



HAWAII STATE
DEPARTMENT
OF HEALTH

Section 3. DISEASE SURVEILLANCE AND INVESTIGATION

Objective

This section describes the authorities and activities used in Hawaii to detect and characterize diseases caused by pathogens of national and global concern, as well as generate epidemiologic information to inform public health measures to control and prevent transmission.

Assumptions

HAR §11-156 (Communicable Diseases) directs all healthcare providers and laboratories to report, by the methods described in the chapter, any diseases and agents declared by the Director of Health to be “communicable and dangerous to the public health.” This reporting requirement includes “any communicable disease not [specifically] listed...occurring beyond usual frequency, or of unusual etiology.” Further, reporting is required whether a healthcare provider has definitively diagnosed a patient or suspects a diagnosis “in the absence of definitive test results for confirmation.”

HRS §321-29 (Epidemiologic Investigations) states that HDOH will “conduct investigations to determine the nature and extent of diseases and injuries deemed by the department to threaten the public health and safety.” Every person or entity with information relevant to HDOH epidemiologic investigations is therefore required under this authority to provide that information when requested by HDOH.

DOCD, under the direction of the State Epidemiologist or designee, is responsible for leading and coordinating all epidemiologic surveillance for and investigations of diseases that pose a public health threat or emergency. All information collected by HDOH as part of epidemiologic investigations is “kept strictly confidential, except as the director determines is necessary to protect the public health and safety.” Access to confidential information is restricted to authorized HDOH personnel and others deemed necessary to protect the public’s health. Generally, only non-identifying information may be released to the public.

Procedures

DOCD will conduct the following actions as described with surge capacity support as needed and possible.

Surveillance

- Communicate with other states, federal colleagues, and other relevant public health partners to monitor the disease activity occurring outside the State, especially that which may have direct and indirect implications for the State’s response and public health.
- Monitor surveillance reports (e.g., from CDC or the World Health Organization [WHO]) to better understand and prepare for any potential impacts on the State
- Adopt the Council of State and Territorial Epidemiologists (CSTE) surveillance case definition¹ once established to ensure appropriate standardized identification and

¹ https://cdn.ymaws.com/www.cste.org/resource/resmgr/2020ps/interim-20-id-01_covid-19.pdf

reporting.

- Maintain routine surveillance activities to detect and monitor for the pathogen of concern and disease threat:
 - Monitor and verify disease reports from clinical providers.
 - Monitor and analyze data received via the electronic laboratory reporting (ELR).
 - For a respiratory pathogen such as influenza, SARS-CoV, or MERS-CoV, use the influenza surveillance framework:
 - Influenza-like illness (ILI)² sentinel surveillance network³—type of syndromic surveillance⁴
 - Monitor weekly numerator data of all ILI visits and denominator data of total all-cause visits provided by volunteer clinical providers located throughout the state; may suggest burden of disease activity.
 - Specimens from ILI visits directed to State Laboratories Division (SLD) for respiratory pathogen panel (RPP) testing to detect routine respiratory pathogens; testing for pathogen of concern (e.g., COVID-19) will be added; findings may suggest geographic scope of disease activity.
 - ILI cluster surveillance—monitor for and investigate any reports of ILI cluster occurring in any long-term care facilities (LTCFs) or school; all required to report any ILI cluster (persons with ILI around the same time and place).
 - Pneumonia & influenza mortality (P&I) surveillance—pneumonia serves as proxy for the pathogen of interest, whether flu or COVID-19; monitor for any increase in mortality compared with average of previous 5 and possibly 10 years to identify potentially increasing severity of disease.
 - Surveillance for severe, unexplained illness—monitor for any reports regarding emergency department or intensive care unit patients with severe, unexplained respiratory illness for specimen testing at SLD (RPP, testing for pathogen of concern [e.g., COVID-19]).
 - International air traveler passive surveillance—current federal law requires commercial airlines to report incoming ill passengers from international origins to port of entry; since October 2005, HDOH has collaborated with CDC Honolulu Quarantine Station, HNL medical group, Department of Transportation/Airports, and U.S. Customs and Border Protection to obtain clinical, epidemiologic, and contact information as well as collect specimens, on voluntary basis, from travelers meeting ILI

² Fever or history of fever of 38°C (100.4°F) or greater plus sore throat or cough.

³ <https://www.cdc.gov/flu/weekly/overview.htm> (2. Outpatient Illness Surveillance); <https://health.hawaii.gov/docd/about-us/programs/hawaiis-influenza-surveillance-program/> (How can clinical providers help contribute to Hawaii's Influenza Surveillance Program?)

⁴ Refers to methods relying on detection, in near real time or real time, of individual and population health indicators that are discernible before confirmed diagnoses are made.

clinical criteria; all specimens tested at SLD by RPP; testing for pathogen of concern (e.g., COVID-19) will be added; therefore monitor for potential introductions of concern.

- Employ enhanced surveillance activities as needed to gain more accurate or complete understanding of potential disease activity entering or occurring in the State. Examples of such activities include:
 - Port of entry surveillance—to further monitor for potential introductions of concern; this type of surveillance is only surveillance, not a means to identify and capture all infected persons as those in the incubation phase may not be identified; this type of surveillance may not be pursued or prioritized once pathogen recognized to circulate widely within the State as staffing and resources refocused then on community-wide mitigation efforts and incoming travel likely to be limited.
 - Air. While active screening of all air passengers poses many challenges (e.g., many staff, adequate space, resources, etc.), this type of surveillance may be modified from the routine passive surveillance system (noted above) and/or expanded (e.g., to include all airports as well as domestic flights) to facilitate identifying introduction of pathogen of concern in Hawaii.
 - Water. Current federal law requires all ships to report any health issues to the Coast Guard in advance of arriving at the intended seaport. Further, passenger ships must report disease activity to CDC (international) or the US Food and Drug Administration (FDA; interstate). If needed, a similar surveillance to that described above with air partners may be employed under similar circumstances.
 - Hospital admission and emergency department surveillance—syndromic surveillance to determine the general pattern of disease activity through collection of hospital admission and emergency department visit data based on defined set of symptoms and/or criteria; previously engaged each respective healthcare facility's infection preventionist (IP); will pursue establishing electronic syndromic surveillance system (i.e., CDC ESSENCE⁵) to more efficiently collect necessary data.
 - Emergency medical services encounters surveillance—syndromic surveillance for transports of persons with ILI-type illness to determine potential pattern of disease activity, especially if increased; collaboration of Disease Outbreak Control Division with the Emergency Medical Services System and Injury Prevention Branch.
 - LTCF surveillance—expansion of routine surveillance as needed; monitor for illness clusters via active monitoring of illness among healthcare workers (HCWs) and staff in LTCFs; illness among LTCF residents may be subtle and not readily detected, therefore call and inquire with all LTCF IPs regularly, with focus

⁵ <https://www.cdc.gov/nssp/biosense/index.html>

especially on high priority (i.e., at risk) LTCFs based on Centers for Medicaid and Medicare Services indicators; low threshold to test patients and staff where signs suggest a potential concern; review case data to determine other potential signs that may serve as indicators of concern to prompt testing.

- Serological surveillance—should an FDA approved and CDC validated serological (i.e., antibody) assay become available, consider a statewide serosurvey between pandemic waves to contribute to determining scope of disease spread caused by the immediately previous pandemic wave. Methodology for serosurvey may be determined according to guidance to states from CDC, and at the very least should involve sampling on all islands targeting especially vulnerable population and where the population is most dense.
- Nontraditional data sources—monitor internet and social media activity to gauge areas of public concern and potential gaps in public information.

Investigation

- Use known information to establish criteria or use the established CSTE case definition to identify suspect cases for investigation and determine conditions for risk of exposure.
- When the pathogen of concern has not yet been introduced or is not yet widely circulating in the State, follow-up every reported suspect and confirmed case in person, by phone, and/or electronically as appropriate to:
 - Verify and confirm potential disease activity.
 - Identify potential case contacts who may be at risk—i.e., contact tracing.
 - Use digital application (i.e., HealthSpace, see appendix) to augment contact tracing and monitoring efforts
 - If HCWs identified as cases, work with the affected healthcare facility to provide technical guidance regarding infection control and support or delegate contact tracing and monitoring of affected HCWs, staff, and patients under DOCD supervision
 - Identify persons who require isolation (i.e., confirmed cases) and those who require quarantine (i.e., close contacts⁶ exposed to the confirmed case)
 - If the possibility exists for the pathogen or disease to involve an environmental vehicle, determine potential environmental exposures that may need to be considered for control (e.g., product embargo).
 - Determine scope of pathogen transmission and/or disease activity.
- When the pathogen or disease of concern is circulating in the State:
 - As long as feasible with current and available surge (see below) staff, continue investigations and contact tracing, especially if community mitigation measures (e.g., extreme social distancing measures such as shelter in place) have been engaged to support slowing disease spread

⁶ For COVID-19, defined as being within 6 feet for a period of 10 minutes to 30 minutes or more depending upon the exposure. In healthcare settings, this may be defined as exposures of greater than a few minutes or more. Data are insufficient to precisely define the duration of exposure that constitutes prolonged exposure and thus a close contact.

- When disease spread continues to increase such that the median cases per day continues to at least double each week for 2 maximum incubation periods of the disease of concern, consider limiting investigations to focus on potential introduction in new areas of the State (e.g., island with no previous activity) and/or characterize a large or unusual outbreak of the disease (e.g., affecting a specific population subset). At this point, disease control should focus primarily on strict community-wide mitigation measures.

Surge staffing

- When disease threat is indicated as imminent, review, monitor, and mobilize all DOCD staff as needed to determine surge support from other program areas of DOCD.
- When call (i.e., inquiries for general information) volume for the Officer of the Day or Standby Officer exceeds normal weekly call volume (2019: 0–24/wk, median 10/wk) such that DOCD is receiving greater than 50 calls/wk, activate call support from 2-1-1.
- If calls to DOCD continue to increase despite 2-1-1 activation and/or burden of disease investigation of suspect cases is such that assignments to DOCD⁷ investigators including those from other areas of DOCD exceed 5 new case assignments/investigator/day, request surge staffing from within DOH, starting with the Public Health Nursing (PHN) Branch and then the STD/HIV Program.
 - Surge staff will be arranged in a hub and spoke model, such that DOCD and STD/HIV (once oriented and experienced) Epidemiological Specialists will be the hubs, coordinating the spokes, i.e., Epidemiological Specialist Extenders (e.g., PHNs).
 - Theoretically, each hub may have a maximum of 5–7 Extenders, but ideally 3.
- The same hub-spoke model would be used for the Infection Control and Prevention Team for contact tracing in healthcare facilities when cases among healthcare workers identified.
 - Hubs: DOCD Healthcare Associated Infection and Antimicrobial Resistance Epidemiologists with potential surge support from other Surveillance Epidemiologists.
 - Spokes: Immunization Branch RN, PHNs, student nurses, medical residents, etc.
- If the pace of new case assignments per day continues at 5/investigator for >1 week or increases, seek surge staffing outside the Department.
 - Initially may use volunteers via the Medical Reserve Corps and universities (e.g., student nurses, medical residents, etc.)
 - Federal or other emergency funds anticipated to support response
 - Rapid hire staff (e.g., via The Research Corporation of the University of Hawaii, contract staffing) identified through the University of Hawaii Community Health Worker program
 - Number of maximum investigations and monitoring staff (including DOCD and DHOs—i.e., statewide)

⁷ Including District Health Office (DHO) investigators



- Epidemiological Specialists, including surge staffing from STD/HIV Program: up to 23
- Plus, ideal number of Extenders: 69
- If maximum number of Extenders: 115–161
- Consider, surging up to the maximum staffing would mean handling up to 920 new cases per day, a rate not actually tenable to try to achieve disease control only by contact tracing as very likely ICU and bed capacity would have been surpassed long before that point. At 200 or even 50 new cases per day, strict social distancing measures will be required to more effectively curtail the disease activity.