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Five-Year Real-World Trends in Outpatient Anti-Infective Therapy Across U.S. Physician Office Infusion Centers

Lucinda J. Van Anglen, PharmD, FIDSA¹;
Richard L. Hengel, MD, FIDSA²; Brian S. Metzger, MD, MPH³;
Thomas K. Sleweon, MD⁴; Erika M. Young, DO⁴
Jorge R. Bennett, MD⁵; Stacey E. Baker, MD⁶;
Anurag Duggal, MD⁷; Quyen Luu, MD⁸;
Richard C. Prokesch, MD, FIDSA²;
Nikhil K. Bhayani, MD, FIDSA⁹; Dina N. Torten, MD⁹;
Kimberly A. Couch, PharmD, MA, FIDSA, FASHP¹

¹Healix Infusion Therapy, Sugar Land, TX; ²Atlanta ID Group, Atlanta, GA;
³Austin Infectious Disease Consultants, Austin, TX; ⁴Infectious Disease Specialists, Valparaiso, IN; ⁵Infectious Disease Doctors Medical Group, APC, Walnut Creek, CA; ⁶Infectious Disease Physicians, PA, Miami, FL; ⁷ID Squad, Frisco, TX; ⁸Central Georgia Infectious Disease, LLC, Macon, GA; ⁹DFW Infectious Diseases, PLLC, Bedford, TX

KEY FINDINGS

- This 5-year analysis of 56,502 patients across 107 POICs demonstrates the range of infections and anti-infective therapies that can be managed in the outpatient setting.
- Bone and joint, skin and skin structure, genitourinary, intra-abdominal infections, and bacteremia accounted for ~85% of infections treated.
- Antibiotics accounted for 94.1% of utilization, led by cephalosporins, daptomycin, and ertapenem.
- Utilization shifted toward long-acting and outpatient-optimized therapies, while increasing injectable HIV therapy expanded care beyond traditional OPAT.

Introduction

- Outpatient parenteral antimicrobial therapy (OPAT) is an established approach for managing serious infections outside the hospital, with bone and joint infections, bacteremia, and skin and skin structure infections among common indications.¹
- Physician office infusion centers (POICs) provide a structured setting for OPAT and other anti-infective therapies. Prior national POIC data from 2017 demonstrated treatment of a broad range of moderate-to-severe infections, with bone and joint and skin and skin structure infections accounting for 60% of infections treated.²
- Since that time, the availability of long-acting and other outpatient-optimized therapies has expanded treatment options and the role of POICs in infectious disease care.
- This study evaluated contemporary infection patterns and anti-infective utilization from 2021 to 2025 across a national network of 107 U.S. POICs.

Cohort and Infection Characteristics

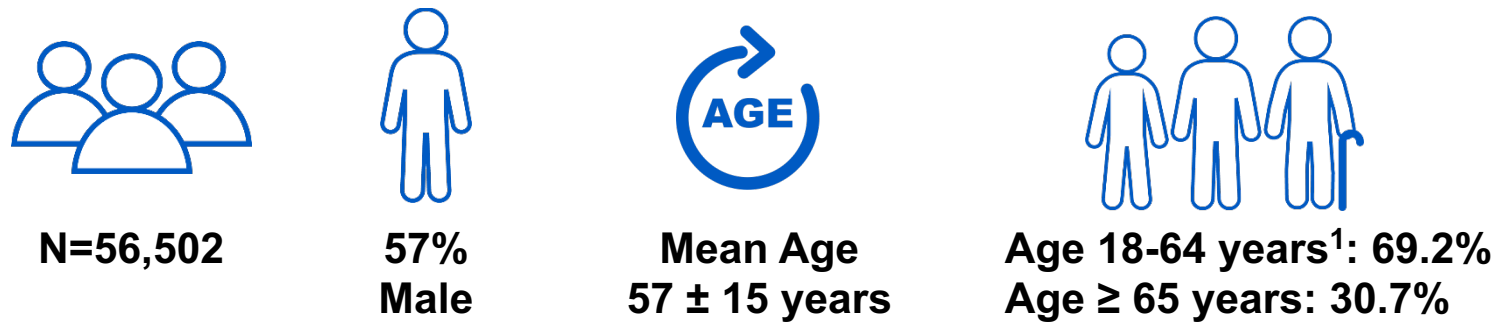


Table 1. Overall Distribution of Infection Diagnoses, 2021-2025

16 Major Diagnostic Groups		54 Subgroups	
Major Diagnostic Group	Total %	Diagnostic Subgroups (% of total cohort, N=56,502)	
Bone and Joint Infection	36.4%	Osteomyelitis 23.3% • Prosthetic Joint Infection 5.9% • Septic Arthritis 4.0% • Discitis 1.0% • Other 2.3%	
Skin and Skin Structure Infection	21.7%	Cellulitis 17.2% • Skin Abscess 2.8% • Mastitis 0.7% • Hidradenitis Suppurativa 0.2% • Myositis 0.1% • Lymphangitis<0.1% • Other 0.7%	
Genitourinary Infection	10.8%	Complicated Urinary Tract Infection 6.8% • Pyelonephritis 2.4% • Prostatitis 0.6% • Genitourinary Abscess 0.4% • Other 0.6%	
Intra-abdominal Infection	9.1%	Diverticulitis 3.2% • Peritonitis 2.9% • Intra-abdominal Abscess 1.8% • Appendicitis 0.5% • Cholecystitis 0.3% • Pancreatitis 0.2% • Pelvic Inflammatory Disease 0.1% • Other <0.1%	
Bacteremia/Septicemia	7.3%	–	
Respiratory Infection	2.8%	Pneumonia 1.5% • Empyema 0.5% • Lung Abscess 0.3% • Bronchitis <0.1% • Other 0.4%	
Cardiac Infections	1.9%	Endocarditis 1.9% • Cardiac Valve Infections <0.1% • Other <0.1%	
Central Nervous System Infections	1.9%	Cranial Infection 0.8% • Spinal Infection 0.5% • Meningitis 0.5% • Encephalitis 0.1% • Other 0.1%	
Head, Ears, Eyes, Nose & Throat	1.4%	Sinusitis 0.8% • Otitis 0.3% • Abscess 0.1% • Oral Infection <0.1% • Other 0.2%	
Mycobacterial Infection	1.0%	–	
Sexually Transmitted Infection	1.0%	–	
Fungal Infection	0.7%	Candidiasis 0.6% • Other 0.1%	
Lyme Disease	0.1%	–	
Viral Infection	0.1%	–	
Other non-traditional OPAT diagnostic groups			
Human Immunodeficiency Virus	0.2%	–	
Clostridioides difficile	0.2%	–	

A total of 1978 infections (3.5%) were in other unclassified diagnostic groups. Percentages shown for every subgroup; "<0.1%" retained as reported.

Abbreviations

Abbreviations: Anti-PsA, anti-Pseudomonas aeruginosa; BAC, bacteremia; BJI, bone and joint infection; CDI, *Clostridioides difficile* infection; CNS, central nervous system; GUI, genitourinary infection; HEENT, head, ears, eyes, nose, throat; HIV, human immunodeficiency virus; IAI, intra-abdominal infection; LA, long-acting; LA-LGP, long-acting lipoglycopeptide; mAbs, monoclonal antibodies; OPAT, outpatient parenteral antimicrobial therapy; POIC, physician office infusion center; pp, percent-point change; rCDI, recurrent *Clostridioides difficile* infection; SSSI, skin and skin structure infection
Drug name Abbreviations: CFZ, cefazolin; CRO, ceftriaxone; DAL, dalbavancin; DAP, daptomycin; ERT, ertapenem; FEP, cefepime; MEM, meropenem; TZP, piperacillin-tazobactam; VAN, vancomycin

Methods

- A retrospective analysis of centralized electronic health records was conducted across a nationwide network of 107 U.S. POICs from 2021–2025.
- Patient demographics, infection diagnoses, and treatment utilization were collected. Patient age was categorized as <18, 18–64, and ≥65 years. Infectious diagnoses were classified using International Classification of Diseases, 10th Revision (ICD-10) codes.³ Treatment utilization was categorized by antibacterial, antiviral, antifungal, and therapies for *Clostridioides difficile*.
- Data were summarized descriptively. Analyses included patient demographics, the frequency and distribution of infection diagnoses, overall anti-infective utilization, annual trends in antibacterial class utilization, and treatment patterns for the most common major diagnostic groups.

Data Capture by Year:



Figure 1. Overall Distribution of Diagnoses, 2021-2025

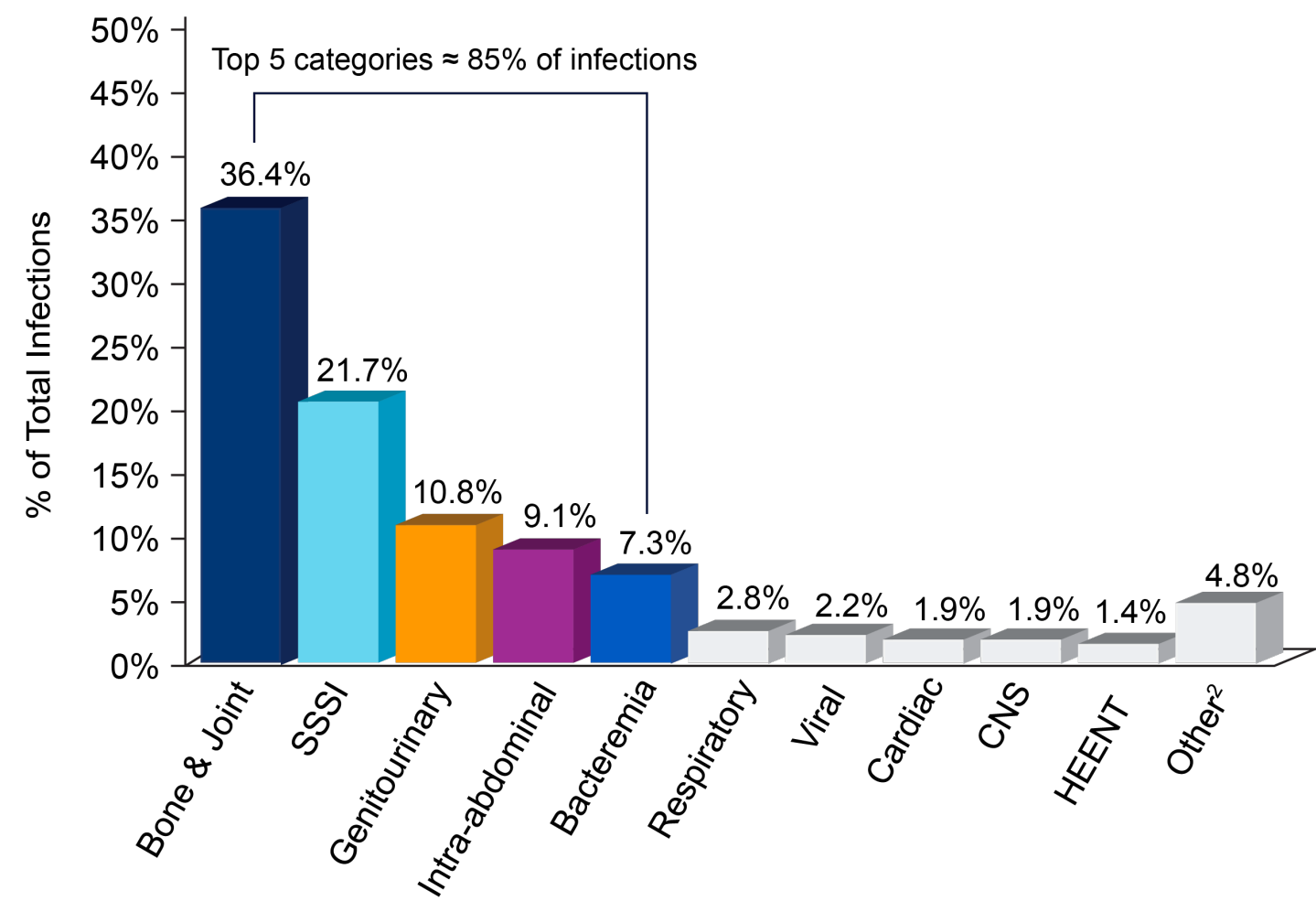
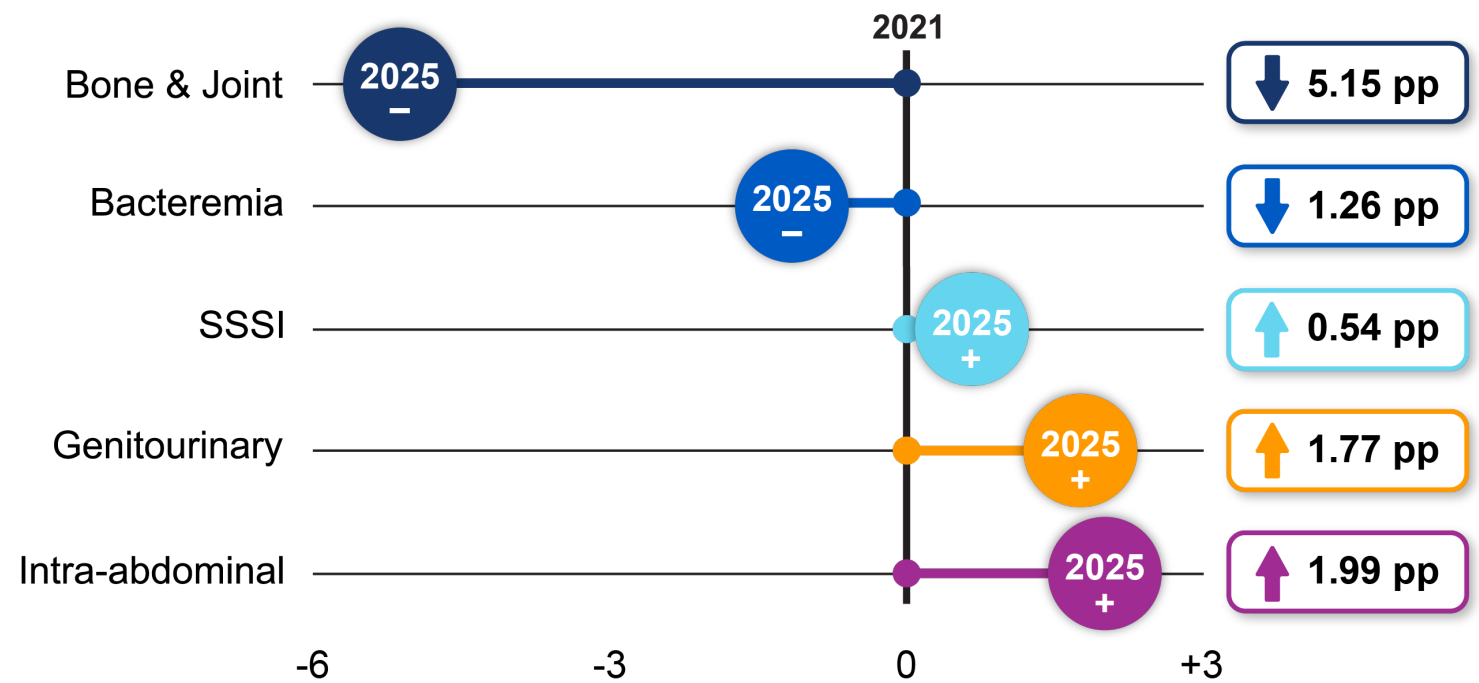
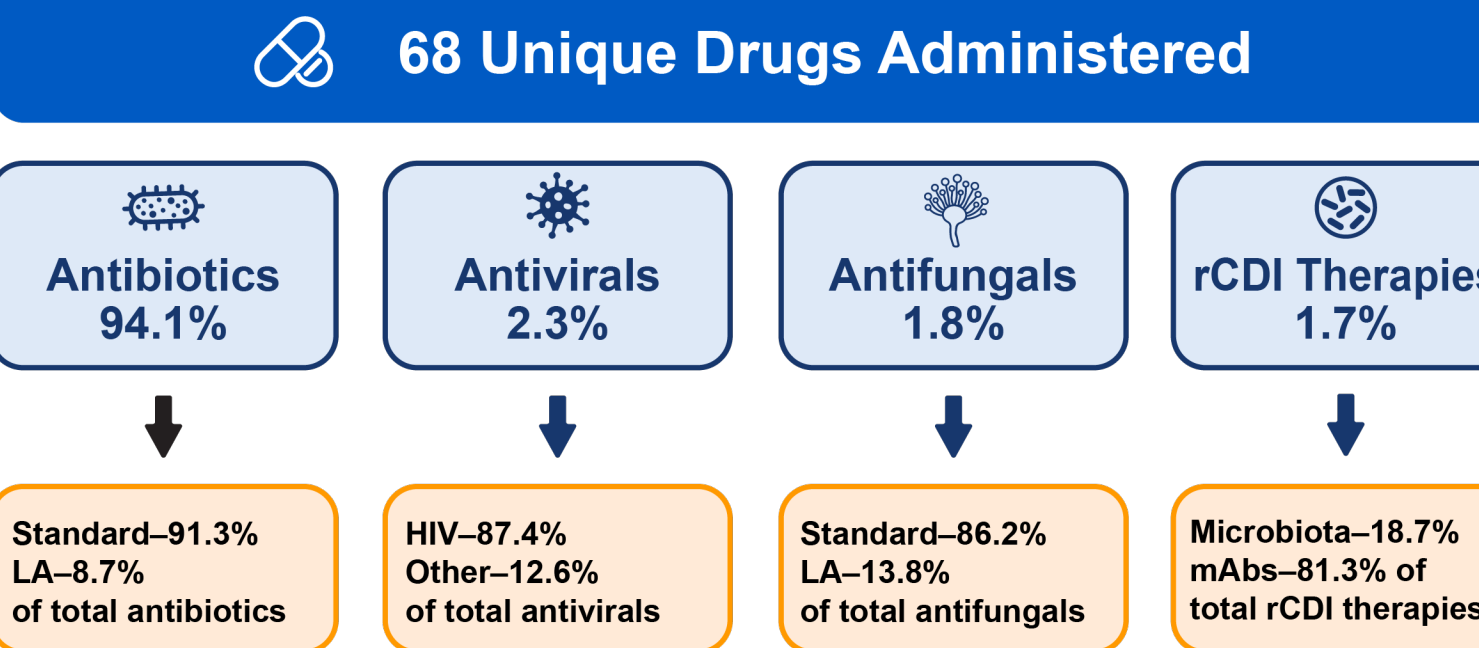


Figure 2. Shifts in the Distribution of the Most Common Infection Groups from 2021 to 2025



Treatment Characteristics³



Treatment

Figure 3. Overall Distribution of Drug Utilization, 2021-2025

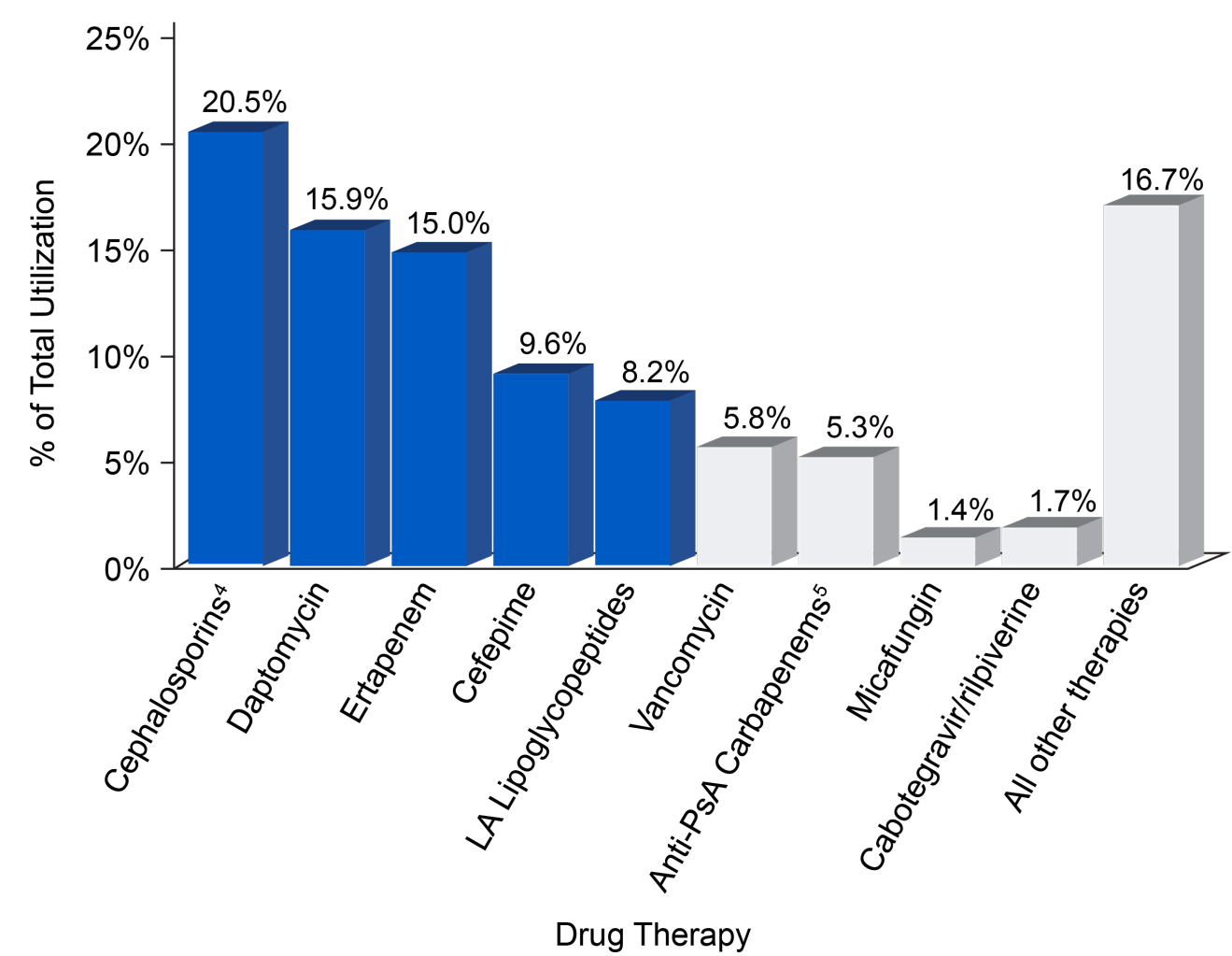


Figure 4. Top Five Drugs by Most Common Diagnosis, 2021-2025

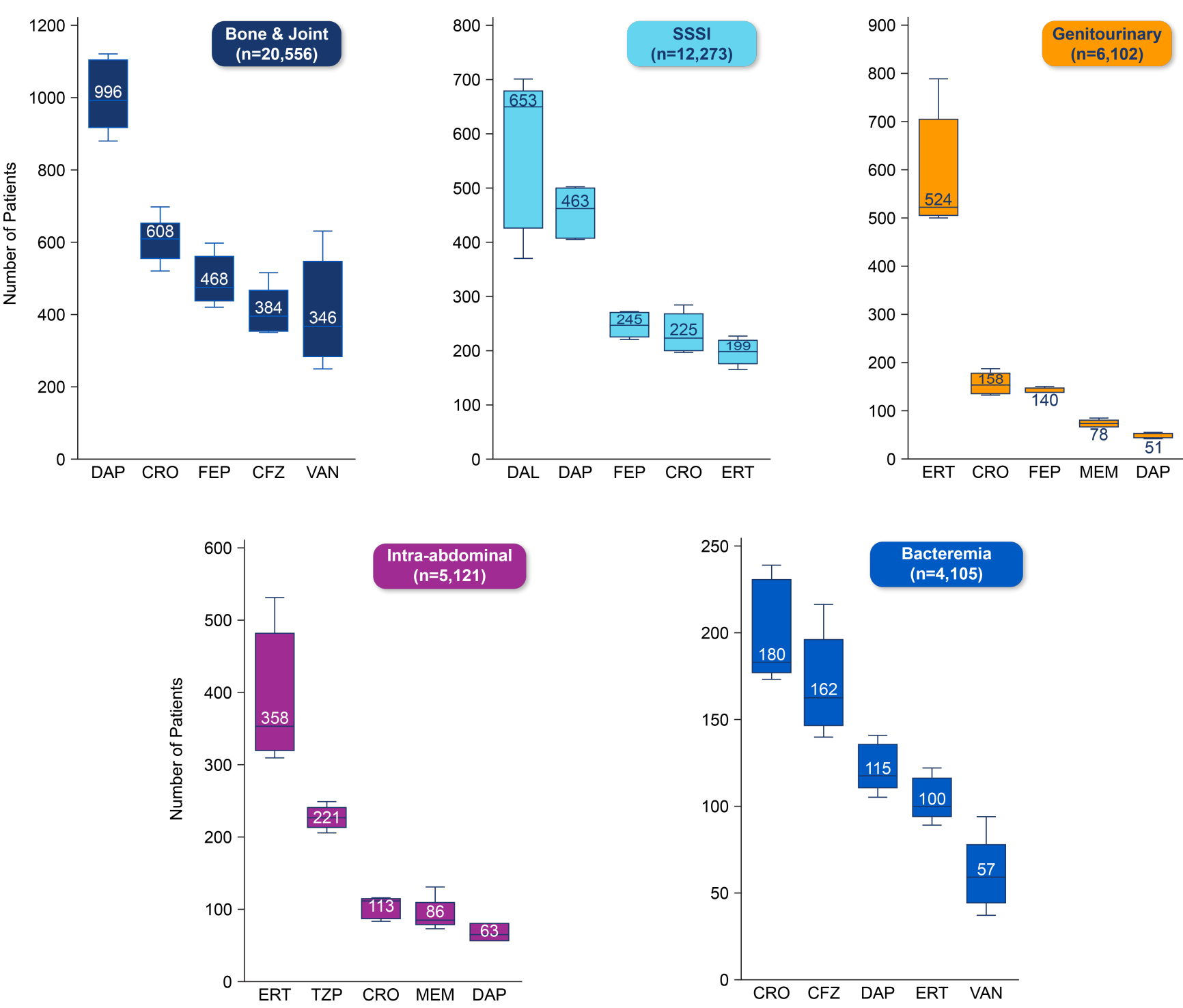
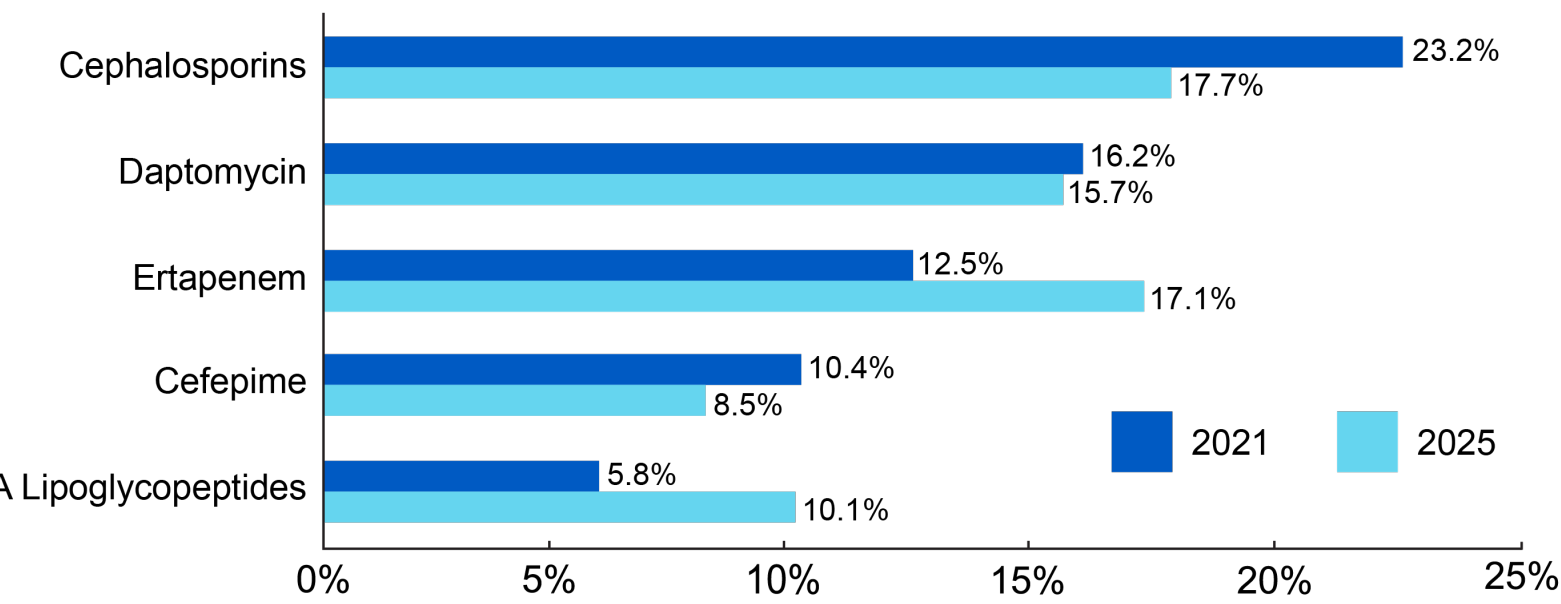


Figure 5. Changes in Utilization of the Most Common Drugs from 2021 to 2025



Discussion

This 5-year real-world analysis demonstrates continued evolution of anti-infective care within POICs.

- **Bone and joint infections represented the largest infection group.** Their increased representation may reflect greater outpatient management of infections requiring prolonged therapy, while the relative contribution of SSSIs declined.
- **Utilization shifted toward therapies that facilitate outpatient treatment.** Ertapenem and LA-LGP use increased from 2021–2025, while cephalosporin use decreased. Less frequent dosing may reduce infusion burden and facilitate outpatient treatment.
- **POIC care expanded beyond traditional OPAT** with increasing injectable HIV therapy and use of CDI-directed therapies.
- **New therapeutic availability influenced utilization patterns.** Rezafungin use increased following its 2023 introduction, providing a once-weekly IV antifungal option suitable for outpatient administration.

Footnotes

- ¹Age ≤17 yrs = 53 (0.1%)
- ²Other infections included COVID-19 (prevention), fungal infections, gastrointestinal infections, Lyme disease, mycobacterial infections, and sexually transmitted infections.
- ³Therapy for COVID-19 prevention accounted for the remaining 0.1% of utilization.
- ⁴Cephalosporins included cefazolin, ceftazidime and ceftriaxone.
- ⁵Anti-PsA carbapenems included imipenem/cilastatin and meropenem.

References

1. Larnard J, et al. *Ther Adv Infect Dis.* 2023;10:20499361231181486.
2. Van Anglen LJ, et al. *Open Forum Infect Dis.* 2018;5 (Suppl 1):S704–S705.
3. Centers for Medicare & Medicaid Services; National Center for Health Statistics. *ICD-10-CM Official Guidelines for Coding and Reporting.* FY 2026. 2025.



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