

Office of Origin: Hospital Epidemiology and Infection Prevention (HEIP)

I. PURPOSE

- A. To provide a framework to support the healthcare organization in the identification and mitigation of a suspected or confirmed infectious disease or healthcare-associated infection outbreak. This policy provides the steps necessary to investigate and confirm the outbreak, implement control measures, educate personnel, and communicate the findings to key stakeholders.
- B. To define the role of Hospital Epidemiology & Infection Prevention (HEIP) in monitoring, identifying, and investigating clusters/outbreaks of infectious diseases within the healthcare facility.

II. REFERENCES

- A. [CDC Guide to Confirming an Etiology in Foodborne Disease Outbreak](#)
- B. [CDPH Pathogen Specific Quicksheets](#)
- C. [CORHA/CSTE Proposed Investigation/Reporting Thresholds and Outbreak Definitions for COVID-19 in Healthcare Settings \(2022\)](#)
- D. [CORHA Principles and Practices for Healthcare Outbreak Response, 2024](#)
- E. [San Francisco Department of Public Health \(SFPDH\) Disease Prevention and Control](#)
- F. SHEA Practical Healthcare Epidemiology, 4th Edition (2018)
- G. [The Joint Commission \(TJC\) Standards. Requirements for Infection Prevention and Control for Critical Access Hospitals and Hospitals. Revised July 1st, 2024.](#)
- H. [World Health Organization Global Outbreak Alert and Response Network \(GOARN\)](#)
- I. [UCSF Medical Center Respiratory Protection Program](#)

III. DEFINITIONS

- A. **Case Definition:** specifies the clinical, laboratory, and epidemiologic characteristics of a disease or condition and provides criteria for determining whether a patient under investigation has the specific infectious disease of interest.
- B. **Outbreak or Cluster:** The occurrence of more cases of disease than expected in a given area or among a specific group of people over a particular period of time. Cluster/outbreak will be referred to as outbreak throughout this policy.
- C. **Horizontal control measures:** Broad-based interventions that attempt to reduce all infections due to all pathogens. Examples include improving hand hygiene and environmental cleaning.
- D. **Line List:** A list used to record confirmed cases of an infectious disease that organizes demographic data, clinical risk factors, host information, date of symptom onset and other relevant factors.
- E. **Vertical control measures:** Prevention programs that focus on a single pathogen.

IV. POLICY

- A. Hospital Epidemiology and Infection Prevention (HEIP) manages the prevention and control of infectious diseases in the hospital setting, including the development of policies and procedures that will aid in the prevention and control of healthcare-associated infections.

- B. The healthcare organization shall use this policy as a framework for investigating and responding to suspected or confirmed infectious diseases outbreaks.
- C. HEIP has the authority to lead and coordinate the investigation and response to suspected or confirmed infectious diseases outbreaks using the procedures outlined in this policy with the support and collaboration of UCSF Medical Center/Health leadership and appropriate key stakeholder groups in order to control and prevent healthcare-associated infectious diseases outbreaks.

V. PROCEDURES

- A. Hospital Epidemiology and Infection Prevention (HEIP) takes a lead role to:
 - 1. **Identify and respond to infectious diseases outbreaks, epidemics and pandemics.**
 - 2. **Provide guidance on institutional competency-based training for staff to be able to identify and respond to patients who may present with symptoms of infectious diseases in order to prevent transmission in the healthcare setting.**
 - 3. **Monitor global, regional, and local infectious disease threats.**
 - 4. **Recommend and ensure implementation of measures to contain and mitigate the spread of infectious disease threats within the healthcare system.**
- B. HEIP will organize and implement an outbreak response using the following framework:
 - 1. **Validate the existence of an outbreak:**
 - a. Determine if there is an increase in the number of cases compared to what is expected based on historical or benchmark data.
 - b. Review microbiological or historical surveillance data.
 - c. Consult with public health or other experts, as needed, to assess the likelihood of an outbreak.
 - d. HEIP will use this information to determine the likelihood of a potential outbreak and will initiate an investigation and/or start corrective action, if appropriate.
 - 2. **Assemble a technical advisory group (TAG) comprised of subject matter experts to support/manage the facility's outbreak response.**
 - a. Identify a team lead
 - i. Team lead is typically an HEIP Medical Director
 - b. Invite key stakeholders to be a part of the TAG:
 - i. Stakeholders included in the TAG will depend on the specific outbreak situation but may include but are not limited to:
 - (a) Infection preventionists
 - (b) Infectious diseases clinicians
 - (c) Risk Management
 - (d) Legal counsel

- (e) Clinical Microbiology Laboratory
 - (f) Nursing leadership
 - (g) Physician leadership
 - (h) Occupational Health Services
 - (i) Pharmacy
 - (j) Patient Safety
 - (k) Regulatory Affairs
 - (l) Environment, Health and Safety
 - (m) UCSF Medical Center leadership
 - (n) Media Relations
 - (o) San Francisco Department of Public Health (SFDPH) and/or other public health agencies, as needed
 - ii. The TAG team lead will set the frequency for ongoing meetings (typically weekly until transmission is controlled).
 - iii. TAG members will prepare and distribute patient notifications, if appropriate.
 - iv. TAG members will implement interventions to control identified outbreaks.
 - v. TAG members will monitor adherence to intervention strategies and new case surveillance to assess outbreak control status.
 - vi. TAG members will ensure that UCSF Medical Center/Health leadership are notified of the outbreak and promptly updated as circumstances evolve.
 - vii. TAG members will determine whether input and guidance are needed from external subject matter experts.
3. **Verify the diagnosis for reported cases:**
- a. HEIP will work with clinical teams and the Clinical Microbiology Lab to verify the diagnosis of reported events before including them as cases in an outbreak investigation.
 - i. Investigation of a diagnosis may include:
 - (a) Medical record review
 - (b) Discussion with the healthcare providers caring for suspected cases
 - (c) Reviewing case reports of clinical presentations for the infection of interest

- (d) Reviewing lab results and other clinical reports
 - (e) Characterizing signs and symptoms of possible cases
 - (f) Comparing antimicrobial susceptibility results, if applicable
 - (g) Review of reports from local, state, and federal public health agencies
4. **Determine the most likely etiologic agent, source and method of spread:**
- a. Create a case definition and review appropriate data sources to identify additional cases:
 - i. HEIP will provide expertise to create the initial case definition.
 - ii. Depending on the situation, the case definition can be applied retrospectively to review lab reports, surveillance records and medical records to identify additional cases that should be considered as part of the outbreak.
 - iii. If necessary, request additional lab specimens and diagnostic testing to identify additional cases.
 - iv. Notify Clinical Microbiology Laboratory to save relevant isolates, if applicable.
 - v. Assess the necessity and potential benefits of whole genome sequencing (WGS) or metagenomic next-generation sequencing (mNGS) in collaboration with the Chan Zuckerberg.
 - b. HEIP will characterize cases by person, place, and time by:
 - i. Creating a line list of confirmed and suspected cases.
 - ii. Plotting confirmed cases on an epidemic curve, if applicable.
 - iii. Calculating attack rates.
 - iv. Presenting a summary of the data and analyses to the TAG.
 - v. Conducting prospective surveillance and continuing to track additional cases.
 - vi. Conducting a case-control analysis to identify possible risk factors, if applicable.
 - vii. Utilize the SBAR format for documentation of all activities/interventions and results of all outbreak investigations.
 - c. HEIP will conduct an environmental investigation if appropriate, including:
 - i. following existing standard operating procedures to perform an environmental investigation.
 - ii. Utilizing Environment, Health and Safety expertise and commercial laboratories certified for environmental sampling analysis, as needed.
 - iii. Reporting the results of the environmental investigation to the TAG and other relevant stakeholders.

- d. Establish a Test Hypothesis based on all information collected in the investigation.
 - i. Using the generated hypothesis, work with the TAG to establish control measures that can be implemented to address the outbreak.
5. **HEIP will use the information generated by the investigation to guide implementation of appropriate control measures to interrupt transmission and manage the outbreak.**
 - a. Implement appropriate horizontal and vertical control measures.
 - b. Recommend strategies for outbreak management based on the specific pathogen, its likely mode of transmission, and observed patient care and supporting ancillary staff practices, which may include but are not limited to:
 - i. Use of personal protective equipment.
 - ii. Patient placement, transport, and discharge practices.
 - iii. Implementation of transmission-based isolation precautions.
 - iv. Contact tracing of patients and/or staff.
 - v. Post-exposure prophylaxis, if indicated.
 - vi. Enhanced environmental cleaning and disinfection procedures.
 - vii. Enhanced isolation protocols (e.g., additional isolation precautions for at-risk patients and/or extended isolation periods)
 - viii. Active surveillance (routine or point prevalence surveys for patients and/or staff).
 - ix. Cohorting of affected patients.
 - x. Increased frequency of audits of personal protective equipment use and hand hygiene compliance.
 - c. If new cases occur after the implementation of control measures, work with the TAG to re-evaluate and revise the strategies needed.
 - d. Document all interventions and ensure changes in control measures are also clearly documented in all policies and procedures.
 - e. The decision to end an outbreak investigation should be made in collaboration with local public health authorities.
6. **Communicate the necessary information to key stakeholders as appropriate to the situation, including, but not limited to, healthcare personnel, patients, leadership, and public health agencies.**
 - a. Ensure that an outbreak is reported to public health authorities (e.g., SFDPH, CDPH) within the specified time frames determined by the regulations of the jurisdiction.
 - b. Regularly update hospital leadership and additional internal stakeholders (such as affected departments and personnel) including through status briefings, town halls, department meetings, and electronic communications, as appropriate.
 - i. Communications may include updated case counts, epidemic curves, key outcomes and process measures.

- c. Help to ensure that communications to patients and the community are guided by the TAG and, if appropriate, public health agencies.
- d. Final SBAR Communication: Compile a final outbreak summary highlighting strategies necessary to prevent future occurrences in the SBAR format (Situation – Background – Assessment – Recommendations).
 - i. Distribute a final SBAR summary to UCSF Medical Center/Health leadership, unit leadership, and other stakeholders, detailing ongoing intervention strategies and final actions.

VI. RESPONSIBILITY

- A. Hospital Epidemiology and Infection Prevention (HEIP)

VII. HISTORY OF POLICY

- A. Issued 11/2024

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