

AURA 2023 Highlights

IPC

(Infection prevention and control)



The *Fifth Australian report on antimicrobial use and resistance in human health* (AURA 2023) includes data analyses from the Antimicrobial Use and Resistance in Australia Surveillance System (AURA). AURA 2023 data shows that antimicrobials continue to be prescribed at high rates in Australia, with implications for infection prevention and control.

This resource highlights key findings from AURA 2023 and priorities for action to support infection prevention and control clinicians.

Key findings: Antimicrobial resistance

National rates of resistance for many organisms have not changed substantially since 2019, but there are several changes in rates and patterns of resistance and the sources of infections that are important considerations for infection prevention and control.

Rates of resistance

- Resistance to ciprofloxacin in *Escherichia coli* blood culture isolates decreased by just less than a quarter from 2020 to 2021.
- In *Enterobacteriales*, rates of resistance to most antimicrobials were lower in the community than in hospitals. The rates of resistance were similar for public and private hospitals, except in the case of resistance to cefazolin, which was higher in private hospitals.
- Carbapenem resistance remains uncommon and was found more often in *Enterobacter cloacae* complex than in *E. coli* or *Klebsiella pneumoniae*. However, there are increasing rates of carbapenemase-producing *Enterobacteriales* (CPE) in hospitals.

Priority organisms and sources of infections

- The majority of enterococcal bloodstream infections were caused by *Enterococcus faecalis* or *E. faecium*. In *E. faecium*, the rates of resistance to several antimicrobials decreased nationally but remain high.
- Urinary tract infection (UTI) remains the most common source of bloodstream infections involving *Enterobacteriales*, *Pseudomonas aeruginosa* and *E. faecalis*. For *Enterobacteriales*, device-related UTIs remain more common with hospital-onset than community-onset bloodstream infections.
- The most common clinical conditions associated with *E. faecium* were biliary and nonbiliary intra-abdominal infections and febrile neutropenia.
- For *Staphylococcus aureus*, osteomyelitis/septic arthritis and skin and skin structure infections were the most common sources of bloodstream infections.

- Device-related bloodstream infections accounted for just under 10% of all bloodstream infections reported by the Australian Group on Antimicrobial Resistance (AGAR).
- Community-associated methicillin-resistant *S. aureus* (MRSA) has become prominent across all states and territories as patterns of methicillin resistance have continued to evolve. The proportion of community-acquired MRSA clones of all MRSA strains increased from 77% in 2018 to 85% in 2020–2021.
- Community-onset *Clostridioides difficile* infection (CDI) is a larger health concern in Australia than was previously recognised. Hospital separations with a CDI diagnosis increased by 29% from 2020 to 2021. Community-onset CDI accounted for over 80% of separations.
- Antifungal resistance, reported for the first time in AURA 2023, was rarely detected in common *Candida* group species and *Aspergillus fumigatus* complex.

PRIORITIES FOR ACTION

- ⇒ Providing ongoing surveillance of antimicrobial resistance (AMR), [healthcare-associated infections](#) (HAIs) and [hospital-acquired complications](#) (HACs).
- ⇒ Supporting healthcare services to use data on antimicrobial use, AMR, HAIs and HACs to develop strategies to prevent and control infections.
- ⇒ Developing guidance on the prevention and control of UTIs.
- ⇒ Optimising medical device management consistent with the [Management of Peripheral Intravenous Catheters Clinical Care Standard](#) to prevent and control hospital-onset and intravenous catheter-associated infections.
- ⇒ Supporting CPE containment consistent with the [Recommendations for the control of carbapenemase-producing *Enterobacteriales* \(CPE\): A guide for acute care health service organisations](#) and local guidance.
- ⇒ Supporting effective infection prevention and control programs that meet the requirements of the [National Safety and Quality Health Service Standards](#) and the [Australian Guidelines for the Prevention and Control of Infections in Healthcare](#) (AICG), including the fundamentals of standard precautions such as hand hygiene, respiratory etiquette, environmental cleaning, personal protective equipment, aseptic technique, and safe handling of waste, sharps and linen.

For more information, visit: safetyandquality.gov.au/AURA2023



© Australian Commission on Safety and Quality in Health Care 2023