

HAIIP CONNECTION

Healthcare-Associated Infections and Infection Prevention



SPRING ISSUE | APRIL 2024

Contents

1 Antibiotic Stewardship:
Clostridioides difficile
infection

2 Infection Prevention
and Control:
**Transmission-based
precautions**

3 Health Observances:
STI Awareness Month
**Alzheimer's Awareness
Month**

1. *Clostridioides difficile*

Clostridioides difficile (*C. diff*) is a spore-forming, gram-positive bacterium that produces toxins. *C. diff* colonizes in the large intestine in humans and its transmission occurs via fecal-oral route. *C. diff* infection (CDI) is the leading cause of antibiotic-associated diarrhea and one of the most common healthcare-associated infections in the United States.



**C. DIFF IS A
MAJOR HEALTH
THREAT (CDC)**

2017
**223,900 CASES IN HOSPITALIZED
PATIENTS**
12,800 DEATHS IN THE UNITED STATES

A healthy individual with a functioning immune system can become an asymptomatic carrier of the disease. However, in patients with certain risk factors, CDI can cause severe diarrheal illness. CDI can lead to severe health issues, such as pseudomembranous colitis (PMC), toxic megacolon, perforations of the colon, sepsis, and possibly even death.

**CDC ESTIMATED THAT MORE THAN 80% OF
C. DIFF-RELATED DEATHS OCCUR IN PEOPLE
65 AND OLDER.**



HAIIP@DPH.SBCOUNTY.GOV

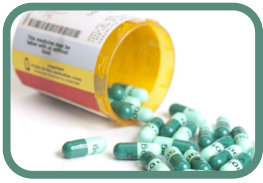
1 (800) 722-4794



CDPH HAI PROGRAM

Risk Factors

Which patients are at increased risk for [CDI](#)?



Recent antibiotic use



Patients 65 years and older



Recent hospital/nursing home stay



Weakened immune system



Previous history of *C. diff*

Management and Treatment

It is important that each facility has policies and procedures for [screening, management, and treatment of CDI](#). Managing patients with CDI includes a multi-step approach including, but not limited to, the following:

- Discontinuation of antibiotics causing diarrhea/infection.
- Patient isolation with proper precaution labels, contact precautions, and hand hygiene.
- Proper evaluation and diagnosis with severity of infection.
- Treatment based on the severity of infection and guideline recommendations.
- Supportive care for management of fluid losses and electrolyte imbalances.

How Can Healthcare Professionals Help Prevent CDI?

1. Optimizing prescribing methods for antibiotics.
2. Utilizing lab tests with accurate/detailed results.
3. Quickly identifying and isolating patients suspicious of CDI.
4. Ensuring proper use of personal protective equipment (PPE), such as gloves and gowns, when coming into contact with CDI patients.
5. Using proper hand hygiene techniques including the use of **soap and water** when taking care of patients with known or suspected CDI.
6. Cleaning surfaces with EPA-approved spore-killing disinfectants.

Visit [LIST K: EPA's Registered Antimicrobial Products Effective against *C. diff* Spores](#).

Antimicrobial Stewardship Program

Antimicrobial stewardship programs (ASP) can help reduce the unnecessary use of antibiotics and play an important role in controlling CDI rates. [Antibiotics frequently associated](#) with increased CDI risk include **clindamycin, fluoroquinolones, cephalosporins** (3rd & 4th generations), **carbapenems, and penicillin**. Developing ASP protocols that target the restriction of a particular antibiotic agent can help control the facility's outbreaks and reduce CDI rates in the community and healthcare settings. A recent [ASP study](#) assessed and concluded that a standardized ASP protocol, which provided probiotics to skilled nursing facility patients at risk for CDI, was safe and cost-effective in reducing CDI cases. These ASP protocols appear to effectively decrease [antibiotic consumption](#) and ultimately help close any gaps in patient care.

Transmission-based Precautions



Contact precautions



Droplet precautions



Airborne precautions



INFECTION PREVENTION AND CONTROL

2. What are Transmission-based Precautions

[Transmission-based precautions](#) are the second tier of basic infection control and are to be used in addition to [standard precautions](#) for patients who may be infected or colonized with certain infectious agents, for which additional precautions are needed to prevent infection transmission. These precautions can help prevent disease transmission to both patients and healthcare providers.



Contact Precautions

[Contact precautions](#) are defined as direct or indirect contact with a patient that has an infection with an organism transmitted fecal-orally. These include *C. diff*, wound and skin infections, or multidrug-resistant bacteria, and/or the environment of the infected patient including a person's room or objects in contact with the patient.

PPE, as defined by the CDC, is required before entering a contact precaution designated room.

[Gowns and gloves](#) should be worn by anyone who enters the room of a patient on contact precautions. Contact with the environment alone can result in organisms on staff members' clothing and hands.



IMPLEMENTATION

- **Ensure appropriate patient placement.**
- **Use PPE appropriately.**
- **Fit testing is required for all employees required to wear tight-fitting respirators including N95 respirators** (29 CFR [1910.134\(c\)\(1\)](#)).
- **Limit transport and movement of patients.**
- **Use disposable or dedicated patient-care equipment.**
- **Prioritize cleaning and disinfection of the rooms.**

Use contact precautions for patients with known or suspected infections that represent an increased risk for contact transmission.



Droplet Precautions

[Droplet precautions](#) are necessary when a patient infected with a pathogen (influenza, pertussis, mumps, meningococcal disease) is within **three to six feet** of a healthcare professional. Infections are transmissible through air droplets by coughing, sneezing, talking, and close contact with an infected patient's breathing. Droplets are about **30 to 50 micrometers** in size.

IMPLEMENTATION

- **Source control:** put a mask on the patient.
- **Ensure appropriate patient placement.** In long-term care facilities (LTCFs), make decisions regarding patient placement on a case-by-case basis.
- **Use PPE appropriately.** Don mask upon entry into the patient room or patient space.
- **Limit transport and movement of patients.**



Airborne Precautions

[Airborne precautions](#) are required when entering the room or environment of a patient diagnosed with or suspected to be infected with pathogens transmitted by the airborne route (e.g., tuberculosis, measles, chickenpox, disseminated herpes zoster). These organisms may be spread through sneezing, coughing, spraying of liquids, the spread of dust, or any activity that results in the generation of [aerosolized particles](#).

IMPLEMENTATION

- **Source control:** put a mask on the patient.
- **Ensure appropriate patient placement in an airborne infection isolation room (AIIR).**
- **Restrict susceptible healthcare personnel from entering the room.**
- **Use PPE appropriately** (fit-tested NIOSH-approved N95 or higher-level respirator).
- **Limit transport and movement of patients.**
- **Immunize susceptible persons following unprotected contact** (measles, varicella).

3. April Health Observances

ALZHEIMER'S DISEASE

CALIFORNIA

5TH LEADING CAUSE OF DEATH
DEATH RATE 39.5

16,911 DEATHS

SAN BERNARDINO COUNTY

(2022)

DEATH RATE 782



PREPARED BY:

SHARON WANG, DO, MS, FIDSA
KHYATI GANATRA, PHARM D, MBA
KAREN ARRIAGA, MPH

REVIEWED BY:

JESSICA LU, MPH
JOHN HOLGUIN, MPH
ROCHELLE GRANADOS, MPH

CRYSTAL GONZALES, BSN, RN
STEPHANIE NORTON, RN



HAIP@DPH.SBCOUNTY.GOV

1 (800) 722-4794