

Gram-negative resistance in North America: Why it matters now.

New approaches. Relevant decisions.
Healthier futures.

From the grandfather in a nursing home to a newborn in the NICU, gram-negative infections can affect any of us—anywhere. Rising resistance is outpacing many laboratories’ capabilities to detect it—making timely, accurate AST more critical than ever.

Gram-negative resistance affects all of us — across all ages and care settings.



Grandfather in a nursing home



A newborn in the NICU



Recovering from surgery



Your community

1 Why gram-negative resistance is a topic for you – now
Recent CDC data show persistent and emerging antimicrobial-resistance threats in U.S. healthcare settings.

50,000
outbreak responses

CDC Data shown reflect activities from the first year of American Rescue Plan supplements, October 2021-August 2022, with more than 50,000 outbreak responses to novel multidrug-resistant germs.¹

>460%
rise in NDM-CRE

CDC AR & Patient Safety Portal reported 3.3% CRE resistance in 2024 (772 resistant / 23,673 tested isolates).³

3.3%
CRE resistant

NDM-producing CRE infections increased by more than 460% in the U.S. from 2019 to 2023.²

7
key AR threats

CDC updated the U.S. burden for seven antimicrobial-resistant pathogens commonly found in healthcare settings, including CRE, CR-Acinetobacter, ESBL-producing Enterobacterales and MDR *P. aeruginosa*.¹

20%
combined increase

Bacterial AR hospital-onset infections caused by six pathogens increased a combined 20% during the pandemic vs. the pre-pandemic period, peaking in 2021.¹

Resistance is changing faster than many laboratories’ AST workflows.

Antibiograms are a valuable antimicrobial stewardship resource but may not provide patient-specific susceptibility information.

2 What’s new in testing, therapies and options?

What’s new in testing approaches?

- U.S. resistance patterns and emerging carbapenemases reinforce the need for reliable organism identification and susceptibility testing.
- CDC urges prompt testing to identify the carbapenemase type when CRE is identified.²
- NDM and other metallo-beta-lactamases can alter which agents remain active, making resistance-mechanism awareness clinically relevant.²
- Accurate laboratory detection and rapid response are core CDC actions against antimicrobial resistance.^{1,4}
- FDA maintains recognized or otherwise identified susceptibility test interpretive criteria (STIC/breakpoints) for antibacterial drugs.⁶



CDC: prompt testing to identify carbapenemase type can help guide effective treatment when CRE is identified.²

What’s new in therapies?

FDA-approved and FDA-referenced agents with activity against designated susceptible gram-negative organisms include:

- Ceftazidime/avibactam⁶
- Imipenem/cilastatin/relebactam⁶
- Ceftolozane/tazobactam⁶
- Plazomicin⁶
- Eravacycline⁶
- Aztreonam/avibactam (EMBLAVEO)⁶
- Cefepime/enmetazobactam (EXBLIFEP)⁶

Indications and susceptibility criteria differ by agent; refer to current FDA labeling and STIC.⁶



FDA: susceptibility test interpretive criteria (breakpoints) are drug- and organism-specific and should be checked against current sources.^{6,7}

What’s new in testing options?

Broader antimicrobial menus, expanded testing capabilities, and more choices for your lab as resistance threats evolve.



Carbapenemase detection (KPC, NDM, OXA-48-like, VIM, IMP)



MIC-based AST including new agents



Expanded panels for urinary, respiratory, intra-abdominal and wound infections



Solutions for low- and high-volume labs and outbreaks.

3 Why take a closer look at your lab’s gram-negative AST workflow?

Different roles. One shared goal: advancing antimicrobial stewardship

For laboratory directors

- Facilitate timely reporting of susceptibility results.
- Generate standardized susceptibility results for laboratory and clinical workflows.
- Help laboratories prepare for regulatory and accreditation requirements.
- Promote efficient utilization of laboratory resources.



For scientists/technicians

- Work with reliable, easy-to-use solutions
- Generate standardized susceptibility results.
- Increase efficiency and reduce hands-on time
- Promote standardized laboratory processes



For procurement professionals

- Evaluate solutions based on laboratory and organizational needs.
- Consider total cost of ownership, including laboratory workflow and operational efficiency.
- Select scalable technologies supported by published evidence.
- Support institutional antimicrobial stewardship initiatives.



For every patient

- Timely AST results provide susceptibility information to support antimicrobial treatment decisions.
- Helps support appropriate antimicrobial use



Don’t wait. Take action now.

Re-evaluate your AST workflow today to keep pace with resistance, address evolving antimicrobial resistance and strengthen laboratory preparedness.

Visit our MDRO Testing Expansion page to learn more:



We all play a role in fighting resistance.



Through timely diagnostics, stewardship & education, we can protect the patients we care for today—and those we’ll care for tomorrow.



Diagnostic insights. Informed decisions. Better-informed patient management.

References

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5. CDC. Antimicrobial Resistance Laboratory Network Testing, June 3, 2025. <https://www.cdc.gov/antimicrobial-resistance-laboratory-networks/php/about/testing-services.html>
6. FDA. Antibacterial Susceptibility Test Interpretive Criteria (current FDA-recognized/identified STIC). <https://www.fda.gov/drugs/development-resources/antibacterial-susceptibility-test-interpretive-criteria>
7. FDA. Antimicrobial Resistance and Medical Devices; AST System Devices - Updating Breakpoints in Device Labeling (Sept. 2023). <https://www.cdc.gov/antimicrobial-resistance-laboratory-networks/php/about/testing-services.html>