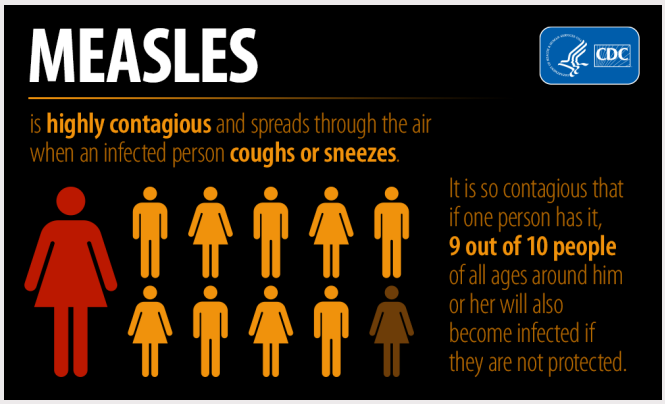
Hawaii Epi Bulletin

HAWAII STATE DEPARTMENT OF HEALTH
DISEASE OUTBREAK CONTROL DIVISION

Spring 2019

Measles on the Mainland

As of May 24, 2019, there have been 940 confirmed cases of measles reported from 26 states on the mainland United States. This is the largest number of confirmed cases reported in the United States since 1994 (measles was declared eliminated, defined as the absence of continuous disease transmission for 12 months or more in a specific geographic area, in the United States in 2000). Previously, the largest number of cases was reported in 2014 when 667 confirmed cases were reported from 23 separate outbreaks.



Measles is a highly contagious respiratory disease that can spread from person-to-person through coughing and sneezing. The virus can also survive in the air or on surfaces for up to two hours and can infect others if they breathe the air or touch a contaminated surface then touch their eyes, noses, or mouths. Symptoms of measles usually appear one to two weeks after infection and most commonly include a high fever, cough, runny nose, and red, watery eyes. In some cases, tiny white spots called Koplik spots may appear in the mouth. Several days after the symptoms begin, a rash appears, generally spreading from the head to the body and limbs. While many recover from measles, infection can lead to serious complications including pneumonia, hearing loss, and encephalitis. In some rare cases, the fatal disease known as subacute sclerosing panencephalitis (SSPE) can develop years after the initial infection.

The most effective way to prevent measles is through the MMR vaccine, which also protects against mumps and rubella. CDC recommends children receive two doses of the MMR vaccine, the first between ages 12–15 months and the second dose between ages 4–6 years. It is also recommended that teens and adults should make sure their vaccinations are up-to-date.

Click here to find a vaccinating pharmacy or clinic near you

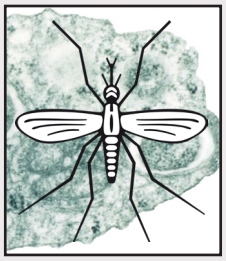
World Hand Hygiene Day

May 5, 2019, was world hand hygiene day. One of the best and easiest ways of keeping yourself healthy and preventing the spread of germs is by keeping your hands clean. You should routinely wash your hands, especially before or after certain activities such as preparing foods, using the restroom, caring for someone who is sick, or after blowing your nose. Wash your hands using soap and water, but if soap and water are not available, an alcohol-based hand sanitizer that contains at least 60% alcohol can also be used.

To learn more about hand hygiene, go here.

New Technology in the Fight Against Mosquito-Borne Diseases: *Wolbachia* Bacteria

The Coordinator's Corner
Arboviral Diseases

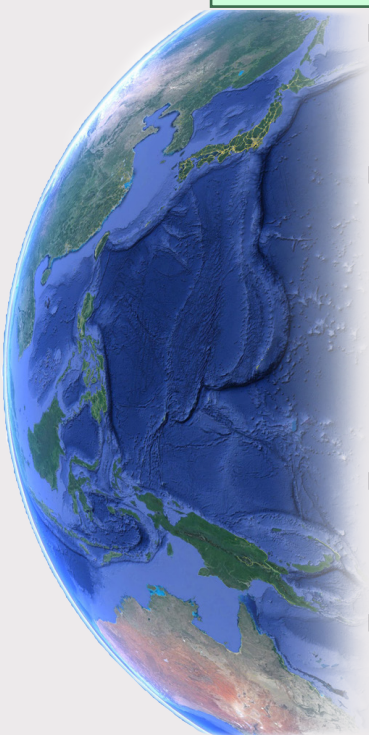


While mosquitoes are not native to Hawaii, there are currently six known invasive species of biting mosquitoes found throughout the state. Some, such as *Aedes aegypti* and *Aedes albopictus*, are of particular concern to the Department of Health as they have the potential to transmit human pathogens or arboviruses, including dengue, Zika, and chikungunya viruses. While traditional mosquito control methods, such as chemical insecticides and removing standing water containers that serve as mosquito breeding sites, have long been used to prevent and control disease outbreaks, many new technologies are being developed to assist in the prevention and control of these dangerous pathogens and their mosquito vectors. One such widely researched technology is the use of *Wolbachia* bacteria.

Wolbachia are gram-negative bacteria found in the microbiome of approximately half of all insects, including many residing in Hawaii. Because they are highly specialized, they are harmless to both humans and Hawaii's wildlife. However, the various traits of these naturally occurring bacteria can be harnessed by researchers to achieve desired outcomes. For example, a unique *Wolbachia* species found within one insect, such as a common fruit fly, can be injected into another, such as an *Aedes* mosquito, to help prevent the transmission of mosquito-borne diseases. This process of injecting *Wolbachia* bacteria into mosquitoes and then releasing those mosquitoes into the environment can potentially be used to control arboviral diseases in two separate ways: reducing the overall population of mosquitoes or reducing the mosquito's ability to transmit arboviral diseases, and thereby control outbreaks.

With the first technique, referred to as "mosquito birth control," female mosquitoes are prevented from developing viable offspring. Male mosquitoes are injected with a specific *Wolbachia* species and are released to mate with wild females. Because these mating mosquitoes contain incompatible *Wolbachia* species, the females cannot reproduce. This type of population suppression is being implemented to protect human health in places like California and Florida. A similar *Wolbachia* project could have the potential to protect Hawaii's native birds from avian malaria, a disease that has decimated or caused the extinction of many species of Hawaii's native forest birds, including the Hawaiian honeycreepers. With the second technique, injecting mosquitoes with another species of *Wolbachia* can limit arboviral replication within mosquitoes. This has the potential to reduce mosquitoes' ability to transmit these arboviral diseases. This technique is currently being implemented in places like Australia and Vietnam.

Updates from the Pacific



Influenza

- As of May 9, 2019 a health alert for influenza-like illness was declared in the **Republic of the Marshall Islands** as a result of the number of ILI cases exceeding the threshold. Influenza B Victoria lineage has been confirmed in several of the cases.

Dengue

- As of April 27, 2019, the **Cook Islands** have reported 18 confirmed cases of DENV-1 and 21 probable cases.
- There have been 216 cases of dengue, including 28 confirmed cases, reported from **Vanuatu** as of April 16, 2019. Several cases tested positive for DENV-2.
- Between December 1, 2018, and May 26, 2019, there have been 196 cases of dengue reported from **Palau**. DENV-3 has been identified in the cases.
- A DENV-1 outbreak is currently ongoing in **Tuvalu**.

Rotavirus

- An outbreak of diarrheal illness associated with rotavirus infection has been reported in **Majuro**. As of April 18, 2019, 237 cases have been reported with rotavirus identified in 36 of 50 specimens tested by rapid test.

Diphtheria

- Two confirmed cases of diphtheria in infants were reported from **Vanuatu** in early January. As of February 20, 2019, three of 30 contacts of the infants had diphtheria bacteria isolated from specimens.

HDOH Hawaii Health Care Provider Disease Reporting Categories

Confidential

Infections/diseases which may carry a social stigma are to be reported with extra precautions to assure patient confidentiality. Reports are to be submitted within three working days of diagnosis.

Urgent

Diseases or conditions that are suspicious or presenting with novel symptoms that may or may not be part of a known disease or disease complex, labeled "urgent" shall be reported by telephone as soon as a provisional diagnosis is established.

The telephone report shall be followed by a written report submitted by mail or fax within three days to the Disease Outbreak Control Division, Disease Investigation Branch on Oahu or to the District Health Office on the neighbor islands.

Routine

Diseases labelled "routine" shall be reported by mail, by telephone, or fax to the Disease Outbreak Control Division, Disease Investigation Branch on Oahu or to the District Health Office on the neighbor islands.

Routine/Enteric (enteric prevention priority)

Diseases labeled "routine—enteric prevention priority" shall be reported by telephone as soon as a working diagnosis is established if the individual case is a food handler, direct care provider, or pre-school-aged child. Otherwise, routine reports may be submitted.

Outbreak Reports

Any disease shall be reported by telephone when observed to occur clearly in excess of normal expectancy as determined by the healthcare provider or the Director of Health. The telephone report shall be followed by a written report submitted by mail or fax within three days to the Disease Outbreak Control Division, on Oahu, or to the District Health Office on the neighbor islands.

HDOH Telephone Numbers

Oahu (Disease Investigation Branch)
(808) 586-4586

Maui District Health Office
(808) 984-8213

Kauai District Health Office
(808) 241-3563

Big Island DHO (Hilo)
(808) 933-0912

Big Island DHO (Kona)
(808) 322-4877

After hours (Oahu)
(808) 600-3625

After hours (Neighbor islands)
(808) 360-2575

Hawaii State Department of Health