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2025 MSPHL CRO GUIDANCE UPDATE

CRO isolate submission changes have recently been implemented and will be effective immediately. Please read this document thoroughly. Thank you!

To the **Microbiology Laboratory** or whomever is performing CRO testing,

The Missouri State Public Health Laboratory (MSPHL), as part of a national surveillance program is requesting **Carbapenem-Resistant Organism (CRO)** isolates from clinical laboratories. MSPHL methods for CRE/CRPA testing include: mCIM, AST, and PCR markers KPC, NDM, VIM, OXA-48-like, and IMP. In addition, PCR markers used for the detection of carbapenemase genes found in *Acinetobacter baumannii* include the previous stated as well as OXA-23-like, OXA-24-like, and OXA-58-like genes. Collection of these isolates will help identify and classify those organisms that produce a carbapenemase to more broadly understand the burden of these CROs in Missouri.

Please send pure isolates and a copy of your clinical laboratories AST results to ensure suitable criteria is met. **Also, submit isolates ONLY from Missouri residents.** Thank you!

Isolates Requested:

- **Carbapenem-Resistant Enterobacterales (CRE)** that are resistant to ertapenem, imipenem, meropenem using current CLSI breakpoints (i.e., minimum inhibitory concentrations [MIC] of ≥2 mcg/ml for ertapenem and ≥4 mcg/ml for imipenem or meropenem).
  - ❖ For organisms intrinsically resistant to imipenem, such as *Proteus*, *Providencia* and *Morganella*, the MSPHL will only test isolates resistant to carbapenems other than imipenem.

- **Carbapenem-Resistant *Pseudomonas aeruginosa* (CRPA)** that are resistant to imipenem or meropenem using current CLSI breakpoints (i.e., minimum inhibitory concentrations of ≥8 mcg/ml).
  - ❖ The isolate must meet the above criteria as well as being not-susceptible (i.e., intermediate, or resistant MIC ≥16 mcg/ml) to cefepime or ceftazidime, or, resistant to ceftolozane/tazobactam (MIC ≥16/4mcg/ml).

- **Carbapenem-Resistant *Acinetobacter baumannii* (CRAB)** that are resistant to imipenem or meropenem using current CLSI breakpoints (i.e., minimum inhibitory concentrations of ≥8 mcg/ml).

- **Pan Not-Susceptible CRE or Pan-Resistant CRPA/CRAB**

  CRE definition: CRE not-susceptible (intermediate or resistant) to all drugs tested at the submitting clinical laboratory.
  CRPA/CRAB definition: CRPA or CRAB resistant to all drugs tested at the submitting clinical laboratory.

Please note: If your laboratory can produce carbapenemase testing results (i.e., phenotypic detection of carbapenemase production [e.g. mCIM] or genotypic mechanism detection), the MSPHL request CRO isolates that are carbapenemase production positive.

Also, the MSPHL request CRO isolates that are Cepheid Carba-R positive and you MUST report the positive test results to DHSS.

If your laboratory is conducting both carbapenemase (e.g. mCIM) and mechanism testing, the MSPHL requests CRO isolates that are positive by a carbapenemase production test and Cepheid negative.

In addition to the above-mentioned information, the MSPHL is requesting all confirmed or suspected *Candida auris* isolates from any body site. Also, any *Candida* isolate from any specimen source when unable to identify species after identification was attempted. Furthermore, if a rare *Candida* (defined as species that make up less than 1% of species seen) is identified from a sterile site or urine, please forward those also to the MSPHL.

Any questions, contact the MSPHL Microbiology Unit at 573-751-3334.

The Missouri State Public Health Laboratory appreciates all the laboratories and their cooperation in participation of this program and the results it will help provide to the benefit of public health.

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