

# Guidelines for CRE in Vermont

## Roles, Laboratory Testing, and Infection Prevention

### Definitions:

**Carbapenems:** A powerful group of broad spectrum beta-lactam antibiotics, often used as “last resort” antibiotics against multi-drug resistant bacterial infections

**Enterobacteriaceae:** a large family of Gram-negative rod-shaped bacteria

**Carbapenem-resistant *Pseudomonas aeruginosa* (CRPA):** *Pseudomonas aeruginosa* that are resistant to carbapenems

**Carbapenem-resistant *Enterobacteriaceae* (CRE):** *Enterobacteriaceae* that are resistant to carbapenems

**Carbapenemase-producing carbapenem-resistant *Enterobacteriaceae* (CP-CRE):** A type of CRE that produces an enzyme called carbapenemase that destroys the carbapenems before they can enter the cell

CP-CRE is the most concerning type of CRE because the carbapenemase genes are “jumping genes” that are easily transmitted to antibiotic susceptible populations of bacteria.


### What is reportable to the Health Department?

- CRPA
- *E. coli*, *Klebsiella* spp. and *Enterobacter* spp. resistant to any carbapenem by standard susceptibility testing methods. The Health Department will test further to see if these are CP-CRE.

MIC ≥ 4 mcg/ml for meropenem, imipenem, and doripenem or MIC ≥ 2 mcg/ml for ertapenem


### Suspect CRE? What should you do?

#### Clinical Laboratory

- Identify reportable CRPA or CRE infection
- Notify Infectious Disease Epidemiology at  (802)-863-7240
- Send specimens and a copy of the lab report to the Health Department Lab for confirmation



#### Provider/Infection Prevention

- Put suspected case on contact precautions; do not wait for lab results
- Report to Infectious Disease Epidemiology at  (802)-863-7240
- Begin contact trace-back; put close contacts on contact precautions if possible



### What does the Health Department do?

#### Laboratory

- Confirms identification and tests for specific drug resistance mechanisms
- Reports findings to provider and Epi within a few days
- Sends isolate to CDC's ARLN Regional Lab for further characterization



#### Epidemiology

- Provides infection control guidance
- Provides resources and data collection templates
- Assists with contact investigation



### What does CDC'S ARLN Regional Lab do?

- Wadsworth will further characterize the isolate and complete susceptibility testing
- Results will be sent to the provider and the Health Department within a few days
- Wadsworth will do all surveillance swab testing from close contacts, if indicated




The CDC ARLN Regional Lab for Vermont is Wadsworth, the New York State Public Health Lab

### Positive CRE – Now what?

#### Provider/Infection Prevention

- Implement infection control practices:
  - Keep case on contact and standard precautions until indicated
  - Increase hand hygiene and environmental cleaning, especially for high touch areas
  - Cohort patients and staff during outbreaks



- Make a list of all close contacts and roommates
- Collect rectal swabs from contacts and roommates for surveillance testing
- Send surveillance swabs directly to the ARLN Regional Lab (Wadsworth) for testing
- Call the Health Department Lab to arrange delivery  (802)-338-4724