California Department of Public Health

# *Clostridioides difficile* Infection in Healthcare Facilities Quicksheet

A coordinated approach among healthcare facilities and public health is recommended to address *Clostridioides difficile* infections (CDI) in California. Local health departments (LHD) are encouraged to be aware of CDI incidence in healthcare facilities and communities in their regions; understand effective, evidence-based prevention measures; and provide guidance to healthcare facilities when responding to CDI-related inquiries or events.

## *Clostridioides difficile*

- *C.difficile* is a spore-forming, toxin-producing bacteria transmitted among humans via the fecal-oral route.
- CDI ranges in severity from mild diarrhea to severe intestinal infection; death occurs in up to 9% of cases.
- Approximately 65% of cases are healthcare facility-associated.
- For *C.difficile* to proliferate and cause CDI, the normal flora of the colon must be disrupted (as with antimicrobials) and *C.difficile* must be ingested. These events may occur separately and in any order.
- Other risk factors for CDI include advanced age and exposure to healthcare settings.

## CDI Epidemiology in California Healthcare Facilities

- *C.difficile* is the most commonly reported healthcare-associated infection in hospitals.
- All California acute care hospitals are required to report healthcare facility-onset CDI to the California Department of Public Health (CDPH) via the National Healthcare Safety Network. These data are reported annually and sorted by county (www.cdph.ca. gov/ Programs/CHCQ/HAI/Pages/AnnualHAIR eports.aspx). Raw data are available via the open data portal (data.chhs.ca.gov/).
- California has no CDI reporting mandate for long-term care facilities (LTCF) or other settings; however, tracking *C.difficile* in these settings is highly encouraged.

## CDI Case Definition

A positive laboratory test result for *C. difficile* toxin A and/or B (for example, molecular assays and/or toxin assays), or a toxin-producing *C.difficile* organism detected by culture or other laboratory tests performed on an unformed stool specimen.

## CDI Testing Considerations

- Ensure only patients with clinically significant diarrhea are tested for CDI. For example, for patients who have received laxatives, discontinue laxative use for 24-48 hours and reevaluate prior to testing.
- Ensure specimens conform to the shape of the container and are collected and transported promptly to the laboratory.
- Repeat testing (specifically, as a test of cure) is not recommended. Bacterium and spores can shed into the environment both during and *after* CDI therapy. Routine screening of asymptomatic carriers is not recommended.

## CDI Prevention & Control in Healthcare Facilities

- LHD should set expectations for facilities to effectively communicate CDI status when transferring patients to another healthcare facility. This may be done through coordinating regular jurisdiction-wide meetings or participation in a regional collaborative.

- Implement the following prevention strategies at all times:

**Prevent *C.difficile* Acquisition / Reduce Antimicrobial Exposure**

- ☐ Isolate patients with diarrhea pending CDI confirmation
- ☐ Implement a laboratory-based alert system for immediate notification of positive test results
- ☐ Use contact precautions for the duration of diarrhea, plus 48 hours
- ☐ Perform hand hygiene before and after patient care, and after glove removal
- ☐ Use disposable equipment when appropriate
- ☐ Use Environmental Protection Agency (EPA) sporicidal agents for cleaning reusable equipment*
- ☐ Ensure quality cleaning and disinfection of equipment and environment, daily & terminal
- ☐ Implement or enhance a CDI-targeted antimicrobial stewardship program
- ☐ Provide education for healthcare workers, housekeeping, administration, patients, and families
- ☐ Conduct CDI surveillance, reporting, and data analysis, and provide feedback

* EPA-approved antimicrobial products effective against *C.difficile* spores (www.epa.gov/sites/default/files/2021-02/documents/02-22-2021_list-k.pdf)

**Contact Precautions**

Contact Precautions are a core CDI prevention strategy, and consist of gowns and gloves for all contact with patients and environmental surfaces in the patient room and use of disposable or dedicated patient care equipment.

- Contact precautions should be clearly communicated (specifically, with signs) at room entrance, at handoff, and during transfers.
- Place patients with CDI in a single occupancy room. If unavailable, cohort with other CDI patients.

**Three Key Components of a CDI Prevention Plan**

The following are evidence-based approaches to CDI prevention.

**Adherence Monitoring**

- Measuring adherence and providing feedback are critical to a successful infection prevention program.
- See adherence monitoring tools for hand hygiene, contact precautions, and environmental cleaning (www.cdph.ca.gov/Programs/CHCQ/HA I/Pages/MonitoringAdherenceToHCPracticesThatPreventInfection.aspx)

**Environmental Cleaning and Disinfection**

- Evaluating and enhancing environmental cleaning and disinfection processes reduce potential for transmission of harmful organisms including *C.difficile*.
- See Environmental Cleaning and Disinfection FAQ (www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/EnvironmentalCleaning.aspx)

**Antibiotic Stewardship**

- Antibiotic stewardship interventions may be specifically designed to reduce the use of antibiotics associated with high risk of CDI.
- See Antimicrobial Stewardship Strategies to Prevent CDI (www.cdph.ca.gov/Programs/CHCQ/HAI/CDPH%20Document%20L ibrary/ASPToolkit_Example%206.0_CDI-TargetedASPStrategies_Approved02.15.18.pdf)
- See California Antimicrobial Stewardship Program Initiative (www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/CA_AntimicrobialStewardshipProgramInitiative.aspx)

**Interfacility Communication**

Interfacility transfer of patients with CDI occurs frequently in California and represents a potential route for *C. difficile* transmission across healthcare facilities with a shared patient population.

- When transferring a patient with CDI to another healthcare facility, CDI status must be communicated to the receiving facility ahead of time to ensure appropriate care is maintained after transfer.
- See Infection Control Transfer Form (www.cdph.ca.gov/Programs/CHCQ/HAI/CDPH%20Document%20Library/InterfacilityTransferCommunication_Comprehensive.pdf)
- Patients should not be denied admission into a healthcare facility based on CDI status. See AFL 11-27 (www.cdph.ca.gov/Programs/CHCQ/LCP/Pages/AFL-11-27.aspx)

**Outbreak and Cluster Response**

An increase in CDI incidence may be an outbreak and warrants public health investigation. A CDI outbreak can be facility wide, unit specific, or occurring within the community. When responding to reports of suspected CDI outbreaks in healthcare facilities, LHD should:

- Develop and summarize patient information in a line list format. Collect relevant patient information including:
  - Date(s) of admission
  - Locations (examples, wards, units, wings)
  - Symptoms (diarrhea, vomiting, nausea, abdominal pain/cramping, fever)
  - Symptom onset date
  - Antibiotic use within the past 90 days
  - Stool collection date
  - Lab test type(s) and results

See a sample line list on CDI Prevention for Public Health and Healthcare Providers webpage (www.cdph.ca.gov/Programs/CHCQ/HAI /Pages/CDI_PREVENTION_STRATEGIES.aspx)

- Perform additional case finding through review of laboratory records and if indicated, medical chart review of epidemiologically linked patients.
- **Assess clinical features to determine whether symptoms are consistent with CDI, and consider other etiologies of gastrointestinal illness (GI).** Colonization with *C. difficile* can be common in LTCF (up to 30%) and positive *C. difficile* toxin tests collected in the setting of a GI outbreak might reflect colonization rather than infection. It might be difficult to distinguish an outbreak of norovirus or other viral gastroenteritis pathogen from CDI. Viral testing can be arranged at the CDPH Viral and Rickettsial Diseases Laboratory if not available at the local public health laboratory.
- Capture information on infection control practices, environmental cleaning, and other relevant information. Perform an assessment of infection control practices such as hand hygiene, donning and doffing of personal protective equipment, and environmental cleaning on units affected by the outbreak.

All outbreaks must be reported to the local health department. Outbreaks in licensed healthcare facilities must also be reported to the local CDPH Licensing and Certification District Office (www.cdph.ca.gov/Programs/CHCQ/LCP/Pages/DistrictOffices.aspx)