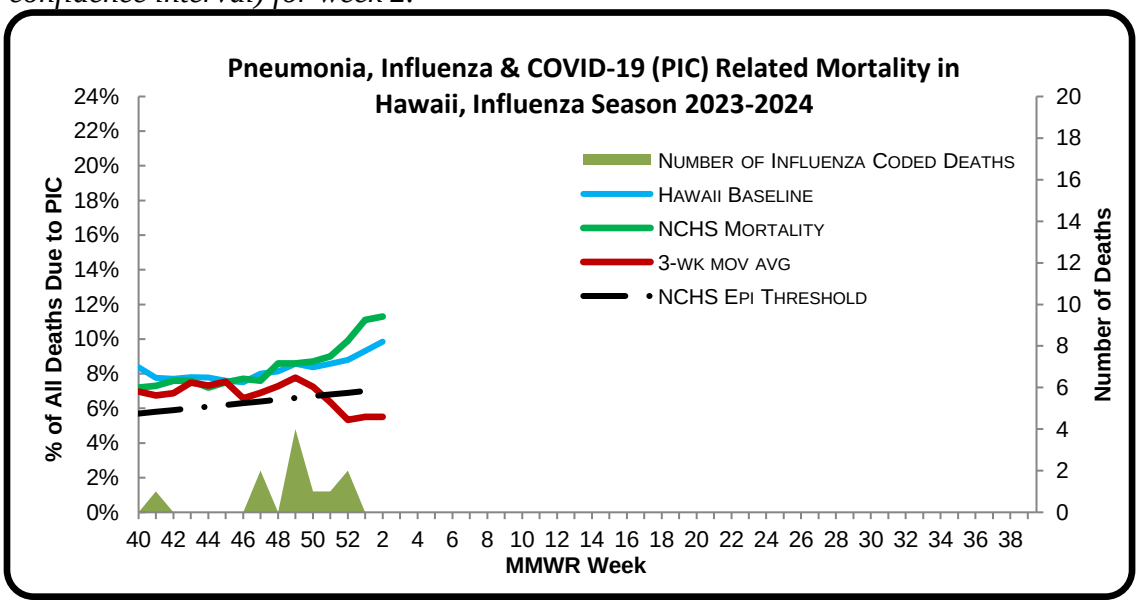
P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Due to the ongoing COVID-19 pandemic, CDC included total deaths from COVID-19 by age group to the death data. Previous studies had suggested that P&I is a good indicator of influenza-related deaths; however, data has shown that pneumonia deaths associated with influenza is now being impacted by COVID-19 related pneumonia. Due to this, CDC had added COVID-19 deaths into P&I to create the PIC (pneumonia, influenza, and/or COVID-19) classification.

To standardize Hawaii's influenza surveillance with CDC influenza surveillance guidelines, PIC deaths will be reported in lieu of P&I. Hawaii's baseline will begin to include PIC deaths starting from 2019-2020 flu season.

For **week 2** of the current influenza season:

- ***5.8%*** *of all deaths that occurred in Hawaii during week 2 were related to pneumonia, influenza or COVID-19 (PIC)*[11]*. For the current season (season to date:* ***6.9%****) there have been 3,815 deaths from any cause, 263 of which were due to PIC*[12]*.*
- *The PIC rate was comparable to the historical baseline in Hawaii*[13] *(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[14] *(**11.3%**) (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 2.*



[11] The percent of deaths due to PIC displayed on the graph is the 3-week moving averages.

[12] PIC data reflect 33.8% of the data reported for the MMWR week. Changes to data are expected when PIC data reaches 100% completion.

[13] The Hawaii historical baseline (%PIC) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, and 2022-2023).

[14] 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, influenza, or COVID-19 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 COVID-19 death counts reported by NCHS are provisional and will not match counts in other sources, such as media reports or numbers from health departments. COVID-19 deaths may be classified or defined differently in various reporting and surveillance systems. The percentage of deaths due to pneumonia, influenza, and COVID-19 (PIC) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

INFLUENZA-ASSOCIATED PEDIATRIC DEATHS[15]:

- No new influenza-associated pediatric death was reported to Hawaii. There has been one influenza-associated pediatric death reported in Hawaii during the 2023–2024 season.
- Nationally, seven new influenza-associated pediatric deaths were reported to CDC during week 2 (2023-2024 season total: 47).

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 2023–2024 influenza season.*
- *One new human infection with novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (1), have been reported to CDC during the 2023–2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Netherlands during the 2023-2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Switzerland during the 2023-2024 influenza season.*
    - *One new human infection with influenza A(H1N2v) virus has been reported to WHO from Great Britain and Northern Ireland during the 2023-2024 influenza season.*

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 15th, 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

[15] 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.

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 21, 2023**.

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 2023–2024 Influenza Vaccine**:**

The composition of the 2023–2024 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2023–2024 influenza trivalent vaccine contain an influenza A/Wisconsin/67/2022 (H1N1)pdm09-like virus, influenza A/Darwin/6/2021 (H3N2)-like virus, and influenza B/Austria/1359417/2021-like virus (B/Victoria lineage). 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/Wisconsin/67/2022 (H1N1)pdm09-like virus, an influenza A/Darwin/6/2021 (H3N2)-like virus, an influenza B/Austria/1359417/2021-like virus (B/Victoria lineage), 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.

Centers for Disease Control and Prevention	General Influenza National ILI and P&I Data Vaccine Virus Selection CDC Web Tool for Respiratory Viruses
Flu.gov	General Influenza Information
HDOH Flu and Pneumonia	General Influenza Surveillance To find out more information or join the sentinel physician program, email the Influenza Surveillance Coordinator
World Health Organization	General Global and Local Influenza Avian Influenza

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	2020	2021	2022	2023	2024
1	1/4/2020	1/9/2021	1/8/2022	1/7/2023	1/6/2024
2	1/11/2020	1/16/2021	1/15/2022	1/14/2023	1/13/2024
3	1/18/2020	1/23/2021	1/22/2022	1/21/2023	1/20/2024
4	1/25/2020	1/30/2021	1/29/2022	1/28/2023	1/27/2024
5	2/1/2020	2/6/2021	2/5/2022	2/4/2023	2/3/2024
6	2/8/2020	2/13/2021	2/12/2022	2/11/2023	2/10/2024
7	2/15/2020	2/20/2021	2/19/2022	2/18/2023	2/17/2024
8	2/22/2020	2/27/2021	2/26/2022	2/25/2023	2/24/2024
9	2/29/2020	3/6/2021	3/5/2022	3/4/2023	3/2/2024
10	3/7/2020	3/13/2021	3/12/2022	3/11/2023	3/9/2024
11	3/14/2020	3/20/2021	3/19/2022	3/18/2023	3/16/2024
12	3/21/2020	3/27/2021	3/26/2022	3/25/2023	3/23/2024
13	3/28/2020	4/3/2021	4/2/2022	4/1/2023	3/30/2024
14	4/4/2020	4/10/2021	4/9/2022	4/8/2023	4/6/2024
15	4/11/2020	4/17/2021	4/16/2022	4/15/2023	4/13/2024
16	4/18/2020	4/24/2021	4/23/2022	4/22/2023	4/20/2024
17	4/25/2020	5/1/2021	4/30/2022	4/29/2023	4/27/2024
18	5/2/2020	5/8/2021	5/7/2022	5/6/2023	5/4/2024
19	5/9/2020	5/15/2021	5/14/2022	5/13/2023	5/11/2024
20	5/16/2020	5/22/2021	5/21/2022	5/20/2023	5/18/2024
21	5/23/2020	5/29/2021	5/28/2022	5/27/2023	5/25/2024
22	5/30/2020	6/5/2021	6/4/2022	6/3/2023	6/1/2024
23	6/6/2020	6/12/2021	6/11/2022	6/10/2023	6/8/2024
24	6/13/2020	6/19/2021	6/18/2022	6/17/2023	6/15/2024
25	6/20/2020	6/26/2021	6/25/2022	6/24/2023	6/22/2024
26	6/27/2020	7/3/2021	7/2/2022	7/1/2023	6/29/2024
27	7/4/2020	7/10/2021	7/9/2022	7/8/2023	7/6/2024
28	7/11/2020	7/17/2021	7/16/2022	7/15/2023	7/13/2024
29	7/18/2020	7/24/2021	7/23/2022	7/22/2023	7/20/2024
30	7/25/2020	7/31/2021	7/30/2022	7/29/2023	7/27/2024
31	8/1/2020	8/7/2021	8/6/2022	8/5/2023	8/3/2024
32	8/8/2020	8/14/2021	8/13/2022	8/12/2023	8/10/2024
33	8/15/2020	8/21/2021	8/20/2022	8/19/2023	8/17/2024
34	8/22/2020	8/28/2021	8/27/2022	8/26/2023	8/24/2024
35	8/29/2020	9/4/2021	9/3/2022	9/2/2023	8/31/2024
36	9/5/2020	9/11/2021	9/10/2022	9/9/2023	9/7/2024
37	9/12/2020	9/18/2021	9/17/2022	9/16/2023	9/14/2024
38	9/19/2020	9/25/2021	9/24/2022	9/23/2023	9/21/2024
39	9/26/2020	10/2/2021	10/1/2022	9/30/2023	9/28/2024
40	10/3/2020	10/9/2021	10/8/2022	10/7/2023	10/5/2024
41	10/10/2020	10/16/2021	10/15/2022	10/14/2023	10/12/2024
42	10/17/2020	10/23/2021	10/22/2022	10/21/2023	10/19/2024
43	10/24/2020	10/30/2021	10/29/2022	10/28/2023	10/26/2024
44	10/31/2020	11/6/2021	11/5/2022	11/4/2023	11/2/2024
45	11/7/2020	11/13/2021	11/12/2022	11/11/2023	11/9/2024
46	11/14/2020	11/20/2021	11/19/2022	11/18/2023	11/16/2024
47	11/21/2020	11/27/2021	11/26/2022	11/25/2023	11/23/2024
48	11/28/2020	12/4/2021	12/3/2022	12/2/2023	11/30/2024
49	12/5/2020	12/11/2021	12/10/2022	12/9/2023	12/7/2024
50	12/12/2020	12/18/2021	12/17/2022	12/16/2023	12/14/2024
51	12/19/2020	12/25/2021	12/24/2022	12/23/2023	12/21/2024
52	12/26/2020	1/1/2022	12/31/2022	12/30/2023	12/28/2024
53	01/02/2021				

HAWAII STATE DEPARTMENT OF HEALTH
DISEASE OUTBREAK CONTROL DIVISION

Influenza/Respiratory Disease Surveillance Report

Morbidity and Mortality Weekly Report (MMWR)[1]

WEEK 3: JANUARY 14, 2024– JANUARY 20, 2024

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 2023–2024 influenza season which began the week ending October 7, 2023 (week 40[1] 2023) and will end the week ending on September 28, 2024 (week 39 2024).

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	3.8%	Higher than the previous week. Comparable to the Hawaii's historical baseline, lower than the national ILI rate, and higher than the national baseline.
Number of ILI clusters reported to HDOH	2	There have been 16 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	12.0%	Same as the previous week. This number means that many, if not all, of the 88.0% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	14.8%	

Surveillance for Severe Outcomes		
Pneumonia, influenza and COVID-19 (PIC) mortality rate	5.6%	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	57	1 influenza-associated pediatric death has been reported from Hawaii this season to date.

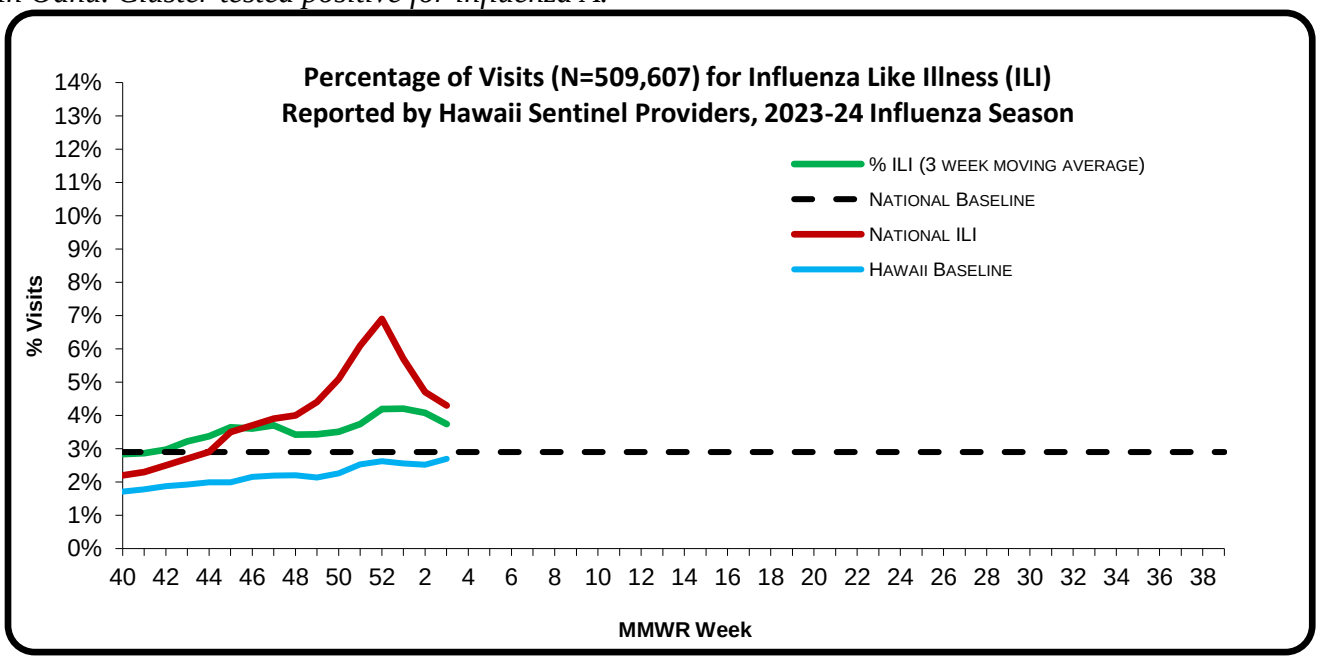
[1] MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week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

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. 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:

- ***3.8**% (season to date: **3.5**%) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.*
- *ILI visits were comparable to the historical baseline in Hawaii[2,3] (i.e., inside the 95% confidence interval).*
- *Hawaii's ILI outpatient visits were higher than the national baseline (**2.9%**)[4] (i.e., outside the 95% confidence interval) and lower to the national ILI rate (**4.3%**) (i.e. outside the 95% confidence interval).*
- *ILI activity level: Low[5]*
- *Geographic Spread: Sporadic Activity[6].*
- *ILI Cluster Activity: Two cluster were reported to HDOH during week 3. The clusters occurred at two schools in Oahu. Cluster tested positive for influenza A.*



[2] The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022 and 2022-2023).

[3] 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.

[4] 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.

[5] There are 10 activity levels classified as minimal (levels 1-3), low (levels 4-5), moderate (levels 6-7), and high (levels 8-10).

[6] 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[7] 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*).

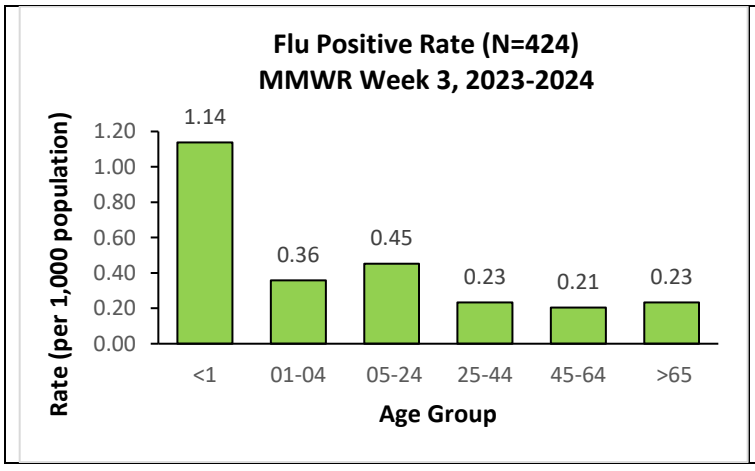
A. INFLUENZA:

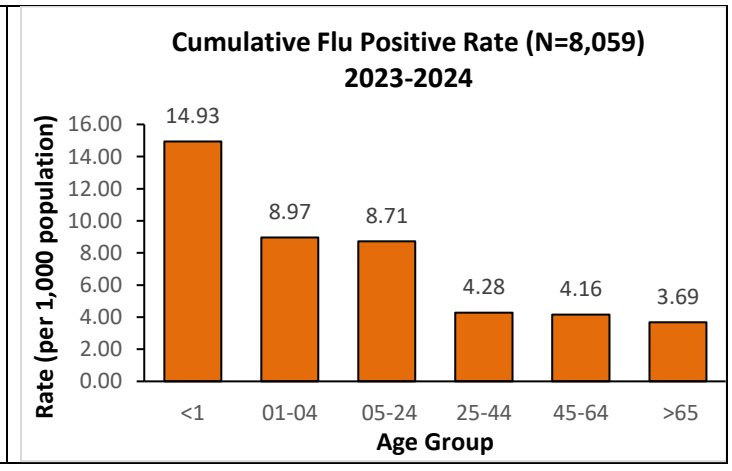
- The following reflects laboratory findings for week 3 of the 2023–24 influenza season:
  - *A total of **3,521** specimens have been tested statewide for influenza viruses (positive: 424 [**12.0%**]). (Season to date: 54,619 tested (**14.8%** positive])*
    - *333 (9.4%) were screened only by rapid antigen tests with no confirmatory testing.*
    - *3,188 (90.5%) underwent confirmatory testing (either RT-PCR or viral culture).*
    - *3,097 (88.0%) were negative.*

Influenza type	*Current week 3 (%)*	*Season to date (%)*[8]
Influenza A (H1)[9]	*8 (1.9)*	*308 (3.8)*
Influenza A (H3)	*7 (1.7)*	*96 (1.2)*
Influenza A no subtyping	*361 (85.1)*	*6,445 (80.0)*
Influenza B (Yamagata)	*0 (0.0)*	*0 (0.0)*
Influenza B (Victoria)	*5 (1.2)*	*75 (0.9)*
Influenza B no genotyping	*43 (10.1)*	*1,135 (14.1)*

1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2023–24 influenza season.[10]

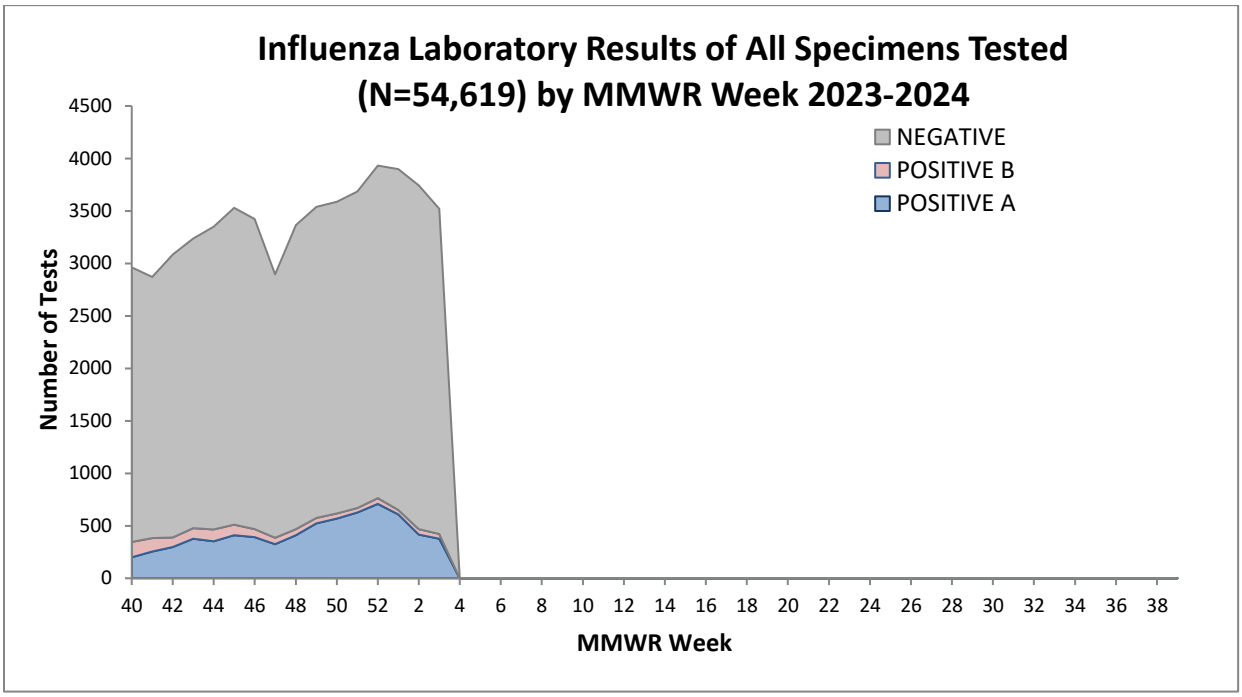


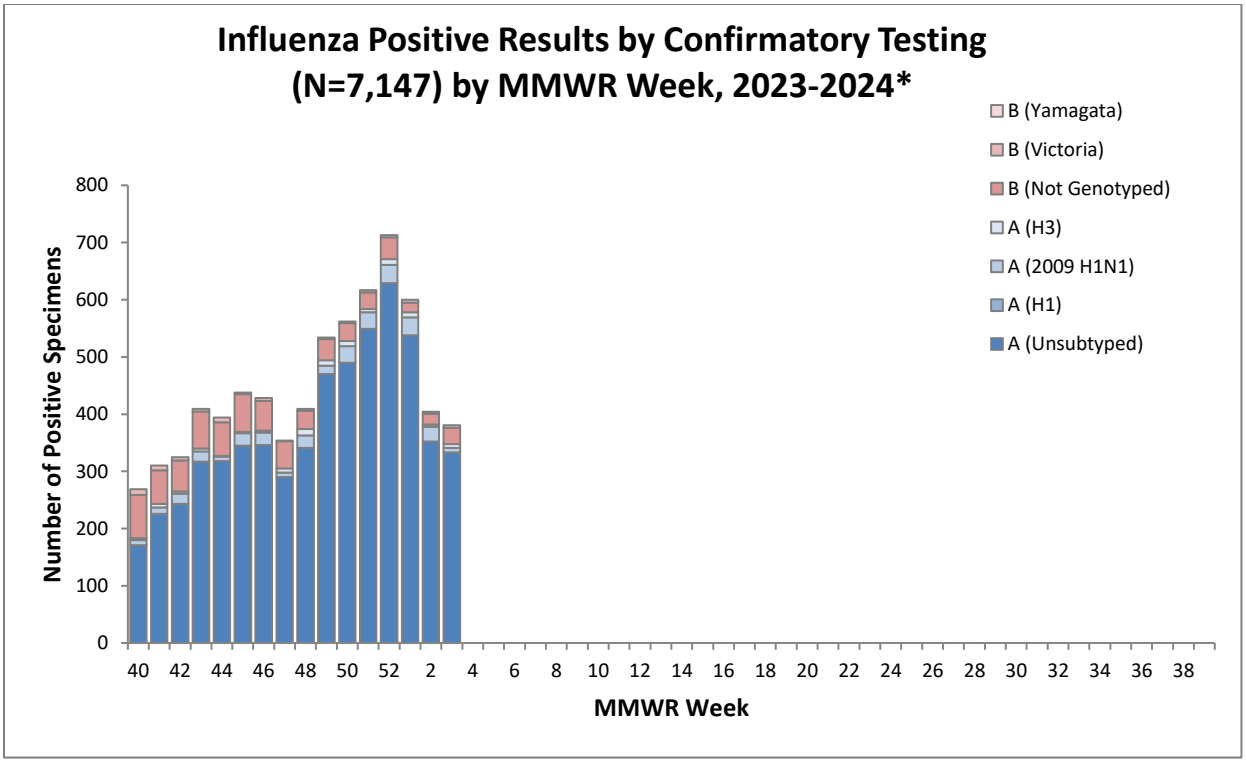


[7] Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.
[8] Influenza coding were updated to reflect a more accurate count.
[9] All influenza A H1 viruses detected this season have been 2009 H1N1.
[10] This represents an estimate of population-based rates based on available data.

2. LABORATORY TESTING

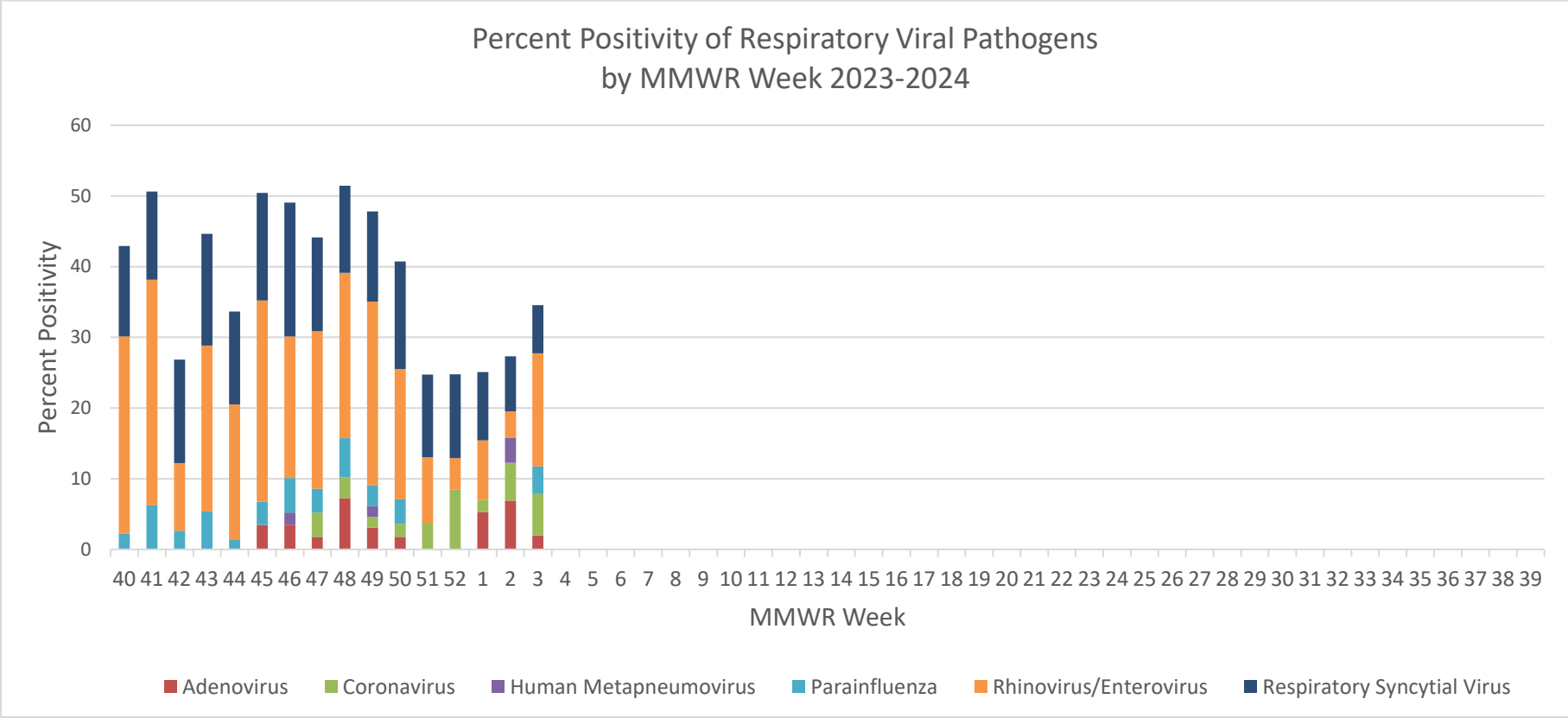
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2023–2024 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).





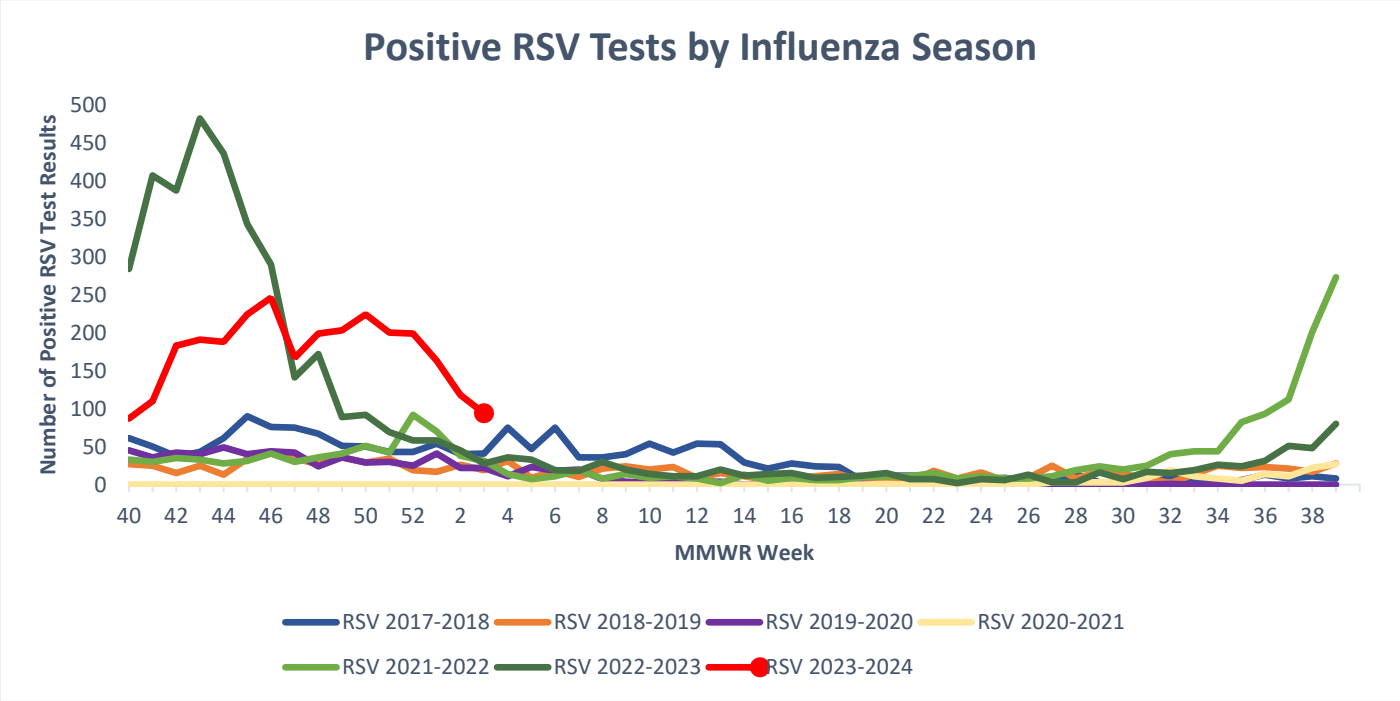
** A total of 49,195 specimens underwent confirmatory testing but not all positive influenza specimens receive confirmatory testing that are circulating in Hawaii.*

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**.

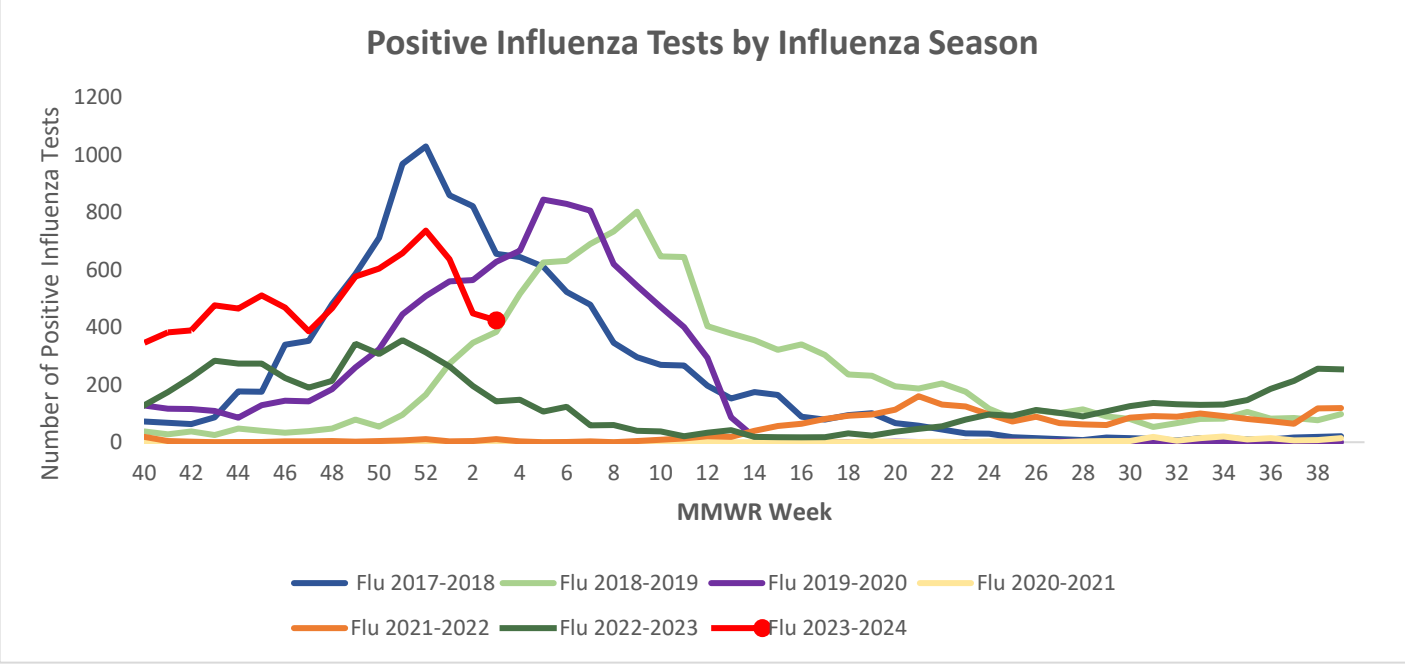


* *The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).*

RESPIRATORY SYNCYTIAL VIRUS (RSV) POSITIVE TEST RESULTS BY INFLUENZA SEASON: RSV case counts are lower than the previous season but is currently trending upwards for the 2023-2024 season. Of note, significantly more tests for RSV are being performed than in pre-COVID-19 seasons.



INFLUENZA POSITIVE TEST RESULTS BY INFLUENZA SEASON: Influenza cases appear to have increased earlier than past seasons in the 2023-2024 season, but it is not yet known whether case numbers will reach a peak similar to pre-COVID-19 seasons.



C. COVID-19 SENTINEL SURVEILLANCE: Due to the low volume of samples currently available through the influenza surveillance system, the COVID-19 sentinel surveillance data may not be accurately portraying COVID-19 activity in our communities. Reporting of the COVID-19 Sentinel Surveillance data will be paused while HODH re-evaluates the program to ensure that the reported data are accurate and representative.

HDOH is continuing to monitor COVID-19 activity throughout the state. To learn more, please visit the Hawaii's COVID-19 data website (*here*). For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website (*here*).

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

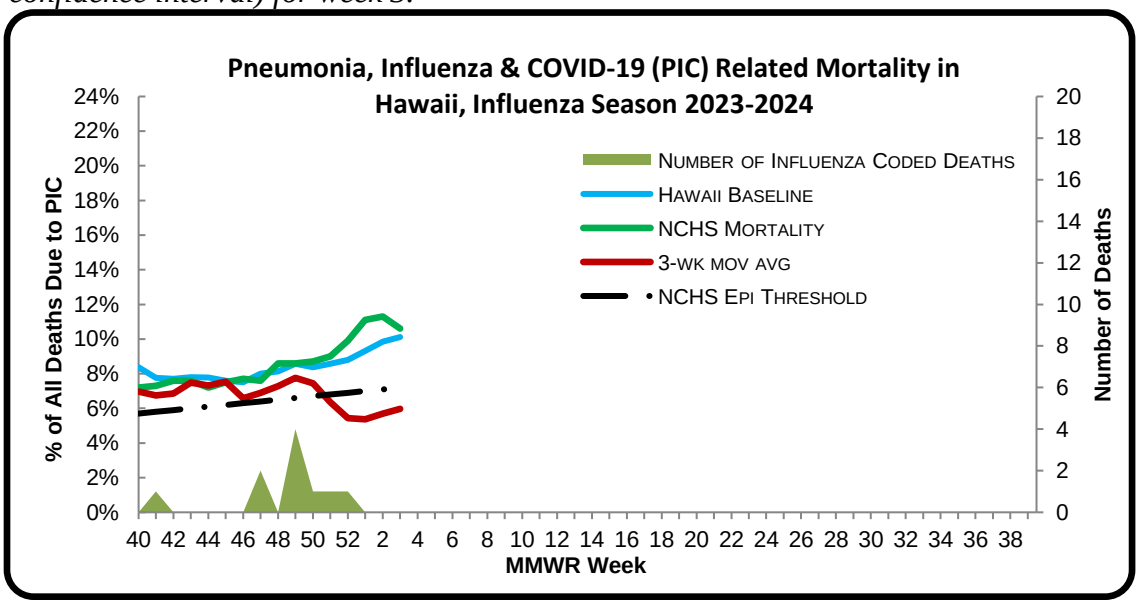
P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Due to the ongoing COVID-19 pandemic, CDC included total deaths from COVID-19 by age group to the death data. Previous studies had suggested that P&I is a good indicator of influenza-related deaths; however, data has shown that pneumonia deaths associated with influenza is now being impacted by COVID-19 related pneumonia. Due to this, CDC had added COVID-19 deaths into P&I to create the PIC (pneumonia, influenza, and/or COVID-19) classification.

To standardize Hawaii's influenza surveillance with CDC influenza surveillance guidelines, PIC deaths will be reported in lieu of P&I. Hawaii's baseline will begin to include PIC deaths starting from 2019-2020 flu season.

For **week 3** of the current influenza season:

- ***5.6%*** *of all deaths that occurred in Hawaii during week 3 were related to pneumonia, influenza or COVID-19 (PIC)*[11]*. For the current season (season to date:* ***6.8%****) there have been 4,147 deaths from any cause, 283 of which were due to PIC*[12]*.*
- *The PIC rate was comparable to the historical baseline in Hawaii*[13] *(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[14] *(**10.6%**) (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.*



[11] The percent of deaths due to PIC displayed on the graph is the 3-week moving averages.

[12] PIC data reflect 33.8% of the data reported for the MMWR week. Changes to data are expected when PIC data reaches 100% completion.

[13] The Hawaii historical baseline (%PIC) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, and 2022-2023).

[14] 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, influenza, or COVID-19 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 COVID-19 death counts reported by NCHS are provisional and will not match counts in other sources, such as media reports or numbers from health departments. COVID-19 deaths may be classified or defined differently in various reporting and surveillance systems. The percentage of deaths due to pneumonia, influenza, and COVID-19 (PIC) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

INFLUENZA-ASSOCIATED PEDIATRIC DEATHS[15]:

- No new influenza-associated pediatric death was reported to Hawaii. There has been one influenza-associated pediatric death reported in Hawaii during the 2023–2024 season.
- Nationally, ten new influenza-associated pediatric deaths were reported to CDC during week 3 (2023-2024 season total: 57).

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 2023–2024 influenza season.*
- *One new human infection with novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (1), have been reported to CDC during the 2023–2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Netherlands during the 2023-2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Switzerland during the 2023-2024 influenza season.*
    - *One new human infection with influenza A(H1N2v) virus has been reported to WHO from Great Britain and Northern Ireland during the 2023-2024 influenza season.*

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 15th, 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

[15] 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.

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 21, 2023**.

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 2023–2024 Influenza Vaccine**:**

The composition of the 2023–2024 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2023–2024 influenza trivalent vaccine contain an influenza A/Wisconsin/67/2022 (H1N1)pdm09-like virus, influenza A/Darwin/6/2021 (H3N2)-like virus, and influenza B/Austria/1359417/2021-like virus (B/Victoria lineage). 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/Wisconsin/67/2022 (H1N1)pdm09-like virus, an influenza A/Darwin/6/2021 (H3N2)-like virus, an influenza B/Austria/1359417/2021-like virus (B/Victoria lineage), 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.

Centers for Disease Control and Prevention	General Influenza National ILI and P&I Data Vaccine Virus Selection CDC Web Tool for Respiratory Viruses
Flu.gov	General Influenza Information
HDOH Flu and Pneumonia	General Influenza Surveillance To find out more information or join the sentinel physician program, email the Influenza Surveillance Coordinator
World Health Organization	General Global and Local Influenza Avian Influenza

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	2020	2021	2022	2023	2024
1	1/4/2020	1/9/2021	1/8/2022	1/7/2023	1/6/2024
2	1/11/2020	1/16/2021	1/15/2022	1/14/2023	1/13/2024
3	1/18/2020	1/23/2021	1/22/2022	1/21/2023	1/20/2024
4	1/25/2020	1/30/2021	1/29/2022	1/28/2023	1/27/2024
5	2/1/2020	2/6/2021	2/5/2022	2/4/2023	2/3/2024
6	2/8/2020	2/13/2021	2/12/2022	2/11/2023	2/10/2024
7	2/15/2020	2/20/2021	2/19/2022	2/18/2023	2/17/2024
8	2/22/2020	2/27/2021	2/26/2022	2/25/2023	2/24/2024
9	2/29/2020	3/6/2021	3/5/2022	3/4/2023	3/2/2024
10	3/7/2020	3/13/2021	3/12/2022	3/11/2023	3/9/2024
11	3/14/2020	3/20/2021	3/19/2022	3/18/2023	3/16/2024
12	3/21/2020	3/27/2021	3/26/2022	3/25/2023	3/23/2024
13	3/28/2020	4/3/2021	4/2/2022	4/1/2023	3/30/2024
14	4/4/2020	4/10/2021	4/9/2022	4/8/2023	4/6/2024
15	4/11/2020	4/17/2021	4/16/2022	4/15/2023	4/13/2024
16	4/18/2020	4/24/2021	4/23/2022	4/22/2023	4/20/2024
17	4/25/2020	5/1/2021	4/30/2022	4/29/2023	4/27/2024
18	5/2/2020	5/8/2021	5/7/2022	5/6/2023	5/4/2024
19	5/9/2020	5/15/2021	5/14/2022	5/13/2023	5/11/2024
20	5/16/2020	5/22/2021	5/21/2022	5/20/2023	5/18/2024
21	5/23/2020	5/29/2021	5/28/2022	5/27/2023	5/25/2024
22	5/30/2020	6/5/2021	6/4/2022	6/3/2023	6/1/2024
23	6/6/2020	6/12/2021	6/11/2022	6/10/2023	6/8/2024
24	6/13/2020	6/19/2021	6/18/2022	6/17/2023	6/15/2024
25	6/20/2020	6/26/2021	6/25/2022	6/24/2023	6/22/2024
26	6/27/2020	7/3/2021	7/2/2022	7/1/2023	6/29/2024
27	7/4/2020	7/10/2021	7/9/2022	7/8/2023	7/6/2024
28	7/11/2020	7/17/2021	7/16/2022	7/15/2023	7/13/2024
29	7/18/2020	7/24/2021	7/23/2022	7/22/2023	7/20/2024
30	7/25/2020	7/31/2021	7/30/2022	7/29/2023	7/27/2024
31	8/1/2020	8/7/2021	8/6/2022	8/5/2023	8/3/2024
32	8/8/2020	8/14/2021	8/13/2022	8/12/2023	8/10/2024
33	8/15/2020	8/21/2021	8/20/2022	8/19/2023	8/17/2024
34	8/22/2020	8/28/2021	8/27/2022	8/26/2023	8/24/2024
35	8/29/2020	9/4/2021	9/3/2022	9/2/2023	8/31/2024
36	9/5/2020	9/11/2021	9/10/2022	9/9/2023	9/7/2024
37	9/12/2020	9/18/2021	9/17/2022	9/16/2023	9/14/2024
38	9/19/2020	9/25/2021	9/24/2022	9/23/2023	9/21/2024
39	9/26/2020	10/2/2021	10/1/2022	9/30/2023	9/28/2024
40	10/3/2020	10/9/2021	10/8/2022	10/7/2023	10/5/2024
41	10/10/2020	10/16/2021	10/15/2022	10/14/2023	10/12/2024
42	10/17/2020	10/23/2021	10/22/2022	10/21/2023	10/19/2024
43	10/24/2020	10/30/2021	10/29/2022	10/28/2023	10/26/2024
44	10/31/2020	11/6/2021	11/5/2022	11/4/2023	11/2/2024
45	11/7/2020	11/13/2021	11/12/2022	11/11/2023	11/9/2024
46	11/14/2020	11/20/2021	11/19/2022	11/18/2023	11/16/2024
47	11/21/2020	11/27/2021	11/26/2022	11/25/2023	11/23/2024
48	11/28/2020	12/4/2021	12/3/2022	12/2/2023	11/30/2024
49	12/5/2020	12/11/2021	12/10/2022	12/9/2023	12/7/2024
50	12/12/2020	12/18/2021	12/17/2022	12/16/2023	12/14/2024
51	12/19/2020	12/25/2021	12/24/2022	12/23/2023	12/21/2024
52	12/26/2020	1/1/2022	12/31/2022	12/30/2023	12/28/2024
53	01/02/2021				

HAWAII STATE DEPARTMENT OF HEALTH
DISEASE OUTBREAK CONTROL DIVISION

Influenza/Respiratory Disease Surveillance Report

Morbidity and Mortality Weekly Report (MMWR)[1]

WEEK 4: JANUARY 21, 2024– JANUARY 27, 2024

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 2023–2024 influenza season which began the week ending October 7, 2023 (week 40[1] 2023) and will end the week ending on September 28, 2024 (week 39 2024).

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	3.2%	Lower than the previous week. Comparable to the Hawaii's historical baseline, lower than the national ILI rate, and higher than the national baseline.
Number of ILI clusters reported to HDOH	3	There have been 19 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	10.4%	Lower than the previous week. This number means that many, if not all, of the 89.6% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	14.5%	

Surveillance for Severe Outcomes		
Pneumonia, influenza and COVID-19 (PIC) mortality rate	8.8%	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	65	1 influenza-associated pediatric death has been reported from Hawaii this season to date.

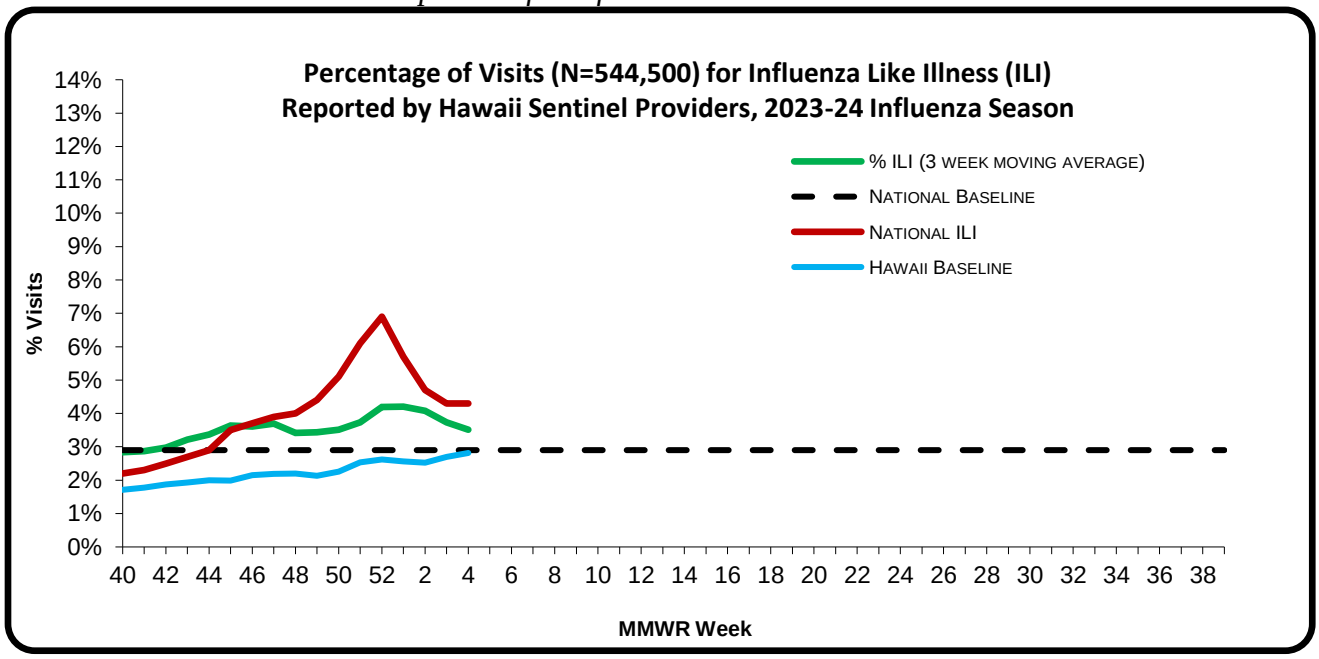
[1] MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week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

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. 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 4** of the current influenza season:

- ***3.2%** (season to date: **3.5%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.*
- *ILI visits were comparable to the historical baseline in Hawaii[2,3] (i.e., inside the 95% confidence interval).*
- *Hawaii's ILI outpatient visits were higher than the national baseline (**2.9%**)[4] (i.e., outside the 95% confidence interval) and lower to the national ILI rate (**4.3%**) (i.e. outside the 95% confidence interval).*
- *ILI activity level: Low[5]*
- *Geographic Spread: Sporadic Activity[6].*
- *ILI Cluster Activity: Three clusters were reported to HDOH during week 4. The clusters occurred at three schools in Oahu. Clusters tested positive for influenza A.*



[2] The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022 and 2022-2023).

[3] 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.

[4] 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.

[5] There are 10 activity levels classified as minimal (levels 1-3), low (levels 4-5), moderate (levels 6-7), and high (levels 8-10).

[6] 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[7] 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*).

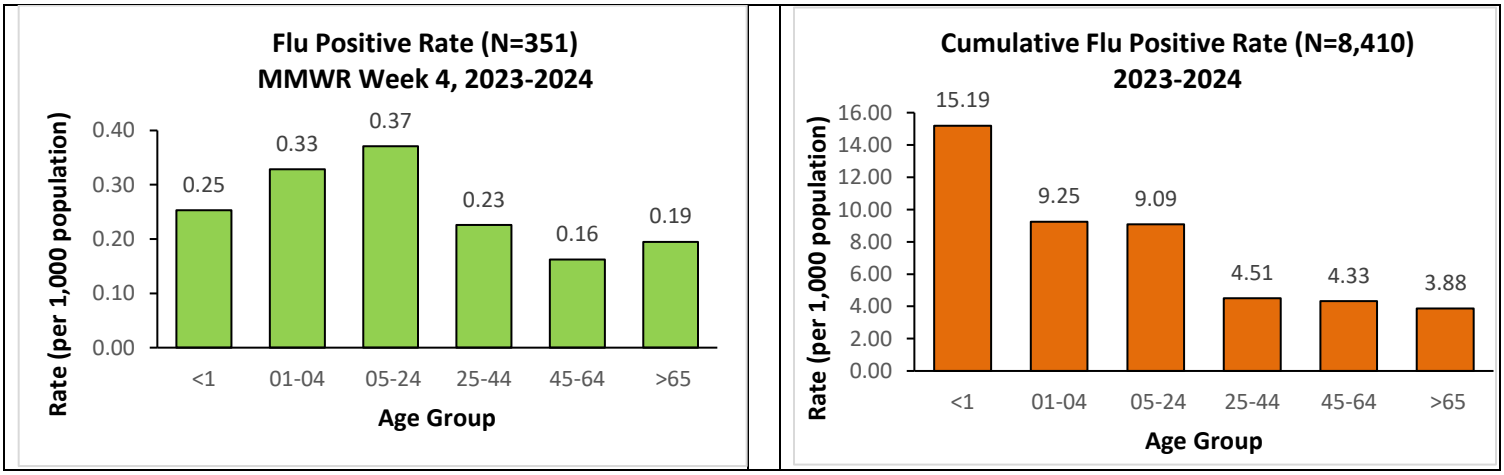
A. INFLUENZA:

- The following reflects laboratory findings for week 4 of the 2023–24 influenza season:
  - *A total of **3,374** specimens have been tested statewide for influenza viruses (positive: 351 [**10.4%**]). (Season to date: 57,993 tested (**14.5%** positive])*
    - *360 (10.7%) were screened only by rapid antigen tests with no confirmatory testing.*
    - *3,014 (89.3%) underwent confirmatory testing (either RT-PCR or viral culture).*
    - *3,023 (89.6%) were negative.*

Influenza type	*Current week 4 (%)*	*Season to date (%)*[8]
Influenza A (H1)[9]	*15 (4.3)*	*323 (3.8)*
Influenza A (H3)	*6 (1.7)*	*102 (1.2)*
Influenza A no subtyping	*288 (82.1)*	*6,733 (80.1)*
Influenza B (Yamagata)	*0 (0.0)*	*0 (0.0)*
Influenza B (Victoria)	*4 (1.1)*	*79 (0.9)*
Influenza B no genotyping	*38 (10.8)*	*1,173 (14.0)*

1. AGE DISTRIBUTION

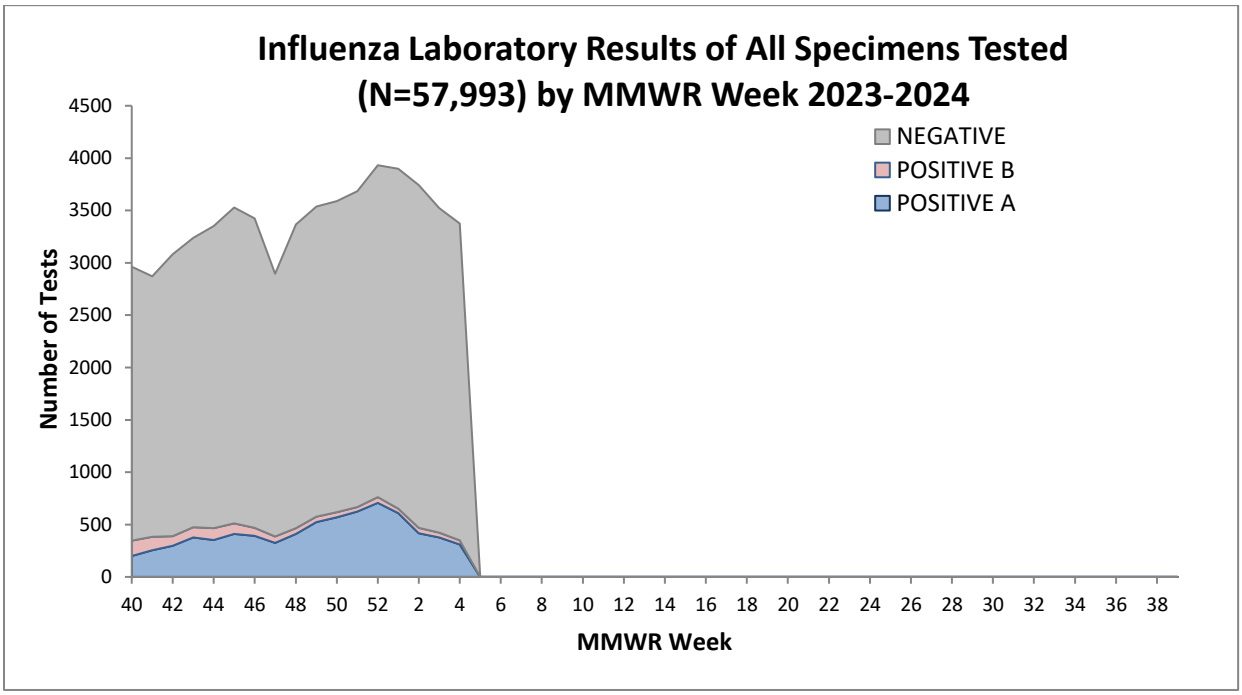
The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2023–24 influenza season.[10]

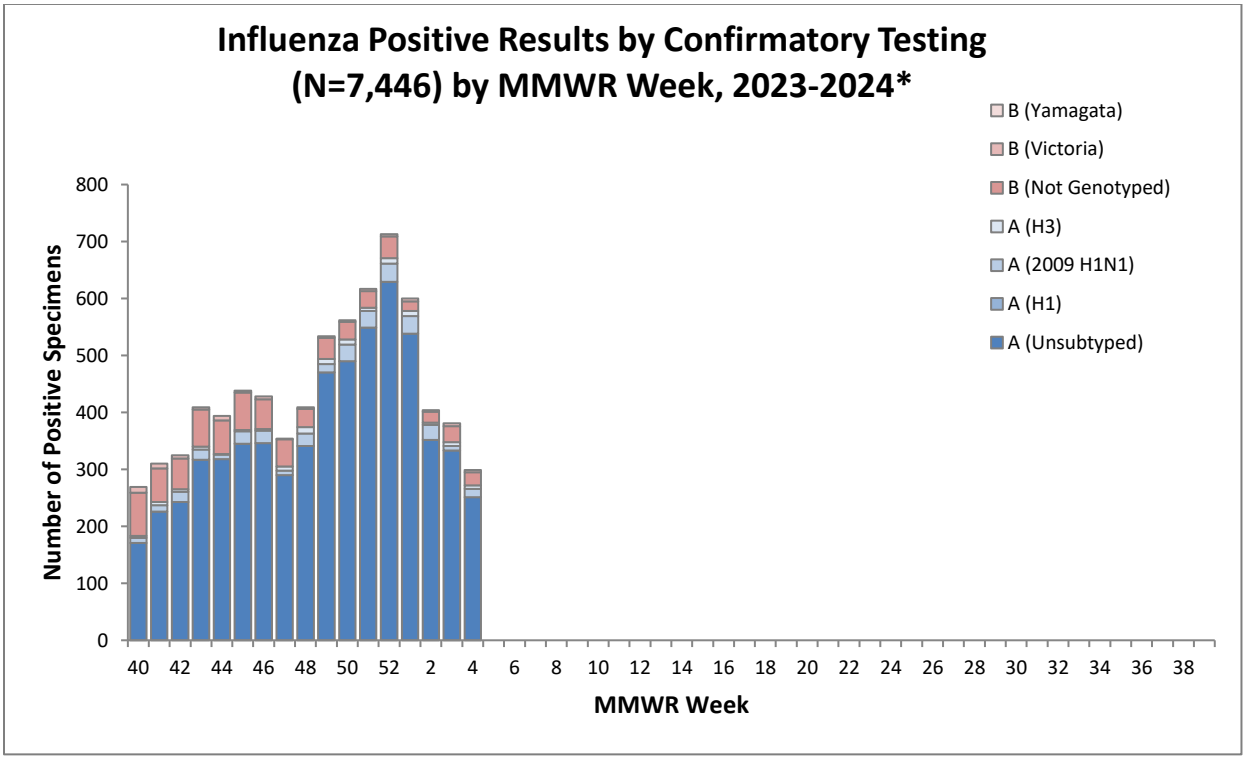


[7] Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.
[8] Influenza coding were updated to reflect a more accurate count.
[9] All influenza A H1 viruses detected this season have been 2009 H1N1.
[10] This represents an estimate of population-based rates based on available data.

2. LABORATORY TESTING

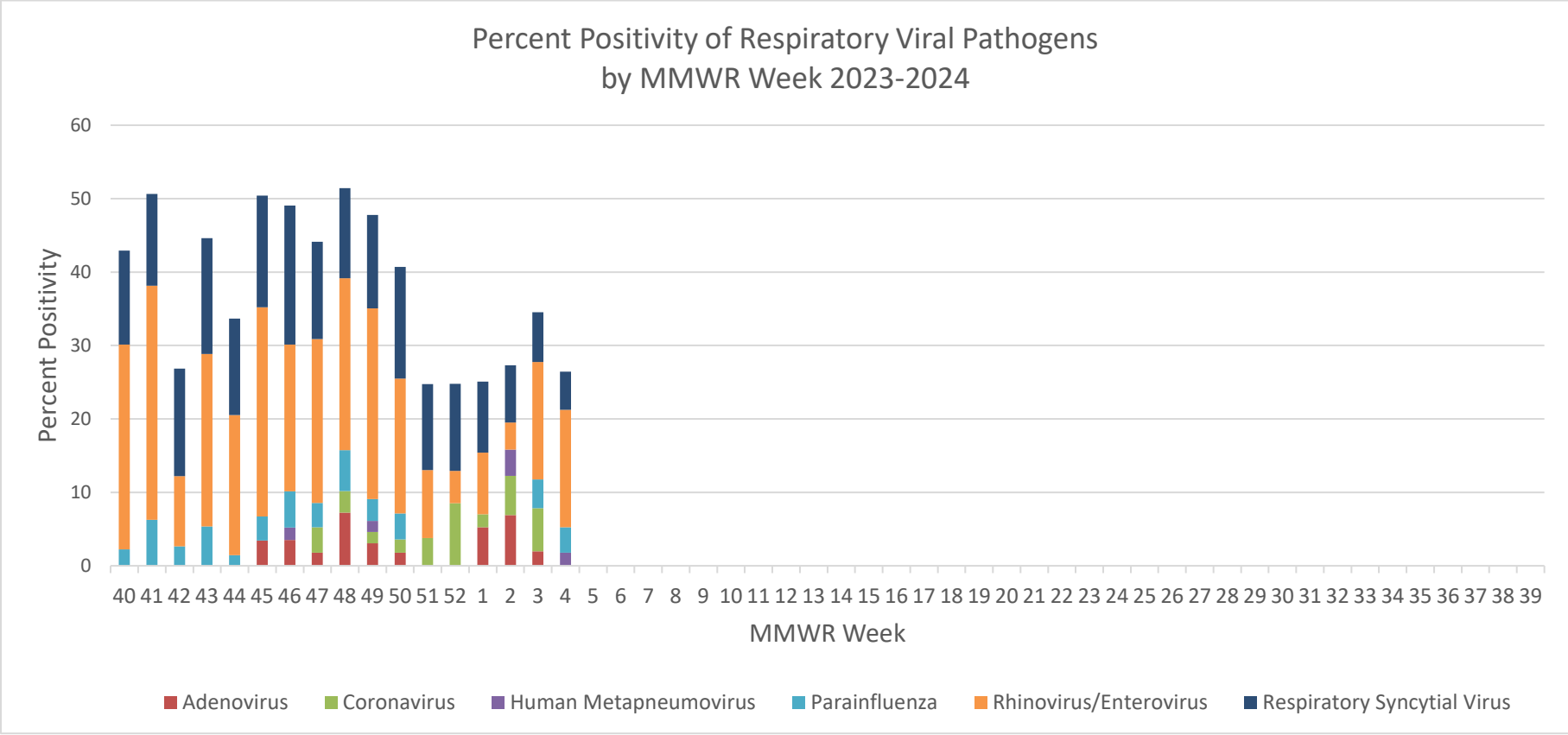
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2023–2024 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).





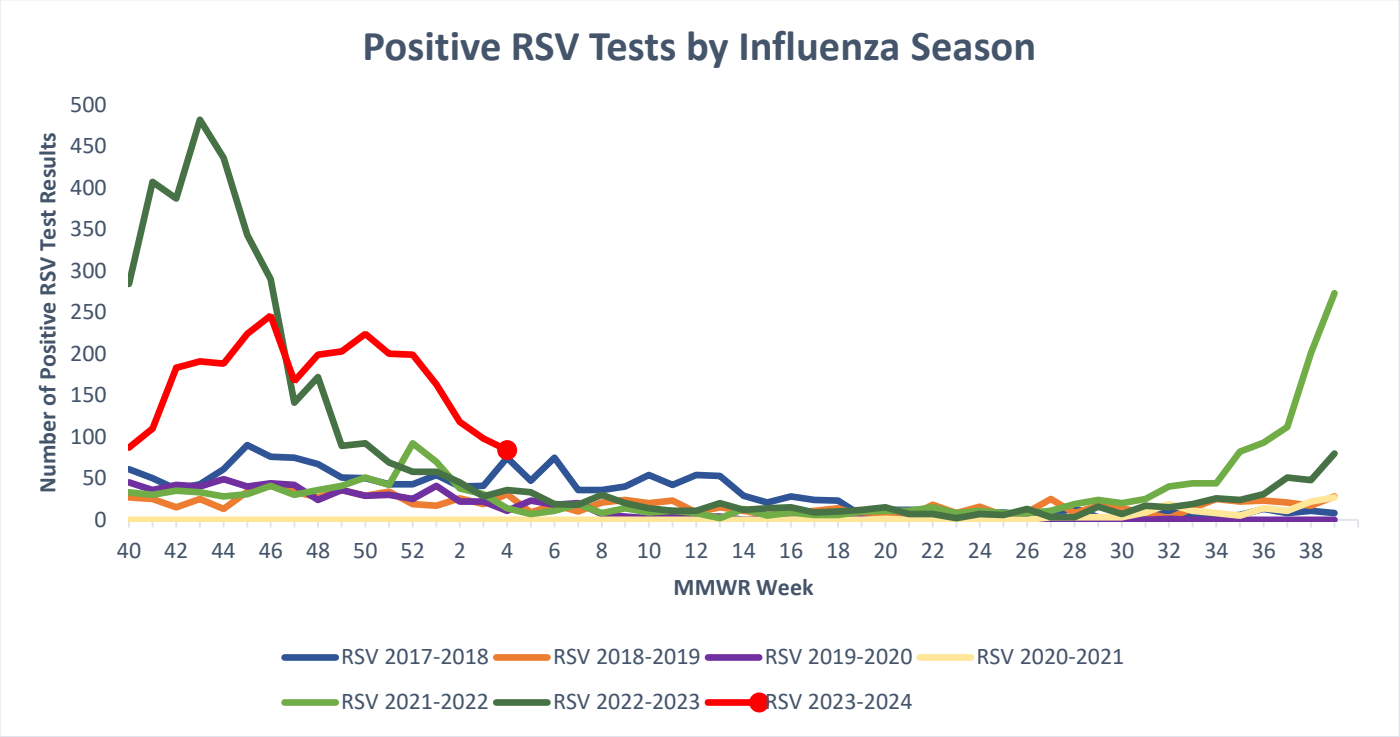
** A total of 52,194 specimens underwent confirmatory testing but not all positive influenza specimens receive confirmatory testing that are circulating in Hawaii.*

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**.

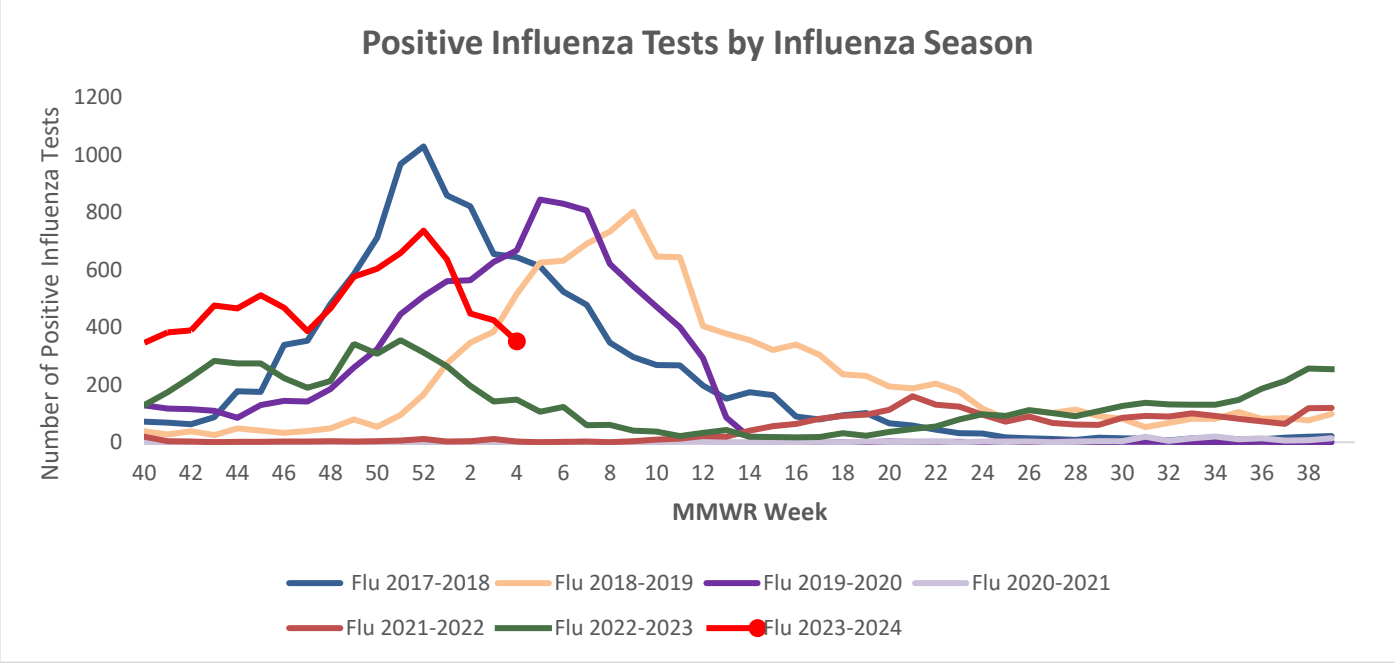


* *The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).*

RESPIRATORY SYNCYTIAL VIRUS (RSV) POSITIVE TEST RESULTS BY INFLUENZA SEASON: RSV case counts are lower than the previous season but is currently trending upwards for the 2023-2024 season. Of note, significantly more tests for RSV are being performed than in pre-COVID-19 seasons.



INFLUENZA POSITIVE TEST RESULTS BY INFLUENZA SEASON: Influenza cases appear to have increased earlier than past seasons in the 2023-2024 season, but it is not yet known whether case numbers will reach a peak similar to pre-COVID-19 seasons.



C. COVID-19 SENTINEL SURVEILLANCE: Due to the low volume of samples currently available through the influenza surveillance system, the COVID-19 sentinel surveillance data may not be accurately portraying COVID-19 activity in our communities. Reporting of the COVID-19 Sentinel Surveillance data will be paused while HODH re-evaluates the program to ensure that the reported data are accurate and representative.

HDOH is continuing to monitor COVID-19 activity throughout the state. To learn more, please visit the Hawaii's COVID-19 data website (*here*). For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website (*here*).

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

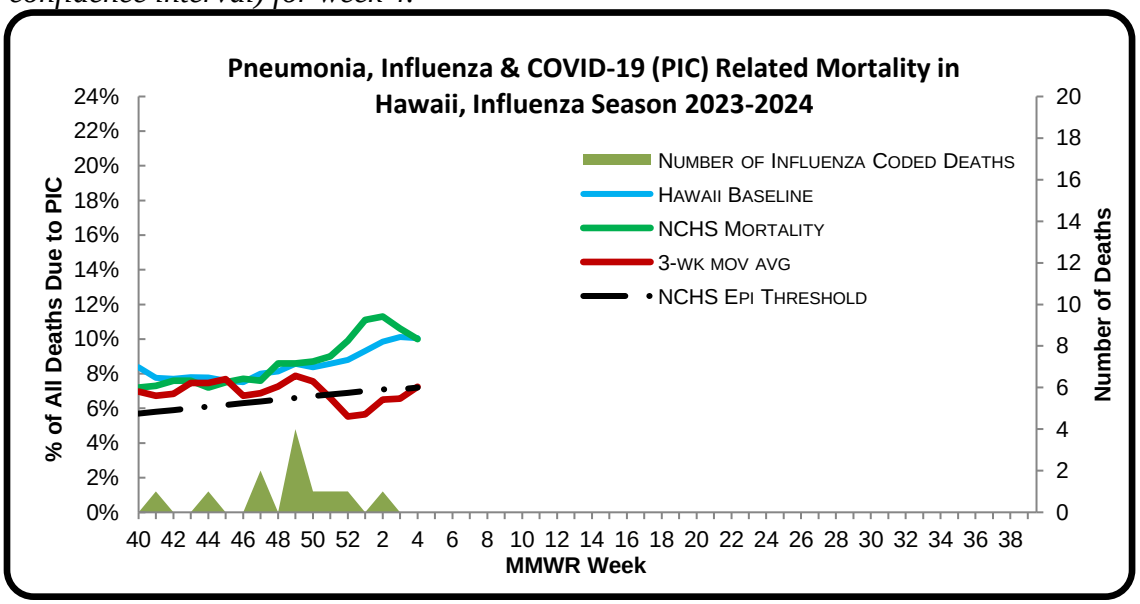
P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Due to the ongoing COVID-19 pandemic, CDC included total deaths from COVID-19 by age group to the death data. Previous studies had suggested that P&I is a good indicator of influenza-related deaths; however, data has shown that pneumonia deaths associated with influenza is now being impacted by COVID-19 related pneumonia. Due to this, CDC had added COVID-19 deaths into P&I to create the PIC (pneumonia, influenza, and/or COVID-19) classification.

To standardize Hawaii's influenza surveillance with CDC influenza surveillance guidelines, PIC deaths will be reported in lieu of P&I. Hawaii's baseline will begin to include PIC deaths starting from 2019-2020 flu season.

For **week 4** of the current influenza season:

- ***8.8%*** *of all deaths that occurred in Hawaii during week 4 were related to pneumonia, influenza or COVID-19 (PIC)*[11]*. For the current season (season to date:* ***7.0%****) there have been 4,416 deaths from any cause, 308 of which were due to PIC*[12]*.*
- *The PIC rate was comparable to the historical baseline in Hawaii*[13] *(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[14] *(****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 4.*



[11] The percent of deaths due to PIC displayed on the graph is the 3-week moving averages.

[12] PIC data reflect 66.0% of the data reported for the MMWR week. Changes to data are expected when PIC data reaches 100% completion.

[13] The Hawaii historical baseline (%PIC) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, and 2022-2023).

[14] 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, influenza, or COVID-19 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 COVID-19 death counts reported by NCHS are provisional and will not match counts in other sources, such as media reports or numbers from health departments. COVID-19 deaths may be classified or defined differently in various reporting and surveillance systems. The percentage of deaths due to pneumonia, influenza, and COVID-19 (PIC) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

INFLUENZA-ASSOCIATED PEDIATRIC DEATHS[15]:

- No new influenza-associated pediatric death was reported to Hawaii. There has been one influenza-associated pediatric death reported in Hawaii during the 2023–2024 season.
- Nationally, eight new influenza-associated pediatric deaths were reported to CDC during week 4 (2023-2024 season total: 65).

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 2023–2024 influenza season.*
- *One new human infection with novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (1), have been reported to CDC during the 2023–2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Netherlands during the 2023-2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Switzerland during the 2023-2024 influenza season.*
    - *One new human infection with influenza A(H1N2v) virus has been reported to WHO from Great Britain and Northern Ireland during the 2023-2024 influenza season.*

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 15th, 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

[15] 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.

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 21, 2023**.

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 2023–2024 Influenza Vaccine**:**

The composition of the 2023–2024 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2023–2024 influenza trivalent vaccine contain an influenza A/Wisconsin/67/2022 (H1N1)pdm09-like virus, influenza A/Darwin/6/2021 (H3N2)-like virus, and influenza B/Austria/1359417/2021-like virus (B/Victoria lineage). 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/Wisconsin/67/2022 (H1N1)pdm09-like virus, an influenza A/Darwin/6/2021 (H3N2)-like virus, an influenza B/Austria/1359417/2021-like virus (B/Victoria lineage), 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.

Centers for Disease Control and Prevention	General Influenza National ILI and P&I Data Vaccine Virus Selection CDC Web Tool for Respiratory Viruses
Flu.gov	General Influenza Information
HDOH Flu and Pneumonia	General Influenza Surveillance To find out more information or join the sentinel physician program, email the Influenza Surveillance Coordinator
World Health Organization	General Global and Local Influenza Avian Influenza

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	2020	2021	2022	2023	2024
1	1/4/2020	1/9/2021	1/8/2022	1/7/2023	1/6/2024
2	1/11/2020	1/16/2021	1/15/2022	1/14/2023	1/13/2024
3	1/18/2020	1/23/2021	1/22/2022	1/21/2023	1/20/2024
4	1/25/2020	1/30/2021	1/29/2022	1/28/2023	1/27/2024
5	2/1/2020	2/6/2021	2/5/2022	2/4/2023	2/3/2024
6	2/8/2020	2/13/2021	2/12/2022	2/11/2023	2/10/2024
7	2/15/2020	2/20/2021	2/19/2022	2/18/2023	2/17/2024
8	2/22/2020	2/27/2021	2/26/2022	2/25/2023	2/24/2024
9	2/29/2020	3/6/2021	3/5/2022	3/4/2023	3/2/2024
10	3/7/2020	3/13/2021	3/12/2022	3/11/2023	3/9/2024
11	3/14/2020	3/20/2021	3/19/2022	3/18/2023	3/16/2024
12	3/21/2020	3/27/2021	3/26/2022	3/25/2023	3/23/2024
13	3/28/2020	4/3/2021	4/2/2022	4/1/2023	3/30/2024
14	4/4/2020	4/10/2021	4/9/2022	4/8/2023	4/6/2024
15	4/11/2020	4/17/2021	4/16/2022	4/15/2023	4/13/2024
16	4/18/2020	4/24/2021	4/23/2022	4/22/2023	4/20/2024
17	4/25/2020	5/1/2021	4/30/2022	4/29/2023	4/27/2024
18	5/2/2020	5/8/2021	5/7/2022	5/6/2023	5/4/2024
19	5/9/2020	5/15/2021	5/14/2022	5/13/2023	5/11/2024
20	5/16/2020	5/22/2021	5/21/2022	5/20/2023	5/18/2024
21	5/23/2020	5/29/2021	5/28/2022	5/27/2023	5/25/2024
22	5/30/2020	6/5/2021	6/4/2022	6/3/2023	6/1/2024
23	6/6/2020	6/12/2021	6/11/2022	6/10/2023	6/8/2024
24	6/13/2020	6/19/2021	6/18/2022	6/17/2023	6/15/2024
25	6/20/2020	6/26/2021	6/25/2022	6/24/2023	6/22/2024
26	6/27/2020	7/3/2021	7/2/2022	7/1/2023	6/29/2024
27	7/4/2020	7/10/2021	7/9/2022	7/8/2023	7/6/2024
28	7/11/2020	7/17/2021	7/16/2022	7/15/2023	7/13/2024
29	7/18/2020	7/24/2021	7/23/2022	7/22/2023	7/20/2024
30	7/25/2020	7/31/2021	7/30/2022	7/29/2023	7/27/2024
31	8/1/2020	8/7/2021	8/6/2022	8/5/2023	8/3/2024
32	8/8/2020	8/14/2021	8/13/2022	8/12/2023	8/10/2024
33	8/15/2020	8/21/2021	8/20/2022	8/19/2023	8/17/2024
34	8/22/2020	8/28/2021	8/27/2022	8/26/2023	8/24/2024
35	8/29/2020	9/4/2021	9/3/2022	9/2/2023	8/31/2024
36	9/5/2020	9/11/2021	9/10/2022	9/9/2023	9/7/2024
37	9/12/2020	9/18/2021	9/17/2022	9/16/2023	9/14/2024
38	9/19/2020	9/25/2021	9/24/2022	9/23/2023	9/21/2024
39	9/26/2020	10/2/2021	10/1/2022	9/30/2023	9/28/2024
40	10/3/2020	10/9/2021	10/8/2022	10/7/2023	10/5/2024
41	10/10/2020	10/16/2021	10/15/2022	10/14/2023	10/12/2024
42	10/17/2020	10/23/2021	10/22/2022	10/21/2023	10/19/2024
43	10/24/2020	10/30/2021	10/29/2022	10/28/2023	10/26/2024
44	10/31/2020	11/6/2021	11/5/2022	11/4/2023	11/2/2024
45	11/7/2020	11/13/2021	11/12/2022	11/11/2023	11/9/2024
46	11/14/2020	11/20/2021	11/19/2022	11/18/2023	11/16/2024
47	11/21/2020	11/27/2021	11/26/2022	11/25/2023	11/23/2024
48	11/28/2020	12/4/2021	12/3/2022	12/2/2023	11/30/2024
49	12/5/2020	12/11/2021	12/10/2022	12/9/2023	12/7/2024
50	12/12/2020	12/18/2021	12/17/2022	12/16/2023	12/14/2024
51	12/19/2020	12/25/2021	12/24/2022	12/23/2023	12/21/2024
52	12/26/2020	1/1/2022	12/31/2022	12/30/2023	12/28/2024
53	01/02/2021				

HAWAII STATE DEPARTMENT OF HEALTH
DISEASE OUTBREAK CONTROL DIVISION

Influenza/Respiratory Disease Surveillance Report

Morbidity and Mortality Weekly Report (MMWR)[1]

WEEK 5: JANUARY 28, 2024– FEBRUARY 3, 2024

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 2023–2024 influenza season which began the week ending October 7, 2023 (week 40[1] 2023) and will end the week ending on September 28, 2024 (week 39 2024).

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	3.6%	Higher than the previous week. Comparable to the Hawaii's historical baseline, lower than the national ILI rate, and higher than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 19 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	9.9%	Lower than the previous week. This number means that many, if not all, of the 90.1% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	14.2%	

Surveillance for Severe Outcomes		
Pneumonia, influenza and COVID-19 (PIC) mortality rate	9.6%	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	74	1 influenza-associated pediatric death has been reported from Hawaii this season to date.

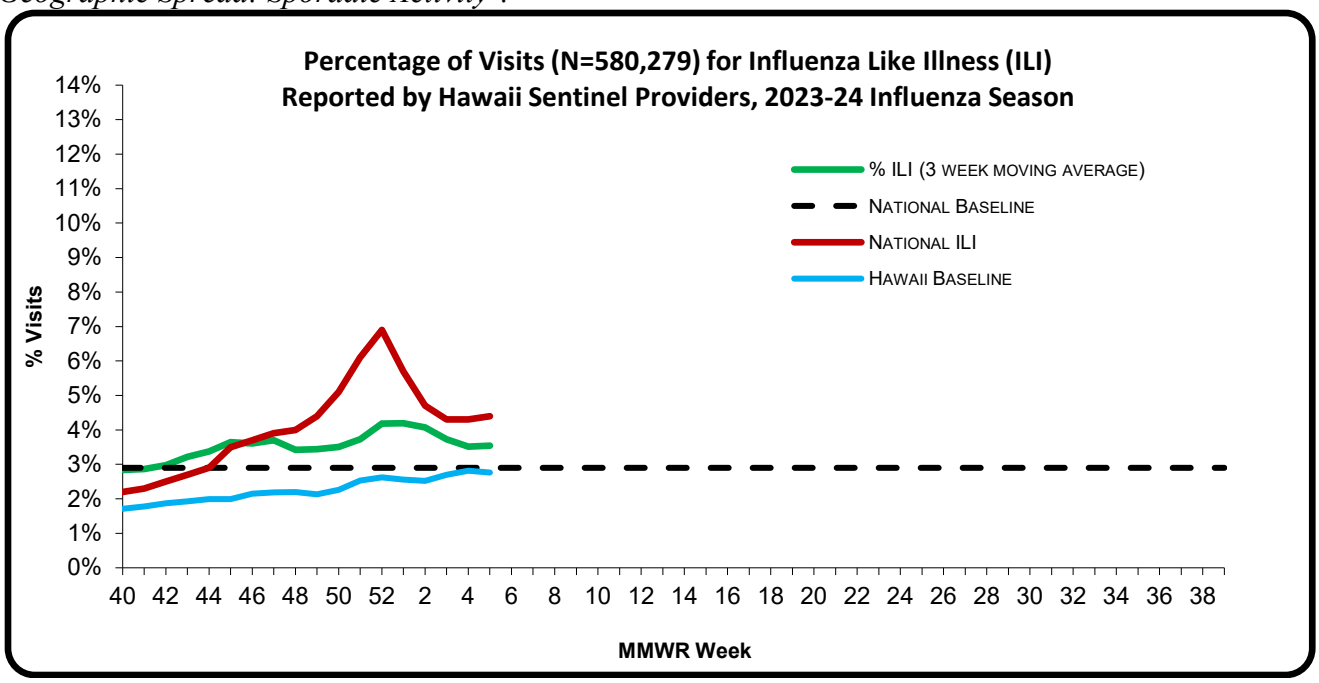
[1] MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week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

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. 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:

- ***3.6****% (season to date:* ***3.5****%) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.*
- *ILI visits were comparable to the historical baseline in Hawaii[2,3] (i.e., inside the 95% confidence interval).*
- *Hawaii's ILI outpatient visits were higher than the national baseline (**2.9%**)[4] (i.e., outside the 95% confidence interval) and lower to the national ILI rate (**4.4%**) (i.e. outside the 95% confidence interval).*
- *ILI activity level: Low[5]*
- *Geographic Spread: Sporadic Activity[6].*



[2] The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022 and 2022-2023).

[3] 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.

[4] 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.

[5] There are 10 activity levels classified as minimal (levels 1-3), low (levels 4-5), moderate (levels 6-7), and high (levels 8-10).

[6] 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[7] 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*).

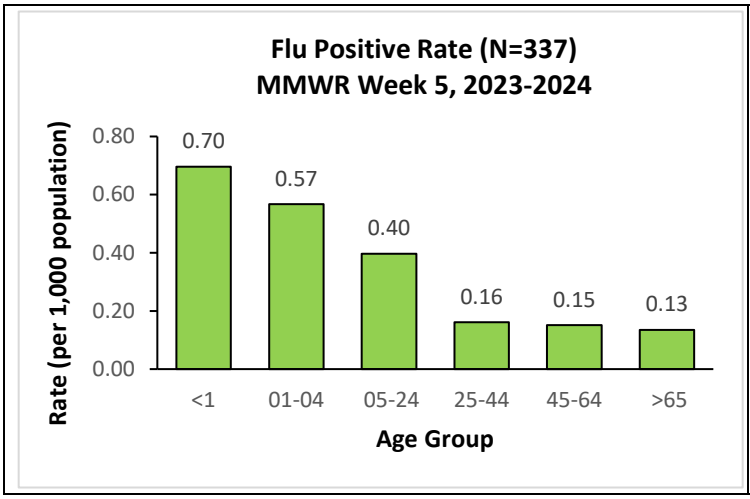
A. INFLUENZA:

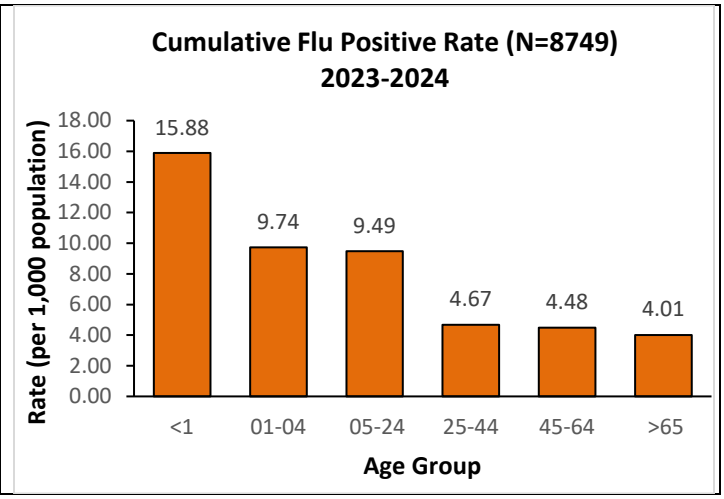
- The following reflects laboratory findings for week 5 of the 2023–24 influenza season:
  - *A total of **3,417** specimens have been tested statewide for influenza viruses (positive: 337 [**9.9%**]). (Season to date: 61,412 tested (**14.2%** positive])*
    - *378 (11.1%) were screened only by rapid antigen tests with no confirmatory testing.*
    - *3,039 (88.9%) underwent confirmatory testing (either RT-PCR or viral culture).*
    - *3,080 (90.1%) were negative.*

Influenza type	*Current week 5 (%)*	*Season to date (%)*[8]
Influenza A (H1)[9]	*8 (2.4)*	*333 (3.8)*
Influenza A (H3)	*5 (1.5)*	*107 (1.2)*
Influenza A no subtyping	*266 (78.9)*	*6,999 (80.0)*
Influenza B (Yamagata)	*0 (0.0)*	*0 (0.0)*
Influenza B (Victoria)	*2 (0.6)*	*81 (0.9)*
Influenza B no genotyping	*56 (16.6)*	*1,229 (14.1)*

1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2023–24 influenza season.[10]

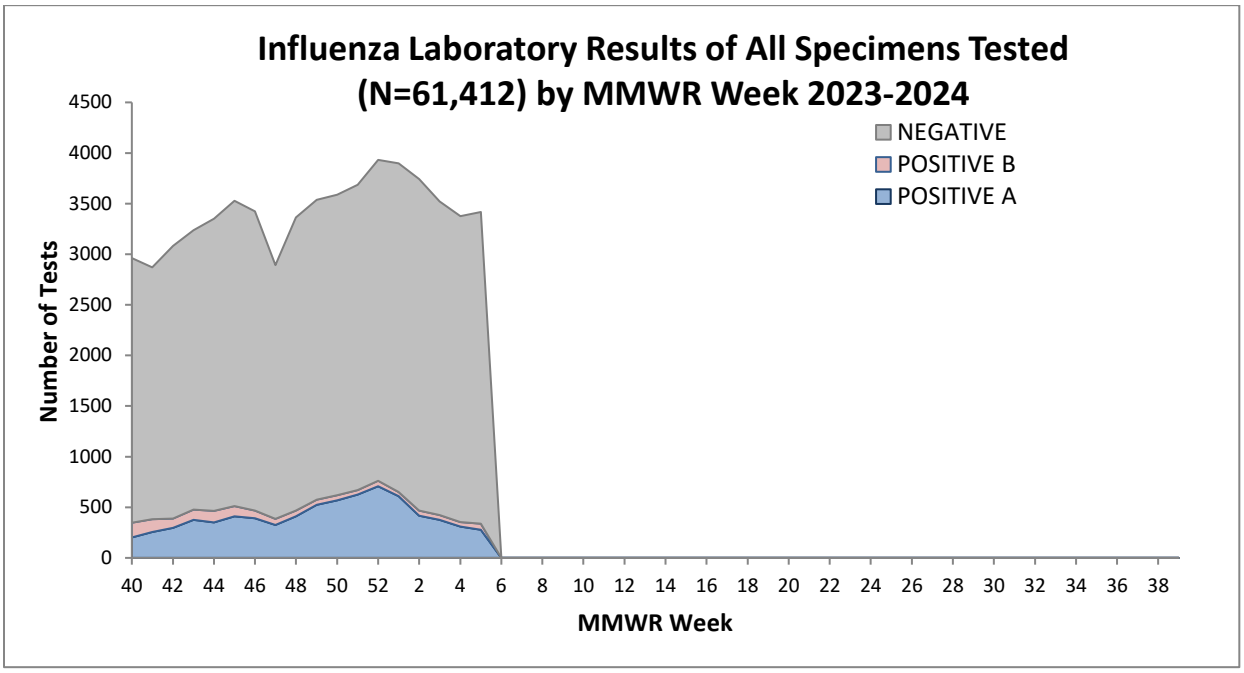


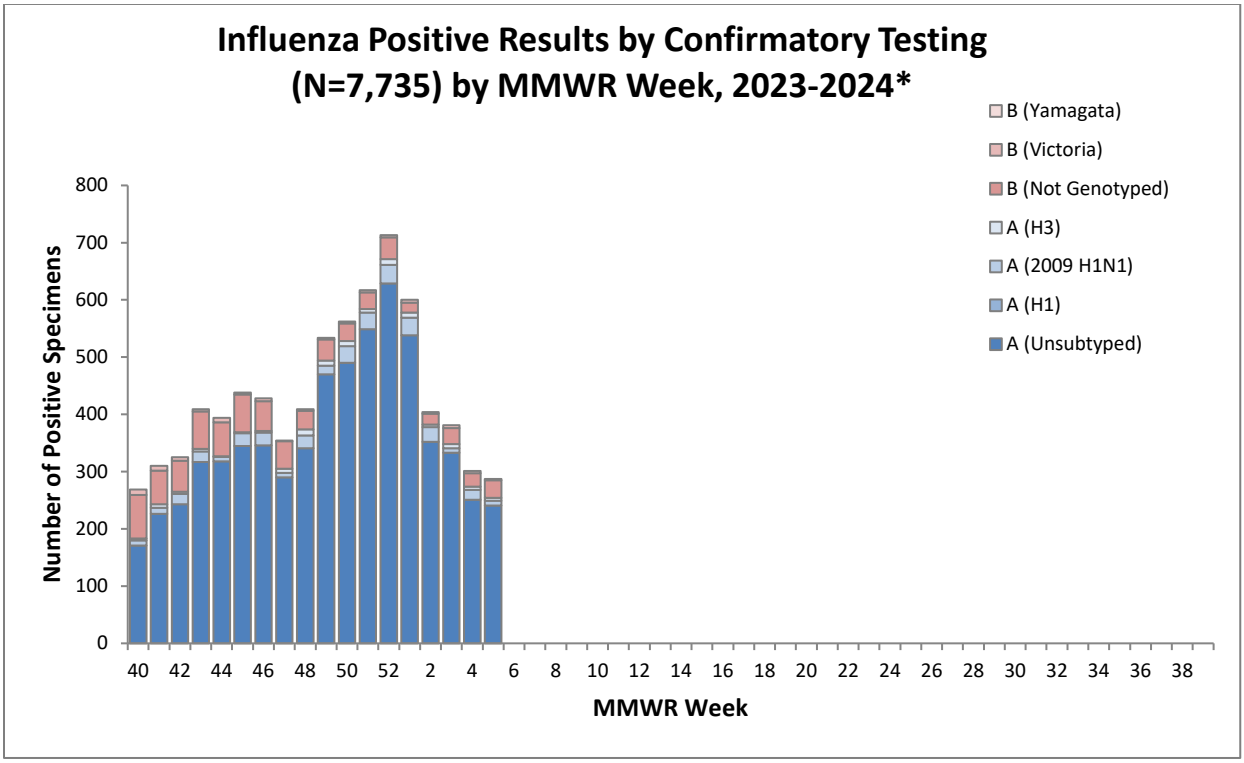


[7] Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.
[8] Influenza coding were updated to reflect a more accurate count.
[9] All influenza A H1 viruses detected this season have been 2009 H1N1.
[10] This represents an estimate of population-based rates based on available data.

2. LABORATORY TESTING

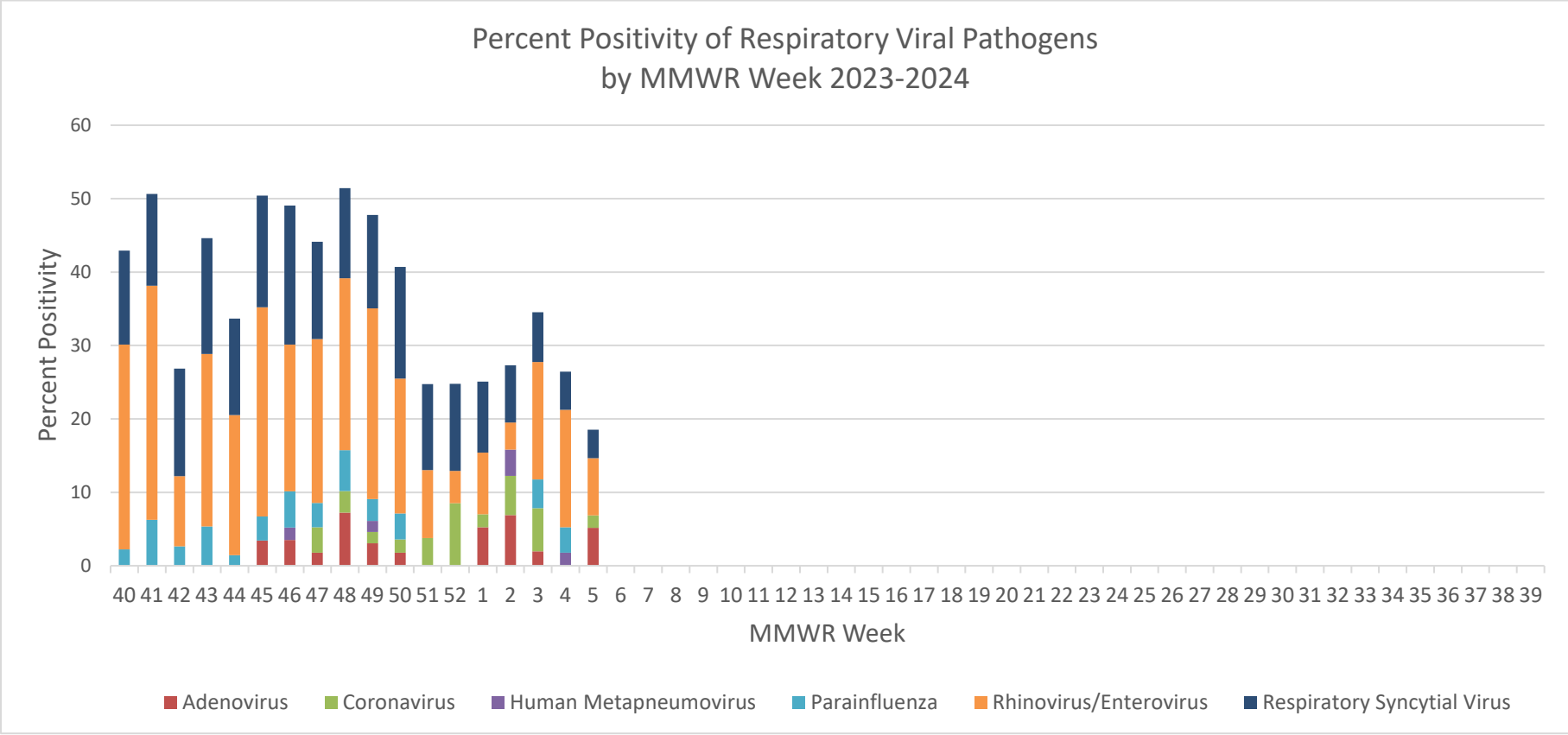
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2023–2024 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).





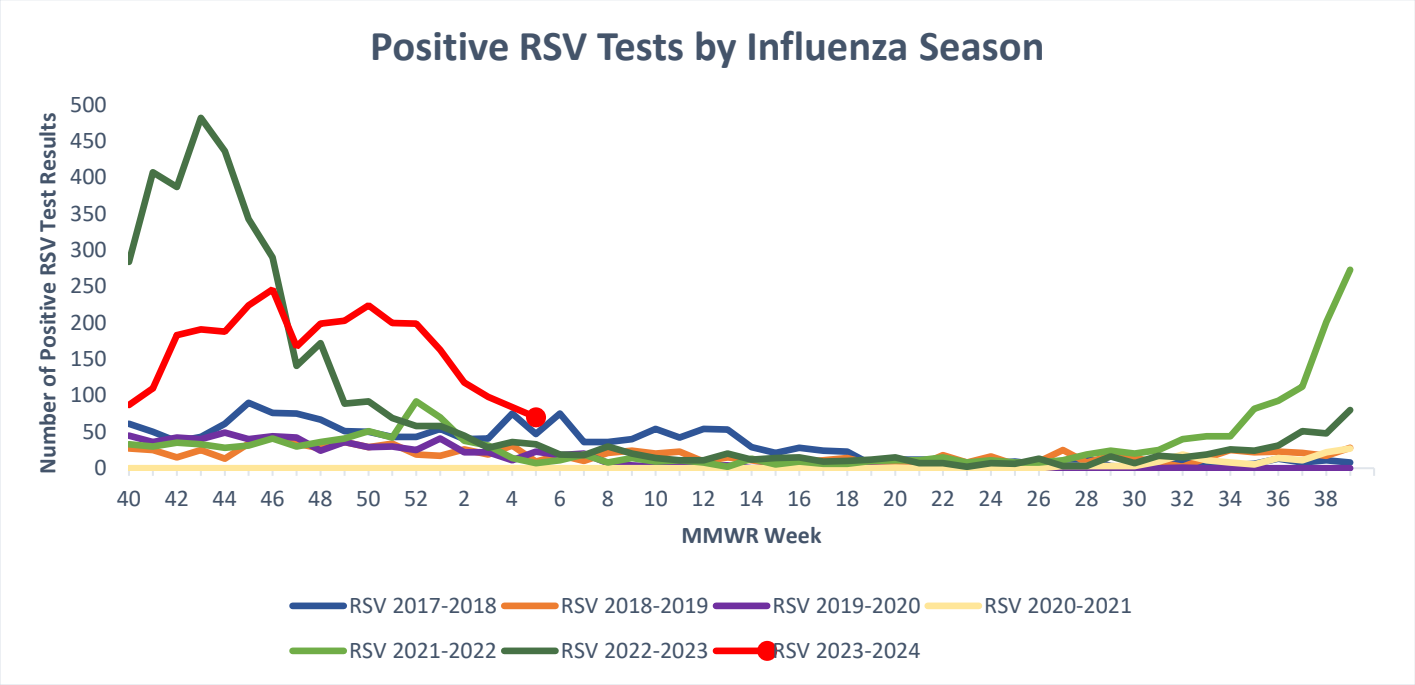
** A total of 55,212 specimens underwent confirmatory testing but not all positive influenza specimens receive confirmatory testing that are circulating in Hawaii.*

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**.

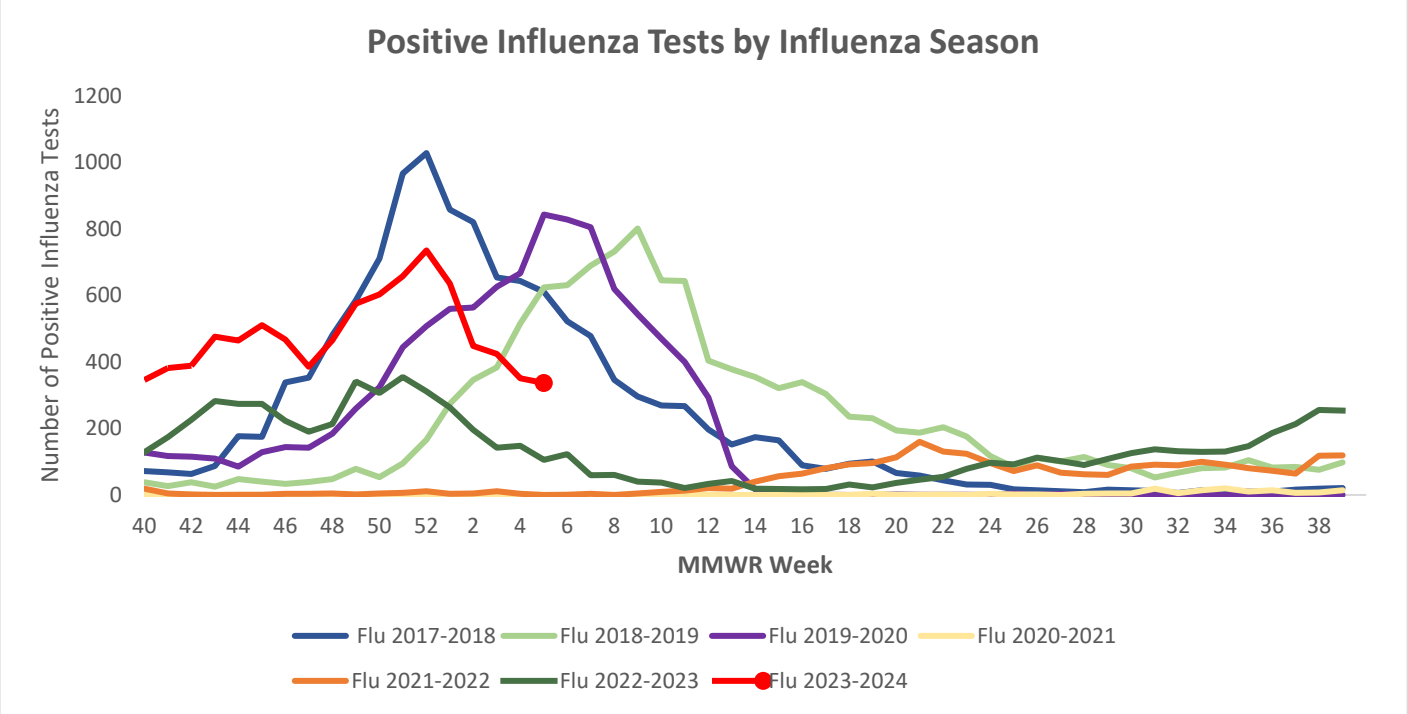


* *The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).*

RESPIRATORY SYNCYTIAL VIRUS (RSV) POSITIVE TEST RESULTS BY INFLUENZA SEASON: RSV case counts are lower than the previous season but may have already reached a peak for the 2023-2024 season. Of note, significantly more tests for RSV are being performed than in pre-COVID-19 seasons.



INFLUENZA POSITIVE TEST RESULTS BY INFLUENZA SEASON: Influenza cases appear to have increased earlier than past seasons in the 2023-2024 season, but it is not yet known whether case numbers will reach a peak similar to pre-COVID-19 seasons.



C. COVID-19 SENTINEL SURVEILLANCE: Due to the low volume of samples currently available through the influenza surveillance system, the COVID-19 sentinel surveillance data may not be accurately portraying COVID-19 activity in our communities. Reporting of the COVID-19 Sentinel Surveillance data will be paused while HODH re-evaluates the program to ensure that the reported data are accurate and representative.

HDOH is continuing to monitor COVID-19 activity throughout the state. To learn more, please visit the Hawaii's COVID-19 data website (*here*). For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website (*here*).

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

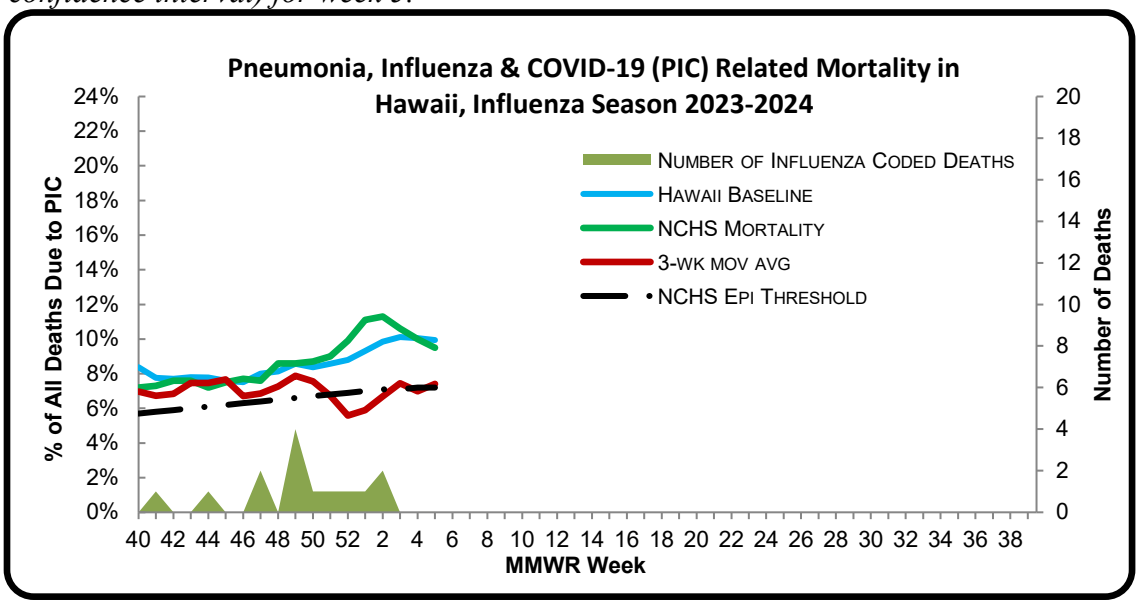
P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Due to the ongoing COVID-19 pandemic, CDC included total deaths from COVID-19 by age group to the death data. Previous studies had suggested that P&I is a good indicator of influenza-related deaths; however, data has shown that pneumonia deaths associated with influenza is now being impacted by COVID-19 related pneumonia. Due to this, CDC had added COVID-19 deaths into P&I to create the PIC (pneumonia, influenza, and/or COVID-19) classification.

To standardize Hawaii's influenza surveillance with CDC influenza surveillance guidelines, PIC deaths will be reported in lieu of P&I. Hawaii's baseline will begin to include PIC deaths starting from 2019-2020 flu season.

For **week 5** of the current influenza season:

- ***9.6%*** *of all deaths that occurred in Hawaii during week 5 were related to pneumonia, influenza or COVID-19 (PIC)*[11]*. For the current season (season to date:* ***7.1%****) there have been 4,702 deaths from any cause, 333 of which were due to PIC*[12]*.*
- *The PIC rate was comparable to the historical baseline in Hawaii*[13] *(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[14] *(****9.5%****) (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.*



[11] The percent of deaths due to PIC displayed on the graph is the 3-week moving averages.

[12] PIC data reflect 76.2% of the data reported for the MMWR week. Changes to data are expected when PIC data reaches 100% completion.

[13] The Hawaii historical baseline (%PIC) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, and 2022-2023).

[14] 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, influenza, or COVID-19 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 COVID-19 death counts reported by NCHS are provisional and will not match counts in other sources, such as media reports or numbers from health departments. COVID-19 deaths may be classified or defined differently in various reporting and surveillance systems. The percentage of deaths due to pneumonia, influenza, and COVID-19 (PIC) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

INFLUENZA-ASSOCIATED PEDIATRIC DEATHS[15]:

- No new influenza-associated pediatric death was reported to Hawaii. There has been one influenza-associated pediatric death reported in Hawaii during the 2023–2024 season.
- Nationally, eight new influenza-associated pediatric deaths were reported to CDC during week 5 (2023-2024 season total: 74).

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 2023–2024 influenza season.*
- *One new human infection with novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (1), have been reported to CDC during the 2023–2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Netherlands during the 2023-2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Switzerland during the 2023-2024 influenza season.*
    - *One new human infection with influenza A(H1N2v) virus has been reported to WHO from Great Britain and Northern Ireland during the 2023-2024 influenza season.*

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 15th, 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

[15] 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.

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 21, 2023**.

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 2023–2024 Influenza Vaccine:

The composition of the 2023–2024 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2023–2024 influenza trivalent vaccine contain an influenza A/Wisconsin/67/2022 (H1N1)pdm09-like virus, influenza A/Darwin/6/2021 (H3N2)-like virus, and influenza B/Austria/1359417/2021-like virus (B/Victoria lineage). 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/Wisconsin/67/2022 (H1N1)pdm09-like virus, an influenza A/Darwin/6/2021 (H3N2)-like virus, an influenza B/Austria/1359417/2021-like virus (B/Victoria lineage), 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.

Centers for Disease Control and Prevention	General Influenza National ILI and P&I Data Vaccine Virus Selection CDC Web Tool for Respiratory Viruses
Flu.gov	General Influenza Information
HDOH Flu and Pneumonia	General Influenza Surveillance To find out more information or join the sentinel physician program, email the Influenza Surveillance Coordinator
World Health Organization	General Global and Local Influenza Avian Influenza

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	2020	2021	2022	2023	2024
1	1/4/2020	1/9/2021	1/8/2022	1/7/2023	1/6/2024
2	1/11/2020	1/16/2021	1/15/2022	1/14/2023	1/13/2024
3	1/18/2020	1/23/2021	1/22/2022	1/21/2023	1/20/2024
4	1/25/2020	1/30/2021	1/29/2022	1/28/2023	1/27/2024
5	2/1/2020	2/6/2021	2/5/2022	2/4/2023	2/3/2024
6	2/8/2020	2/13/2021	2/12/2022	2/11/2023	2/10/2024
7	2/15/2020	2/20/2021	2/19/2022	2/18/2023	2/17/2024
8	2/22/2020	2/27/2021	2/26/2022	2/25/2023	2/24/2024
9	2/29/2020	3/6/2021	3/5/2022	3/4/2023	3/2/2024
10	3/7/2020	3/13/2021	3/12/2022	3/11/2023	3/9/2024
11	3/14/2020	3/20/2021	3/19/2022	3/18/2023	3/16/2024
12	3/21/2020	3/27/2021	3/26/2022	3/25/2023	3/23/2024
13	3/28/2020	4/3/2021	4/2/2022	4/1/2023	3/30/2024
14	4/4/2020	4/10/2021	4/9/2022	4/8/2023	4/6/2024
15	4/11/2020	4/17/2021	4/16/2022	4/15/2023	4/13/2024
16	4/18/2020	4/24/2021	4/23/2022	4/22/2023	4/20/2024
17	4/25/2020	5/1/2021	4/30/2022	4/29/2023	4/27/2024
18	5/2/2020	5/8/2021	5/7/2022	5/6/2023	5/4/2024
19	5/9/2020	5/15/2021	5/14/2022	5/13/2023	5/11/2024
20	5/16/2020	5/22/2021	5/21/2022	5/20/2023	5/18/2024
21	5/23/2020	5/29/2021	5/28/2022	5/27/2023	5/25/2024
22	5/30/2020	6/5/2021	6/4/2022	6/3/2023	6/1/2024
23	6/6/2020	6/12/2021	6/11/2022	6/10/2023	6/8/2024
24	6/13/2020	6/19/2021	6/18/2022	6/17/2023	6/15/2024
25	6/20/2020	6/26/2021	6/25/2022	6/24/2023	6/22/2024
26	6/27/2020	7/3/2021	7/2/2022	7/1/2023	6/29/2024
27	7/4/2020	7/10/2021	7/9/2022	7/8/2023	7/6/2024
28	7/11/2020	7/17/2021	7/16/2022	7/15/2023	7/13/2024
29	7/18/2020	7/24/2021	7/23/2022	7/22/2023	7/20/2024
30	7/25/2020	7/31/2021	7/30/2022	7/29/2023	7/27/2024
31	8/1/2020	8/7/2021	8/6/2022	8/5/2023	8/3/2024
32	8/8/2020	8/14/2021	8/13/2022	8/12/2023	8/10/2024
33	8/15/2020	8/21/2021	8/20/2022	8/19/2023	8/17/2024
34	8/22/2020	8/28/2021	8/27/2022	8/26/2023	8/24/2024
35	8/29/2020	9/4/2021	9/3/2022	9/2/2023	8/31/2024
36	9/5/2020	9/11/2021	9/10/2022	9/9/2023	9/7/2024
37	9/12/2020	9/18/2021	9/17/2022	9/16/2023	9/14/2024
38	9/19/2020	9/25/2021	9/24/2022	9/23/2023	9/21/2024
39	9/26/2020	10/2/2021	10/1/2022	9/30/2023	9/28/2024
40	10/3/2020	10/9/2021	10/8/2022	10/7/2023	10/5/2024
41	10/10/2020	10/16/2021	10/15/2022	10/14/2023	10/12/2024
42	10/17/2020	10/23/2021	10/22/2022	10/21/2023	10/19/2024
43	10/24/2020	10/30/2021	10/29/2022	10/28/2023	10/26/2024
44	10/31/2020	11/6/2021	11/5/2022	11/4/2023	11/2/2024
45	11/7/2020	11/13/2021	11/12/2022	11/11/2023	11/9/2024
46	11/14/2020	11/20/2021	11/19/2022	11/18/2023	11/16/2024
47	11/21/2020	11/27/2021	11/26/2022	11/25/2023	11/23/2024
48	11/28/2020	12/4/2021	12/3/2022	12/2/2023	11/30/2024
49	12/5/2020	12/11/2021	12/10/2022	12/9/2023	12/7/2024
50	12/12/2020	12/18/2021	12/17/2022	12/16/2023	12/14/2024
51	12/19/2020	12/25/2021	12/24/2022	12/23/2023	12/21/2024
52	12/26/2020	1/1/2022	12/31/2022	12/30/2023	12/28/2024
53	01/02/2021				

HAWAII STATE DEPARTMENT OF HEALTH
DISEASE OUTBREAK CONTROL DIVISION

Influenza/Respiratory Disease Surveillance Report

Morbidity and Mortality Weekly Report (MMWR)[1]

WEEK 6: FEBRUARY 4, 2024– FEBRUARY 10, 2024

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 2023–2024 influenza season which began the week ending October 7, 2023 (week 40[1] 2023) and will end the week ending on September 28, 2024 (week 39 2024).

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	3.7%	Higher than the previous week. Comparable to the Hawaii's historical baseline, lower than the national ILI rate, and higher than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 19 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	9.8%	Lower than the previous week. This number means that many, if not all, of the 90.2% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	14.0%	

Surveillance for Severe Outcomes		
Pneumonia, influenza and COVID-19 (PIC) mortality rate	9.2%	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	82	1 influenza-associated pediatric death has been reported from Hawaii this season to date.

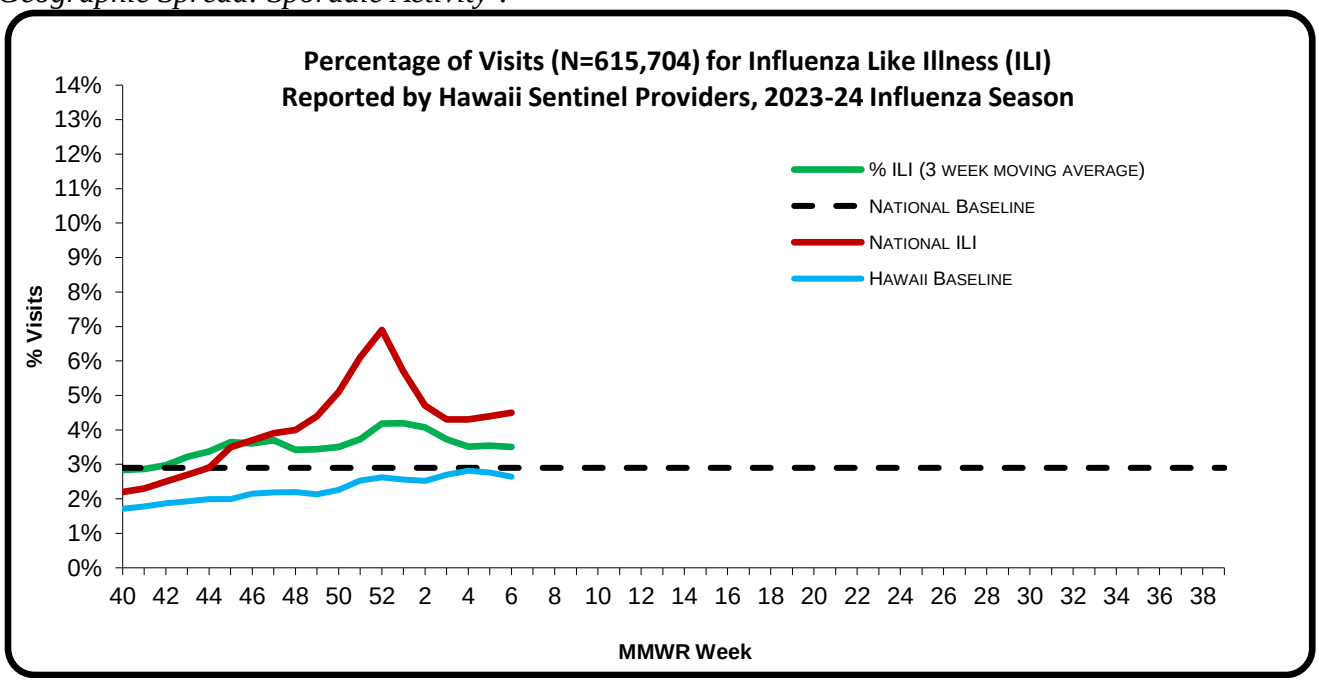
[1] MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week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

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. 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:

- ***3.7%** (season to date: **3.5%**) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.*
- *ILI visits were comparable to the historical baseline in Hawaii[2,3] (i.e., inside the 95% confidence interval).*
- *Hawaii's ILI outpatient visits were higher than the national baseline (**2.9%**)[4] (i.e., outside the 95% confidence interval) and lower to the national ILI rate (**4.5%**) (i.e. outside the 95% confidence interval).*
- *ILI activity level: Low[5]*
- *Geographic Spread: Sporadic Activity[6].*



[2] The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022 and 2022-2023).

[3] 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.

[4] 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.

[5] There are 10 activity levels classified as minimal (levels 1-3), low (levels 4-5), moderate (levels 6-7), and high (levels 8-10).

[6] 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[7] 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*).

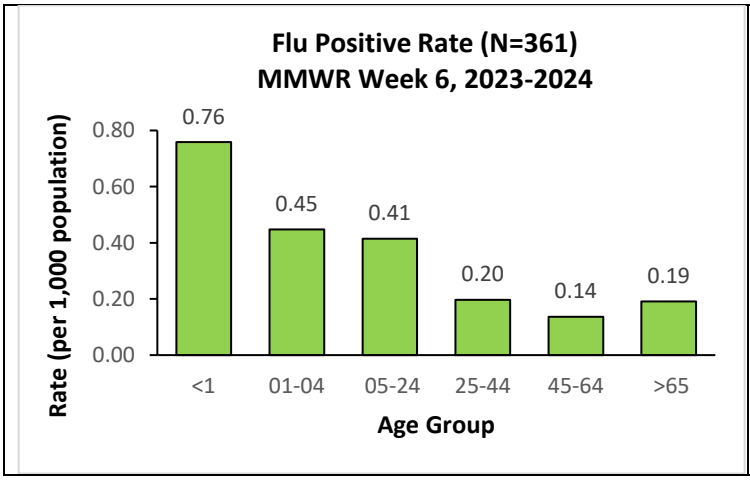
A. INFLUENZA:

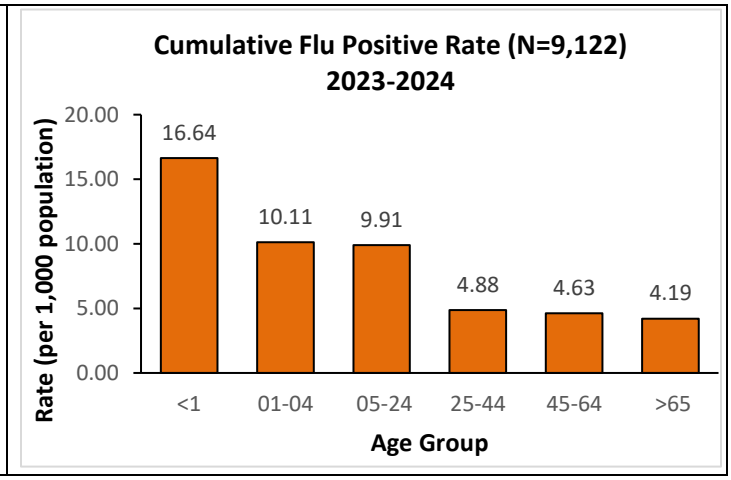
- The following reflects laboratory findings for week 6 of the 2023–24 influenza season:
  - *A total of **3,670** specimens have been tested statewide for influenza viruses (positive: 361 [**9.8%**]). (Season to date: 65,095 tested (**14.0%** positive])*
    - *403 (11.0%) were screened only by rapid antigen tests with no confirmatory testing.*
    - *3,267 (89.0%) underwent confirmatory testing (either RT-PCR or viral culture).*
    - *3,309 (90.2%) were negative.*

Influenza type	*Current week 6 (%)*	*Season to date (%)*[8]
Influenza A (H1)[9]	*7 (1.9)*	*340 (3.7)*
Influenza A (H3)	*8 (2.2)*	*115 (1.3)*
Influenza A no subtyping	*296 (82.0)*	*7,307 (80.1)*
Influenza B (Yamagata)	*0 (0.0)*	*0 (0.0)*
Influenza B (Victoria)	*0 (0.0)*	*81 (0.9)*
Influenza B no genotyping	*50 (13.9)*	*1,279 (14.0)*

1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2023–24 influenza season.[10]

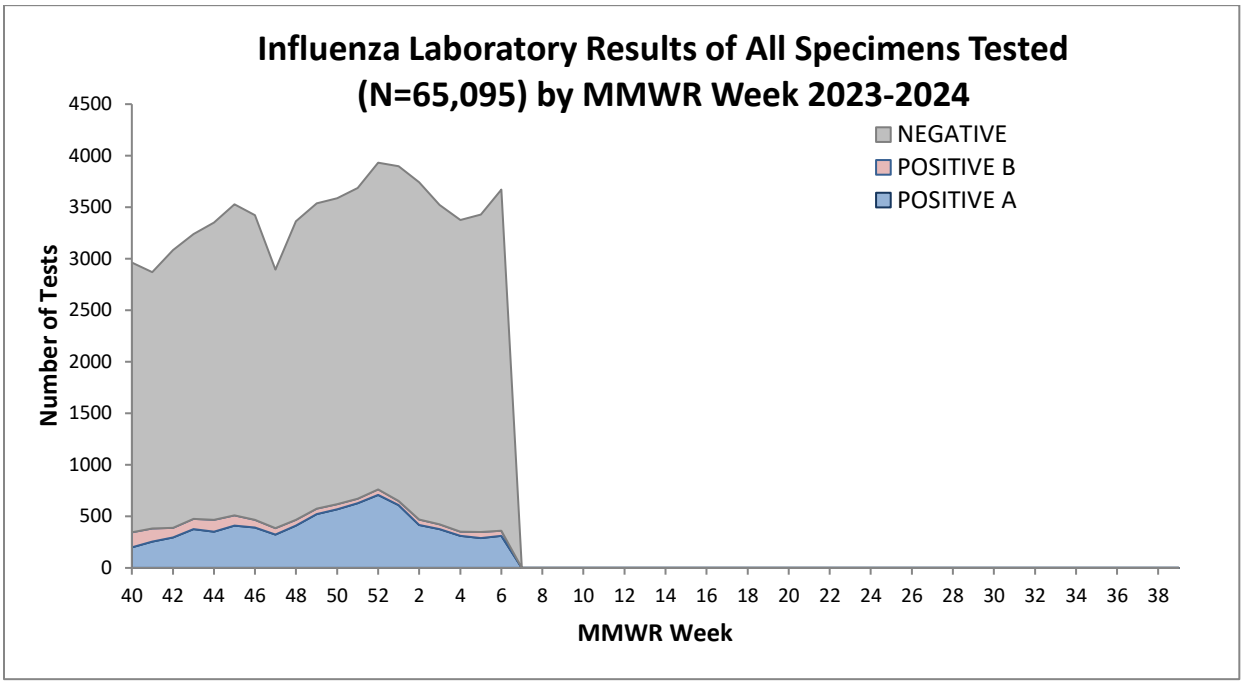


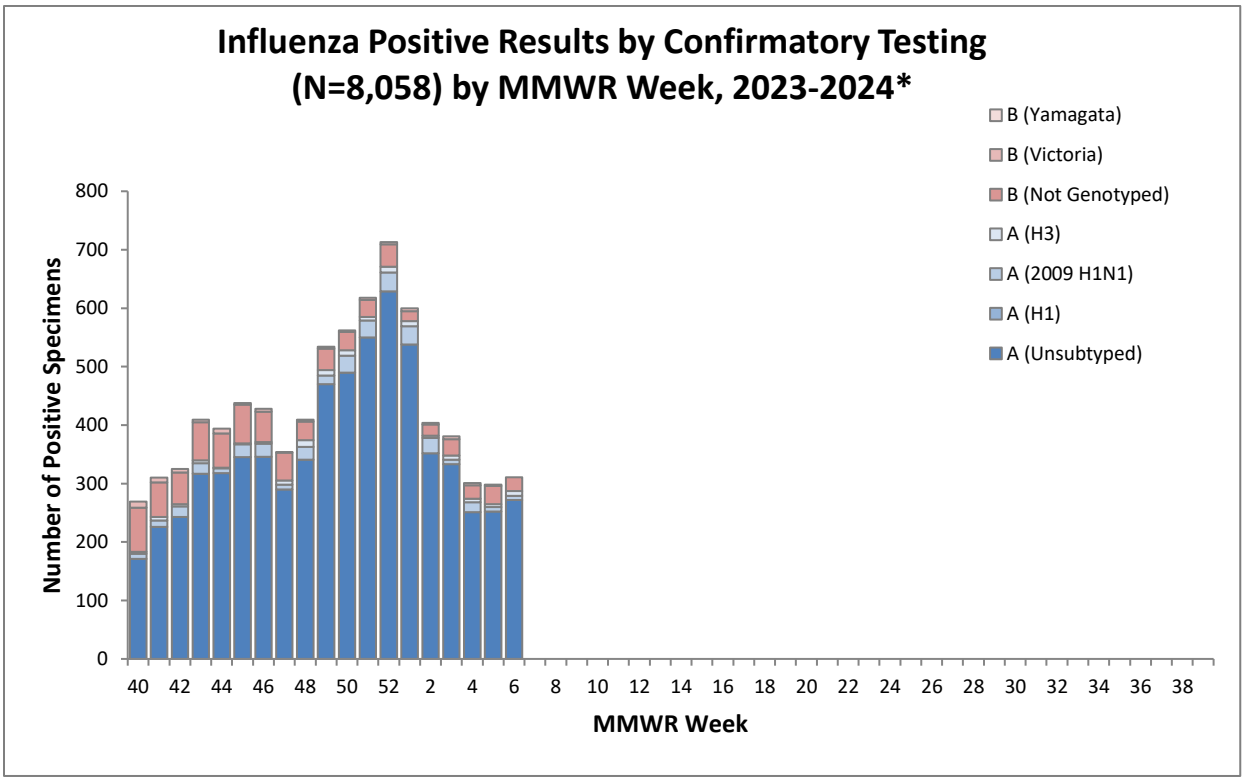


[7] Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.
[8] Influenza coding were updated to reflect a more accurate count.
[9] All influenza A H1 viruses detected this season have been 2009 H1N1.
[10] This represents an estimate of population-based rates based on available data.

2. LABORATORY TESTING

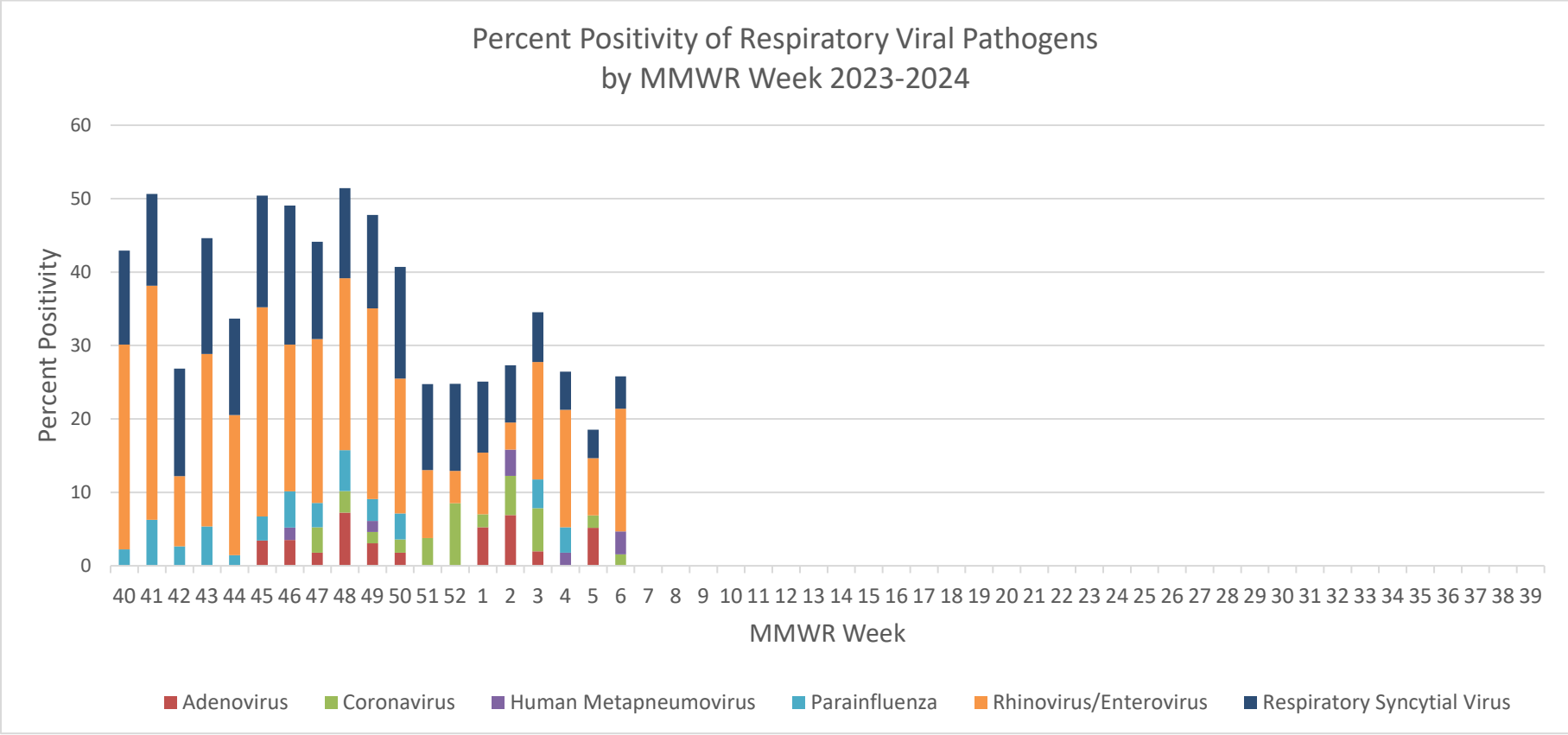
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2023–2024 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).





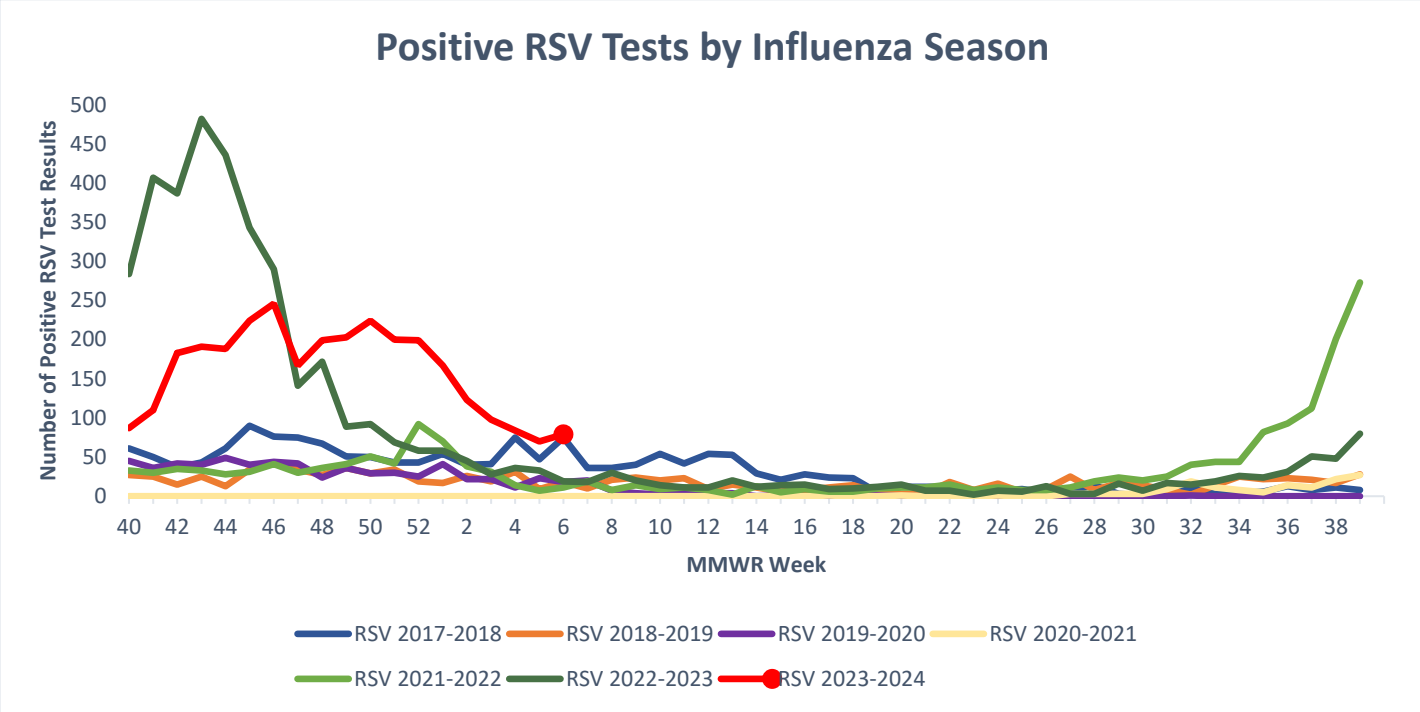
** A total of 58,466 specimens underwent confirmatory testing but not all positive influenza specimens receive confirmatory testing that are circulating in Hawaii.*

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**.

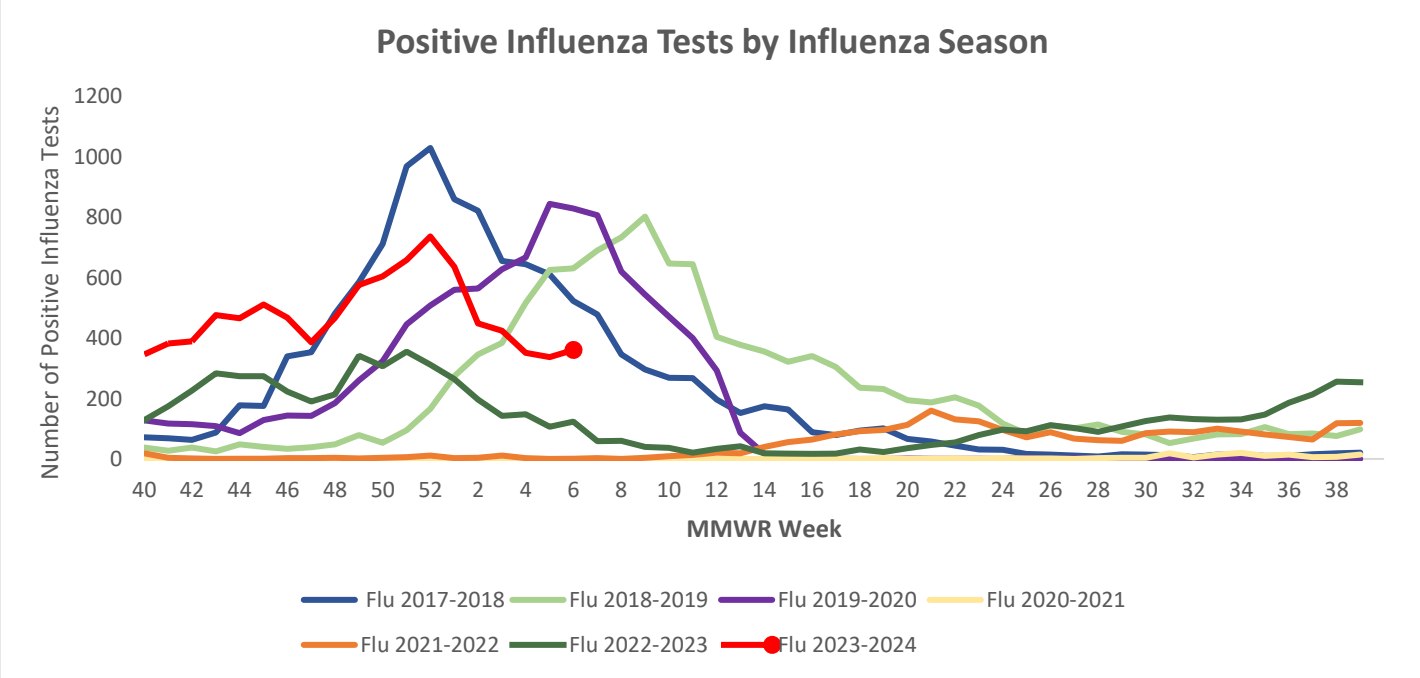


* *The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).*

RESPIRATORY SYNCYTIAL VIRUS (RSV) POSITIVE TEST RESULTS BY INFLUENZA SEASON: RSV case counts are lower than the previous season but may have already reached a peak for the 2023-2024 season. Of note, significantly more tests for RSV are being performed than in pre-COVID-19 seasons.



INFLUENZA POSITIVE TEST RESULTS BY INFLUENZA SEASON: Influenza cases appear to have increased earlier than past seasons in the 2023-2024 season, but it is not yet known whether case numbers will reach a peak similar to pre-COVID-19 seasons.



C. COVID-19 SENTINEL SURVEILLANCE: Due to the low volume of samples currently available through the influenza surveillance system, the COVID-19 sentinel surveillance data may not be accurately portraying COVID-19 activity in our communities. Reporting of the COVID-19 Sentinel Surveillance data will be paused while HODH re-evaluates the program to ensure that the reported data are accurate and representative.

HDOH is continuing to monitor COVID-19 activity throughout the state. To learn more, please visit the Hawaii's COVID-19 data website (*here*). For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website (*here*).

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

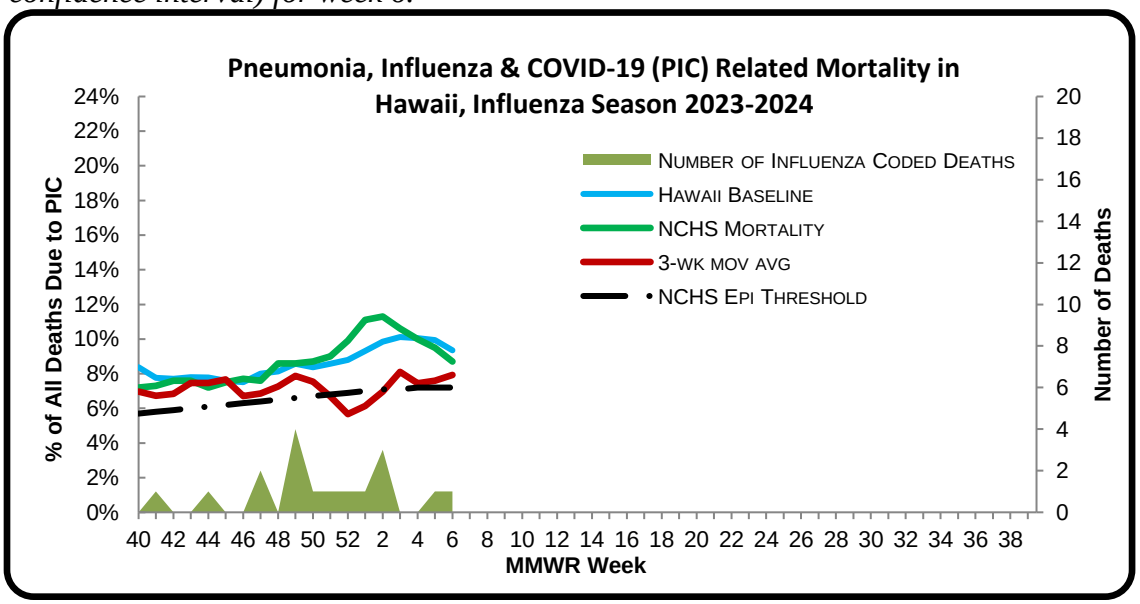
P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Due to the ongoing COVID-19 pandemic, CDC included total deaths from COVID-19 by age group to the death data. Previous studies had suggested that P&I is a good indicator of influenza-related deaths; however, data has shown that pneumonia deaths associated with influenza is now being impacted by COVID-19 related pneumonia. Due to this, CDC had added COVID-19 deaths into P&I to create the PIC (pneumonia, influenza, and/or COVID-19) classification.

To standardize Hawaii's influenza surveillance with CDC influenza surveillance guidelines, PIC deaths will be reported in lieu of P&I. Hawaii's baseline will begin to include PIC deaths starting from 2019-2020 flu season.

For **week 6** of the current influenza season:

- ***9.2%*** *of all deaths that occurred in Hawaii during week 6 were related to pneumonia, influenza or COVID-19 (PIC)*[11]*. For the current season (season to date:* ***7.2%****) there have been 4,949 deaths from any cause, 358 of which were due to PIC*[12]*.*
- *The PIC rate was comparable to the historical baseline in Hawaii*[13] *(i.e., inside the 95% confidence interval).*

The Hawaii PIC rate was comparable to the CDC's National Center for Health Statistics (NCHS) PIC mortality[14] ***(8.7%)*** *(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.*



[11] The percent of deaths due to PIC displayed on the graph is the 3-week moving averages.

[12] PIC data reflect 58.6% of the data reported for the MMWR week. Changes to data are expected when PIC data reaches 100% completion.

[13] The Hawaii historical baseline (%PIC) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, and 2022-2023).

[14] 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, influenza, or COVID-19 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 COVID-19 death counts reported by NCHS are provisional and will not match counts in other sources, such as media reports or numbers from health departments. COVID-19 deaths may be classified or defined differently in various reporting and surveillance systems. The percentage of deaths due to pneumonia, influenza, and COVID-19 (PIC) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

INFLUENZA-ASSOCIATED PEDIATRIC DEATHS[15]:

- No new influenza-associated pediatric death was reported to Hawaii. There has been one influenza-associated pediatric death reported in Hawaii during the 2023–2024 season.
- Nationally, eight new influenza-associated pediatric deaths were reported to CDC during week 6 (2023-2024 season total: 82).

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 2023–2024 influenza season.*
- *One new human infection with novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (1), have been reported to CDC during the 2023–2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Netherlands during the 2023-2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Switzerland during the 2023-2024 influenza season.*
    - *One new human infection with influenza A(H1N2v) virus has been reported to WHO from Great Britain and Northern Ireland during the 2023-2024 influenza season.*

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 15th, 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

[15] 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.

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 21, 2023**.

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 2023–2024 Influenza Vaccine**:**

The composition of the 2023–2024 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2023–2024 influenza trivalent vaccine contain an influenza A/Wisconsin/67/2022 (H1N1)pdm09-like virus, influenza A/Darwin/6/2021 (H3N2)-like virus, and influenza B/Austria/1359417/2021-like virus (B/Victoria lineage). 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/Wisconsin/67/2022 (H1N1)pdm09-like virus, an influenza A/Darwin/6/2021 (H3N2)-like virus, an influenza B/Austria/1359417/2021-like virus (B/Victoria lineage), 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.

Centers for Disease Control and Prevention	General Influenza National ILI and P&I Data Vaccine Virus Selection CDC Web Tool for Respiratory Viruses
Flu.gov	General Influenza Information
HDOH Flu and Pneumonia	General Influenza Surveillance To find out more information or join the sentinel physician program, email the Influenza Surveillance Coordinator
World Health Organization	General Global and Local Influenza Avian Influenza

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	2020	2021	2022	2023	2024
1	1/4/2020	1/9/2021	1/8/2022	1/7/2023	1/6/2024
2	1/11/2020	1/16/2021	1/15/2022	1/14/2023	1/13/2024
3	1/18/2020	1/23/2021	1/22/2022	1/21/2023	1/20/2024
4	1/25/2020	1/30/2021	1/29/2022	1/28/2023	1/27/2024
5	2/1/2020	2/6/2021	2/5/2022	2/4/2023	2/3/2024
6	2/8/2020	2/13/2021	2/12/2022	2/11/2023	2/10/2024
7	2/15/2020	2/20/2021	2/19/2022	2/18/2023	2/17/2024
8	2/22/2020	2/27/2021	2/26/2022	2/25/2023	2/24/2024
9	2/29/2020	3/6/2021	3/5/2022	3/4/2023	3/2/2024
10	3/7/2020	3/13/2021	3/12/2022	3/11/2023	3/9/2024
11	3/14/2020	3/20/2021	3/19/2022	3/18/2023	3/16/2024
12	3/21/2020	3/27/2021	3/26/2022	3/25/2023	3/23/2024
13	3/28/2020	4/3/2021	4/2/2022	4/1/2023	3/30/2024
14	4/4/2020	4/10/2021	4/9/2022	4/8/2023	4/6/2024
15	4/11/2020	4/17/2021	4/16/2022	4/15/2023	4/13/2024
16	4/18/2020	4/24/2021	4/23/2022	4/22/2023	4/20/2024
17	4/25/2020	5/1/2021	4/30/2022	4/29/2023	4/27/2024
18	5/2/2020	5/8/2021	5/7/2022	5/6/2023	5/4/2024
19	5/9/2020	5/15/2021	5/14/2022	5/13/2023	5/11/2024
20	5/16/2020	5/22/2021	5/21/2022	5/20/2023	5/18/2024
21	5/23/2020	5/29/2021	5/28/2022	5/27/2023	5/25/2024
22	5/30/2020	6/5/2021	6/4/2022	6/3/2023	6/1/2024
23	6/6/2020	6/12/2021	6/11/2022	6/10/2023	6/8/2024
24	6/13/2020	6/19/2021	6/18/2022	6/17/2023	6/15/2024
25	6/20/2020	6/26/2021	6/25/2022	6/24/2023	6/22/2024
26	6/27/2020	7/3/2021	7/2/2022	7/1/2023	6/29/2024
27	7/4/2020	7/10/2021	7/9/2022	7/8/2023	7/6/2024
28	7/11/2020	7/17/2021	7/16/2022	7/15/2023	7/13/2024
29	7/18/2020	7/24/2021	7/23/2022	7/22/2023	7/20/2024
30	7/25/2020	7/31/2021	7/30/2022	7/29/2023	7/27/2024
31	8/1/2020	8/7/2021	8/6/2022	8/5/2023	8/3/2024
32	8/8/2020	8/14/2021	8/13/2022	8/12/2023	8/10/2024
33	8/15/2020	8/21/2021	8/20/2022	8/19/2023	8/17/2024
34	8/22/2020	8/28/2021	8/27/2022	8/26/2023	8/24/2024
35	8/29/2020	9/4/2021	9/3/2022	9/2/2023	8/31/2024
36	9/5/2020	9/11/2021	9/10/2022	9/9/2023	9/7/2024
37	9/12/2020	9/18/2021	9/17/2022	9/16/2023	9/14/2024
38	9/19/2020	9/25/2021	9/24/2022	9/23/2023	9/21/2024
39	9/26/2020	10/2/2021	10/1/2022	9/30/2023	9/28/2024
40	10/3/2020	10/9/2021	10/8/2022	10/7/2023	10/5/2024
41	10/10/2020	10/16/2021	10/15/2022	10/14/2023	10/12/2024
42	10/17/2020	10/23/2021	10/22/2022	10/21/2023	10/19/2024
43	10/24/2020	10/30/2021	10/29/2022	10/28/2023	10/26/2024
44	10/31/2020	11/6/2021	11/5/2022	11/4/2023	11/2/2024
45	11/7/2020	11/13/2021	11/12/2022	11/11/2023	11/9/2024
46	11/14/2020	11/20/2021	11/19/2022	11/18/2023	11/16/2024
47	11/21/2020	11/27/2021	11/26/2022	11/25/2023	11/23/2024
48	11/28/2020	12/4/2021	12/3/2022	12/2/2023	11/30/2024
49	12/5/2020	12/11/2021	12/10/2022	12/9/2023	12/7/2024
50	12/12/2020	12/18/2021	12/17/2022	12/16/2023	12/14/2024
51	12/19/2020	12/25/2021	12/24/2022	12/23/2023	12/21/2024
52	12/26/2020	1/1/2022	12/31/2022	12/30/2023	12/28/2024
53	01/02/2021				

HAWAII STATE DEPARTMENT OF HEALTH
DISEASE OUTBREAK CONTROL DIVISION

Influenza/Respiratory Disease Surveillance Report

Morbidity and Mortality Weekly Report (MMWR)[1]

WEEK 7: FEBRUARY 11, 2024– FEBRUARY 17, 2024

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 2023–2024 influenza season which began the week ending October 7, 2023 (week 40[1] 2023) and will end the week ending on September 28, 2024 (week 39 2024).

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	3.6%	Lower than the previous week. Comparable to the Hawaii's historical baseline, lower than the national ILI rate, and higher than the national baseline.
Number of ILI clusters reported to HDOH	1	There have been 20 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	9.6%	Lower than the previous week. This number means that many, if not all, of the 90.4% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	13.8%	

Surveillance for Severe Outcomes		
Pneumonia, influenza and COVID-19 (PIC) mortality rate	4.8%	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	91	1 influenza-associated pediatric death has been reported from Hawaii this season to date.

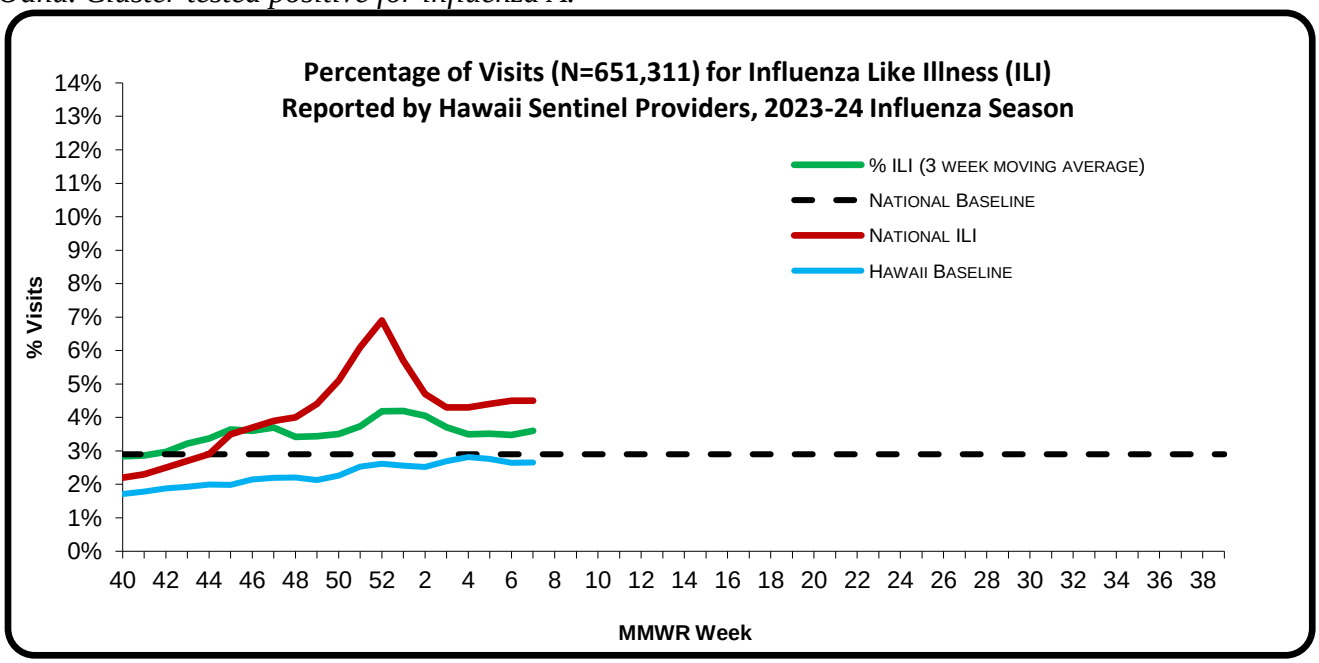
[1] MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week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

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. 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:

- ***3.6****% (season to date:* ***3.5****%) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.*
- *ILI visits were comparable to the historical baseline in Hawaii[2,3] (i.e., inside the 95% confidence interval).*
- *Hawaii's ILI outpatient visits were higher than the national baseline (**2.9%**)[4] (i.e., outside the 95% confidence interval) and lower to the national ILI rate (**4.5%**) (i.e. outside the 95% confidence interval).*
- *ILI activity level: Low*[5]
- *Geographic Spread: Sporadic Activity*[6].
- *ILI Cluster Activity: One cluster was reported to HDOH during week 7. The cluster occurred at a school in Oahu. Cluster tested positive for influenza A.*



[2] The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022 and 2022-2023).

[3] 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.

[4] 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.

[5] There are 10 activity levels classified as minimal (levels 1-3), low (levels 4-5), moderate (levels 6-7), and high (levels 8-10).

[6] 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[7] 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*).

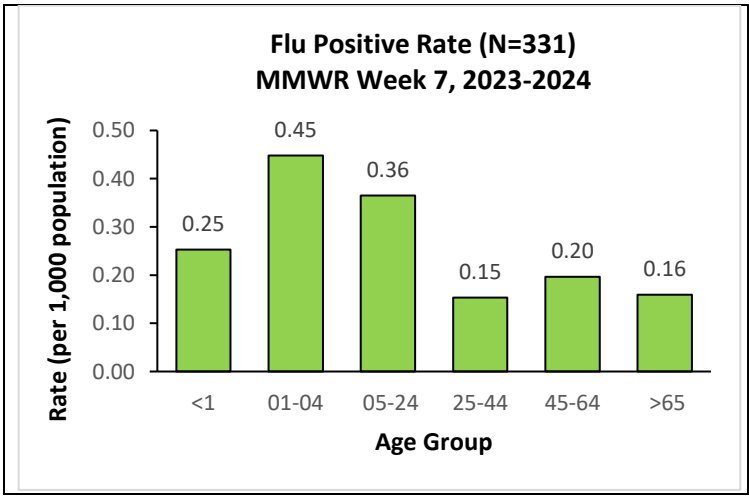
A. INFLUENZA:

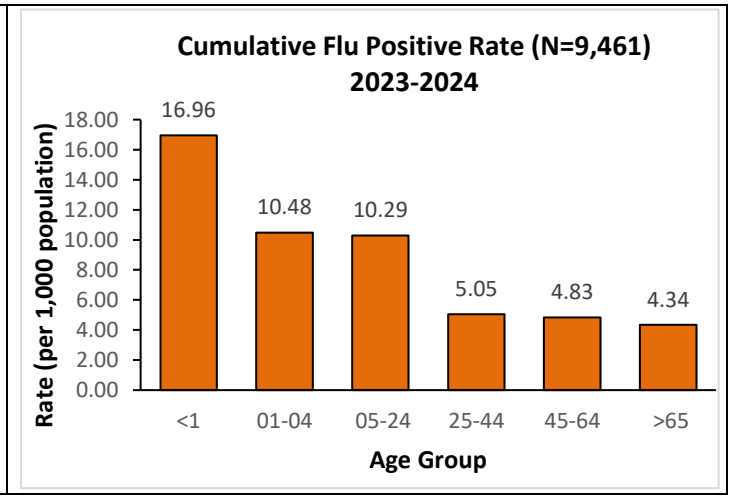
- The following reflects laboratory findings for week 7 of the 2023–24 influenza season:
  - *A total of **3,454** specimens have been tested statewide for influenza viruses (positive: 331 [**9.6%**]). (Season to date: 68,553 tested (**13.8%** positive])*
    - *363 (10.5%) were screened only by rapid antigen tests with no confirmatory testing.*
    - *3,091 (89.5%) underwent confirmatory testing (either RT-PCR or viral culture).*
    - *3,123 (90.4%) were negative.*

Influenza type	*Current week 7 (%)*	*Season to date (%)*[8]
Influenza A (H1)[9]	*8 (2.4)*	*348 (3.7)*
Influenza A (H3)	*15 (4.5)*	*135 (1.4)*
Influenza A no subtyping	*257 (77.6)*	*7,566 (80.0)*
Influenza B (Yamagata)	*0 (0.0)*	*0 (0.0)*
Influenza B (Victoria)	*2 (0.6)*	*85 (0.9)*
Influenza B no genotyping	*49 (14.8)*	*1,327 (14.0)*

1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2023–24 influenza season.[10]

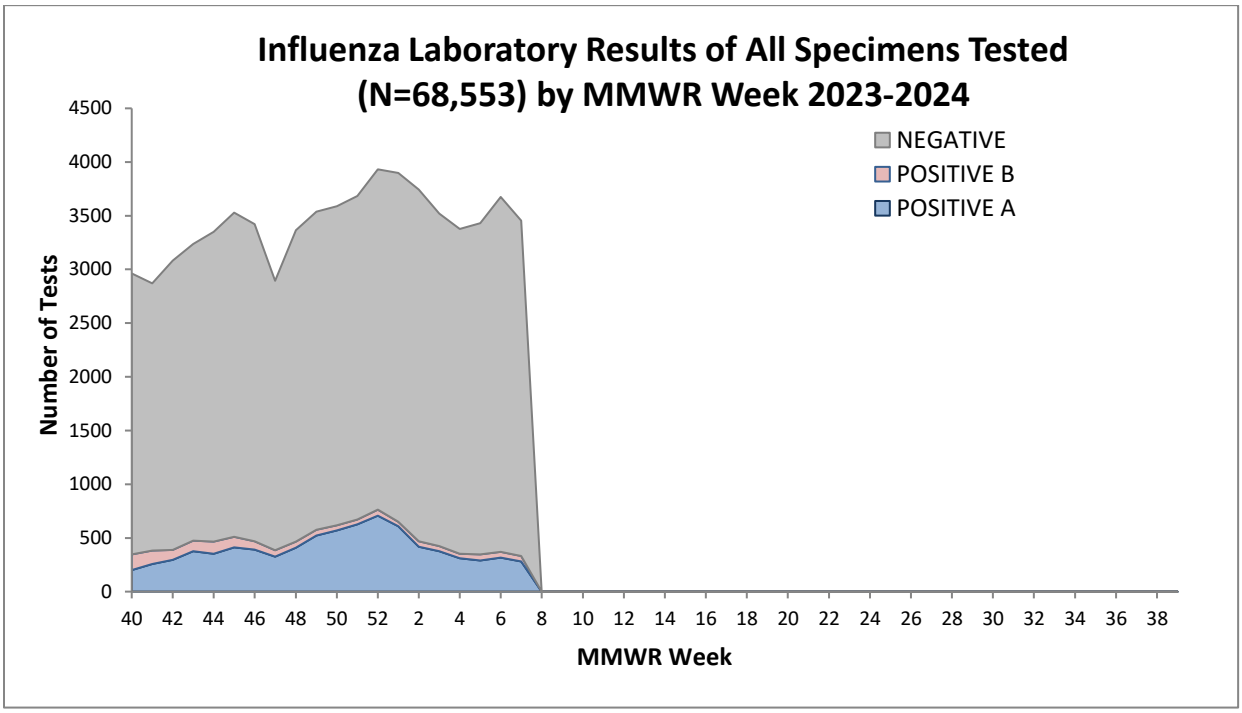


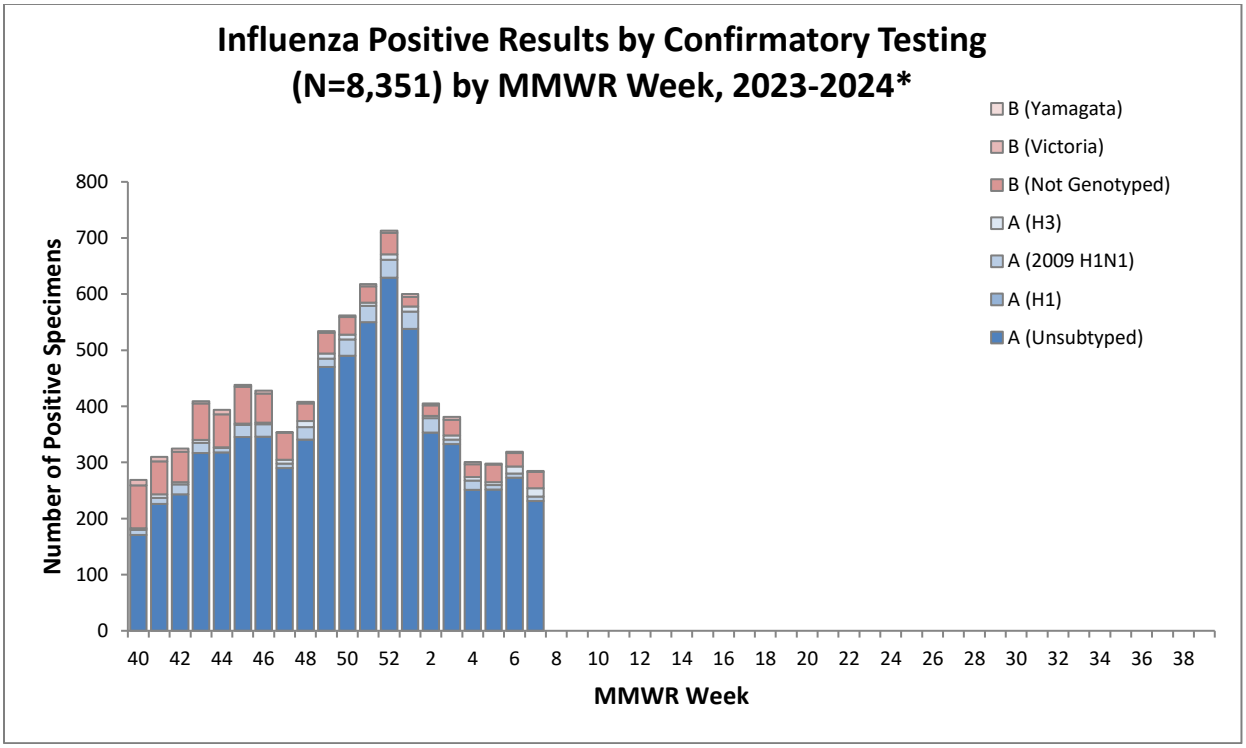


[7] Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.
[8] Influenza coding were updated to reflect a more accurate count.
[9] All influenza A H1 viruses detected this season have been 2009 H1N1.
[10] This represents an estimate of population-based rates based on available data.

2. LABORATORY TESTING

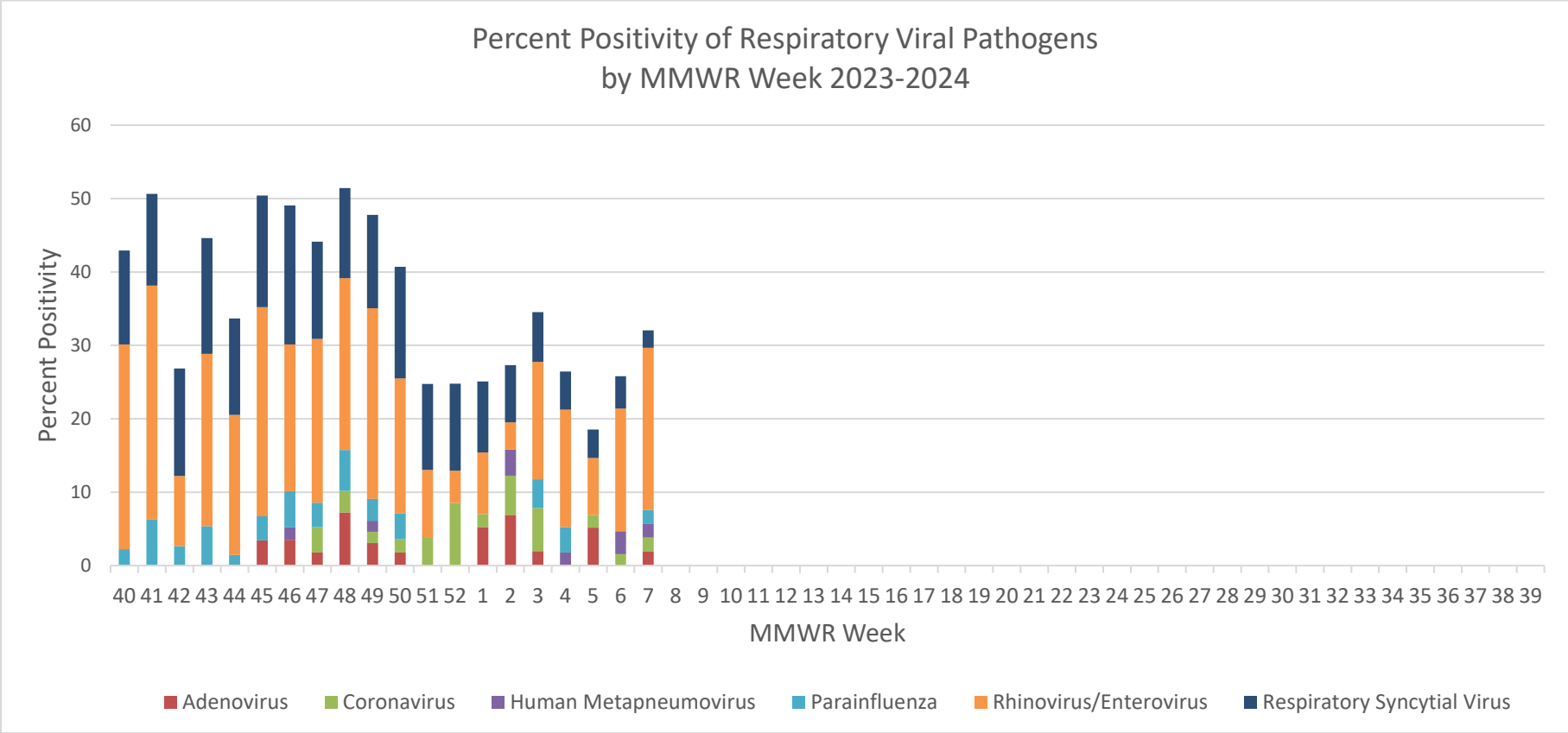
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2023–2024 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).





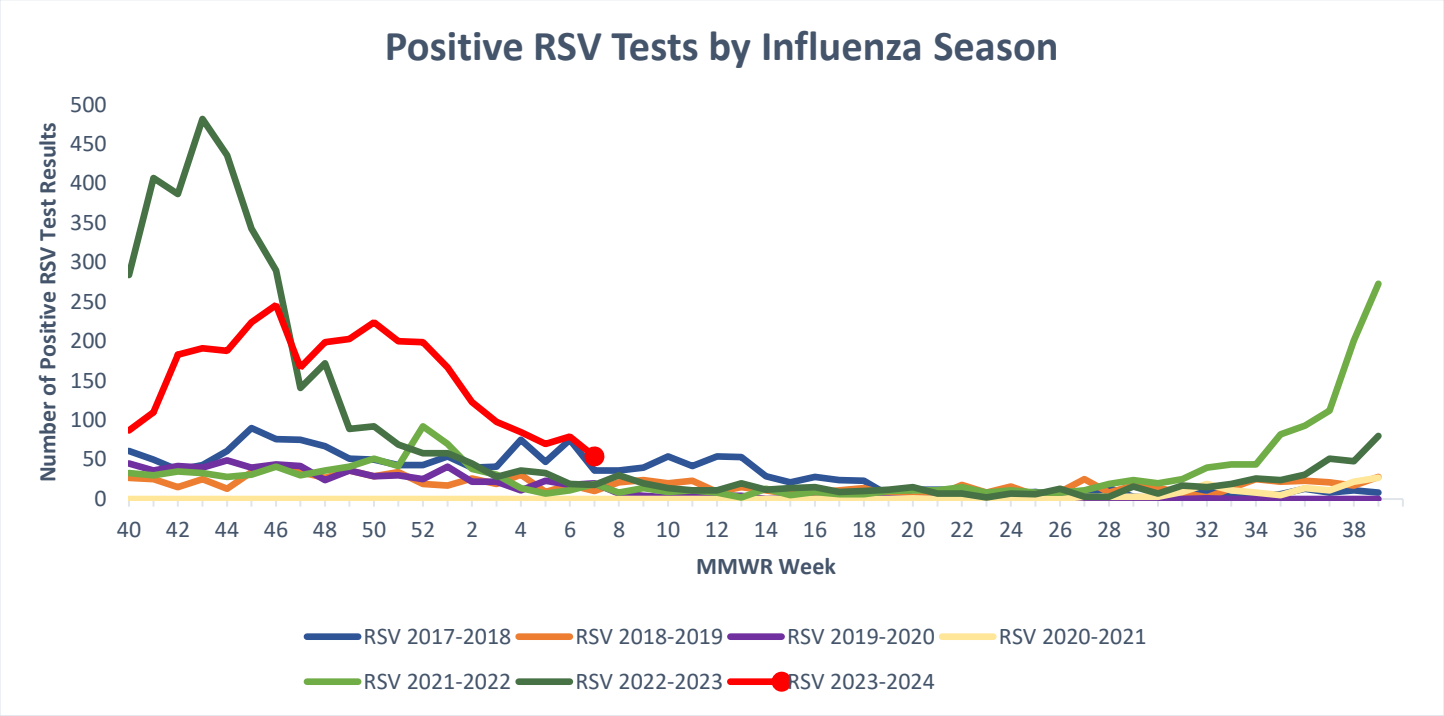
** A total of 61,541 specimens underwent confirmatory testing but not all positive influenza specimens receive confirmatory testing that are circulating in Hawaii.*

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**.

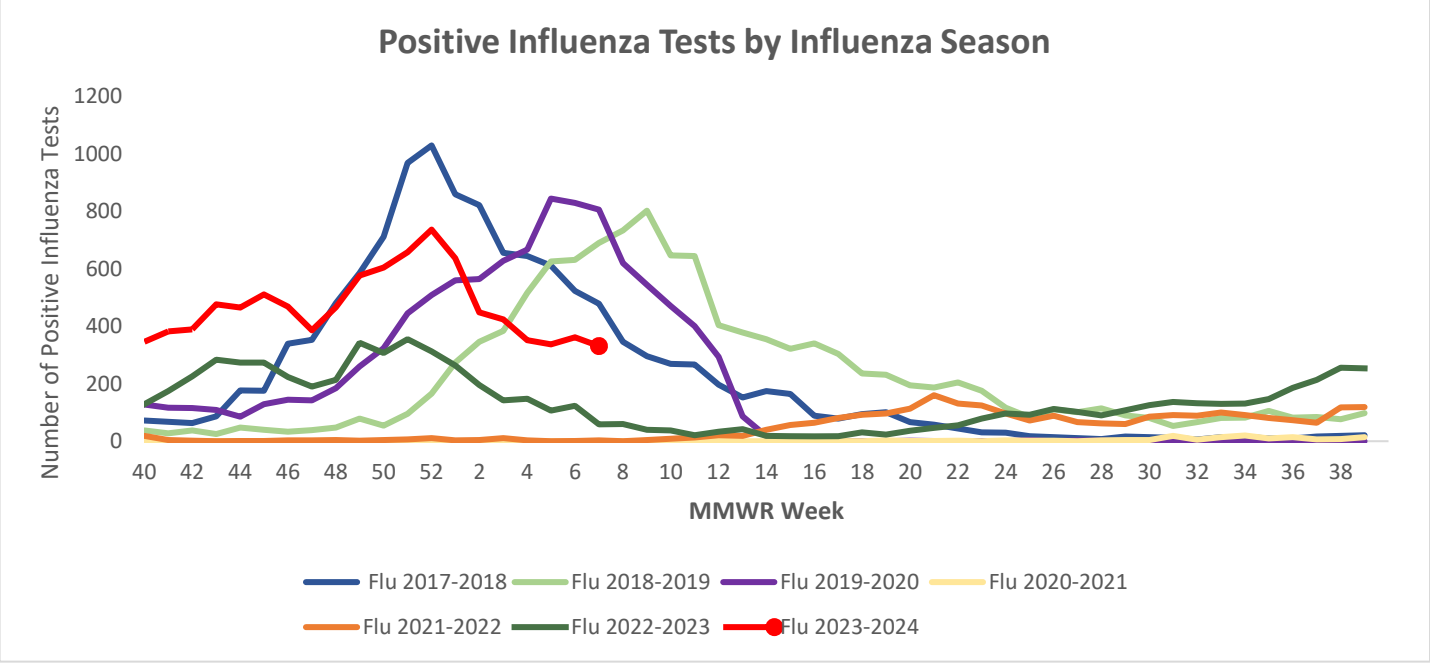


* *The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).*

RESPIRATORY SYNCYTIAL VIRUS (RSV) POSITIVE TEST RESULTS BY INFLUENZA SEASON: RSV case counts are lower than the previous season but may have already reached a peak for the 2023-2024 season. Of note, significantly more tests for RSV are being performed than in pre-COVID-19 seasons.



INFLUENZA POSITIVE TEST RESULTS BY INFLUENZA SEASON: Influenza cases appear to have increased earlier than past seasons in the 2023-2024 season, but it is not yet known whether case numbers will reach a peak similar to pre-COVID-19 seasons.



C. COVID-19 SENTINEL SURVEILLANCE: Due to the low volume of samples currently available through the influenza surveillance system, the COVID-19 sentinel surveillance data may not be accurately portraying COVID-19 activity in our communities. Reporting of the COVID-19 Sentinel Surveillance data will be paused while HODH re-evaluates the program to ensure that the reported data are accurate and representative.

HDOH is continuing to monitor COVID-19 activity throughout the state. To learn more, please visit the Hawaii's COVID-19 data website (*here*). For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website (*here*).

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

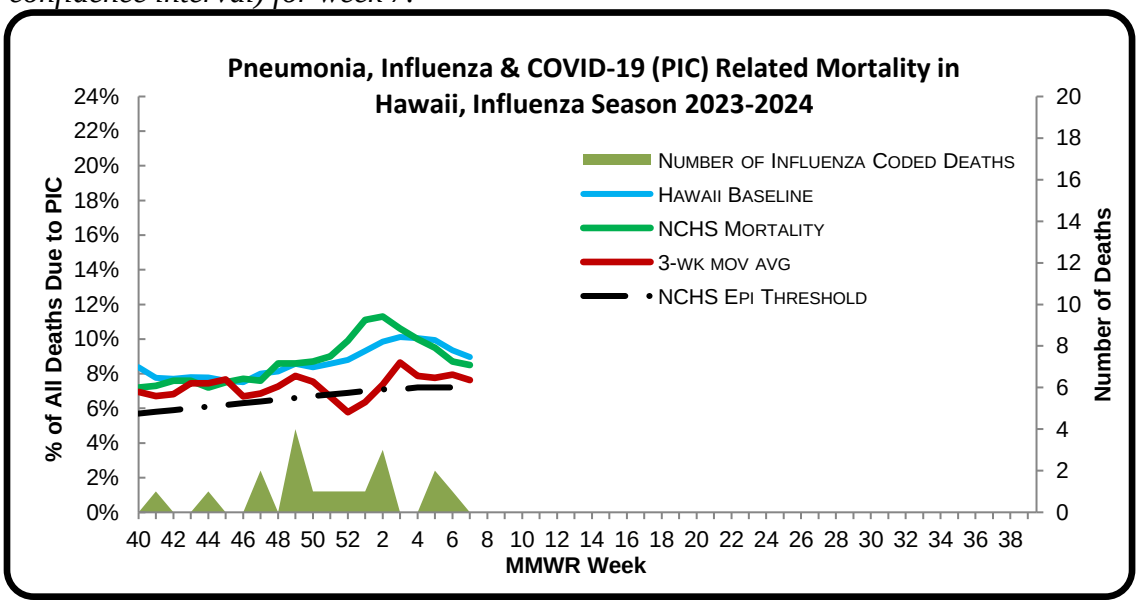
P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Due to the ongoing COVID-19 pandemic, CDC included total deaths from COVID-19 by age group to the death data. Previous studies had suggested that P&I is a good indicator of influenza-related deaths; however, data has shown that pneumonia deaths associated with influenza is now being impacted by COVID-19 related pneumonia. Due to this, CDC had added COVID-19 deaths into P&I to create the PIC (pneumonia, influenza, and/or COVID-19) classification.

To standardize Hawaii's influenza surveillance with CDC influenza surveillance guidelines, PIC deaths will be reported in lieu of P&I. Hawaii's baseline will begin to include PIC deaths starting from 2019-2020 flu season.

For **week 7** of the current influenza season:

- ***4.8%*** *of all deaths that occurred in Hawaii during week 7 were related to pneumonia, influenza or COVID-19 (PIC)[11]. For the current season (season to date:* ***7.3%****) there have been 5,199 deaths from any cause, 381 of which were due to PIC[12].*
- *The PIC rate was comparable to the historical baseline in Hawaii[13] (i.e., inside the 95% confidence interval).*

*The Hawaii PIC rate was comparable to the CDC's National Center for Health Statistics (NCHS) PIC mortality[14] (**8.5%**) (i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (**7.3**%) (i.e., inside the 95% confidence interval) for week 7.*



[11] The percent of deaths due to PIC displayed on the graph is the 3-week moving averages.

[12] PIC data reflect 57.0% of the data reported for the MMWR week. Changes to data are expected when PIC data reaches 100% completion.

[13] The Hawaii historical baseline (%PIC) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, and 2022-2023).

[14] 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, influenza, or COVID-19 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 COVID-19 death counts reported by NCHS are provisional and will not match counts in other sources, such as media reports or numbers from health departments. COVID-19 deaths may be classified or defined differently in various reporting and surveillance systems. The percentage of deaths due to pneumonia, influenza, and COVID-19 (PIC) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

INFLUENZA-ASSOCIATED PEDIATRIC DEATHS[15]:

- No new influenza-associated pediatric death was reported to Hawaii. There has been one influenza-associated pediatric death reported in Hawaii during the 2023–2024 season.
- Nationally, nine new influenza-associated pediatric deaths were reported to CDC during week 7 (2023-2024 season total: 91).

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 2023–2024 influenza season.*
- *One new human infection with novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (1), have been reported to CDC during the 2023–2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Netherlands during the 2023-2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Switzerland during the 2023-2024 influenza season.*
    - *One new human infection with influenza A(H1N2v) virus has been reported to WHO from Great Britain and Northern Ireland during the 2023-2024 influenza season.*

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 15th, 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

[15] 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.

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 21, 2023**.

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 2023–2024 Influenza Vaccine**:**

The composition of the 2023–2024 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2023–2024 influenza trivalent vaccine contain an influenza A/Wisconsin/67/2022 (H1N1)pdm09-like virus, influenza A/Darwin/6/2021 (H3N2)-like virus, and influenza B/Austria/1359417/2021-like virus (B/Victoria lineage). 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/Wisconsin/67/2022 (H1N1)pdm09-like virus, an influenza A/Darwin/6/2021 (H3N2)-like virus, an influenza B/Austria/1359417/2021-like virus (B/Victoria lineage), 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.

Centers for Disease Control and Prevention	General Influenza National ILI and P&I Data Vaccine Virus Selection CDC Web Tool for Respiratory Viruses
Flu.gov	General Influenza Information
HDOH Flu and Pneumonia	General Influenza Surveillance To find out more information or join the sentinel physician program, email the Influenza Surveillance Coordinator
World Health Organization	General Global and Local Influenza Avian Influenza

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	2020	2021	2022	2023	2024
1	1/4/2020	1/9/2021	1/8/2022	1/7/2023	1/6/2024
2	1/11/2020	1/16/2021	1/15/2022	1/14/2023	1/13/2024
3	1/18/2020	1/23/2021	1/22/2022	1/21/2023	1/20/2024
4	1/25/2020	1/30/2021	1/29/2022	1/28/2023	1/27/2024
5	2/1/2020	2/6/2021	2/5/2022	2/4/2023	2/3/2024
6	2/8/2020	2/13/2021	2/12/2022	2/11/2023	2/10/2024
7	2/15/2020	2/20/2021	2/19/2022	2/18/2023	2/17/2024
8	2/22/2020	2/27/2021	2/26/2022	2/25/2023	2/24/2024
9	2/29/2020	3/6/2021	3/5/2022	3/4/2023	3/2/2024
10	3/7/2020	3/13/2021	3/12/2022	3/11/2023	3/9/2024
11	3/14/2020	3/20/2021	3/19/2022	3/18/2023	3/16/2024
12	3/21/2020	3/27/2021	3/26/2022	3/25/2023	3/23/2024
13	3/28/2020	4/3/2021	4/2/2022	4/1/2023	3/30/2024
14	4/4/2020	4/10/2021	4/9/2022	4/8/2023	4/6/2024
15	4/11/2020	4/17/2021	4/16/2022	4/15/2023	4/13/2024
16	4/18/2020	4/24/2021	4/23/2022	4/22/2023	4/20/2024
17	4/25/2020	5/1/2021	4/30/2022	4/29/2023	4/27/2024
18	5/2/2020	5/8/2021	5/7/2022	5/6/2023	5/4/2024
19	5/9/2020	5/15/2021	5/14/2022	5/13/2023	5/11/2024
20	5/16/2020	5/22/2021	5/21/2022	5/20/2023	5/18/2024
21	5/23/2020	5/29/2021	5/28/2022	5/27/2023	5/25/2024
22	5/30/2020	6/5/2021	6/4/2022	6/3/2023	6/1/2024
23	6/6/2020	6/12/2021	6/11/2022	6/10/2023	6/8/2024
24	6/13/2020	6/19/2021	6/18/2022	6/17/2023	6/15/2024
25	6/20/2020	6/26/2021	6/25/2022	6/24/2023	6/22/2024
26	6/27/2020	7/3/2021	7/2/2022	7/1/2023	6/29/2024
27	7/4/2020	7/10/2021	7/9/2022	7/8/2023	7/6/2024
28	7/11/2020	7/17/2021	7/16/2022	7/15/2023	7/13/2024
29	7/18/2020	7/24/2021	7/23/2022	7/22/2023	7/20/2024
30	7/25/2020	7/31/2021	7/30/2022	7/29/2023	7/27/2024
31	8/1/2020	8/7/2021	8/6/2022	8/5/2023	8/3/2024
32	8/8/2020	8/14/2021	8/13/2022	8/12/2023	8/10/2024
33	8/15/2020	8/21/2021	8/20/2022	8/19/2023	8/17/2024
34	8/22/2020	8/28/2021	8/27/2022	8/26/2023	8/24/2024
35	8/29/2020	9/4/2021	9/3/2022	9/2/2023	8/31/2024
36	9/5/2020	9/11/2021	9/10/2022	9/9/2023	9/7/2024
37	9/12/2020	9/18/2021	9/17/2022	9/16/2023	9/14/2024
38	9/19/2020	9/25/2021	9/24/2022	9/23/2023	9/21/2024
39	9/26/2020	10/2/2021	10/1/2022	9/30/2023	9/28/2024
40	10/3/2020	10/9/2021	10/8/2022	10/7/2023	10/5/2024
41	10/10/2020	10/16/2021	10/15/2022	10/14/2023	10/12/2024
42	10/17/2020	10/23/2021	10/22/2022	10/21/2023	10/19/2024
43	10/24/2020	10/30/2021	10/29/2022	10/28/2023	10/26/2024
44	10/31/2020	11/6/2021	11/5/2022	11/4/2023	11/2/2024
45	11/7/2020	11/13/2021	11/12/2022	11/11/2023	11/9/2024
46	11/14/2020	11/20/2021	11/19/2022	11/18/2023	11/16/2024
47	11/21/2020	11/27/2021	11/26/2022	11/25/2023	11/23/2024
48	11/28/2020	12/4/2021	12/3/2022	12/2/2023	11/30/2024
49	12/5/2020	12/11/2021	12/10/2022	12/9/2023	12/7/2024
50	12/12/2020	12/18/2021	12/17/2022	12/16/2023	12/14/2024
51	12/19/2020	12/25/2021	12/24/2022	12/23/2023	12/21/2024
52	12/26/2020	1/1/2022	12/31/2022	12/30/2023	12/28/2024
53	01/02/2021				

HAWAII STATE DEPARTMENT OF HEALTH
DISEASE OUTBREAK CONTROL DIVISION

Influenza/Respiratory Disease Surveillance Report

Morbidity and Mortality Weekly Report (MMWR)[1]

WEEK 8: FEBRUARY 18, 2024– FEBRUARY 24, 2024

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 2023–2024 influenza season which began the week ending October 7, 2023 (week 40[1] 2023) and will end the week ending on September 28, 2024 (week 39 2024).

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	4.1%	Higher than the previous week. Comparable to the Hawaii's historical baseline, lower than the national ILI rate, and higher than the national baseline.
Number of ILI clusters reported to HDOH	0	There have been 20 clusters this season.

Laboratory Surveillance		
Percent of all respiratory specimens positive for influenza this week	8.9%	Lower than the previous week. This number means that many, if not all, of the 91.1% who tested negative for influenza had illness from another respiratory etiology.
Percent of all respiratory specimens positive for influenza this season to date	13.6%	

Surveillance for Severe Outcomes		
Pneumonia, influenza and COVID-19 (PIC) 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	93	1 influenza-associated pediatric death has been reported from Hawaii this season to date.

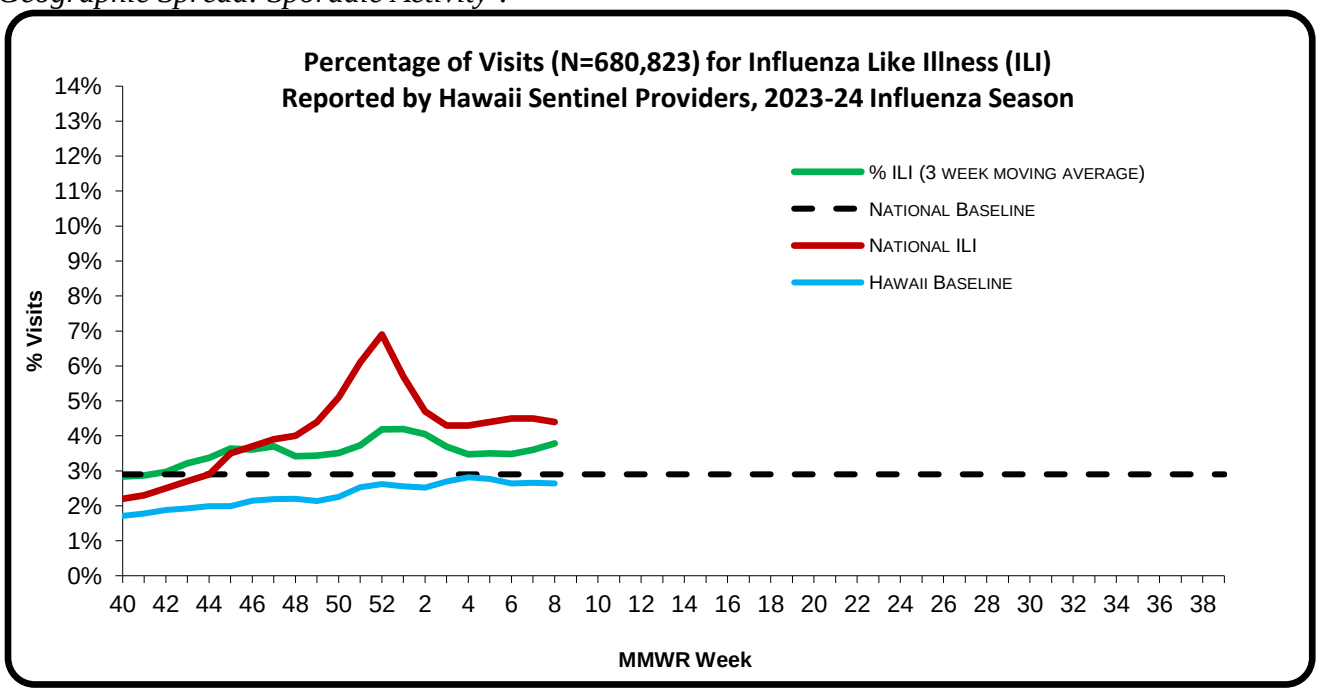
[1] MMWR stands for "Morbidity and Mortality Weekly Report," conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. **See appendix 2 for interpretation of MMWR weeks.** Data reported will begin on week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

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. 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:

- ***4.1****% (season to date:* ***3.6****%) of the outpatient visits recorded by Hawaii sentinel providers were for ILI.*
- *ILI visits were comparable to the historical baseline in Hawaii[2,3] (i.e., inside the 95% confidence interval).*
- *Hawaii's ILI outpatient visits were higher than the national baseline (**2.9%**)[4] (i.e., outside the 95% confidence interval) and lower to the national ILI rate (**4.4%**) (i.e. outside the 95% confidence interval).*
- *ILI activity level: Low*[5]
- *Geographic Spread: Sporadic Activity*[6].



[2] The Hawaii historical baseline (%ILI) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022 and 2022-2023).

[3] 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.

[4] 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.

[5] There are 10 activity levels classified as minimal (levels 1-3), low (levels 4-5), moderate (levels 6-7), and high (levels 8-10).

[6] 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[7] 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*).

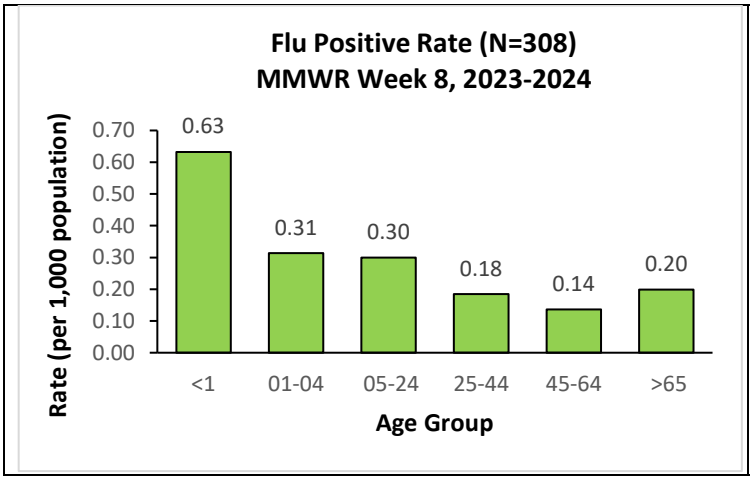
A. INFLUENZA:

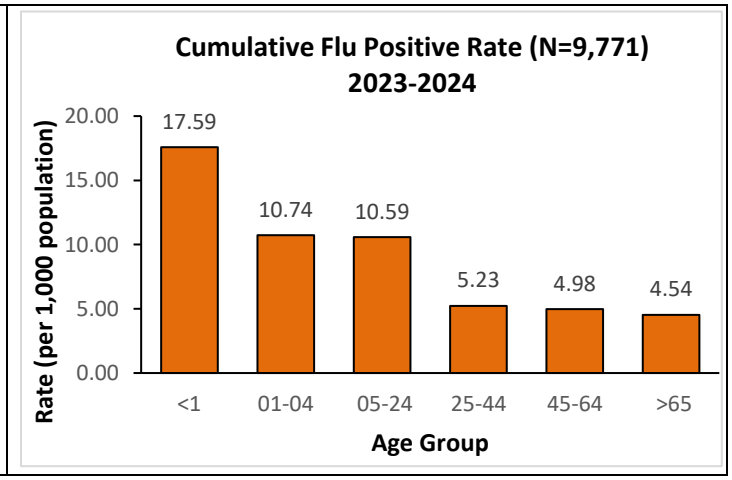
- The following reflects laboratory findings for week 8 of the 2023–24 influenza season:
  - *A total of **3,442** specimens have been tested statewide for influenza viruses (positive: 308 [**8.9%**]). (Season to date: 71,997 tested (**13.6%** positive])*
    - *388 (11.3%) were screened only by rapid antigen tests with no confirmatory testing.*
    - *3,054 (88.7%) underwent confirmatory testing (either RT-PCR or viral culture).*
    - *3,134 (91.1%) were negative.*

Influenza type	*Current week 8 (%)*	*Season to date (%)*[8]
Influenza A (H1)[9]	*2 (0.7)*	*350 (3.6)*
Influenza A (H3)	*12 (3.9)*	*147 (1.5)*
Influenza A no subtyping	*242 (78.6)*	*7,810 (79.9)*
Influenza B (Yamagata)	*0 (0.0)*	*0 (0.0)*
Influenza B (Victoria)	*2 (0.6)*	*87 (0.9)*
Influenza B no genotyping	*50 (16.2)*	*1,377 (14.1)*

1. AGE DISTRIBUTION

The charts below indicate the population-based rates of positive influenza cases in Hawaii by age group during the 2023–24 influenza season.[10]

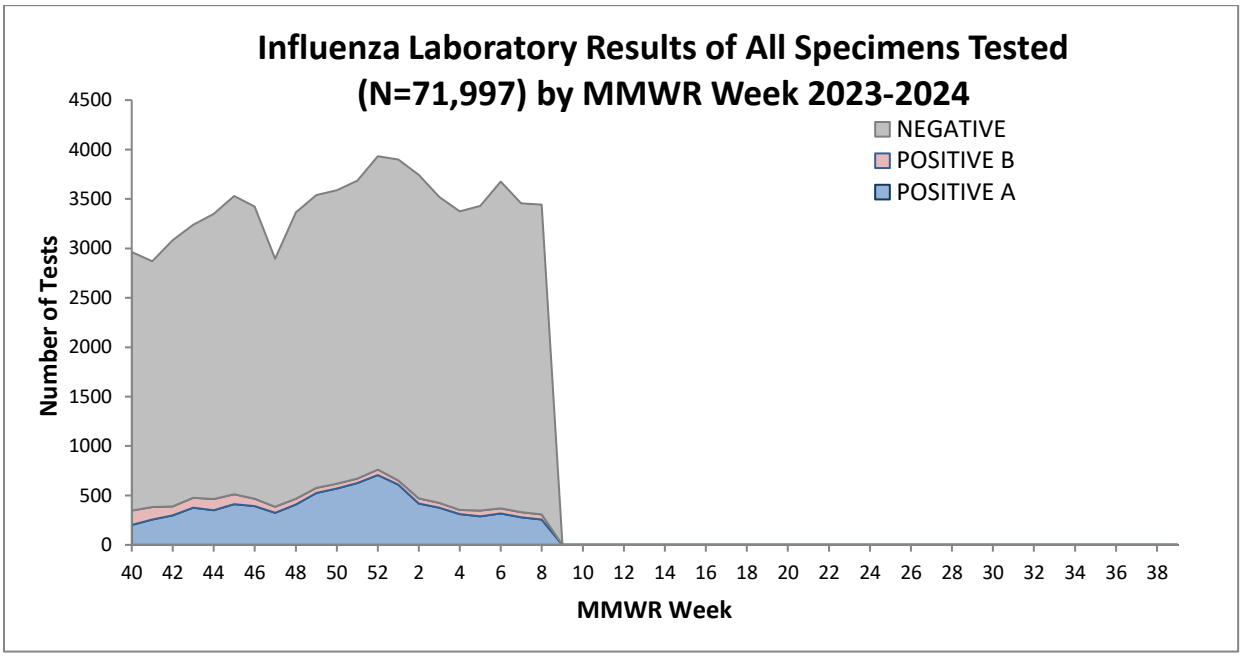


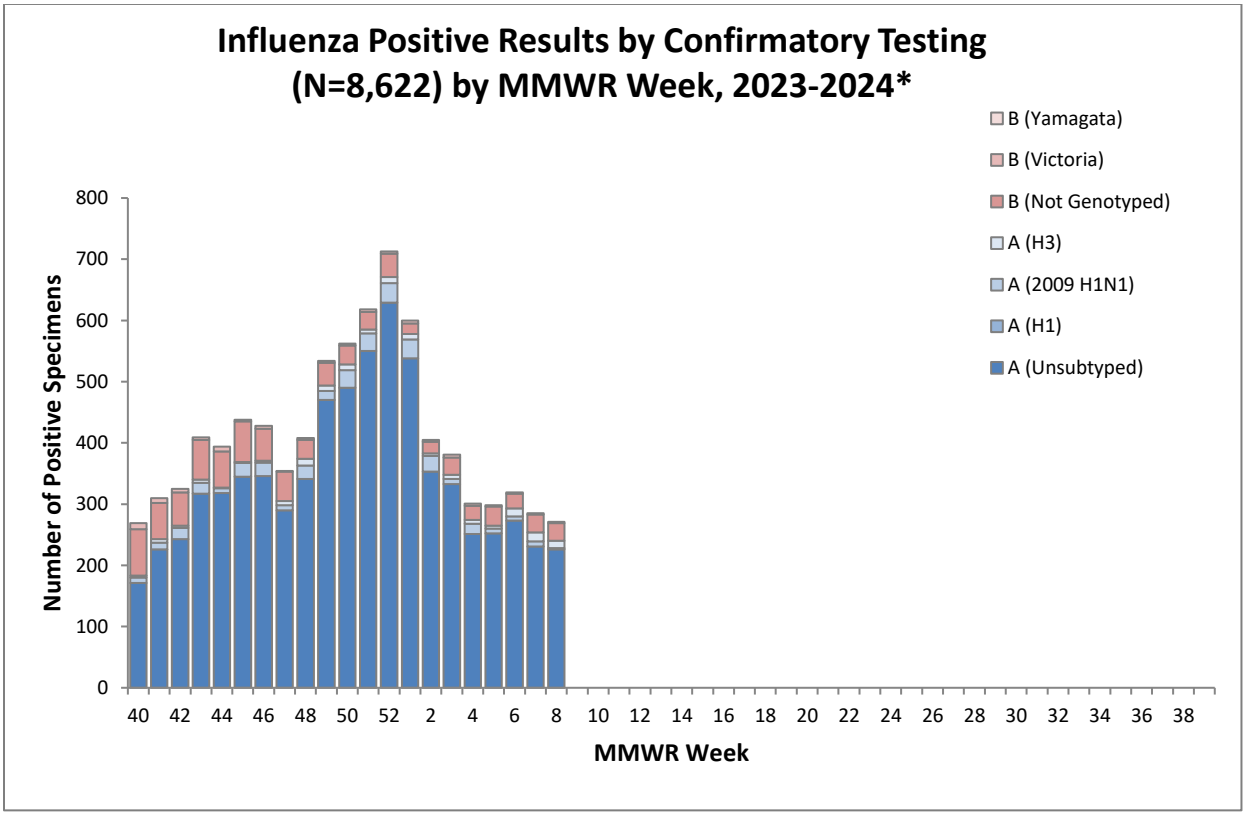


[7] Priority criteria include: hospitalized patients with acute respiratory distress syndrome [ARDS] or x-ray confirmed pneumonia; travelers with international travel history within 10 days of onset; specimens submitted by sentinel providers; specimens collected from healthcare workers, pregnant women, or women up to 6 weeks' post-partum; those with underlying medical conditions; and patients presenting with unusual or severe manifestations of influenza infection.
[8] Influenza coding were updated to reflect a more accurate count.
[9] All influenza A H1 viruses detected this season have been 2009 H1N1.
[10] This represents an estimate of population-based rates based on available data.

2. LABORATORY TESTING

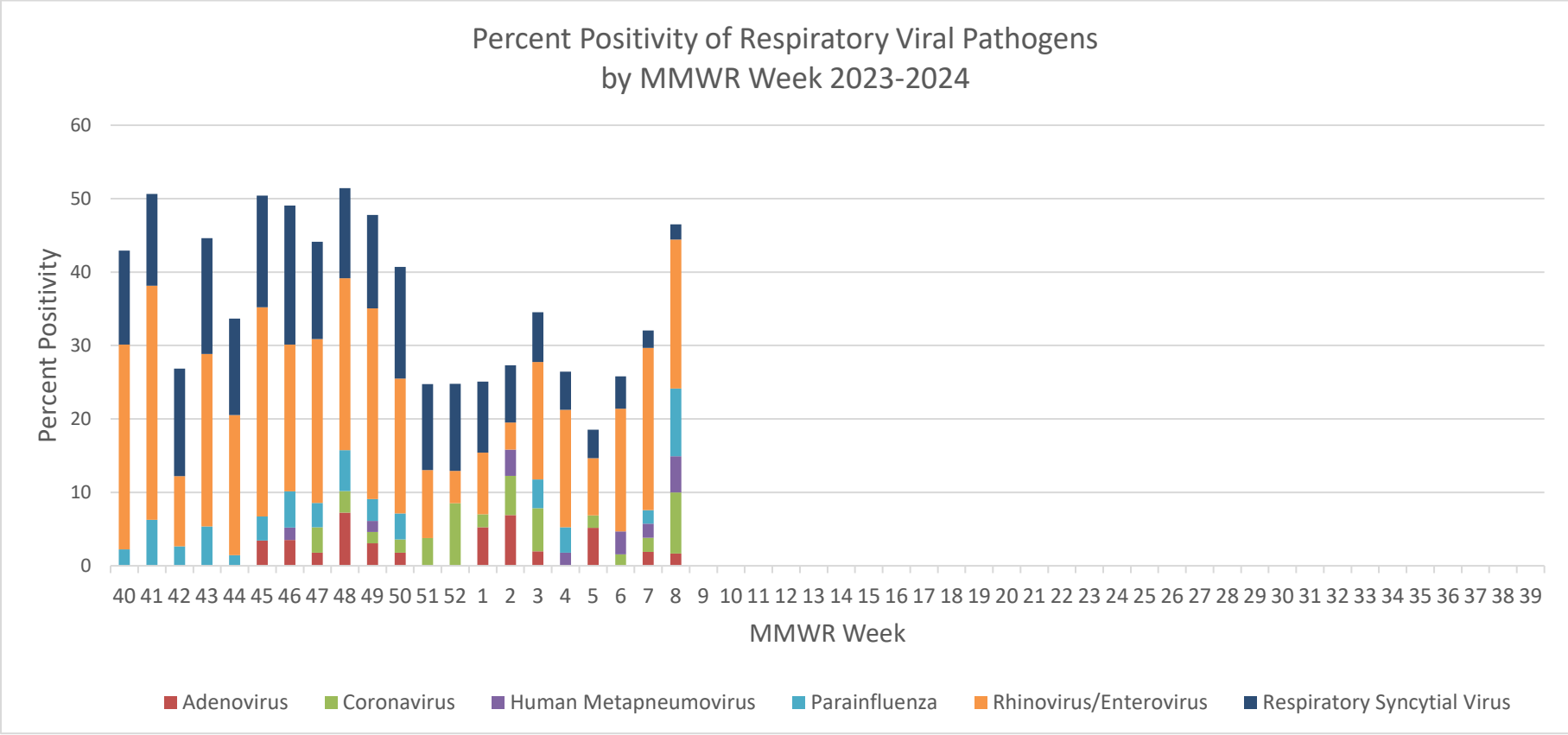
The charts below show the laboratory results of all specimens tested for influenza by MMWR week during the 2023–2024 influenza season as well as the type and subtype of positive results for influenza. Again, sub-typing is only performed on selected specimens tested by confirmatory tests (i.e., RT-PCR or viral culture).





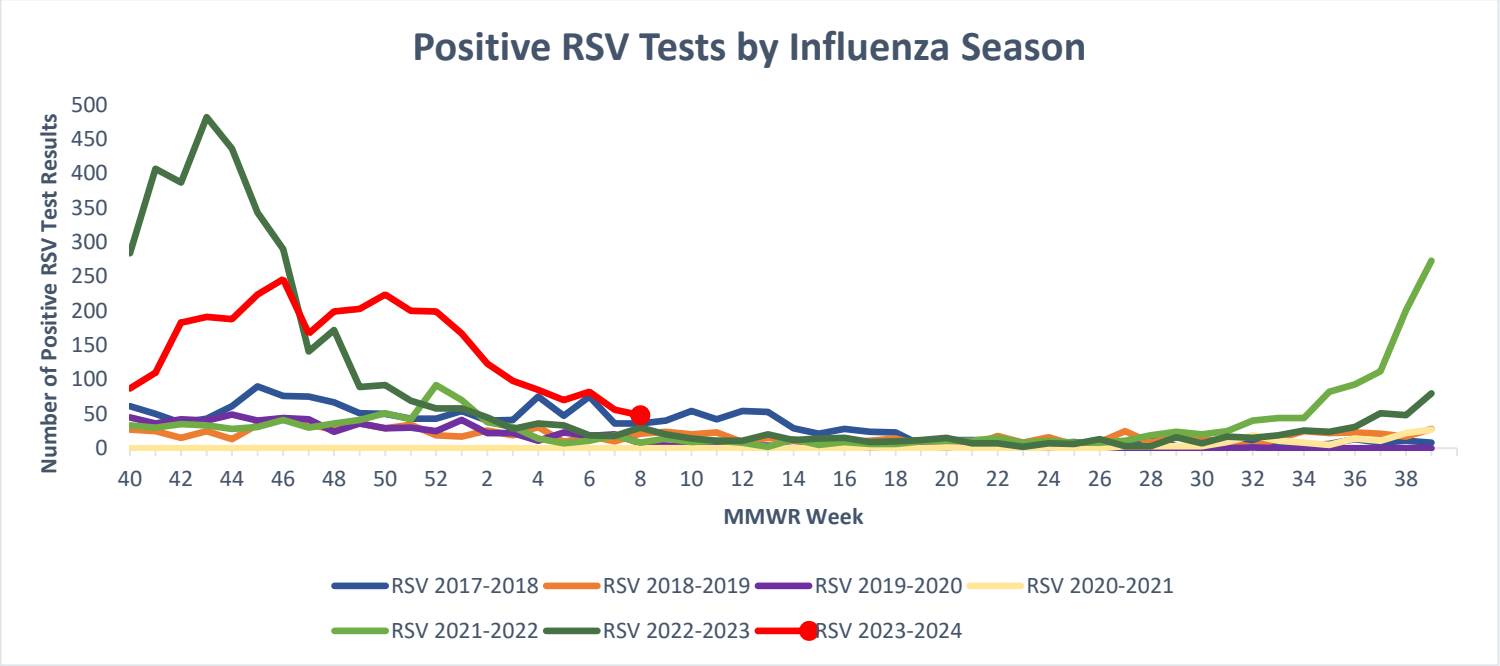
** A total of 64,574specimens underwent confirmatory testing but not all positive influenza specimens receive confirmatory testing that are circulating in Hawaii.*

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**.

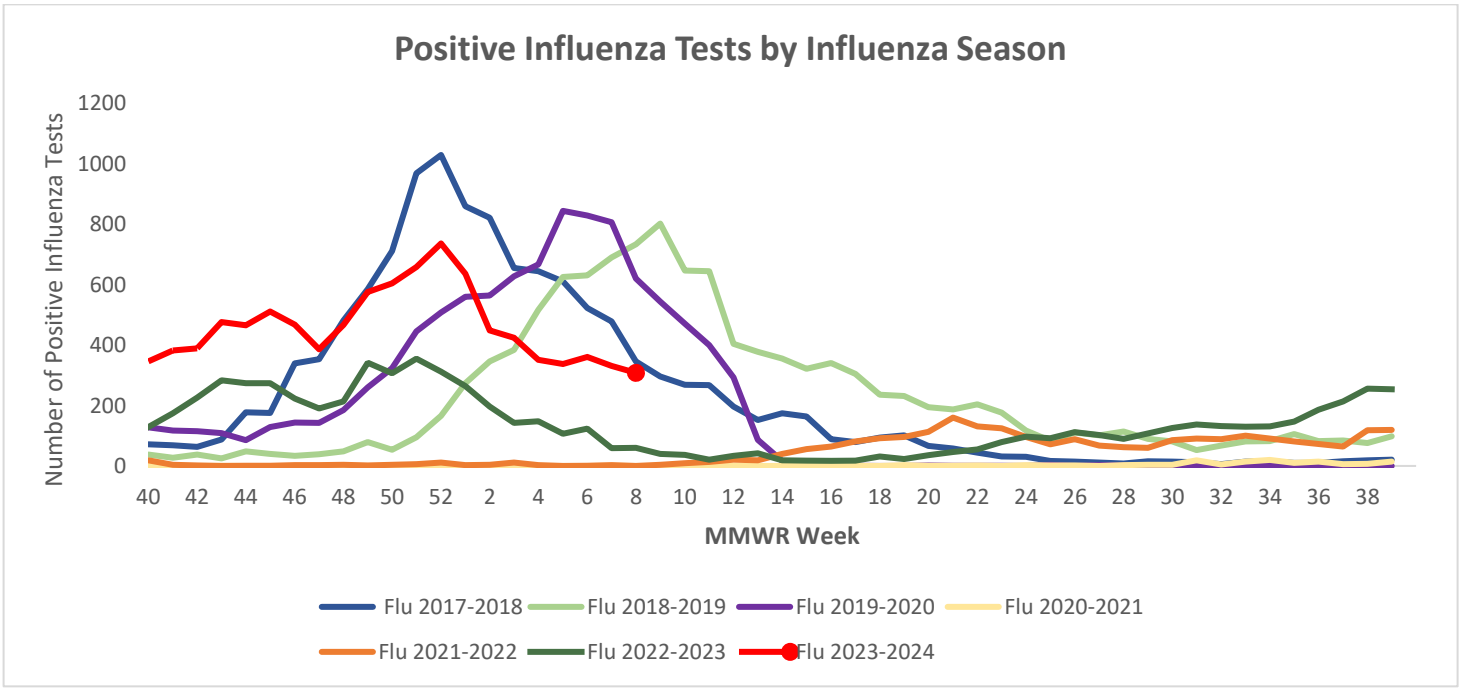


* *The coronavirus presented on this table does not indicate Severe Acute Respiratory Coronavirus-2 (i.e., COVID-19).*

RESPIRATORY SYNCYTIAL VIRUS (RSV) POSITIVE TEST RESULTS BY INFLUENZA SEASON: RSV case counts are lower than the previous season and may have already reached a peak for the 2023-2024 season. Of note, significantly more tests for RSV are being performed than in pre-COVID-19 seasons.



INFLUENZA POSITIVE TEST RESULTS BY INFLUENZA SEASON: Influenza cases appear to have increased earlier than past seasons in the 2023-2024 season, but it is not yet known whether case numbers will reach a peak similar to pre-COVID-19 seasons.



C. COVID-19 SENTINEL SURVEILLANCE: Due to the low volume of samples currently available through the influenza surveillance system, the COVID-19 sentinel surveillance data may not be accurately portraying COVID-19 activity in our communities. Reporting of the COVID-19 Sentinel Surveillance data will be paused while HODH re-evaluates the program to ensure that the reported data are accurate and representative.

HDOH is continuing to monitor COVID-19 activity throughout the state. To learn more, please visit the Hawaii's COVID-19 data website (*here*). For more information on surveillance of COVID-19 activity in the United States please visit the CDC COVIDView website (*here*).

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

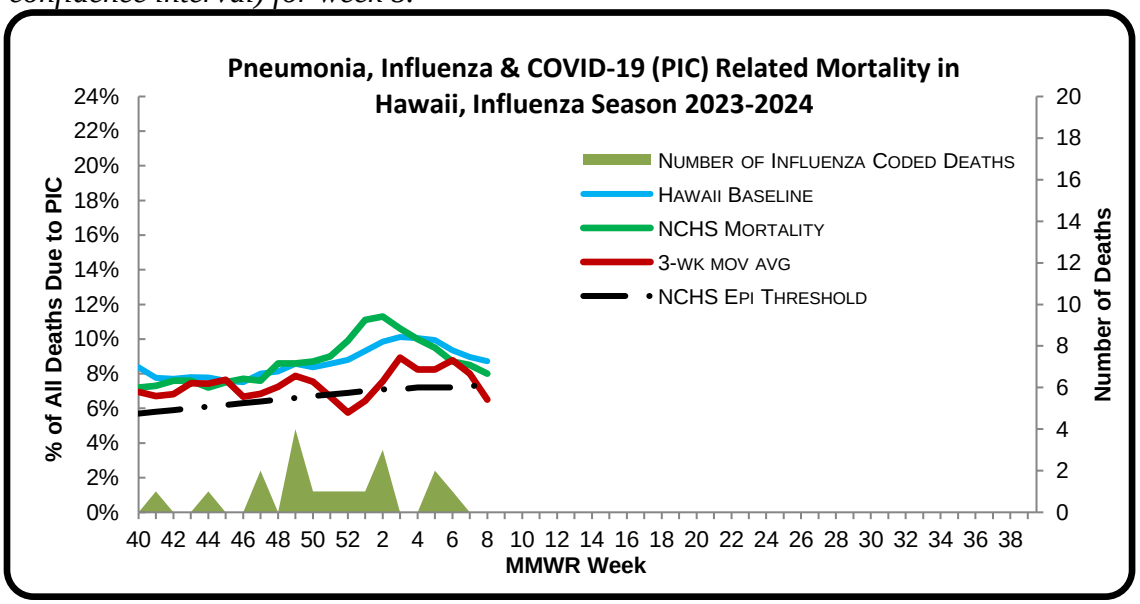
P&I mortality surveillance is collected by CDC through the National Center for Health Statistics (NCHS) using death certificate data. Each week the HDOH OHSM reports specific data from Honolulu to the CDC. CDC collects the following information by age group: the total number of deaths, total deaths from pneumonia, and total deaths related to influenza. Due to the ongoing COVID-19 pandemic, CDC included total deaths from COVID-19 by age group to the death data. Previous studies had suggested that P&I is a good indicator of influenza-related deaths; however, data has shown that pneumonia deaths associated with influenza is now being impacted by COVID-19 related pneumonia. Due to this, CDC had added COVID-19 deaths into P&I to create the PIC (pneumonia, influenza, and/or COVID-19) classification.

To standardize Hawaii's influenza surveillance with CDC influenza surveillance guidelines, PIC deaths will be reported in lieu of P&I. Hawaii's baseline will begin to include PIC deaths starting from 2019-2020 flu season.

For **week 8** of the current influenza season:

- ***4.7%*** *of all deaths that occurred in Hawaii during week 8 were related to pneumonia, influenza or COVID-19 (PIC)*[11]*. For the current season (season to date:* ***7.4%****) there have been 5,449 deaths from any cause, 401 of which were due to PIC*[12]*.*
- *The PIC rate was comparable to the historical baseline in Hawaii*[13] *(i.e., inside the 95% confidence interval).*

The Hawaii PIC rate was comparable to the CDC's National Center for Health Statistics (NCHS) PIC mortality[14] ***(8.0%)*** *(i.e., inside the 95% confidence interval) and comparable to the national epidemic threshold (****7.3****%) (i.e., inside the 95% confidence interval) for week 8.*



[11] The percent of deaths due to PIC displayed on the graph is the 3-week moving averages.

[12] PIC data reflect 58.0% of the data reported for the MMWR week. Changes to data are expected when PIC data reaches 100% completion.

[13] The Hawaii historical baseline (%PIC) is the average of 3-week moving averages over the preceding 10 flu seasons of historical data (2013–2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, and 2022-2023).

[14] 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, influenza, or COVID-19 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 COVID-19 death counts reported by NCHS are provisional and will not match counts in other sources, such as media reports or numbers from health departments. COVID-19 deaths may be classified or defined differently in various reporting and surveillance systems. The percentage of deaths due to pneumonia, influenza, and COVID-19 (PIC) are compared with a seasonal baseline and epidemic threshold value calculated for each week.

INFLUENZA-ASSOCIATED PEDIATRIC DEATHS[15]:

- No new influenza-associated pediatric death was reported to Hawaii. There has been one influenza-associated pediatric death reported in Hawaii during the 2023–2024 season.
- Nationally, two new influenza-associated pediatric deaths were reported to CDC during week 8 (2023-2024 season total: 93).

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 2023–2024 influenza season.*
- *One new human infection with novel influenza A virus, H1N1v (0), H3N2v (0), and H1N2v (1), have been reported to CDC during the 2023–2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Netherlands during the 2023-2024 influenza season.*
    - *One new human infection with influenza A(H1N1v) virus has been reported to WHO from Switzerland during the 2023-2024 influenza season.*
    - *One new human infection with influenza A(H1N2v) virus has been reported to WHO from Great Britain and Northern Ireland during the 2023-2024 influenza season.*

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 15th, 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

[15] 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.

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 21, 2023**.

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 2023–2024 Influenza Vaccine**:**

The composition of the 2023–2024 influenza vaccine has been updated to better match circulating influenza viruses. The Advisory Committee on Immunization Practices (ACIP) has recommended that the 2023–2024 influenza trivalent vaccine contain an influenza A/Wisconsin/67/2022 (H1N1)pdm09-like virus, influenza A/Darwin/6/2021 (H3N2)-like virus, and influenza B/Austria/1359417/2021-like virus (B/Victoria lineage). 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/Wisconsin/67/2022 (H1N1)pdm09-like virus, an influenza A/Darwin/6/2021 (H3N2)-like virus, an influenza B/Austria/1359417/2021-like virus (B/Victoria lineage), 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.

Centers for Disease Control and Prevention	General Influenza National ILI and P&I Data Vaccine Virus Selection CDC Web Tool for Respiratory Viruses
Flu.gov	General Influenza Information
HDOH Flu and Pneumonia	General Influenza Surveillance To find out more information or join the sentinel physician program, email the Influenza Surveillance Coordinator
World Health Organization	General Global and Local Influenza Avian Influenza

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	2020	2021	2022	2023	2024
1	1/4/2020	1/9/2021	1/8/2022	1/7/2023	1/6/2024
2	1/11/2020	1/16/2021	1/15/2022	1/14/2023	1/13/2024
3	1/18/2020	1/23/2021	1/22/2022	1/21/2023	1/20/2024
4	1/25/2020	1/30/2021	1/29/2022	1/28/2023	1/27/2024
5	2/1/2020	2/6/2021	2/5/2022	2/4/2023	2/3/2024
6	2/8/2020	2/13/2021	2/12/2022	2/11/2023	2/10/2024
7	2/15/2020	2/20/2021	2/19/2022	2/18/2023	2/17/2024
8	2/22/2020	2/27/2021	2/26/2022	2/25/2023	2/24/2024
9	2/29/2020	3/6/2021	3/5/2022	3/4/2023	3/2/2024
10	3/7/2020	3/13/2021	3/12/2022	3/11/2023	3/9/2024
11	3/14/2020	3/20/2021	3/19/2022	3/18/2023	3/16/2024
12	3/21/2020	3/27/2021	3/26/2022	3/25/2023	3/23/2024
13	3/28/2020	4/3/2021	4/2/2022	4/1/2023	3/30/2024
14	4/4/2020	4/10/2021	4/9/2022	4/8/2023	4/6/2024
15	4/11/2020	4/17/2021	4/16/2022	4/15/2023	4/13/2024
16	4/18/2020	4/24/2021	4/23/2022	4/22/2023	4/20/2024
17	4/25/2020	5/1/2021	4/30/2022	4/29/2023	4/27/2024
18	5/2/2020	5/8/2021	5/7/2022	5/6/2023	5/4/2024
19	5/9/2020	5/15/2021	5/14/2022	5/13/2023	5/11/2024
20	5/16/2020	5/22/2021	5/21/2022	5/20/2023	5/18/2024
21	5/23/2020	5/29/2021	5/28/2022	5/27/2023	5/25/2024
22	5/30/2020	6/5/2021	6/4/2022	6/3/2023	6/1/2024
23	6/6/2020	6/12/2021	6/11/2022	6/10/2023	6/8/2024
24	6/13/2020	6/19/2021	6/18/2022	6/17/2023	6/15/2024
25	6/20/2020	6/26/2021	6/25/2022	6/24/2023	6/22/2024
26	6/27/2020	7/3/2021	7/2/2022	7/1/2023	6/29/2024
27	7/4/2020	7/10/2021	7/9/2022	7/8/2023	7/6/2024
28	7/11/2020	7/17/2021	7/16/2022	7/15/2023	7/13/2024
29	7/18/2020	7/24/2021	7/23/2022	7/22/2023	7/20/2024
30	7/25/2020	7/31/2021	7/30/2022	7/29/2023	7/27/2024
31	8/1/2020	8/7/2021	8/6/2022	8/5/2023	8/3/2024
32	8/8/2020	8/14/2021	8/13/2022	8/12/2023	8/10/2024
33	8/15/2020	8/21/2021	8/20/2022	8/19/2023	8/17/2024
34	8/22/2020	8/28/2021	8/27/2022	8/26/2023	8/24/2024
35	8/29/2020	9/4/2021	9/3/2022	9/2/2023	8/31/2024
36	9/5/2020	9/11/2021	9/10/2022	9/9/2023	9/7/2024
37	9/12/2020	9/18/2021	9/17/2022	9/16/2023	9/14/2024
38	9/19/2020	9/25/2021	9/24/2022	9/23/2023	9/21/2024
39	9/26/2020	10/2/2021	10/1/2022	9/30/2023	9/28/2024
40	10/3/2020	10/9/2021	10/8/2022	10/7/2023	10/5/2024
41	10/10/2020	10/16/2021	10/15/2022	10/14/2023	10/12/2024
42	10/17/2020	10/23/2021	10/22/2022	10/21/2023	10/19/2024
43	10/24/2020	10/30/2021	10/29/2022	10/28/2023	10/26/2024
44	10/31/2020	11/6/2021	11/5/2022	11/4/2023	11/2/2024
45	11/7/2020	11/13/2021	11/12/2022	11/11/2023	11/9/2024
46	11/14/2020	11/20/2021	11/19/2022	11/18/2023	11/16/2024
47	11/21/2020	11/27/2021	11/26/2022	11/25/2023	11/23/2024
48	11/28/2020	12/4/2021	12/3/2022	12/2/2023	11/30/2024
49	12/5/2020	12/11/2021	12/10/2022	12/9/2023	12/7/2024
50	12/12/2020	12/18/2021	12/17/2022	12/16/2023	12/14/2024
51	12/19/2020	12/25/2021	12/24/2022	12/23/2023	12/21/2024
52	12/26/2020	1/1/2022	12/31/2022	12/30/2023	12/28/2024
53	01/02/2021				