

A blurred background image of a microscope, showing the eyepiece, objective lenses, and the stage. The image is overlaid with a blue gradient that contains the title text.

LA COUNTY CLINICAL LABORATORY CARBAPENEMASE- PRODUCING ORGANISMS TESTING PRACTICES

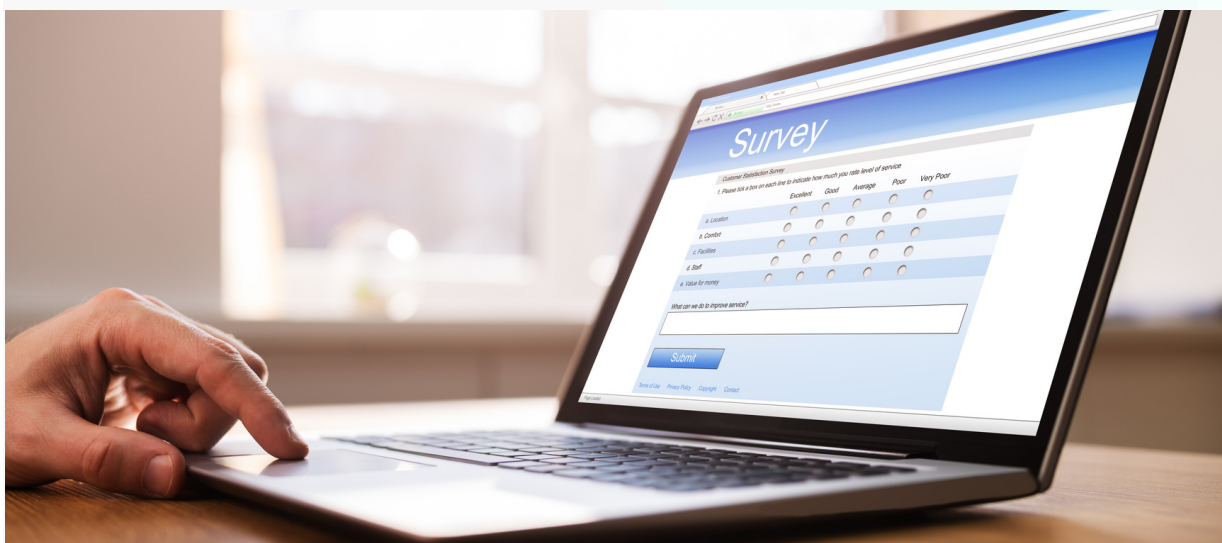
2025

**Los Angeles County
Department of Public
Health (LACDPH)**

Summary findings of the LA County Clinical Laboratories
Carbapenemase-Producing Organisms Testing Practices Survey.

Executive Summary

A 2025 survey of clinical laboratories in LA County assessed capabilities for detecting carbapenemase-producing organisms (CPOs) and current *Shigella* testing practices. With a 51% response rate, we found that 71% of facilities have access to CPO testing, primarily driven by the need to implement appropriate infection control measures (75%). The most common diagnostic methods were the Cepheid Xpert®Carba-R and Hardy NG-TEST®CARBA 5. The most frequently tested antimicrobial agents were Ceftolozane-tazobactam (83%) and Ceftazidime-avibactam (79%). For *Shigella* testing, 80% of labs perform antimicrobial susceptibility testing, with 52% testing for Azithromycin on request. Finally, 70% of labs requested newsletter communication from LACDPH detailing local CPO rates and laboratory testing methods/outcomes.



Survey

Los Angeles County Department of Public Health (LACDPH) distributed a voluntary survey to clinical laboratories within its jurisdiction to better understand their capabilities in detecting carbapenemase-producing organisms (CPOs) including those with KPC, NDM, VIM, IMP, and OXA-48. The survey was distributed via email to a departmental listserv comprising approximately 91 facilities, including a mix of larger academic institutions and smaller community facilities.

In addition, the survey also assessed existing laboratory practices for testing *Shigella* to commence the monitoring of extensively drug-resistant (XDR) shigellosis cases.

Question Themes

Demographics

Laboratory Information and point of contact.

CPO Testing Capability

Testing for CPOs, testing coverage, and testing methods.

Antimicrobial Susceptibility Testing (AST)

The broad-spectrum agents used for AST.

Antimicrobial Susceptibility Testing for *Shigella*

Shigella AST capabilities and methods used.

LACDPH Support

Ways LACDPH can assist laboratories with CPO questions.

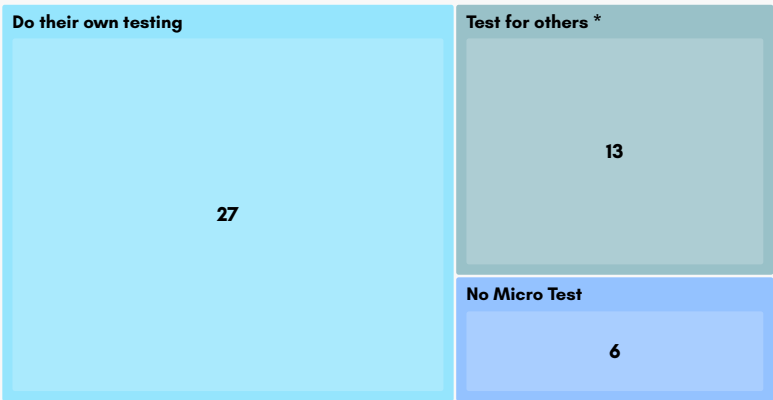


Participation

Summary

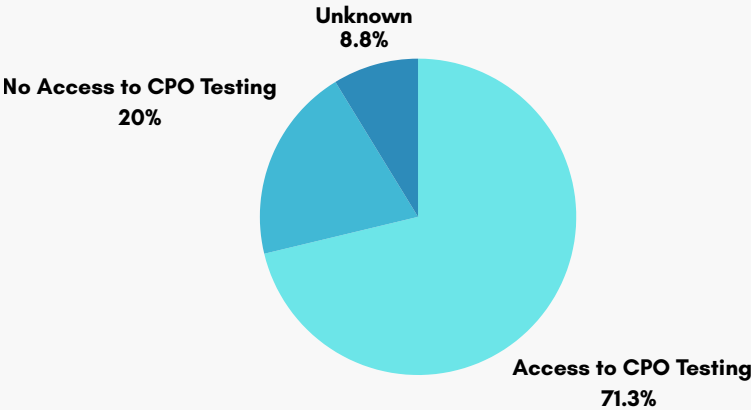
We received 46 unique responses from the 91 surveys distributed, representing a 51% response rate. Of the respondents, 31% were academic medical centers and 69% were smaller, community-based hospitals. Among these, 27 conducted microbiology testing for their own laboratories only, 13 performed testing for their own and one or more additional laboratories, and 6 did not perform any microbiology testing.

Microbiology Testing



*The 13 labs served an additional 31 facilities. A total of seventy-one (71) facilities had microbiology coverage (27+13+31= 71)

Facilities with Access to CPO Testing n=80*



*Includes LAC acute care hospital laboratories performing testing and others with access to carbapenemase testing results

Rationale for CPO Testing

Laboratories conducting CPO testing were asked to specify their reasons for initiating testing, while those not performing such tests were asked to explain their reasons for not doing so. The most common responses from both groups are summarized below.

Reasons for Testing:

Infection Control Measures 75%	Supports timely infection control measures to prevent the spread of CPOs within healthcare facilities. Early detection informs on patient isolation and cohorting, and on appropriate transmission-based precautions.
Guiding Antibiotic Treatment 54%	Guides appropriate antibiotic treatment by identifying the specific resistance mechanisms, enabling selection of the most effective therapy.
LACDPH Recommendation 50%	Supports LACDPH recommendations aimed at monitoring and controlling the spread of MDROs. Test results also contribute to public health education efforts by providing data that inform guidelines, raise awareness, and promote responsible antibiotic use.

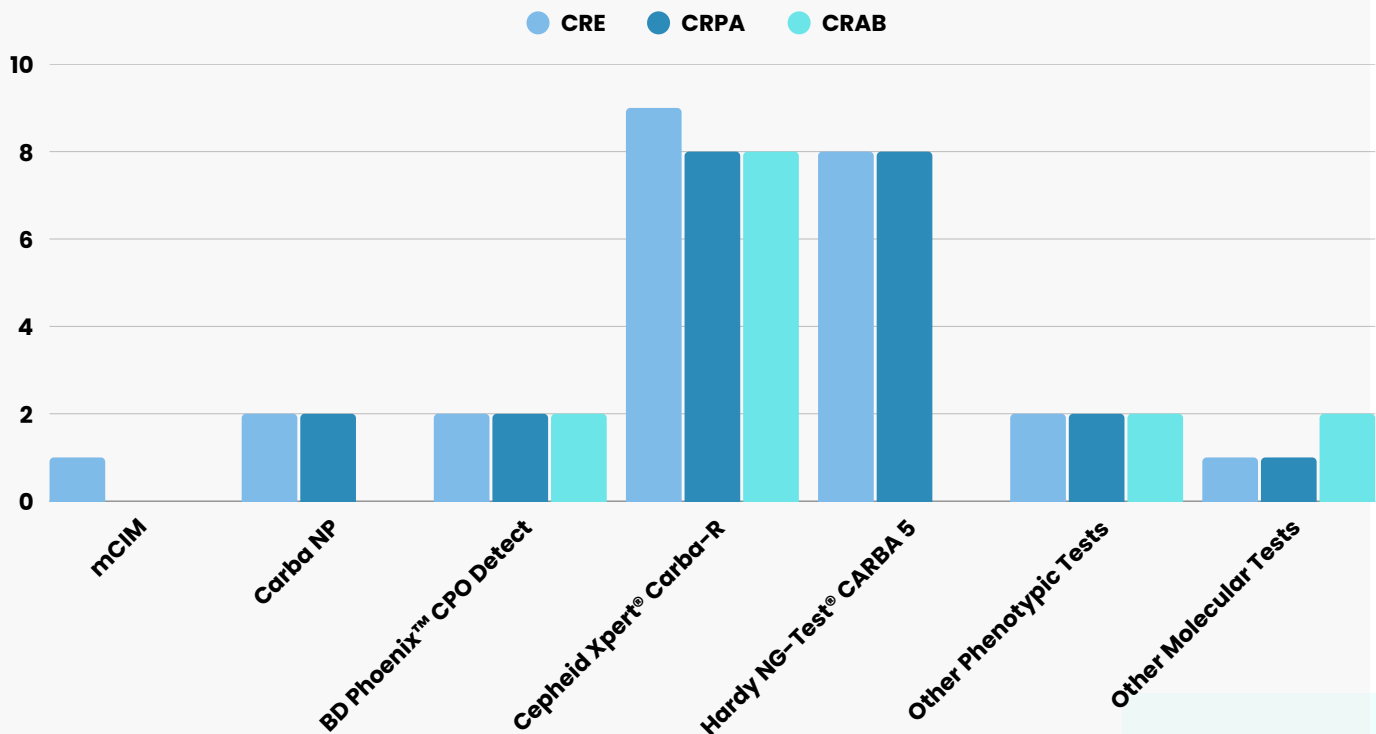
Reasons for Not Testing:

Lack of Equipment and Technology 32%	Some laboratories have limited access to equipment and reagents required for CPO testing.
Cost & Financial Constraints 32%	Budget limitations and staffing may prevent laboratories from implementing CPO testing.
Other 45 %	Other reasons cited included outsourcing testing to partnering or reference laboratories. Additionally, a few laboratories reported that they are currently in the process of validating CPO testing.

Laboratories Testing CPOs

Testing Methods Use to Identify CPOs

n=24



CRE: carbapenem-resistance Enterobacterales; CRPA: carbapenem-resistant *Pseudomonas aeruginosa*; CRAB: carbapenem-resistant *Acinetobacter baumannii*.

Most frequently used method to identify CPOs:

Cepheid Xpert® Carba-R

- PCR- for KPC, NDM, VIM, IMP and OXA-48
- Isolates & surveillance swabs
 - Enterobacterales
 - P. aeruginosa*
 - A. baumannii*

Hardy NG-TEST® CARBA 5

- Lateral flow assay for KPC, NDM, VIM, IMP and OXA-48
- Isolates
 - Enterobacterales
 - P. aeruginosa*

Antimicrobial Susceptibility Testing

Antimicrobial susceptibility testing (AST) performed on agents selected based on clinical guidelines and therapeutic relevance, to identify potential treatment options for infections caused by CPOs based on each isolate's resistance profile.

- **Ceftolozane-tazobactam (83%)** and **Ceftazidime-avibactam (79%)** were the most frequently tested antimicrobial agents among laboratories.
- **Cefiderocol (58%)**, was tested in over half of laboratories even though it is not yet available on the most widely used testing platforms.
- **Tigecycline (50%)**, **Colistin** or **polymyxin B (42%)**, and **Imipenem-relebactam (38%)** were tested by fewer than half of the laboratories.
- Only **8%** of laboratories tested **Sulbactam-durlobactam**, a newer agent, suggesting limited adoption or access.

Antimicrobial Agent	# Laboratories n=24	%
Ceftolozane-tazobactam	20	83
Ceftazidime-avibactam	19	79
Minocycline	16	67
Meropenem-vaborbactam	15	63
Cefiderocol	14	58
Tigecycline	12	50
Colistin or polymyxin B	10	42
Imipenem-relebactam	9	38
Sulbactam-durlobactam	2	8
None of these	2	8



ISDA Clinical Guidance for Treating antimicrobial resistant infections

The Infectious Diseases Society of America (IDSA) updated its clinical guidance for treating antimicrobial-resistant infections, including those caused by CRE. Many of the antibiotics indicated above (Ceftazidime-avibactam, Meropenem-vaborbactam, Imipenem-relebactam, Cefiderocol) are specifically recommended by IDSA for treating CRE infections, especially those caused by CPOs such as KPC, NDM, and OXA-48-like producers.

[Infectious Diseases Society of America 2024 Guidance on the Treatment of Antimicrobial-Resistant Gram-Negative Infections](#)

Shigella Antimicrobial Susceptibility Testing

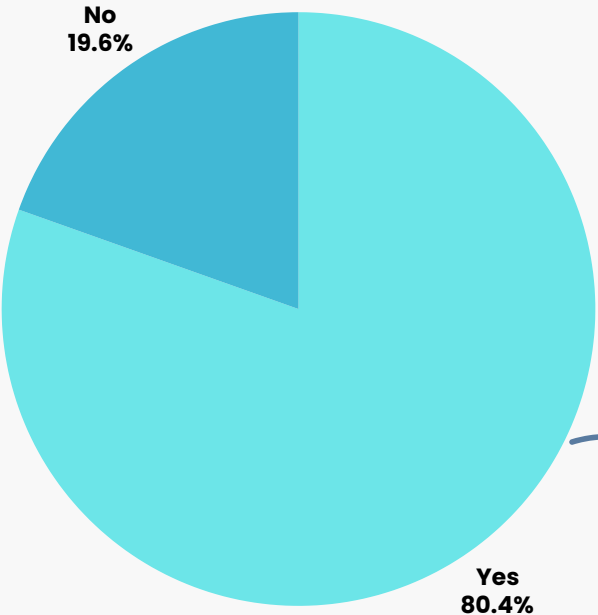


Drug-Resistant *Shigella* in LA County (LAC)

Extensively drug-resistant (XDR) shigella cases are on the rise in LAC. Azithromycin is currently the preferred treatment option for these infections.

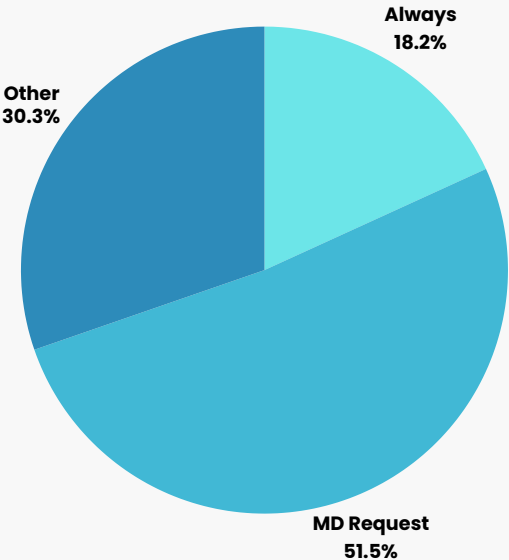
Do you do AST for Shigella?

n=46



When do you test Azithromycin

n=37



LACDPH's Support

How can we help?

Laboratories were asked which CPO-related information and materials provided by LACDPH they would find most useful, as well as their preferred delivery methods. The most common responses are summarized below.

Useful CPO-Related Information/Materials n=46

- Rates of CPO in LAC (70%)
- Summary of clinical laboratories CPO testing methods and outcomes (67%)
- Updates on how the CPO data that are submitted to LAC are being utilized (59%)

Preferred delivery method for educational materials n=46

- Newsletter (80%)
- Webinar (52%)
- Recorded Video (35%)



For questions, please email the Los Angeles County Department of Public Health Healthcare Outreach Unit at hai@ph.lacounty.gov.

[Website](#)