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PUBLIC HEALTH SERVICES COMMUNICABLE DISEASE CONTROL

Enhanced Surveillance for Carbapenem Resistant Organisms in Orange County

December 1, 2023

To: Orange County Hospital Laboratory Directors, Microbiology and Send-Out Staff; Infection Preventionists

From: Orange County Public Health

Antimicrobial resistance is a serious and growing public health problem. To better understand this issue and prevent the spread of infectious disease in our County, the Orange County Health Care Agency (OCHCA) includes laboratory reports of certain antibiotic-resistant bacteria of public health significance to our County's List of Reportable Diseases. Effective November 1, 2023, by authority of the Health Officer under California Health and Safety Code section 120175 and California Code of Regulations, Title 17, Sections 2500 and 2505, hospital laboratories and commercial laboratories receiving specimens from hospitals and skilled nursing facilities are hereby ordered to report all positive laboratory results for the following multidrug resistant organism (MDRO) organisms:

- All *Enterobacteriaceae* that produce extended spectrum beta-lactamases (ESBLs)
- All Carbapenem-resistant *Enterobacteriaceae* (CRE)
- All carbapenemase-producing organisms (CPOs)
- Methicillin-resistant *Staphylococcus aureus* (MRSA) from admitted patients

Note: OCHCA also requests that county clinical laboratories voluntarily submit carbapenem-resistant organism (CRO) isolates for additional testing. The list of (CRO) isolate types to be submitted differs from the reportable MDROs listed above and can be [found here](#).

Laboratory results from specimens sent both for diagnostic and screening surveillance purposes that fit the following criteria are to be reported to the Orange County Health Care Agency:

1. MRSA (by culture or PCR)
2. *E. coli*, *Klebsiella* spp, and *Enterobacter* spp that are antibiotic-resistant according to ANY of the following criteria:
 - a. *E. coli* or *Klebsiella* spp designated as an ESBL-producer by an established testing method
 - b. *E. coli*, *Klebsiella* spp, and *Enterobacter* spp. intermediate or resistant to 3rd generation cephalosporins according to current CLSI guidance (below):
 - i. *E. coli* and *Klebsiella* spp. - either disk diffusion < 22mm or MICs > 2 µg/ml for ceftazidime, aztreonam, cefotaxime or ceftriaxone, or > 8 µg/ml for cefpodoxime
 - ii. *Enterobacter* spp. isolates with MIC ≥2 mcg/mL for cefotaxime or ceftriaxone, OR ≥4 mcg/mL for cefpodoxime OR ≥8 mcg/mL for ceftazidime or aztreonam
3. *E. coli*, *Klebsiella* species, and *Enterobacter* species that are resistant to any carbapenem according to ANY of the following criteria:
 - a. MIC of ≥ 4 µg/ml for doripenem, imipenem or meropenem or ≥ 2 µg/ml for ertapenem

- b. Production of a carbapenemase (e.g., KPC, NDM, VIM, IMP, OXA-48) demonstrated using a recognized test (e.g., metallo-beta-lactamase test, modified Hodge test, Carba-NP test, ROSCO discs)
- c. Presence of a carbapenemase gene (e.g. gene encoding KPC, NDM, VIM, IMP, OXA-48) demonstrated using a recognized test (e.g., PCR)

Facilities are directed to forward a list of the above laboratory results to OCHCA on a quarterly basis. Laboratories are encouraged to contact the Orange County Health Care Agency at 714-834-8180 for questions or for more information.

Thank you for your assistance in this enhanced surveillance project.

Sincerely,



Matt Zahn, MD
Deputy Medical Director



Megan Crumpler, PhD, HCLD
Laboratory Director, OCPHL