MLS Laboratory Update: MDH-PHL adds OXA-235 Detection to Carbapenem-Resistant *Acinetobacter* species Isolate Testing

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Purpose of this Message:

To inform MLS laboratories that the Minnesota Department of Health Public Health Laboratory (MDH-PHL) is introducing detection of the carbapenemase gene *bla*$_{\text{OXA-235}}$ when testing carbapenem-resistant *Acinetobacter* species (CRA) isolates and to provide an example of how results will be reported. This change will be implemented in the coming weeks.

This message also includes reminders about carbapenem-resistant organism submission and information about the AR Lab Network website.

Action Item:

Please forward information regarding the new testing to Laboratory staff, especially Laboratory Information System (LIS) staff, and Infection Prevention partners. Also, please provide information about our AR Lab Network webpage and new submission form (see below) to any send out area staff.

Background:

New Test: Carbapenemase gene *bla*$_{\text{OXA-235}}$ Detection

MDH-PHL has added detection of the carbapenemase gene *bla*$_{\text{OXA-235}}$ to the real-time multiplex PCR assay OXA-variant PCR Panel – Isolate. This assay is part of carbapenemase detection testing performed on CRA isolates that are submitted to MDH-PHL. Test results will be reported as such:

- **Negative result**:
    - OXA-23 PCR Result: negative
    - OXA-24 PCR Result: negative
    - OXA-58 PCR Result: negative
    - OXA-235 PCR Result: negative

- **Positive result** (example):
    - OXA-23 PCR Result: negative
    - OXA-24 PCR Result: negative
    - OXA-58 PCR Result: negative
    - OXA-235 PCR Result: POSITIVE

- An FDA disclaimer will appear above the test results: "This test was developed and its performance characteristics determined by the MDH public health laboratory. It has not been cleared or approved by the U.S. food and drug administration 21cfr 809.30(e). The FDA has determined that such clearance is not necessary."

- See attached example report showing a negative result.

Additional Information:

Reminders for Submission of Carbapenem-Resistant Isolates

1. **CRA:** an *Acinetobacter* species isolate resistant to any 1 carbapenem (imipenem ≥8, meropenem ≥8, doripenem ≥8) by current CLSI breakpoints **or** positive by a carbapenemase test, such as: Carba-R, or PCR (KPC, NDM, IMP, VIM, OXA, etc.)
    a. CRA are reportable and submittable per the MN Reportable Disease Rule (https://www.health.state.mn.us/diseases/reportable/rule)
2. **CRE:** an Enterobacterales isolate resistant to any 1 carbapenem (imipenem ≥4, meropenem ≥4, doripenem ≥4, ertapenem ≥2) by current CLSI breakpoints or positive by a carbapenemase test, such as: mCIM, Carba-R, or PCR (KPC, NDM, IMP, VIM, OXA, etc.).
    a. Note: Imipenem MICs for *Proteus* spp., *Providencia* spp., and *Morganella morganii*, tend to be higher and, therefore, a carbapenem other than imipenem must be resistant for these organisms to meet the CRE definition.
    b. CRE are reportable and submittable per the MN Reportable Disease Rule (https://www.health.state.mn.us/diseases/reportable/rule)
3. **CRPA:** a *Pseudomonas aeruginosa* isolate resistant to any 1 carbapenem (imipenem ≥8, meropenem ≥8, doripenem ≥8) by current CLSI breakpoints or positive by a carbapenemase test, such as: mCIM, Carba-R, or PCR (KPC, NDM, IMP, VIM, OXA, etc.).
    a. CRPA is not currently reportable in Minnesota. However, voluntary submission of *Pseudomonas aeruginosa* and other *Pseudomonas* sp. isolates is encouraged from non-cystic fibrosis patients for antibiotic resistance surveillance testing.

Antimicrobial Resistance (AR) Lab Network Webpage

The MDH-PHL is the Central Region Lab for the AR Lab Network and performs testing on carbapenem-resistant organisms (CRO) and *Candida auris*. The AR Lab Network Central Region Lab Forms (https://www.health.state.mn.us/diseases/idlab/arln.html) contains submission forms, collection and guidance documents, supply ordering, and additional information links, which are further described here:

- ARLAB Central Region Clinical Testing and Submission Form: used for CRA, CRE, and CRP isolate testing, colonization and admission screening (*Candida auris*, Carba-R, culture-based screening), yeast identification, *Streptococcus pneumoniae* serotyping, and expanded antimicrobial susceptibility testing.
- Collection, Specimen, and Handling Guidance: contains detailed guidance on how to perform specimen collection and shipment for colonization and admission screenings.

- Supplies: used to request supplies including swabs and shipping materials.

Questions: If you have any questions, please contact Paula Vagnone at 651-201-5581 or paula.snippes@state.mn.us or arlnmn@state.mn.us

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PLEASE FORWARD THIS TO ALL APPROPRIATE PERSONNEL WITHIN YOUR INSTITUTION AND HEALTH SYSTEM

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To obtain this information in a different format, call: 651-201-5200.