Poster 1445

IDWeek, October 21–24, 2026
Washington DC, USA

Contact: Boudewijn L.M. DeJonge, Shionogi Inc.
Email: boudewijn.dejonge@shionogi.com

Activity of Cefiderocol Against Carbapenem-Resistant *Pseudomonas aeruginosa* Encountered in Each of the Different United States Census Bureau Divisions

Boudewijn L.M. DeJonge,[1] Thy Le,[1] Samuel Simon,[1] Sean T. Nguyen,[1] Joshua M. Maher,[2] Rodrigo E. Mendes,[2] Hidenori Yamashiro,[3] Yoshinori Yamano[3]
[1]Shionogi Inc., Florham Park, New Jersey, USA; [2]Element Iowa City (JMI Laboratories), North Liberty, Iowa, USA; [3]Shionogi & Co., Ltd., Osaka, Japan

Copies of this poster obtained through Quick Response (QR) Code are for personal use only and may not be reproduced without permission from IDWeek 2026 and the authors of the poster.

SHIONOGI

INTRODUCTION

- Treatment options for infections caused by carbapenem-resistant (CR) *Pseudomonas aeruginosa* are limited.
- The activities of cefiderocol, a siderophore-conjugated cephalosporin, and β-lactam–β-lactamase inhibitor (BL–BLI) combinations were evaluated against CR *P. aeruginosa* collected in the 9 different US Census Bureau divisions used by the Centers for Disease Control and Prevention to assess health statistics.

METHODS

- A total of 5478 *P. aeruginosa* isolates were collected between 2020 and 2024 from 38 centers in the USA as part of the SENTRY Antimicrobial Surveillance Program.
- Minimum inhibitory concentrations were determined according to Clinical and Laboratory Standards Institute (CLSI) guidelines using broth microdilution with iron-depleted cation-adjusted Mueller–Hinton broth (ID-CAMHB) for cefiderocol and CAMHB for comparator agents.
- Susceptibility was assessed according to 2026 CLSI and US Food and Drug Administration breakpoints.
- Carbapenem resistance was defined as resistance to meropenem and imipenem according to CLSI breakpoints.

CONCLUSIONS

- The prevalence of CR *P. aeruginosa* across the USA varies by Census Bureau division, and resistance remains driven by non-carbapenemase mechanism(s).
- Cefiderocol was the most active agent against CR *P. aeruginosa* across all Census Bureau divisions, with higher activity compared to BL–BLI combinations.

RESULTS

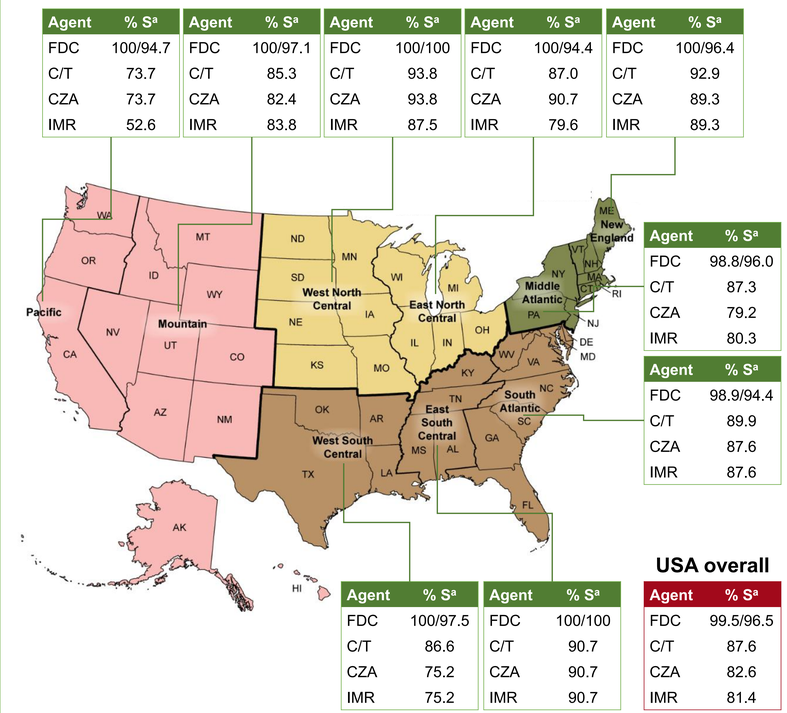
- Overall, 11.4% of *P. aeruginosa* isolates were carbapenem resistant, with the highest percentages found in the Middle Atlantic, Mountain, West South Central, and East South Central divisions, and the lowest in the West North Central division (**Table 1**).
- Only 12 isolates (1.9%) contained carbapenemase genes: 6 in isolates in the West South Central division, 2 in the Middle Atlantic division, and 1 each in the Mountain, East North Central, New England, and Pacific divisions (**Table 1**).
- Across all divisions, >94% of the isolates were susceptible to cefiderocol, regardless of the breakpoint applied, whereas the BL–BLI combinations showed lower susceptibilities (52.6%–90.7% for imipenem-relebactam and 73.7%–93.8% for ceftazidime-avibactam and ceftolozane-tazobactam) (**Figure 1**).

Table 1. Prevalence of CR *P. aeruginosa* encountered across US Census Bureau divisions, collected as part of the SENTRY Antimicrobial Surveillance Program (2020–2024)

Census Bureau division	Sites, n	Isolates collected, n	CR phenotype		Carbapenemase detected
			n	%	
All	**38**	**5478**	**622**	**11.4**	**n=12**
Middle Atlantic	5	994	173	17.4	IMP-83 (n=1), NDM-1 (n=1)
Mountain	2	422	68	16.1	VIM-2 (n=1)
West South Central	5	872	121	13.9	KPC-2 (n=1), VIM-1 (n=1), GES-40 (n=1), GES-59 (n=1), VIM-2 (n=2)
East South Central	3	411	54	13.1	None
East North Central	6	587	54	9.2	IMP-13 (n=1)
New England	4	320	28	8.8	NDM-1 (n=1)
Pacific	3	237	19	8.0	IMP-1 (n=1)
South Atlantic	6	1135	89	7.8	None
West North Central	4	500	16	3.2	None

CR, carbapenem resistant; GES, Guiana extended-spectrum β-lactamase; IMP, imipenemase metallo-β-lactamase; KPC, *Klebsiella pneumoniae* carbapenemase; NDM, New Delhi metallo-β-lactamase; VIM, Verona integron-encoded metallo-β-lactamase.

Figure 1. Susceptibilities to cefiderocol and BL–BLI combinations of CR *P. aeruginosa* isolates across US Census Bureau divisions, collected as part of the SENTRY Antimicrobial Surveillance Program (2020–2024)



Agent	% S[a]
FDC	100/94.7
C/T	73.7
CZA	73.7
IMR	52.6

Agent	% S[a]
FDC	100/97.1
C/T	85.3
CZA	82.4
IMR	83.8

Agent	% S[a]
FDC	100/100
C/T	93.8
CZA	93.8
IMR	87.5

Agent	% S[a]
FDC	100/94.4
C/T	87.0
CZA	90.7
IMR	79.6

Agent	% S[a]
FDC	100/96.4
C/T	92.9
CZA	89.3
IMR	89.3

Agent	% S[a]
FDC	98.8/96.0
C/T	87.3
CZA	79.2
IMR	80.3

Agent	% S[a]
FDC	98.9/94.4
C/T	89.9
CZA	87.6
IMR	87.6

Agent	% S[a]
FDC	100/97.5
C/T	86.6
CZA	75.2
IMR	75.2

Agent	% S[a]
FDC	100/100
C/T	90.7
CZA	90.7
IMR	90.7

USA overall

Agent	% S[a]
FDC	99.5/96.5
C/T	87.6
CZA	82.6
IMR	81.4

[a]Susceptibility for FDC according to CLSI (≤4 μg/mL)/FDA (≤1 μg/mL) breakpoints. CLSI and FDA breakpoints for C/T (≤4/4 μg/mL), CZA (≤8/4 μg/mL), and IMR (≤2/4 μg/mL) are harmonized.
BL–BLI, β-lactam–β-lactamase inhibitor; CLSI, Clinical and Laboratory Standards Institute; CR, carbapenem resistant; C/T, ceftolozane-tazobactam; CZA, ceftazidime-avibactam; FDA, US Food and Drug Administration; FDC, cefiderocol; IMR, imipenem-relebactam; S, susceptibility.

Disclosures
BLMDeJ, TL, SS, STN, HY, YY are employees of Shionogi. JMM and REM are employees of Element Iowa City, who received funding from Shionogi and other pharmaceutical companies to conduct surveillance research.

Funding
This study was funded by Shionogi & Co., Ltd., Osaka, Japan.

Acknowledgments
Editorial support was provided by Highfield, Oxford, UK; this support was funded by Shionogi & Co., Ltd., Osaka, Japan.