



AURA 2021:



A resource for pharmacists

Antimicrobial resistance (AMR) is one of the greatest threats to human and animal health, as well as for food safety and agriculture. This has been recognised in [Australia's National Antimicrobial Resistance Strategy – 2020 and Beyond](#) and internationally, by the World Health Organization. AMR threatens the ability to provide safe healthcare now and in the future.

AMR can develop through the use of antimicrobials or exposure to AMR organisms in the environment. Unlike other medications, antibiotics can affect not only your patient but also other people and the wider community. Antibiotic use inevitably leads to resistance, but overuse of antibiotics has accelerated this process.

Case study: community onset UTI and empiric oral antibiotic therapy

Patient case scenario: A 75-year-old woman has a history of frequent urinary tract infections (UTIs) and is usually prescribed cefalexin. She has no allergies or contraindications for trimethoprim. She presents with a private prescription for ciprofloxacin, no urine sample has been taken.

AURA 2021 data relevant to the case study

Cefalexin is frequently prescribed for UTIs

UTIs were the second most common indication for cefalexin (24.7%).

Trimethoprim is underutilised as a first line agent for UTIs

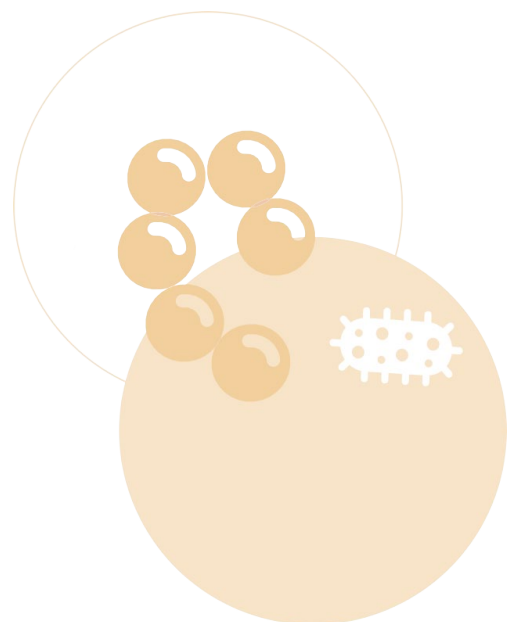
The *Therapeutic Guidelines: Antibiotic* first line recommendation for UTI is trimethoprim. However, MedicinesInsight data showed that in 2019, only 46% of females aged more than 18 years were prescribed trimethoprim for UTIs.

What is the AURA Surveillance System and why is it important?

The [Antimicrobial Use and Resistance in Australia \(AURA\) Surveillance System](#) monitors and reports on Australia's antimicrobial usage and resistance patterns to inform clinical and public health policy and practice. The AURA Team at the Commission works with stakeholders to inform action at the local, state and territory, and national levels to prevent and contain the spread of AMR.

The *Fourth Australian report on antimicrobial use and resistance in human health (AURA 2021)* gives the most current and comprehensive picture of AMR in Australia.

Pharmacists have an important role containing AMR. This factsheet describes components of the AURA Surveillance System that monitor antimicrobial use and resistance, and inform actions and response.



Ciprofloxacin resistance in *Escherichia coli* from urine specimens was higher than other oral agents

Fluoroquinolones such as ciprofloxacin are associated with the development of AMR. They should be reserved for UTIs where resistance is confirmed and the urinary isolate is susceptible. Fluoroquinolone resistance in urinary isolates of *E. coli* increased from 10.8% in 2018 to 11.4% in 2019. Rising resistance to fluoroquinolones is a major concern as there are limited oral options for the treatment of UTIs.

E. coli UTIs are a common cause of bloodstream infections where multidrug resistance (non-susceptible to at least one agent in three or more antimicrobial categories) is very high (26.0%).

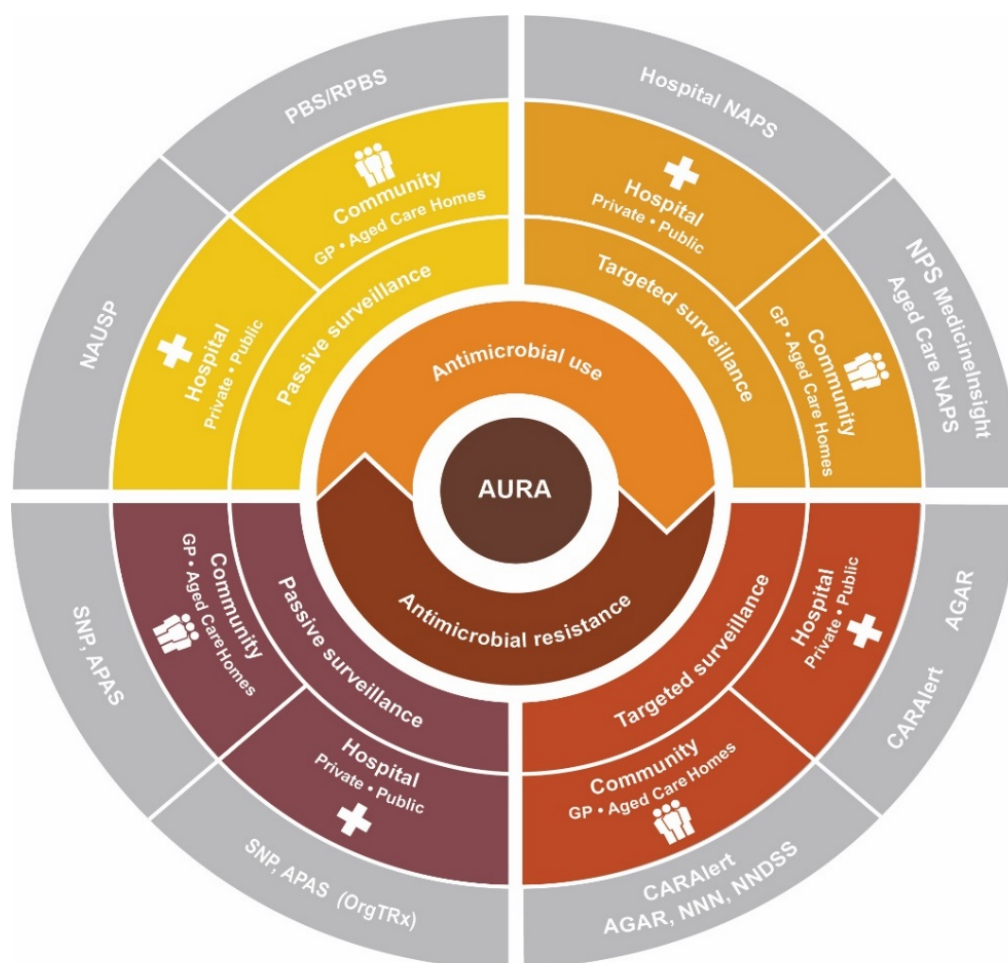
Optimising community use of fluoroquinolones and other broad-spectrum antibiotics is imperative to contain this resistance.

Antimicrobials are overused for UTIs in the aged care setting

Only 5% of antimicrobial prescriptions for UTIs were for residents with signs and/or symptoms of infection). This is an opportunity for pharmacists to work with general practitioners and aged care homes to improve prescribing for UTIs.

Areas of interest for pharmacists in AURA 2021

[Chapter 3 \(Antimicrobial use and appropriateness\)](#) outlines antimicrobial use and appropriateness in the acute, primary care and aged care settings.



How can AURA support clinical practice?

Community pharmacy

- Use dispensing software to see how many antimicrobials are dispensed on a weekly/annual basis
 - Get to know and understand antimicrobial use patterns for consumers of your pharmacy.
- Are your top five antimicrobials the same as those seen nationally (AURA 2021 Chapter 3)?
 - Can you identify any reasons for variation?
- Take advantage of opportunities to discuss variation with local prescribers
 - Is trimethoprim being underutilised in UTI management? Discuss why this might be the case.
- When conducting a MedsCheck, clarify the indication and intended duration of any antimicrobial. If your patient or resident has been on an antimicrobial for an extended duration, have you discussed this with the patient, aged care home, and/or prescriber?
- If a patient has a prescription for an antibiotic from many months prior, do you have the opportunity to have a discussion with the patient about whether it is appropriate to take now?
- When discussing with patients receiving antibiotics for UTIs, mention prevention strategies for future UTIs, and explain that mild UTI symptoms may not require antibiotics.
- Can local antimicrobial usage data be used for local awareness initiatives such as during Antimicrobial Awareness Week?
 - Display posters in your pharmacy with deidentified statistics or patient care information such as “how to prevent UTIs”
- Highlight your pharmacy’s vaccination service during cold and flu season with reminders about why antimicrobials should not be used for viral infections.

Hospital pharmacy

- Be familiar with the National Safety and Quality Health Service (NSQHS) Standards. Actions relating to antimicrobial usage, appropriateness and Antimicrobial Stewardship (AMS) are included in the Preventing and Controlling Infections Standard
- Does your hospital participate in the National Antimicrobial Prescribing Survey (NAPS) and National Antimicrobial Utilisation Surveillance Program (NAUSP)?
 - NAUSP collects antimicrobial usage data for hospital inpatients
 - NAPS is a point prevalence survey that provides an overview of the appropriateness of antimicrobial prescribing
 - What is the most common antimicrobial prescribed for UTIs? Can you develop a Quality Improvement project to address inappropriate use?
- Can you identify target areas to reduce inappropriate antimicrobial use and develop Quality Improvement strategies?
 - Monitoring the quantity and quality of antimicrobial use can identify target areas to inform AMS programs.
- Are you familiar with the local epidemiology of AMR? Do your hospital antimicrobial guidelines reflect it?
 - AURA can assist in developing a picture of local AMR patterns, which can inform local antimicrobial prescribing guidelines and formularies.
- Do the antimicrobial prescriptions you see follow guidelines?
 - Engage in discussions with prescribers when you see patients being treated for asymptomatic bacteriuria with antibiotics
 - Clarify the indication and intended duration for all antimicrobials that you review and ensure both are documented in the patient’s medical record.

Further information

AURA Surveillance System

<https://www.safetyandquality.gov.au/AURA>

NAPS – National Antimicrobial Prescribing Survey

<https://www.safetyandquality.gov.au/AURA/naps/>

NAUSP – National Antimicrobial Utilisation Surveillance Program

<https://www.safetyandquality.gov.au/AURA/nausp>

AMS – Antimicrobial Stewardship

<https://www.safetyandquality.gov.au/HAI/AMS>

Antimicrobial stewardship in primary care

<https://www.safetyandquality.gov.au/our-work/antimicrobial-stewardship/antimicrobial-stewardship-primary-care>

Contact AURA@safetyandquality.gov.au with enquiries.

