

Reporting of Carbapenemase-Producing Organisms (CPO)

Guidance for Local Health Department Staff

Effective November 1, 2024, identification of any carbapenemase-producing organism is reportable in North Carolina within 24 hours under Administrative Code Rule 10A NCAC 41A .0101 [CPO Rule Change](#).

Carbapenemases are enzymes that break down carbapenem antibiotics. Several of the genes that produce these carbapenemases can be easily transferred between different kinds of bacteria. Due to their ability to transfer resistance, carbapenemase-producing organisms are of urgent public health concern.

Case definition

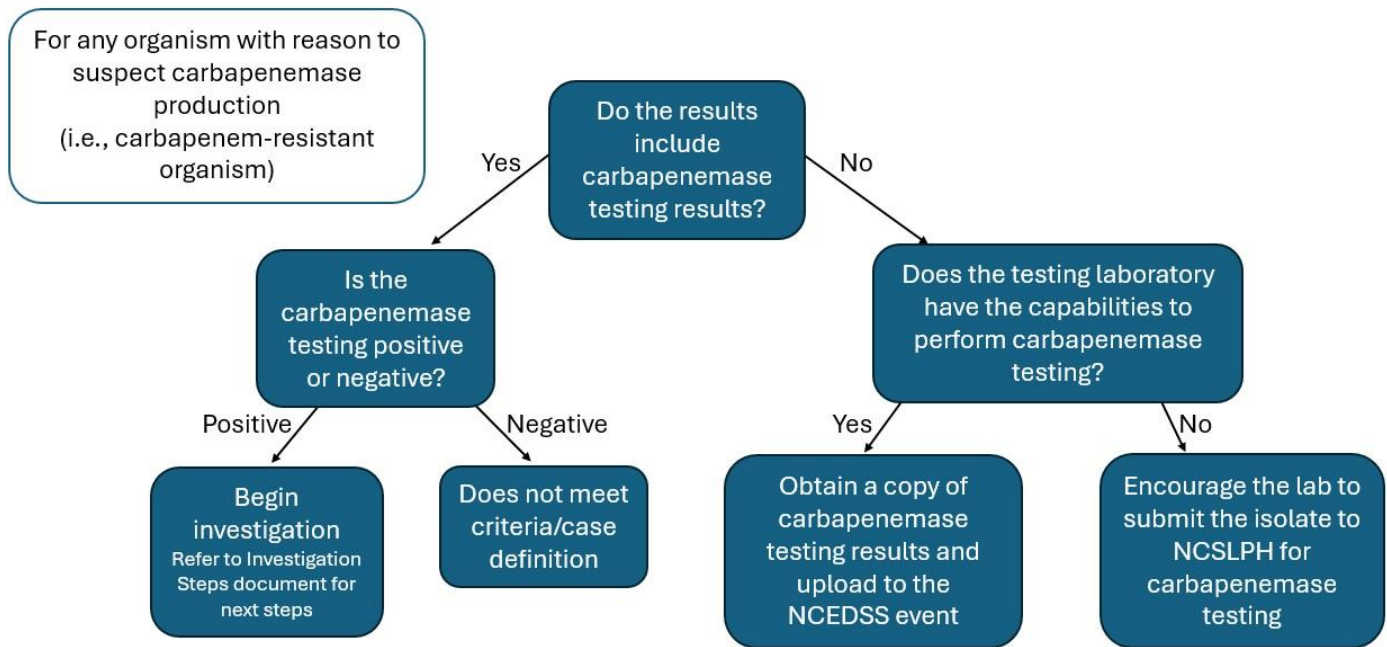
Any specimen (regardless of organism) that is identified as carbapenemase-producing meets case definition. Common examples of carbapenemases are KPC, NDM, OXA, VIM and IMP. For more information on confirmatory laboratory evidence, please refer to the CPO Case Definition [CPO Case Definition.pdf](#). The New Case Algorithm [CPO New Case Algorithm](#) can help determine whether a result should be considered a new case or linked to an existing case for that patient.

Surveillance

The SHARPPS (DPH HAI) team is working with the NCEDSS and ELR teams to streamline CPO surveillance. In 2025, the CRE disease workflow in NCEDSS will be retired and replaced with a CPO workflow. Until the CPO workflow is live, continue to use the CRE workflow with the new case definition applied. All organisms should be evaluated, not limited to *Enterobacter* spp, *E. coli*, or *Klebsiella* spp. The SHARPPS team will be available to assist with evaluating need for investigation and case classification (administrative package questions). All other CRE question packages are applicable to CPO as is and should be addressed in the current state.

Carbapenem-resistant Enterobacteriaceae (CRE) that do not produce carbapenemase are no longer reportable. However, many CRE and other bacteria can be carbapenemase-producing. Common bacteria that produce carbapenemase include CRE, carbapenem-resistant *Pseudomonas aeruginosa* (CRPA) and carbapenem-resistant *Acinetobacter baumannii* (CRAB).

If an organism is found to be carbapenem-resistant, laboratories should perform carbapenemase testing to determine if it is a CPO. If a laboratory does not have the capabilities to test for carbapenemase-production, the LHD should request the isolate be sent to the state lab for additional testing. For more information on isolate submission to the state lab, refer to the [isolate submission memo](#). See flowchart below for guidance on next steps when an organism suspected of carbapenemase production is identified (i.e., carbapenem-resistant organisms).



What to do if you have a Confirmed CPO Case

If a CPO is identified (infection or colonization)

- Place patient on Contact Precautions or Enhanced Barrier Precautions (EBP-nursing home settings only)
- Place in a private room (or paired with another patient with the same carbapenemase identified)
- Flag the patient's chart for CPO so appropriate precautions are in place for future encounters
- Remind facilities to communicate the need for transmission-based precautions upon transfer to other facilities (including acute care facilities, LTCFs, dialysis, home health, etc.)
- Use the CPO Investigation Overview [CPO Investigation Steps.pdf](#) to gather information about the case
- Communicate findings via NCEDSS and ensure the lab result (with susceptibilities/AST results) is entered
- If the patient has had healthcare exposures in the 90 days prior to specimen collection, screening of other patients may be necessary. Please contact the SHARPPS team to evaluate the need for and arrange screening at no cost to the facility.

The SHARPPS team is available for consultation, including questions about control measures (e.g. roommate selection assistance), education, and investigation.

Resources

Case definition

[CPO Case Definition.pdf](#)

Investigation overview

[CPO Investigation Steps.pdf](#)

New case algorithm
[CPO Case Algorithm](#)

CDC: Preventing MDROs
<https://www.cdc.gov/healthcare-associated-infections/php/preventing-mdros/index.html>

Questions? Contact the SHARPPS team at nchai@dhhs.nc.gov