

P-1220 Analyzing Trends of Cefiderocol Susceptibility Across Five Years of the SENTRY Surveillance Program

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INTRODUCTION

- Cefiderocol is a siderophore cephalosporin with activity against a wide variety of Gram-negative bacteria, including carbapenemase-producing isolates.
- It was approved for clinical use in the USA in 2019 and in Europe in 2020. We have assessed the in vitro activity for cefiderocol against isolates that were collected between 2020–2024 in Europe and the USA, after it was introduced onto the market, as part of the SENTRY Antimicrobial Surveillance Program.
- In this study, trends in cefiderocol susceptibility across five years in the surveillance studies were analyzed.

MATERIALS AND METHODS

Bacterial strains

- A total of 60,582 clinical isolates of Gram-negative bacteria, which were collected from various infection sites of the patients in Europe and the USA during 2020 to 2024 as part of SENTRY surveillance studies, were analyzed.
- Two-thirds of the isolates collected were Enterobacterales (N=40,048), followed by *Pseudomonas aeruginosa* (N=11,757), *Acinetobacter baumannii* complex (N=4,806), and *Stenotrophomonas maltophilia* (N=2,346) (Figure 1).

Susceptibility Testing

- Minimum inhibitory concentrations (MICs) for cefiderocol were determined according to CLSI guidelines using broth microdilution with iron-depleted cation-adjusted Mueller–Hinton broth.
- Susceptibility to cefiderocol and carbapenems were defined using 2025 CLSI breakpoints.
- The percentage susceptibility (%S) to cefiderocol across 5 years were determined for Enterobacterales, *P. aeruginosa*, *A. baumannii* complex and *S. maltophilia* including carbapenem (meropenem or imipenem)-resistant or -non-susceptible subset in each region (Europe and the USA).

RESULTS

- Overall, consistent high activity was demonstrated for cefiderocol against Enterobacterales, *P. aeruginosa*, *A. baumannii* complex and *S. maltophilia* across five years (Figures 2 and 3).
- The percentage susceptibility (%S) based on the CLSI breakpoints was $\geq 99.5\%$ for Enterobacterales and $\geq 92.3\%$ for carbapenem-resistant isolates irrespective of region.
- The %S based on the CLSI breakpoint was 98.8–100% for all *P. aeruginosa* and 95.3–100% for the carbapenem-nonsusceptible (CarbNS) subsets. The lowest %S (95.3%) was observed for CarbNS *P. aeruginosa* in Europe in 2024.
- The %S based on CLSI breakpoint was 93.2–98.9% for all *A. baumannii* complex and 87.0–97.7% for CarbNS subset. %S <90% (89.4% and 87.0%) was observed for CarbNS *A. baumannii* complex in the USA and Europe in 2024, respectively.
- The %S based on the CLSI breakpoint was 97.2–100% for all *S. maltophilia*.

Figure 1: Trends in number of isolates (A) and carbapenem-resistance (CR) or carbapenem non-susceptibility (CarbNS) (B) across five years of the SENTRY surveillance program (2020–2024).

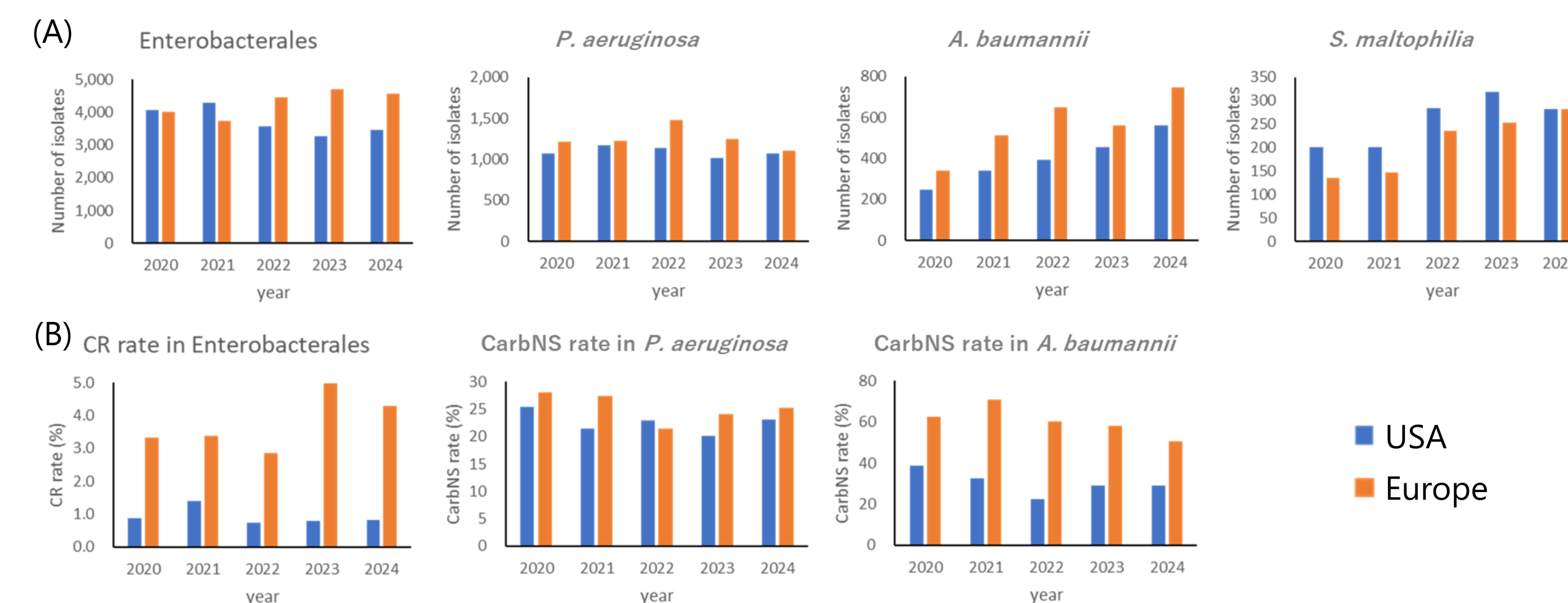


Figure 2: Susceptibility to cefiderocol by year against Gram-negative isolates collected from US hospitals as part of the SENTRY surveillance program (2020–2024).

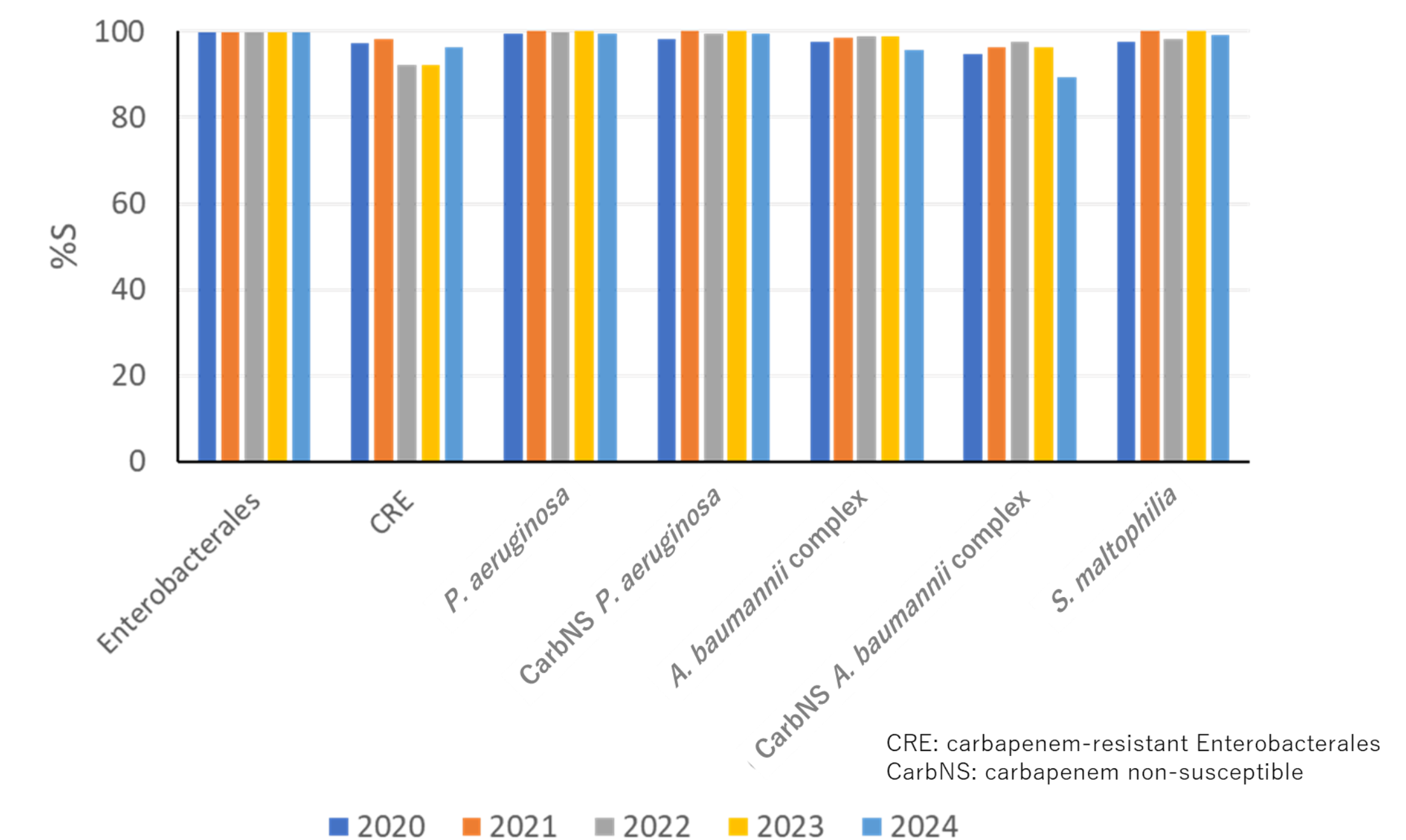
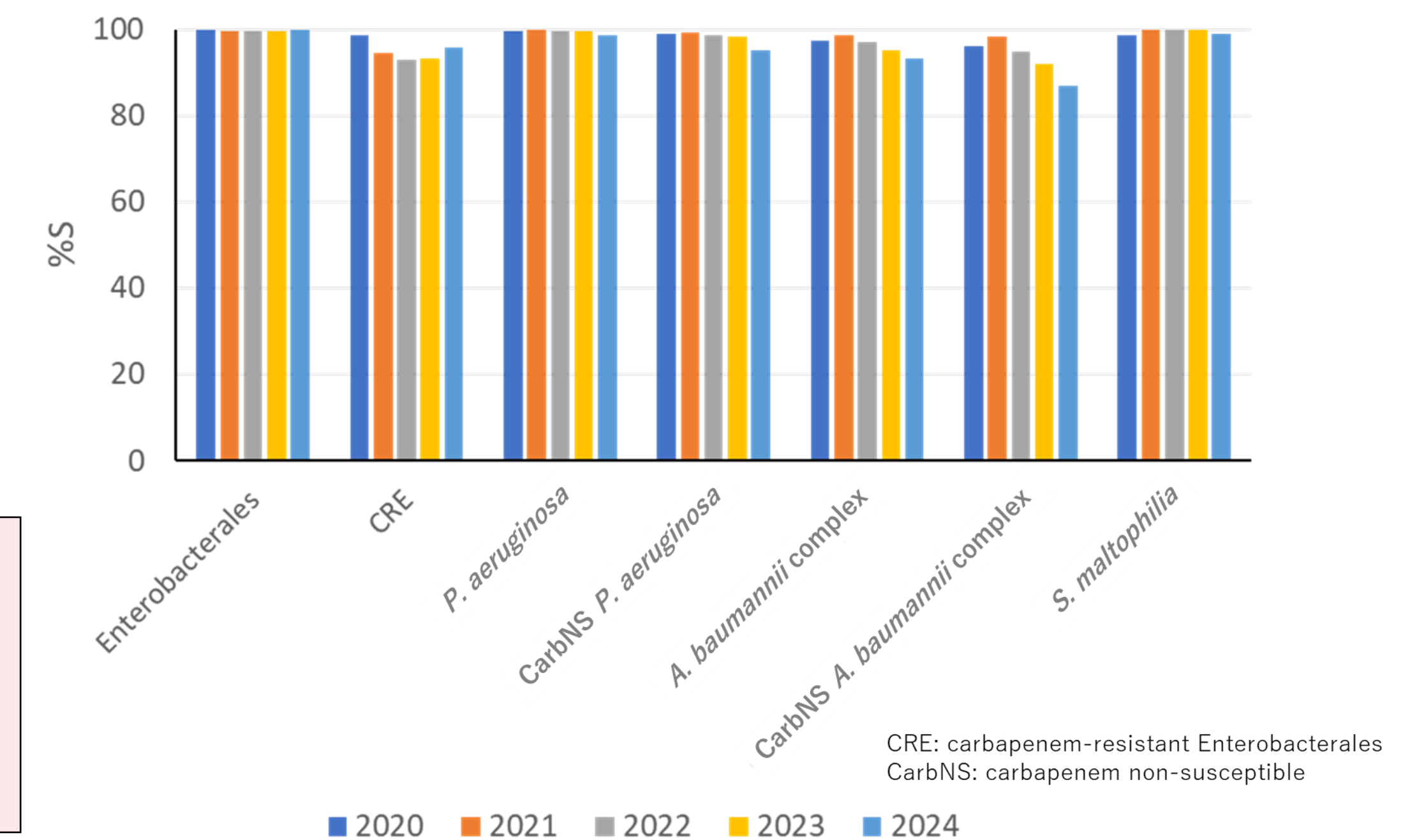


Figure 3: Susceptibility to cefiderocol by year against Gram-negative isolates collected from European hospitals as part of the SENTRY surveillance program (2020–2024).



CONCLUSIONS

- Consistent high activity for cefiderocol against Gram-negative isolates, including carbapenem non-susceptible subsets, was observed across five years, after cefiderocol was introduced onto the market.
- Continued monitoring of cefiderocol susceptibility is warranted to assure its activity is maintained over time.



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