



Summary

Antimicrobial Stewardship in Australian Health Care

2018

Summary

Key issues

The challenge

Antimicrobial resistance (AMR) is an issue of great significance for health care in Australia and has been declared a significant threat to human health. Infections with pathogens resistant to antimicrobials lead to prolonged or serious illness, escalation in therapy with associated healthcare costs, hospitalisation or death. With few new antimicrobials coming onto the market in the foreseeable future, the options for treating resistant infections are becoming increasingly limited.

High levels of antimicrobial use and inappropriate use of antimicrobials cause increasing AMR and other patient harms. Australia's use of antimicrobials is high compared with other high-income countries. In 2015, almost 40% of patients admitted to Australian hospitals were prescribed an antimicrobial, and in the community 45% of the population were dispensed one or more antimicrobials during the year. Around one-third to one-half of this antimicrobial use was considered inappropriate. That is, antimicrobials were prescribed for conditions that did not require antimicrobial treatment – such as acute undifferentiated upper respiratory tract infection, acute tonsillitis, or acute otitis media – or were prescribed inappropriately or suboptimally; for example, using a poor choice of antimicrobial, or suboptimal dose, route or duration.

The response

Antimicrobial stewardship (AMS) promotes optimal antimicrobial prescribing. AMS programs have been shown to reduce unnecessary and inappropriate use of antimicrobials, reduce patient morbidity and mortality, and reduce bacterial resistance rates and healthcare costs. AMS is considered an integral component of patient safety and an important strategy for preserving the effectiveness of those antimicrobials currently available.

Australian framework for AMS

In Australia, AMS programs are required by the National Safety and Quality Health Service (NSQHS) Preventing and Controlling Healthcare-Associated Infection Standard, and supported by the Australian Commission on Safety and Quality in Health Care Antimicrobial Stewardship Clinical Care Standard, the Antimicrobial Use and Resistance in Australia (AURA) Surveillance System, and the work of many government and non-government organisations, health service organisations, professional bodies and research organisations. Australia's first National Antimicrobial Resistance Strategy 2015–2019 aims to implement effective AMS practices across human and animal health and agriculture sectors.

Essential elements of antimicrobial stewardship

Successful AMS programs in human health are multidisciplinary, and operate within an organisation's governance systems with the support of the organisation's executive. They comprise a suite of coordinated strategies and interventions to promote the optimal use of antimicrobials, tailored to patients' needs. The essential elements and strategies for AMS programs are outlined in the box below.

Although much of the experience in AMS has been in the hospital sector, the benefits of the use of AMS interventions to influence antimicrobial use in community settings, such as primary care and aged care homes, are significant for patients, consumers and residents. There is considerable experience of AMS in hospitals across all peer groups, in rural and remote areas, and in private hospitals.

This publication

Aim

This publication is designed to provide clinicians and managers working in all healthcare sectors with the evidence, expert guidance and tools they need to initiate and sustain AMS activities in a diverse range of practice settings – hospitals (public and private, metropolitan and rural), primary care and aged care homes. It describes the roles of those responsible for establishing and implementing AMS programs, as well as how prescribers, pharmacists, infection control practitioners, nurses and midwives can contribute to program success by incorporating AMS principles within their clinical practice.

Structure

This publication summarises current evidence about AMS strategies and interventions, and their implementation, and each chapter begins with a summary of the key points relevant to the topic.

Chapters 1–7 provide strategies for implementing and sustaining AMS. These chapters include guidance on establishing and sustaining AMS programs, strategies and interventions that change prescribing behaviour, use of electronic clinical decision support systems, clinician education, monitoring of antimicrobial use and evaluation of program outcomes, and strategies for engaging consumers in AMS.

Chapters 8–12 examine the roles of the different clinicians in AMS. These chapters focus on the roles and responsibilities that clinicians can have in formal AMS programs, as well as how clinicians can incorporate AMS principles into their clinical practice. Chapters cover infectious diseases physicians; clinical microbiology services; prescribers; pharmacists; and nurses, midwives and infection control practitioners.

The publication will continue to evolve with additional chapters to follow that address AMS in specific settings such as primary care. As new resources become available, they will be added as hyperlinks to the resources section in each chapter or to the appendices.

Essential elements and strategies for antimicrobial stewardship programs

Structure and governance

Overall accountability for antimicrobial stewardship (AMS) is defined by an organisation's corporate and clinical governance.

The NSQHS Standards require health service organisations to implement systems for the safe and appropriate prescribing and use of antimicrobials as part of an AMS program.

The program should include an AMS policy and have an antimicrobial formulary that includes restriction rules and approval processes. The program will also benefit from:

- Establishing a multidisciplinary AMS team that includes, at least, a lead doctor and pharmacist
- Ensuring ongoing education and training for prescribers, pharmacists, nurses, midwives and consumers about AMS, antimicrobial resistance and optimal antimicrobial use.

Essential strategies

The essential strategies that sit within the AMS governance structure are:

- Providing access to and implementing clinical guidelines* consistent with *Therapeutic Guidelines: Antibiotic* that take into account local microbiology and antimicrobial susceptibility patterns

- Implementing formulary[†] restriction and approval systems that include restricting broad-spectrum and later-generation antimicrobials to patients in whom their use is clinically justified
- Reviewing antimicrobial prescribing, with intervention and direct feedback to the prescriber
- Implementing point-of-care interventions (including directed therapy, intravenous-to-oral switching and dose optimisation)
- Ensuring that the clinical microbiology service
 - provides guidance and support for optimal specimen collection
 - targets reporting of clinically meaningful pathogens and their susceptibilities
 - uses selective reporting of susceptibility testing results
 - generates location-specific antimicrobial susceptibility reports (antibiograms) annually
- Monitoring antimicrobial use and outcomes, and reporting to clinicians and management.

* Guidelines include clinical pathways and care bundles.

† Refers to institutional formularies; in the community, the Pharmaceutical Benefits Scheme and the Repatriation Pharmaceutical Benefits Scheme act as the formulary.

