

What is reportable to the Department of Health?

All Enterobacteriaceae, *Pseudomonas aeruginosa*, and *Acinetobacter baumannii* with resistance to one or more carbapenem, independent of other susceptibility results, excluding intrinsic resistance, respective of submission frequency guidelines.

CRO is identified – now what?

- **For all cases:**

- 1. Make a report** to the Vermont Department of Health Infectious Disease Epidemiology Program (VDH Epi) by calling 802-863-7240. Clinical Labs, Providers, and Infection Preventionists are required to report.
- 2. Submit a specimen or isolate** to the Department of Health Laboratory (VDHL).
 - Submitted specimens and isolates should be accompanied by a lab report including susceptibility information (with numeric values when available).
 - Submission frequency guidelines:
 - If a patient repeatedly has the same CRO isolated, as indicated by the same organism, source/fluid, and susceptibility pattern, submission is only required every six months. More frequent submission and testing of repeat isolates is available upon request, pending the VDH's approval.
- 3. Implement infection control measures.**
 - The case should be on standard and contact precautions for duration of stay, in a single room if possible.
 - Assure the case has the appropriate notification or flag added to their health record so that they are put back on standard and contact precautions should they return, and that receiving facilities are notified upon transfer.
 - VDH recommends that the diagnosing facility communicate this precaution indication with the patient's other healthcare providers.
 - Reinforce hand hygiene and monitor compliance.
 - Increase environmental cleaning, especially for high touch areas.
 - Minimize use of invasive devices, such as urinary catheters.
- 4. Work with the Health Department on next steps.**
 - VDH Epi will contact Infection Prevention to gather epidemiologic information and review the infection control measures listed above (to be implemented by Infection Prevention or other appropriate facility staff).
 - VDHL will confirm identification of submitted specimens and test for carbapenemase production; isolates will be sent to CDC's ARLN Regional Lab for further characterization if necessary. (The ARLN Regional Lab for Vermont is Wadsworth, the New York State Public Health Lab.)

- **If there is evidence of transmission or an outbreak:**
 - Cohort patients and staff.
 - Consider a unit-level point prevalence survey to identify additional colonized cases (especially with carbapenemase producers).
- **If the organism tests positive for carbapenemase production:**
 - Screening of close contacts is recommended; VDH Epi and VDHL will work with the facility to develop a list of close contacts, which may include:
 - Roommates
 - Patients who shared healthcare personnel or activities with the case
 - Patients whose stay in the facility, on the same unit or ward, overlapped with the case for 3 days or longer
 - VDHL will work directly with the clinical lab to facilitate testing of contacts through CDC's ARLN Regional Lab.

Definitions

- Carbapenems – A class of broad-spectrum beta-lactam antibiotics commonly used to treat severe bacterial infections, including infections with suspected or confirmed multidrug-resistant organisms
- CROs – Carbapenem-resistant organisms; umbrella term that includes:
 - CRE – Carbapenem-resistant Enterobacteriaceae
 - CRPA – Carbapenem-resistant *Pseudomonas aeruginosa*
 - CRAB – Carbapenem-resistant *Acinetobacter baumannii*
- Carbapenemase – An enzyme that destroys carbapenems before they can enter the cell
- CP-CROs – Carbapenemase-producing, carbapenem-resistant organisms; umbrella term that includes:
 - CP-CRE – carbapenemase-producing, carbapenem-resistant Enterobacteriaceae
 - CP-CRPA – carbapenemase-producing, carbapenem-resistant *Pseudomonas aeruginosa*
 - CP-CRAB – carbapenemase-producing, carbapenem resistant *Acinetobacter baumannii*

Resources

- For more information on Vermont's Reportable and Communicable Diseases Rule, visit healthvermont.gov/reportablediseases
- For the CDC's Facility Guidance for Control of Carbapenem-resistant *Enterobacteriaceae*, visit <https://www.cdc.gov/hai/pdfs/cre/CRE-guidance-508.pdf>