Healthcare-Associated Infections and Antimicrobial Use in Belgian Acute Care Hospitals: Results of the 2022 ECDC Point Prevalence Survey

Lucy Catteau[1,2]• Katrien Latour[1] • Morgan Pearcy[1] • Boudewijn Catry[1,3]

1. Healthcare-associated infections and antimicrobial resistance, Sciensano, Brussels, Belgium • 2. Faculty of Medicine and Pharmacy, Université de Mons (UMons), Mons, Belgium • 3. Faculty of Medicine, Université Libre de Bruxelles (ULB), Brussels, Belgium

Healthcare-associated infections (HAIs) and antimicrobial resistance pose significant challenges in healthcare systems worldwide, leading to prolonged hospital stays, increased costs, and elevated morbidity and mortality rates. The European Centre for Disease Prevention and Control (ECDC) point prevalence survey (PPS) provides tools to assess HAI prevalence and antimicrobial use in European acute care hospitals. The present study aims to compare HAI and AU prevalence recorded in Belgian acute care hospitals in 2017 and 2022, using the ECDC PPS methodology.

Data collection for the ECDC-PPS was performed between September and November

Random selection of participating acute care hospitals

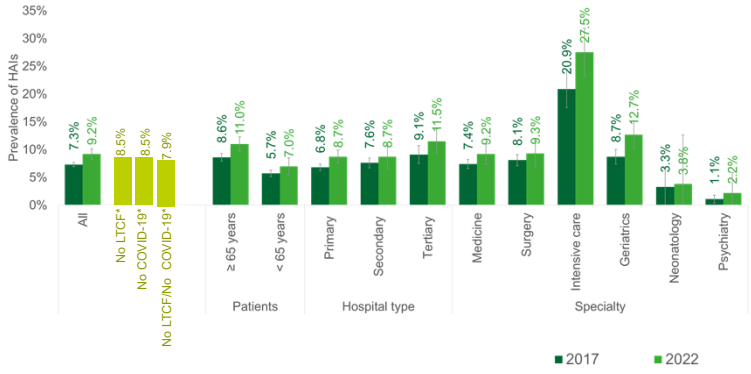
All patients present on the wards at 8 a.m. on the day of the PPS were included

Standardised methodology : ECDC-PPS protocol

	2017	2022
N hospital sites	47	56
N hospital groups	33	35
Countrywide participation	**32.4%**	**34.3%**
N included patients	11,800	10,142
ECDC Protocol version	5.3	**6.0***

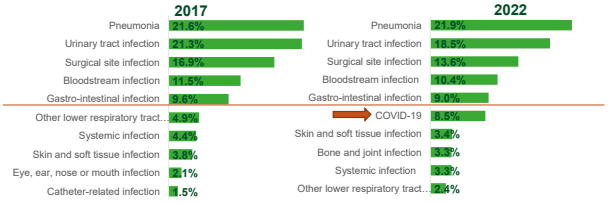
Inclusion of
- Infection definitions and microorganism codes for COVID-19
- Inclusion of HAIs associated to long-term care facilities

Crude prevalence of patients with at least one HAI by age, hospital type and patient specialty, ECDC PPS, 2017 and 2022, Belgium

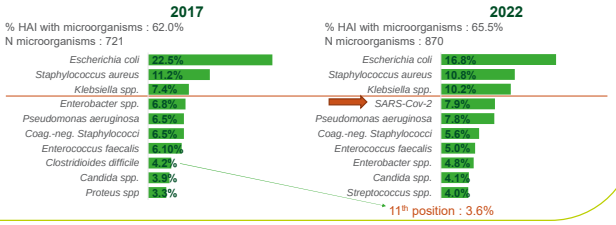


* Prevalence of HAIs recorded in 2022 when excluding HAIs originating from long-term care facilities (LTCF) and/or COVID-19 infections.

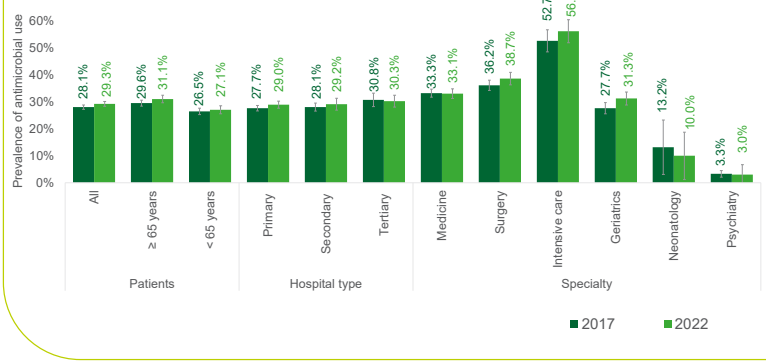
Top 10 main HAI diagnosis sites



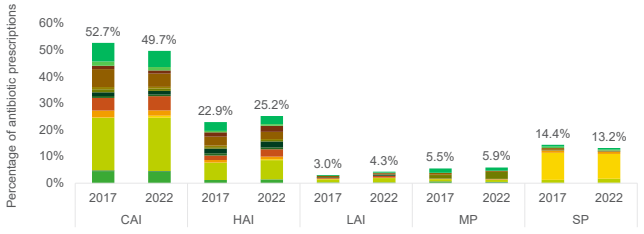
Top 10 most frequent isolated pathogens



Crude prevalence of patients with at least one antimicrobial by age, hospital type and patient specialty, ECDC PPS, 2017 and 2022, Belgium



Percentage of antibiotic (J01) prescriptions per antibiotic subclass (ATC level 4) and per indication, ECDC PPS 2017 and 2022, Belgium



- J01CA: Penicillins with extended spectrum
- J01CE: Beta-lactamase sensitive penicillins
- J01CR: Combinations of penicillins, incl. beta-lactamase inhibitors
- J01DB: First-generation cephalosporins
- J01DC: Second-generation cephalosporins
- J01DD: Third-generation cephalosporins
- J01DE: Fourth-generation cephalosporins
- J01DH: Carbapenems
- J01EE: Combinations of sulfonamides and trimethoprim
- J01GB: Aminoglycosides
- J01MA: Fluoroquinolones
- J01XA: Glycopeptide antibacterials
- J01XD: Imidazole derivatives
- Other antimicrobials for systemic use (J01)

CAI: community-acquired infection; **HAI**: acute-hospital-acquired infection; **LAI**: infection acquired in long-term care facility or chronic-care hospital; **MP**: medical prophylaxis; **SP**: surgical prophylaxis

Conclusion

The 2022 ECDC PPS revealed an increased prevalence of both HAIs and antimicrobial use in Belgian acute care hospitals compared to previous surveys. This emphasizes the ongoing need for rigorous infection prevention and control measures, as well as robust antimicrobial stewardship programs, to address these challenges effectively. Future investigations should focus on prescription attitudes and modifiable practices to optimize patient outcomes and mitigate the spread of AMR,

Sciensano • Lucy Catteau • lucy.catteau@sciensano.be • **www.sciensano.be**