**PURPOSE:**

Outbreaks can occur in healthcare settings, communities, regions, or even on a global scale. Regardless of scope, investigation of a potential outbreak follows certain epidemiological components. The ultimate goal of an outbreak investigation is to identify probable contributing factors and to stop or reduce the risk of future occurrences. The purpose of this policy is to establish guidelines to follow when the occurrence of a nosocomial outbreak is suspected.

**PROCEDURES:**

1. **Investigation Procedures**

The importance and sequence of the various steps will vary depending on the nature of the problem. Steps often occur simultaneously. Elements of an outbreak investigation include the following:

* 1. **Prepare for the investigation**:
     1. Advise microbiology to save specimens and isolates from antimicrobial susceptibility testing, molecular and non-molecular typing for duration of outbreak
  2. **Confirm existence of outbreak:** 
     1. Confirm identification of affected patients;
     2. Review case characteristics (time, place, person)
        1. Develop a case definition and use it to estimate the magnitude of the problem. The case definition may change as new information is gathered.
        2. Determine if the cases identified represent a significant increase in infections over the baseline rate for that unit or work area.
     3. Develop a linelist of affected patients with important indicators (depending on the exposure) and case demographics. Infection Prevention & Control team to confer with Medical Director of Infection Prevention & Control to determine whether the cluster of cases represents an outbreak and whether a report to Los Angeles County Health Department and California Department of Public Health is warranted.
  3. **Communication following the confirmation of outbreak:** 
     1. Communicate findings with microbiology managers/staff, CS directors/managers, medical staff, and other department managers as needed.
     2. Infection Prevention will be responsible for communication to leadership both in and out of the unit or patient care area on a regular basis during the outbreak investigation. Depending on the nature of the outbreak, communication could include daily calls or weekly emails.
  4. **Institute appropriate infection control measures and monitor their effectiveness:** 
     1. Measures may include increased attention to hand hygiene, additional use of barrier precautions, and other measures as indicated.
  5. Depending on the severity of the outbreak, activation of the Hospital Incident Command System may be warranted.
  6. **Search for additional cases; collect critical data; develop a line listing.** 
     1. Encourage immediate reporting of new cases by laboratory, physicians, nursing staff and others as appropriate.
     2. Continue to communicate with stakeholders.
  7. **Characterize cases of disease by person, place and time.**
     1. Create an epidemiologic curve and calculate rates as needed.
  8. **Formulate tentative hypothesis**
     1. Review data collected to summarize common host factors and exposures
     2. Based on hypothesis of how the outbreak occurred, modify infection control measures in response.
  9. **Communicate findings, summarize investigation, and prepare written reports as needed.**

1. **Responsibilities of CHLA Staff and Departments**
   1. **All CHLA Staff**
      1. Any cluster of infections among patients or staff, observed by physicians, clinical microbiology staff, CS or ancillary personnel, MUST BE REPORTED IMMEDIATELY to Infection Prevention and Control, who will notify the Medical Director of Infection Prevention & Control. The Medical Director will conduct a preliminary case review, confirm the diagnosis, evaluate the severity of the problem and advise Infection Prevention and Control personnel as necessary. This applies to any patient care area, inpatient, on-site ambulatory clinic, or offsite Ambulatory Care Center. For team members, clusters should be reported for any department, both clinical and non-clinical.
   2. **Infection Prevention and Control**
      1. Follow procedures outlined above.
      2. Communicate with leadership in any potentially impacted department to develop control measures and action plans.
      3. Communicate with Microbiology & Virology, CS directors/managers, and key leadership of the impacted work area.
      4. Institute temporary control measures and monitor their effectiveness.
   3. **Microbiology & Virology Laboratory**
      1. Report the suspected cluster to laboratory leadership and to the Infection Prevention & Control team
      2. Immediately store, as appropriate, all isolates of the suspected organism(s);
      3. Provide laboratory support for the investigation.
      4. Assist the Infection Prevention and Control staff in compiling pertinent information
   4. **Clinical Teams**
      1. Patient care personnel will cooperate with Infection Prevention and Control by saving isolates from patients and suspected sources or vehicles.
      2. Comply with control measures instituted.
      3. Report violations of Infection Prevention and Control policies and breaches in techniques potentially relevant to the investigation.
   5. **Employee Health Services**
      1. For any outbreaks involving team members, Employee Health Services will collaborate with the Infection Prevention team on the outbreak investigation.
      2. EHS will be responsible for pulling immunization and/or other key employee medical records.
      3. EHS will also offer prophylaxis or treatment as appropriate to team members.
2. Communication procedure for community outbreaks with potential impact on CHLA
   1. CHLA Infection Prevention receives notifications from Public Health agencies, including the California Health Alert Network (CAHAN) and the Los Angeles Health Alert Network (LAHAN) about community or national outbreaks.
   2. Infection Prevention is responsible for communication, as needed, to hospital leadership and at-risk patient care areas (inpatient, on-site ambulatory clinics, and/or offsite Ambulatory Care Centers) about outbreaks and steps the patient care areas may need to take to screen, identify, isolate, and report cases related to the community outbreak.

**REFERENCES:**

1. APIC text of Infection Control and Epidemiology. Chapter 4: Outbreak Investigation, 2016.
2. Prevention and Control of Nosocomial Infections. R.P. Wenzel, Editor, 3rd ed. Chapter 7. Williams and Wilkins. 2004

**POLICY OWNER:**

*Director, Infection Prevention and Control*