Antibiotic Prescribing Excellence in Primary Care

Summary report

BACKGROUND

Antimicrobial resistance is a growing health threat that is reducing the effectiveness of antibiotics, making common infections harder to treat and increasing the risk of complications for consumers[1,2]. Antimicrobial resistance can lead to longer illnesses, more hospitalisations and reduced treatment options, impacting both everyday health care and complex procedures such as surgery and cancer treatment[1,2]. Inappropriate antibiotic prescribing remains common and contributes to the development of resistance[1,2].

AIM

Our aim was to increase antibiotic prescribing concordance with evidence-based guidelines for selected common infections^ by at least 5%* in participating general practices by 30 June 2026 to enable Victorians to receive safe and effective antibiotics and support the prevention of antibiotic resistance.

^Selected common infections included were:

- acute urinary tract infection in non-pregnant women aged 18 years and over
- Acute otitis media in children under 5 years old
- acute sore throat in adults and children (across all ages)
- acute dental infections in adults and children (across all ages).

PROJECT AT A GLANCE

- Project timeline May 2024 – June 2026
- 31 Victorian general practices and 96 GPs
- 63,357 antibiotic consultations

Key outcomes

- urinary tract infection prescribing improvement ↑ 8.0%
- dental infection prescribing improvement ↑ 3.6%
- sore throat prescribing improvement ↑ 1.9%
- otitis media prescribing improvement ↑ 1.7%.

PROJECT DESIGN

APEX PC was a 2-year partnership between Safer Care Victoria, the University of Melbourne and The Royal Melbourne Hospital that supported 31 Victorian general practices to improve antibiotic prescribing for 4 common infections.

The project combined automated prescribing analysis, practice-level audit and feedback, accredited educational webinars, access to Therapeutic Guidelines, and targeted antimicrobial stewardship support.

OUTCOMES

- urinary tract infection prescribing improvement ↑ 8.0%

OFFICIAL

- dental infection prescribing improvement ↑ 3.6%
- tonsillitis/pharyngitis prescribing improvement ↑ 1.9%
- otitis media prescribing improvement ↑ 1.7%
- proportion of consultations associated with an antibiotic prescription decreased from 8.6% in audit period one to 8.0% in audit period 3.

WHAT WE LEARNED

"The combination of access to guidelines, feedback and education was most effective in influencing prescribing practice."

- Clinician

- **Automated audit and feedback can drive improvement at scale.** Automated data extraction and validation was viewed by participants as reliable, feasible and trustworthy, demonstrating a scalable approach to supporting antimicrobial stewardship in general practice.
- **Timely, actionable feedback supports behaviour change.** Providing general practitioners with regular prescribing data benchmarked against peers, combined with access to Therapeutic Guidelines and education, helped support improvements in guideline-concordant prescribing.
- **Integrating improvement initiatives into existing workflows increases engagement.** Aligning the program with routine clinical practice and maintaining strong collaboration between project partners and participating practices supported sustained participation and implementation.
- **Trusted partnerships are critical to success.** The established relationships and complementary expertise of Safer Care Victoria, the University of Melbourne, The Royal Melbourne Hospital and participating practices were key enablers of recruitment, engagement and delivery.
- **Future programs should target practices with the greatest opportunity for improvement.** Many participating practices were already engaged in research improvement activities. Greater impact may be achieved by identifying and prioritising higher-prescribing clinicians and practices, while maintaining the audit and feedback model that proved effective in this project.

NEXT STEPS

APEX PC has established a scalable, evidence-based model that will continue to drive improvements in prescribing through a new Medical Research Future Fund Clinical Activity Trial being implemented throughout Australia.

USEFUL LINKS AND RESOURCES

- Infographic - What health professionals can do | Antimicrobial resistance
- Antibiotic-patient-handout.pdf
- Being involved in decisions about your care | Australian Commission on Safety and Quality in Health Care

REFERENCES

1. World Health Organisation. Fact sheets: Antimicrobial resistance: Antimicrobial resistance (who.int)
2. Australian Commission on Safety and Quality in Health Care. Fifth Australian report on antimicrobial use and resistance in human health: AURA 2023: Fifth Australian report on antimicrobial use and resistance in human health

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