

AURA 2023 Highlights



Antimicrobial resistance (AMR) is a public health priority due to its serious and growing impact. Hundreds of people in Australia die each year as a result of AMR.

AMR continues to be one of the most significant challenges for healthcare services in Australia and worldwide. AMR occurs when a microorganism develops resistance to an antimicrobial that was a previously effective treatment.

Antimicrobial use (AU) is a key factor in the development of AMR. The more antimicrobials are used, the more likely AMR will develop. This presents a risk to patient safety by reducing the range of antimicrobials available to treat infections and increasing the morbidity and mortality associated with infections caused by multidrug-resistant organisms.

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).

Key findings

Acute care

- AU in Australian hospitals is estimated to be high, and substantially higher than in most, if not all, comparable European countries, Scotland and Canada.
- Low rates of compliance with antimicrobial prescribing guidelines in private hospitals continue.
- There are opportunities to address the high and continued inappropriate use of surgical prophylaxis in public and private hospitals.
- High rates of inappropriate antimicrobial prescribing for chronic obstructive pulmonary disease (COPD) continue.
- Rates of critical antimicrobial resistances (CARs) in hospitals have increased, particularly carbapenemase-producing *Enterobacterales* (CPE).
- There is increasing antifungal use in hospitals, which may drive AMR in the future.

Community: primary care

- The encouraging overall decrease in AU in the community continues.
- Rates of *Escherichia coli* resistance to fluoroquinolones decreased nationally from 2020 to 2021, which may have been associated with reduced community AU and restricted international travel during the COVID-19 response.
- Rates of azithromycin non-susceptibility in *Neisseria gonorrhoeae* have declined since 2017.
- Rates of resistance to ceftriaxone, ciprofloxacin and ampicillin in *Shigella sonnei* have decreased since 2020.
- There is an increasing proportion of private prescriptions for antimicrobials and there are limited reporting and monitoring mechanisms, which continues to be a gap in AU surveillance in Australia.

Community: residential aged care

- While the overall number of AMR infections reported in aged care homes was low, AMR rates were as high as, or higher than, rates in hospitals for *Enterobacterales* and methicillin-resistant *Staphylococcus aureus* (MRSA).
- Sustained high rates of inappropriate AU and suspected infections require improved ongoing surveillance of AMR and infections, and effective infection prevention and control and antimicrobial stewardship (AMS) programs.

PRIORITIES FOR ACTION

Acute care

- ⇒ Promoting local AMS interventions to address variations in AU between states and territories.
- ⇒ Improving antimicrobial prescribing appropriateness in public and private hospitals, including antimicrobials with high usage rates and high AMR selection potential.
- ⇒ Improving antimicrobial prescribing appropriateness for COPD.
- ⇒ Promoting quality improvement actions that target high-volume surgical procedures with high rates of inappropriate antimicrobial prescribing.
- ⇒ Continuing to monitor CARs in hospitals, particularly CPE, and promote effective infection prevention and control and outbreak responses.
- ⇒ Continuing to monitor antifungal use and emerging antifungal resistances.

Community: primary care and residential aged care

- ⇒ Sustaining improvements in volume and appropriateness of antimicrobial prescribing.
- ⇒ Continuing to explore opportunities to enable monitoring of private prescribing, repeat prescriptions and the indications for which antimicrobials are prescribed.
- ⇒ Informing consumers of the role of antimicrobials in AMR, their effects on beneficial and harmful bacteria, and the potential for their use to increase the risk of developing chronic conditions.
- ⇒ Promoting ongoing surveillance of AMR in sexually transmissible infections, and continuing prevention programs and outbreak response strategies.
- ⇒ Supporting appropriate antimicrobial prescribing in residential aged care.
- ⇒ Promoting improved surveillance of infections and AMR in the community and residential aged care settings.
- ⇒ Supporting enhanced infection prevention and control capacity in residential and community-based aged care services.

Overall

- ⇒ Continuing to use AURA and healthcare-associated complication data to guide improvements in health services to prevent and control infections that may require treatment with antimicrobials, and reducing preventable hospitalisations for these infections.

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

