

## Update on CRE and CRO Provisional Reporting

As of January 1, 2023, the Washington Administrative Code 246-101 mandates reporting and submission of carbapenem-resistant Enterobacterales (CRE) limited to *E. coli*, *Enterobacter* species, and *Klebsiella* species. In 2022, the Council of State and Territorial Epidemiologists updated the [surveillance case definition](#) for carbapenem-resistant organisms (CRO) and carbapenemase producing organisms (CPO) to be more inclusive of organisms likely to carry a carbapenemase. In order to be in alignment with nationally notifiable conditions and CRO and CPO surveillance performed in other states, DOH is using [provisional reporting](#) to request reporting of carbapenem resistant (CR) isolates of Enterobacterales, *Pseudomonas aeruginosa* and *Acinetobacter baumannii*, suspected and confirmed CPO isolates, and all confirmed CPO cases to public health authorities. Additionally, DOH requests all laboratories submit these isolates to PHL.

The [reporting and surveillance guidelines](#) for CRE and CRO provides detailed information about reporting and laboratory submission. Antimicrobial susceptibility testing criteria are shown in Table 1 (page 2). The variety and categories of carbapenemase tests are described in Table 2 (page 3).

continued on page 2

### Inside This Issue

- 1-3 Update on CRE and CRO Provisional Reporting
- 4 Calendar of Events

### Practice Guidelines

The following practice guidelines have been developed by the Clinical Laboratory Advisory Council. They can be accessed at the [LQA website](#).

Acute Diarrhea	Lipid Screening
Anemia	PAP Smear Referral
ANA	Point-of-Care Testing
Bioterrorism Event Mgmt	PSA
Bleeding Disorders	Rash Illness
Chlamydia	Red Cell Transfusion
Diabetes	Renal Disease
Group A Strep Pharyngitis	STD
Group B Streptococcus	Thyroid
Hepatitis	Tuberculosis
HIV	Urinalysis
Infectious Diarrhea	Wellness
Intestinal Parasites	

**Table 1. Reporting and submission criteria for carbapenem resistant Enterobacterales, *Acinetobacter baumannii*, and *Pseudomonas aeruginosa***

Bacterial Order, Family or Genus	Antibiotic Resistance Criteria
Carbapenem-resistant Enterobacterales <sup>1</sup> (excluding <i>Morganella</i> , <i>Proteus</i> , and <i>Providencia</i> spp.)	Resistant to $\geq 1$ carbapenem: Minimum inhibitory concentrations (MIC) $\geq 4$ $\mu\text{g/ml}$ for meropenem, imipenem, and doripenem, and $\geq 2$ $\mu\text{g/ml}$ for ertapenem <b>OR</b> Kirby-Bauer zone of inhibition diameter (ZID) $\leq 19$ mm for meropenem, imipenem, and doripenem, and $\leq 18$ mm for ertapenem
Carbapenem-resistant <i>Morganella</i> , <i>Proteus</i> and <i>Providencia</i> spp.	Resistant to $\geq 1$ carbapenem excluding imipenem: MIC $\geq 4$ $\mu\text{g/ml}$ for meropenem and doripenem, and $\geq 2$ $\mu\text{g/ml}$ for ertapene <b>OR</b> Kirby-Bauer ZID $\leq 19$ mm for meropenem and doripenem, and $\leq 18$ mm for ertapenem
Carbapenem-resistant <i>Acinetobacter baumannii</i>	Resistant to $\geq 1$ carbapenem excluding ertapenem: MIC $\geq 8$ $\mu\text{g/mL}$ for meropenem, imipenem, and doripenem, <b>OR</b> Kirby-Bauer ZID $\leq 14$ mm for doripenem and meropenem, and $\leq 18$ mm for imipenem
Carbapenem-resistant <i>Pseudomonas aeruginosa</i> (non-mucoid)	Resistant to $\geq 1$ carbapenem, excluding ertapenem: MIC $\geq 8$ $\mu\text{g/mL}$ for meropenem, imipenem, and doripenem, <b>AND</b> MIC $\geq 16$ $\mu\text{g/mL}$ for ceftazidime and cefepime <b>OR</b> Kirby-Bauer ZID $\leq 15$ mm for meropenem, imipenem, and doripenem, <b>AND</b> Kirby Bauer ZID $\leq 17$ mm for ceftazidime and cefepime

<sup>1</sup>Refer to National Center for Biotechnology Information Taxonomy Browser for a list of bacterial families, genera and species in the taxonomic order, Enterobacterales (<https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=91347>).

**Table 2. Confirmatory carbapenemase test results**

Category of Test	Examples
Phenotypic Test <sup>1</sup>	<ul style="list-style-type: none"> <li>• Metallo-β-lactamase (MBL) test</li> <li>• Modified Hodge test (MHT)</li> <li>• Carba NP</li> <li>• Carbapenem inactivation method (CIM)</li> <li>• Modified carbapenem inactivation method (mCIM)</li> <li>• EDTA-modified carbapenem inactivation method (eCIM)</li> <li>• Immunochromatorgraphy test (ICT)</li> </ul>
Molecular Test <sup>1</sup>	<ul style="list-style-type: none"> <li>• X-pert Carba-R</li> <li>• VERIGENE</li> <li>• Strech ARM-D</li> <li>• Cepheid</li> <li>• Validated laborator-developed nucleid acid amplification test (NAAT)</li> </ul>
Next Generation Sequencing (NGS)	<ul style="list-style-type: none"> <li>• Detection of a carbapenemase gene</li> </ul>
Culture Ineependent Diagnostic Test	<ul style="list-style-type: none"> <li>• Other culture independent diagnostic test (CIDT)</li> </ul>

<sup>1</sup>Isolates that are phenotypically positive for carbapenemase production but negative for a carbapenemase gene via a molecular test should be reported and submitted.

Please contact [mdro-ar@doh.wa.gov](mailto:mdro-ar@doh.wa.gov) or any questions regarding provisional reporting for CRO and CPO.

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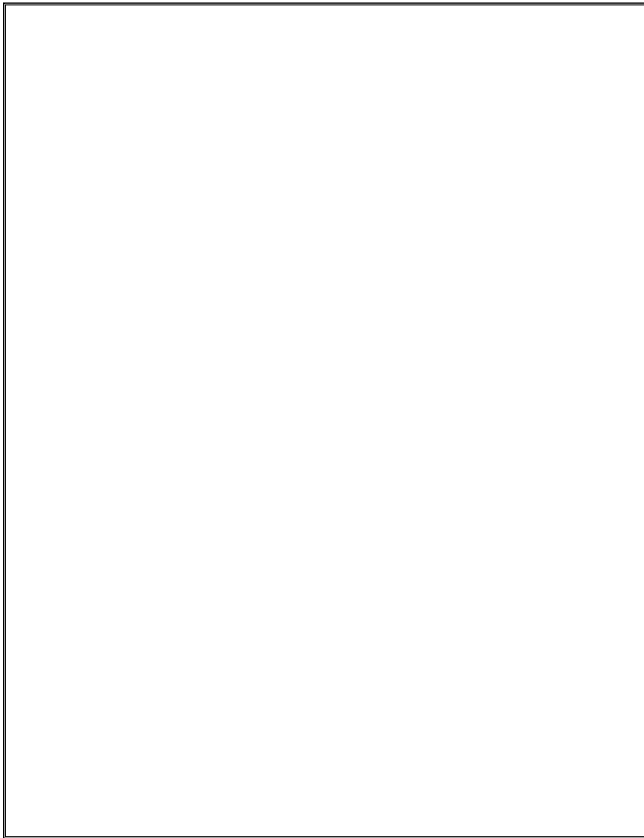
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### Calendar of Events

**Training Classes:**

**2023 Joint Spring Seminar**

**April 20-21      Virtual**

**2023 Northwest Laboratory Symposium (NWMLS)**

**October (date TBA)      Virtual**

Contact information for the events listed above can be found on page 2. The Calendar of Events is a list of upcoming conferences, deadlines, and other dates of interest to the clinical laboratory community. If you have events that you would like to have included, please mail them to ELABORATIONS at the address on page 2. Information must be received at least one month before the scheduled event. The editor reserves the right to make final decisions on inclusion.



## ELABORATIONS

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