

Hot Tips: Public Health Advisory

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Please copy and distribute to ALL physicians at your location.

Regional Outbreak of Highly Drug-resistant Carbapenemase-producing *Acinetobacter baumannii* at In-patient Facilities

The California Department of Public Health (CDPH) and Ventura County Public Health (VCPH) are alerting healthcare providers of a prolonged, multi-facility regional outbreak of New Delhi metallo-beta-lactamase-producing carbapenem-resistant *Acinetobacter baumannii* (NDM CRAB) in patients with exposures to acute care hospitals (ACH), skilled nursing facilities (SNF), and long-term acute care hospitals (LTACH). From May 2020 to April 2021, the Healthcare-Associated Infections (HAI) Program and local public health partners have identified 52 patients with confirmed NDM CRAB clinical isolates (24) or through colonization screening (28) as an epidemiologically-linked patient; 43 patients in Stanislaus, 4 in Alameda, 1 in San Joaquin, 2 in Merced, 1 in Tuolumne, and 1 in Santa Clara counties. In addition, at least 17 probable NDM CRAB cases (patients with a pan-nonsusceptible CRAB isolate not tested for carbapenemases who are epidemiologically-linked to known cases or outbreak facilities) have been identified in Stanislaus county. Clinical cases have been identified in wound (11), respiratory (8), urine (7), blood (3), and abscess (1) specimens.

Whole genome sequencing of 16 isolates from this outbreak points to a common source of exposure. In addition to carbapenem resistance, most cases have also been oxacillinase (OXA)-23-producing (79%). NDM and OXA-23 are carbapenemases that inactivate carbapenem and other antibiotics. NDM CRAB are rare, highly drug-resistant pathogens; approximately 85% of the isolates tested in this outbreak have been pan-nonsusceptible (intermediate or resistant) to all antimicrobials. NDM CRAB can cause serious bloodstream, wound, urinary tract, and respiratory infections in patients, with high mortality rates due to limited antimicrobial treatment options. *A. baumannii* tend to persist in the healthcare environment and can be transmitted between patients through shared surfaces and medical equipment.

The rapid extensive spread of NDM CRAB indicates the high transmissibility of this organism both within healthcare facilities and across interconnected healthcare facility networks. Confirmed cases have been identified at 10 healthcare facilities (8 ACH, 1 SNF, 1 ventilator-equipped SNF, and 1 LTACH), and report prior healthcare exposures in at least 7 ACH and 8 long-term care facilities. Early detection through active surveillance and prompt infection control interventions are crucial to mitigate potential outbreaks. The HAI Program recommends the following strategies to healthcare facilities:

Active Surveillance

- Patients who are not known to be colonized with NDM CRAB and admitted from healthcare facilities experiencing NDM CRAB outbreaks should be screened for carbapenemase-producing organisms (including CRAB) and placed on empiric contact precautions while awaiting results.
- Facilities can screen for NDM CRAB by:
 - Collecting respiratory, urine, wound, or axilla/groin cultures and if positive for CRAB, obtaining carbapenemase testing;
 - OR**
 - Obtaining rectal colonization testing through the CDC Antibiotic Resistance Laboratory Network (AR Lab Network) in coordination with Ventura County Public Health Communicable Disease Office (805)981-5201
- Once a patient has been identified with NDM CRAB, it is not necessary to rescreen them.
- Report suspected and confirmed cases to Ventura County Public Health Communicable Disease Office (VCPH CDO) within 24 hours by phone at 805-981-5201, or by Confidential Morbidity Report (CMR) at (Fax) 805-981-5200 or through our website at http://www.vchca.org/images/public_health/For_Hlth_Care_Providers/CMR_2020-11-05_RE.pdf

Routine Surveillance

- Obtain carbapenemase testing for CRAB isolates, particularly pan-nonsusceptible CRAB.
 - Contact the VCPH-CDO at (805) 981-5201 to arrange carbapenemase testing at the Ventura County Public Health Laboratory (VCPHL).
- Routine laboratory testing for CRAB is available through the AR Lab Network Targeted Surveillance program.
 - Clinical laboratories can become sentinel surveillance sites and routinely submit CRAB isolates to the AR Lab Network for bacterial identification and confirmation, and carbapenemase and antimicrobial susceptibility testing at no cost to the healthcare facility or lab.
 - The AR Lab Network can provide slants and shipping materials to support these efforts.

Infection Control

- Place any patient with CRAB on Contact precautions, and if possible, in a single room.
- If there is more than one patient with NDM CRAB admitted, consider cohorting these patients together, and dedicate staff and medical equipment, when possible.
- Do **NOT** reuse or extend use of gloves or gowns (<https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control-recommendations.html>).
- Routinely clean and disinfect surfaces and shared medical equipment in the patient care environment, unit, or facility using an Environmental Protection Agency (EPA)-registered hospital-grade disinfectant effective against *A. baumannii*.
- Perform hand hygiene before putting on personal protective equipment (PPE), after removing PPE, and before and after patient contact.
- Regularly monitor healthcare personnel adherence to infection prevention practices (<https://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/MonitoringAdherenceToHCPracticesThatPreventInfection.aspx>).
- Continue infection control measures for the duration of a CRAB-colonized or -infected patient's admission. There is no 'clearance' for CRAB colonization.

Communication

- Communicate a patient's multidrug-resistant organism status to any receiving healthcare facility prior to transfer. This includes patients who are confirmed with NDM CRAB as well as any patient with a confirmed CRAB (carbapenemase mechanism unknown or not tested) culture.
- Communicate status of exposed patients discharged from outbreak facilities to receiving healthcare facilities. Recommend screening exposed patients for NDM CRAB (see active surveillance).

Reporting Requirements

Report any cases of carbapenemase-producing organisms, other unusual or highly-resistant organisms including pan-nonsusceptible CRAB, or outbreaks of CRAB to VCPH CDO within 24 hours by phone at 805-981-5201, or by Confidential Morbidity Report (CMR) at (Fax) 805-981-5200 or through our website at http://www.vchca.org/images/public_health/For_Hlth_Care_Providers/CMR_2020-11-05_RE.pdf and the CDPH HAI Program at HAIProgram@cdph.ca.

Additional Resources

CDPH Carbapenem-Resistant Organisms (*Pseudomonas*, *Acinetobacter* species) Quicksheet

https://www.cdph.ca.gov/Programs/CHCQ/HAI/CDPH%20Document%20Library/CRO_Quicksheet_Oct2020.pdf

CDPH Carbapenem-Resistant and Carbapenemase-Producing Organisms Webpage

https://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/CRE_InfectionPreventionStrategies.aspx

CDC/CDPH Webinar on Multidrug-resistant Organism Prevention

<https://youtu.be/5ulpo7wi6xk>(Recording)

https://www.cdph.ca.gov/Programs/CHCQ/HAI/CDPH%20Document%20Library/C_auris_AHR_CDC_CDPHshareWebinarCombined_ADA_121020.pdf (Slides)

CDC *Acinetobacter* in Healthcare Settings

<https://www.cdc.gov/hai/organisms/acinetobacter.html>

This bulletin is intended to improve the public health in our county by keeping physicians and nurses informed of noteworthy diagnoses, disease trends and other events of medical interest. Another goal of a public health department is to educate. We hope that you will use this information to increase your awareness. Please allow us to continue in our role of speaking to the press so that we may maximize the educational message to the benefit of all citizens of Ventura County.