

Oregon EIP *C. difficile* Surveillance

Center for Public Health Practice
Oregon Public Health Division



Surveillance Summary, Klamath and Deschutes Counties January 2010 – December 2018

The Oregon Emerging Infections Program (EIP) conducts population-based surveillance for *Clostridioides difficile* infections (CDI) among residents in Klamath County, with Deschutes County participating in 2012–2013. Oregon is one of ten EIP sites participating in this surveillance project.

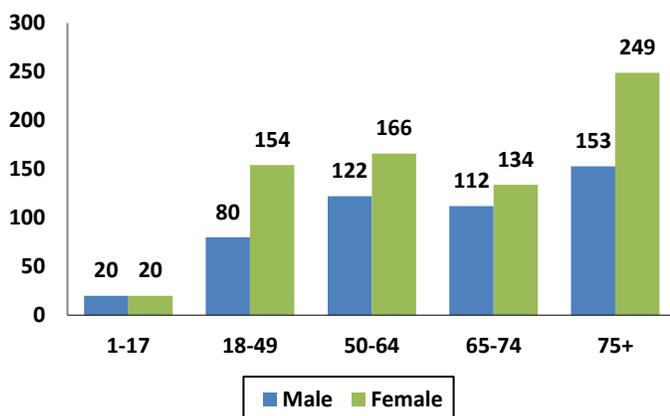
Project objectives are:

- Determine the population-based incidence of community- and healthcare-associated CDI among EIP sites
- Characterize *C. difficile* strains responsible for CDI with a focus on strains from community-associated cases
- Describe the epidemiology of community- and healthcare-associated CDI

Year	Incident Cases	Rate per 100,000 population
2010	57	86.0
2011	58	87.5
2012*	195	80.2
2013*‡	285	156.3
2014	137	209.3
2015	148	224.6
2016	136	204.7
2017	104	155.4
2018	90	134.5
Total	1210	--

*2012-2013: Addition of Deschutes County
‡ Change in lab practice

CDI case counts by Age Group and Sex,
January 2010 – December 2018



About *C. difficile*:

Clostridioides difficile is a toxin-producing bacterium that causes diarrhea and more serious intestinal conditions like colitis (bowel inflammation) and bowel perforation.

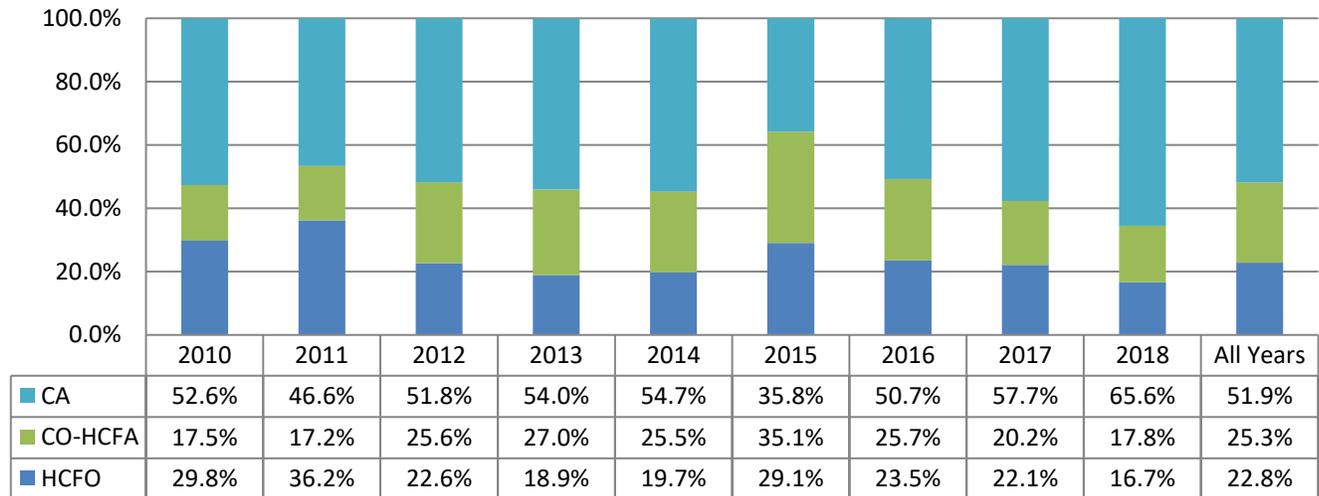
C. difficile caused almost half a million infections and was associated with approximately 29,000 deaths in the U.S. in 2011. *C. difficile* infections are often linked to medical care; people who take antibiotics and receive medical care are most at risk.

Spread of *C. difficile* infection is preventable by hand washing and appropriate antibiotics use.

Public health importance:

C. difficile infections are a leading cause of patient harm in the U.S. medical system. Data from this project will help inform future policy and prevention strategies.

**Percentage of CDI cases in Klamath and Deschutes Counties by Year and Case Class,
January 2010 - December 2018**



NOTE. CA: Community Associated; CO-HCFA: Community Onset – Healthcare Facility Associated; HCFO: Healthcare Facility Onset; 2012-2013 includes Deschutes County.

Surveillance began in Klamath County in January 2010, with Deschutes County participating in 2012-2013. As of December 2018, one thousand two hundred and ten incident cases have been identified and medical records reviewed. Of these cases:

- **76%** received systemic antibiotics in the 12 weeks before their *C. difficile* infection
- **52%** are community associated, which means they did not have a recent admission to a hospital or long-term care facility
- **25%** of community associated cases, however, had recent healthcare exposure in an emergency room
- **23%** of infections occurred in a hospital or long-term care facility
- **17%** experienced a recurrent *C. difficile* infection
- **3%** died while hospitalized or within 30 days of *C. difficile* infection if residing in a long-term care facility

Underlying medical conditions include diabetes (23%), chronic pulmonary disease (21%), and chronic kidney disease (13%). Twenty seven percent of cases have no underlying conditions.

Characteristics of <i>C. difficile</i> infection in Klamath and Deschutes Counties January 2010 – December 2018 N = 1210	
Female gender, n (%)	723 (59.8)
Race - White, n (%)	983 (81.2)
Severe CDI, n (%)	
▪ WBC ≥15,000/mm ³	236 (19.5)
▪ Albumin ≤ 2.5 g/dl (2014-2018, n = 615)	108 (17.6)
Severe complicated CDI, n (%)	
▪ Abnormal radiology	
○ Toxic megacolon	3 (0.2)
○ Ileus	14 (1.2)
○ Pseudomembranous colitis	9 (0.7)
▪ Known ICU admission	64 (5.3)
▪ Colectomy	3 (0.2)
▪ Death	39 (3.2)
Recurrent CDI, n (%)	205 (16.9)

Medications taken 12 weeks prior to initial stool collection date January 2010 – December 2018 N = 1210	
Acid Suppression, n (%)	
▪ Proton pump inhibitor	547 (45.2)
▪ H2 blockers	182 (15.0)
Immunosuppressive Therapy, n (%)	
▪ Steroids	266 (22.0)
▪ Chemotherapy	55 (4.5)
▪ Other immunosuppressive agents	36 (3.0)
Antibiotic Use, n (%)	921 (76.1)

For more information about the EIP *C. difficile* surveillance project, please see http://www.cdc.gov/hai/eip/cdiff_techinfo.html or http://www.cdc.gov/hai/organisms/cdiff/cdiff_infect.html.