

Public Health Practice Stories from the Field



Oregon Creates a Statewide Network to Limit the Spread of Carbapenem-Resistant Enterobacteriaceae

Surveyed

hospitals, laboratories, and long-term care facilities and found a need for a unified approach to controlling multidrug-resistant organisms

Established

a statewide network of hospitals, laboratories, and long-term care facilities to detect, prevent, and control CRE

Developed

a statewide database to track CRE control, along with educational materials and tools to help facilities identify and control CRE, complementing national CRE surveillance efforts

Initiated

discussions to expand the statewide network to other states on the West Coast and create a regional approach to CRE control

Carbapenem-resistant Enterobacteriaceae (CRE) are an emerging threat to public health. Enterobacteriaceae are a large family of bacteria mostly found in the gastrointestinal tract. Commonly encountered Enterobacteriaceae include *Escherichia coli*, *Klebsiella* spp., and *Enterobacter* spp. Enterobacteriaceae frequently cause urinary tract infections, abdominal infections, and healthcare-associated pneumonia.

Carbapenems are some of the strongest antibiotics and are often reserved for treating severe healthcare-associated infections. CRE are Enterobacteriaceae that are resistant to carbapenems. Typically, they also are resistant to most other antibiotics. During the last 10 years, 42 states have reported at least one patient testing positive for one type of CRE. CRE infections generally occur in hospitalized patients or residents of long-term care facilities. Though CRE is rare in Oregon, its presence is alarming because the bacteria can cause infections that are difficult or even impossible to treat. The death rate of patients with CRE bloodstream infections is extremely high (up to 50%).

A needs assessment survey of acute care hospitals, microbiology laboratories, and long-term care facilities in Oregon showed that

- A unified approach to prevention and control of multidrug-resistant organisms was lacking
- Oregon facilities were in need of clear CRE case definitions and would appreciate CRE education
- CRE laboratory detection and reporting were variable

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What We Did

To create a cohesive, thoughtful, and reliable response to the emerging threat of CRE, we have created the Drug-Resistant Organism Prevention and Coordinated Regional Epidemiology (DROP-CRE) Network. The primary objective of the network is to establish statewide coordination of prevention and control of multidrug-resistant organisms, initially focusing on CRE. The DROP-CRE Network is spearheaded by the Oregon Health Authority in collaboration with epidemiologists from Oregon Health & Science University, Portland VA Medical Center, and Oregon State University. The network advisory committee consists of infectious disease physicians, microbiologists, infection control practitioners, and representatives of long-term care facilities.

Our DROP-CRE Network is

- Developing a statewide multidrug-resistant organism database
- Promoting CRE education statewide
- Conducting rapid regional identification of CRE
- Providing real-time epidemiologic outbreak assistance to Oregon facilities with CRE cases
- Tracking CRE statewide across the spectrum of care

We are also developing CRE case report forms, a toolkit for Oregon facilities with CRE cases, and forms to monitor transfer of CRE-infected patients. We are presenting at key meetings, conferences, and webinars and creating flyers, handouts, and a dedicated CRE web page to educate healthcare professionals across the state about the importance of preventing CRE.

What We Accomplished

We have already accomplished many of our initial goals in setting up the network and now are beginning to focus on active CRE response. We have

- Initiated tracking and investigating reported CRE in Oregon
- Advised on a CRE case in real time involving transfer of a patient with CRE from a long-term care facility to a hospital and back
- Coordinated an investigation of an outbreak of multidrug-resistant *Acinetobacter baumannii*

Additionally, we have initiated communication with other states for potential expansion of the network to encompass large-scale regional control of CRE focused on the US West Coast.

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