



19 Antimicrobial stewardship in private hospitals

**Antimicrobial Stewardship
in Australian Health Care
2022**

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Acronyms and Abbreviations

Acronym / Abbreviation	Definition
AMR	antimicrobial resistance
AMS	antimicrobial stewardship
AMT	antimicrobial management team
AURA	Antimicrobial Use and Resistance in Australia
eCDSS	electronic clinical decision support system
eMMR	electronic medication management records
ID	infectious diseases
IPC	infection prevention and control
NAPS	National Antimicrobial Prescribing Survey
NAUSP	National Antimicrobial Utilisation Surveillance Program
NSQHS Standards	National Safety and Quality Health Service Standards
SNAPS	Surgical National Antimicrobial Prescribing Survey
QUM	Quality Use of Medicines
VMO	visiting medical officer

Key Points

- Private hospitals (including day hospitals) are an important provider of inpatient and non-admitted care in Australia.
- All private hospitals are required to be accredited to the National Safety and Quality Health Service (NSQHS) Standards to improve safety and quality of health care provision. Actions specific to antimicrobial stewardship (AMS) are included in the Preventing and Controlling Infections Standard.
- Antimicrobial prescribing practices generally differ between public and private hospitals, and rates of inappropriate prescription of antimicrobials, especially prescribing for surgical prophylaxis, are higher in private hospitals.
- The potential barriers to implementing AMS programs in private hospitals may include:
 - less on-site access to an infectious diseases physician and AMS expertise
 - more limited options and resources for AMS education and training compared with public hospitals
 - more limited availability of opportunities for clinician participation in AMS education and training compared with public hospitals
 - ability of visiting medical officers (VMOs) to adopt the hospital's AMS policy and guidance
 - antimicrobial prescribing initiated by clinicians from outside the hospital, utilising phone orders, may not be captured due to imprest use by nursing staff
 - ability of hospital managers to develop and implement clinical governance mechanisms to link with AMS policy and guidance to impact prescribing practice of VMOs.
- The design of a private hospital's AMS program needs to consider:
 - its governance structures and processes
 - the range and complexity of services it provides and the prescribing practices of clinicians
 - the available workforce to support AMS
 - its employment relationship with clinical staff
 - available expertise and resources, including pathology, microbiology, pharmacy, infection prevention and control (IPC), and infectious diseases (ID).
- The AMS program requires executive leadership, AMS Committee oversight and an AMS team for program implementation.
- The size and make-up of a private hospital AMS Committee and team will be influenced by the range and complexity of services it provides, size, available workforce, and relationship with other facilities (e.g., integration with public hospitals).
- Nursing and pharmacy staff can play a significant role in supporting AMS in private hospitals.
- Expert AMS advice and support (e.g., ID, microbiology, IPC, and pharmacy) for AMS Committee and team roles may be sourced from external providers or organisations. This requires establishment of formal relationships with these expert providers.
- Working with all clinicians, including VMOs, to obtain support for the AMS program, identify AMS priorities, and develop and implement AMS strategies to improve outcomes is a key factor for successful AMS in private hospitals.
- Innovative solutions may be required to implement prescribing guidelines and structured care bundles in private hospitals, including making guidelines accessible to private clinicians working outside the hospital in their rooms.
- Clinician education needs to be accessible to visiting clinicians, and online and self-directed education may be more suitable than on-site training.
- Participation in programs which will provide data to inform improved decision making regarding appropriate prescribing is encouraged. Many of these programs are available through the Antimicrobial Use and Resistance in Australia (AURA) Surveillance System described in the Resources section of this chapter.

19.1 Introduction

The inclusion of antimicrobial stewardship (AMS) in the Preventing and Controlling Infections Standard of the National Safety and Quality Health Service (NSQHS) Standards signifies the importance of AMS in patient safety.¹ This Standard was updated in 2021 to include a requirement for continuous quality improvement in antimicrobial use in response to audit.²

The NSQHS Standards, which all Australian private hospitals and day procedure services are required to have in place, requires the health service organisation to implement systems to support an AMS program.¹

The AMS actions are¹:

3.18 The health service organisation has an antimicrobial stewardship program that:

- a. Includes an antimicrobial stewardship policy
- b. Provides access to, and promotes the use of, current evidence-based Australian therapeutic guidelines and resources on antimicrobial prescribing
- c. Has an antimicrobial formulary that is informed by current evidence-based Australian therapeutic guidelines and resources, and includes restriction rules and approval processes
- d. Incorporates core elements, recommendations, and principles from the current Antimicrobial Stewardship Clinical Care Standard
- e. Acts on the results of antimicrobial use and appropriateness audits to promote continuous quality improvement

3.19 The antimicrobial stewardship program will:

- a. Review antimicrobial prescribing and use
- b. Use surveillance data on antimicrobial resistance and use to support appropriate prescribing
- c. Evaluate performance of the program, identify areas for improvement, and take action to improve the appropriateness of antimicrobial prescribing and use
- d. Report to clinicians and the governing body regarding
 - compliance with the antimicrobial stewardship policy and guidance
 - areas of action for antimicrobial resistance
 - areas of action to improve appropriateness of prescribing and compliance with current evidence-based Australian therapeutic guidelines or resources on antimicrobial prescribing

- the health service organisation's performance over time for use and appropriateness of use of antimicrobials

More information regarding the requirements of the NSQHS Standards can be found in Chapter 1.

In addition, *Australia's National Antimicrobial Resistance Strategy: 2020 and Beyond* (the national strategy) describes priority actions to address the growing public health threat of antimicrobial resistance (AMR).³ AMS is a key component of the national strategy.

The *Antimicrobial Stewardship in Australian Health Care Book* (the Antimicrobial Stewardship Book) was published in 2018 by the Australian Commission on Safety and Quality in Health Care (the Commission) to provide an overarching resource for AMS programs in Australia. The Antimicrobial Stewardship Book is available at:

<https://www.safetyandquality.gov.au/our-work/antimicrobial-stewardship/antimicrobial-stewardship-australian-health-care-ams-book>

Additional chapters of the Antimicrobial Stewardship Book are being developed on specific topics to further support and advance AMS in Australia. As these are completed, they are published to continue to expand the content of the Antimicrobial Stewardship Book.

Antimicrobial Stewardship in Private Hospitals is the latest addition to the Antimicrobial Stewardship Book. This chapter:

- Describes factors affecting AMS in private hospitals
- Identifies resources to support appropriate prescribing of antimicrobials
- Provides practical strategies that can be implemented within private hospitals to improve AMS.

Earlier chapters in this book provide detailed guidance on AMS in hospitals, including private hospitals. This chapter complements earlier chapters by describing AMS issues that are particular to private hospitals and how these may be addressed.

19.1.1 Private hospital care

Private hospitals (including day procedure services) are an important provider of admitted and non-admitted (e.g., outpatient clinics and emergency departments) care in Australia. The location, size and range of services provided by private hospitals are diverse, ranging from smaller to tertiary level services, including rehabilitation, mental health, palliative care and aged care. There are an estimated

693 public hospitals and 657 private hospitals (including day procedure services) in Australia.⁴

Each year in Australia, approximately 40% of hospital admissions are to private hospitals. For private hospitals, 73% of admissions are for patients who are admitted and discharged on the same day, compared with 55% for public hospitals.⁵

19.1.2 Antimicrobial use and private hospitals

Analyses of the 2019 Hospital National Antimicrobial Prescribing Survey (NAPS) and Surgical NAPS data identified variation in antimicrobial prescribing practices between public and private hospitals. Findings included:

- Documentation of the reason for antimicrobial prescription is lower in private hospitals (70.1%) compared with public hospitals (87.8%), whereas documentation of antimicrobial stop date is higher in private hospitals (55.4%) compared with public (46.1%) hospitals
- Rates of prescription of antimicrobials considered to be inappropriate (suboptimal or inadequate) are higher in private hospitals (27.9%) compared with public hospitals (22.2%)
- Rates of antimicrobial prescribing for surgical procedures (74.4% vs 71.3%) and post-procedural prescribing (34.9% vs 27.6%) are higher in private hospitals compared with public hospitals.

Reducing inappropriate use of antimicrobials for surgical prophylaxis is a priority for improvement in private hospitals. Links to NAPS resources and reports (through the National Centre for Antimicrobial Stewardship website) and Antimicrobial Use and Resistance in Australia (AURA) reports are provided in the Resources section of this chapter.

19.2 Establishing antimicrobial stewardship in private hospitals

Until recently, published research on AMS programs has largely focused on public hospitals in major cities. Whilst some of this research may be translatable to larger private hospitals with a similar range of services and resources, it may be less relevant to smaller private hospitals and day procedure services that provide a narrower range of services.^{6 7}

19.2.1 Antimicrobial stewardship governance in private hospitals

Accountability for AMS is defined by a private hospital's corporate and clinical governance framework. The NSQHS Clinical Governance Standard describes governance as *“the set of relationships and responsibilities established by a health service organisation between its governing body, executive, clinicians, patients and consumers to deliver safe and high-quality care”*. The Clinical Governance Standard requires that accountability for the AMS program lies with the governing body, organisation, and clinical leadership.

At the local hospital level, AMS should sit within the hospital's clinical governance structure. Lines of accountability and the reporting structure should be confirmed early in the development of the AMS program (see Chapter 2). An executive member (or members) of the local hospital may be tasked with the responsibility of ensuring that AMS strategic goals are met.

Private hospitals may be part of regional, jurisdictional, or national organisations. Lines of accountability and reporting lines for AMS should be clear between the local private hospital AMS governance structures and the organisation.

Clinical staffing arrangements and private hospitals

Governance arrangements for AMS in private hospitals need to consider the employment arrangements between the private hospital and the clinicians that work there.^{8 9}

The employment relationship, and resulting practices, between the private hospital and the medical staff who work in the hospital may be different to salaried medical practitioner arrangements common to public hospitals. Visiting medical officers (VMOs) may be regarded as 'clients' by some private hospitals, in that they provide private hospitals with revenue through admitting and treating patients within the hospital. In turn, patients may be seen as the direct client of the VMO and the private hospital, rather than the private hospital alone.^{8 9} Embedding the AMS program within the hospital's safety and quality program moves antimicrobial prescribing and use from an issue for microbiologists and infectious diseases (ID) physicians to one that is the responsibility of all clinical staff, including VMOs, and positions AMS as a feature of 'excellence in care'.⁹

Private hospitals may have staff in common with local public hospitals. Improving local AMS has the potential to enhance both public and private systems due to this overlap. Networked AMS programs organised at the local level, with program elements in common across local public and private hospitals,

may facilitate greater engagement by staff working across those hospitals.⁹

The hospital executive

The success of the AMS program depends on the support and leadership of the hospital executive, senior management, and senior clinicians.

Managers and senior clinicians are responsible for the AMS program including:

- Ensuring that AMS resides within the private hospital's quality improvement and patient safety governance structures
- Providing the necessary human, financial and information technology resources for AMS activities
- Ensuring ongoing education and professional support is available to support AMS
- being aware of, and compliant with local policies, including accreditation processes.

Chapter 2 describes ways the hospital executive can show its support and leadership for the AMS program.

19.2.2 The private hospital antimicrobial stewardship committee and team

Although overall accountability for AMS lies with the highest level of governance in a private hospital organisation, the responsibility for implementing the AMS program and managing available resources lies with a multidisciplinary AMS Committee and the local AMS team. The AMS Committee provides oversight and advice for the AMS program, and the AMS team is concerned with program implementation (see Chapter 2).

Antimicrobial stewardship Committee

Larger hospitals may have a dedicated AMS Committee. For smaller hospitals, the make-up of the AMS Committee will depend on available staff and may involve VMOs and nursing staff who work across public and private hospitals, and committee members from the regional or national body that manages the private hospital organisation.

Engaging VMOs by including them as AMS Committee members may be a useful way to increase prescriber buy-in to the AMS program.

A standalone AMS Committee may not be feasible for all smaller private hospitals. Where this is the case, AMS Committee functions may be incorporated into an existing related committee, such as the:

- Drug and Therapeutics Committee
- Infection Prevention and Control Committee
- Medication Safety Committee
- Safety and Quality Committee.

The committee might be formally expanded to include AMS, acknowledging this with an expanded title. At a minimum, the terms of reference should be revised to specifically include AMS and relevant membership.

AMS should be a standing item on the committee's agenda. Members with expertise from outside a private hospital may be invited to join the committee, and expert advice, such as ID physician or microbiologist, should be co-opted by the committee when needed. AMS Committee roles and functions are described in more detail at Chapter 2.

AMS team

The AMS team is the group of clinicians who are the effector arm of the AMS program and are usually the face of AMS within a private hospital. All facilities should have a local AMS team.

The size and make-up of the AMS team will vary according to the breadth of services provided by the private hospital, facility size and relationship with other facilities (e.g., networking with other hospitals).

All AMS teams ideally will include at least one infection prevention and control (IPC) practitioner or nurse if no IPC is available on-site. IPCs may be employed as private contractors by the hospital. IPC contractors may therefore need to be remunerated and resourced in their AMS team role differently to public hospital IPC arrangements.

Nursing staff are central to management of infections within the hospital and are thus ideally placed to enhance optimisation of antimicrobial use and contribute to AMS in private hospitals.¹⁰ They need to be resourced and supported to fulfil this role.

The AMS program model based on a multidisciplinary AMS team approach with a clinical microbiologist or ID physician and a clinical pharmacist with ID training as main team members is optimal.^{9 11 12} Successful pharmacy-led private hospital AMS programs are described in the literature.¹² Where on-site ID physicians or clinical microbiologists are not available, the AMS team should include a medical practitioner and clinical pharmacist.

The AMS team may need support from other members of the workforce (e.g., data collectors for audit and reporting and administrative support). These staff should be provided with time to perform their role and provided with AMS training.

Consumer input is also important as described in Chapter 7.

19.2.3 Obtaining private hospital clinician buy-in

Engaging senior clinicians to champion and support the AMS program is a key factor for successful AMS. The aim of clinical leadership is to promote a culture of optimal antimicrobial use within the private hospital.

Senior clinicians may be a clinical champion in a specific discipline (e.g., ophthalmology) or may bring disciplines together to improve communication and collaboration to improve antimicrobial use.

Senior clinician engagement is critical for determining priority areas for AMS activities, defining measurable goals and outcomes, and deciding effective interventions to improve AMS.

Senior clinicians are often VMOs with an established relationship with the private hospital. As AMS is generally outside the scope of their hospital role, the private hospital may be required to remunerate and support the VMO in their AMS role, including utilising local ID physicians where available to increase the capacity of the service.

19.2.4 Obtaining expert antimicrobial stewardship advice and support in private hospitals

Private hospitals without access to on-site ID physicians or specialised pharmacists need to formalise arrangements to access this support when it is needed, such as managing complex issues relating to the hospital antimicrobial policies or individual patient management.¹³

ID physicians are not typically employed directly by private hospitals. Innovative models for involvement of ID physicians may need to be negotiated with private hospital VMOs. Telephone and telehealth strategies may also be options when ID physicians are off site. See Chapter 15 for more information about telehealth.

Once identified, the indications and processes for obtaining expert advice from external clinicians should be clearly defined in AMS policies, including credentialing.

19.2.5 Assessing the current antimicrobial stewardship program in private hospitals

Chapter 2 provides detailed guidance regarding assessing an organisation's current AMS program and activities, including assessing readiness to

implement specific AMS interventions. For private hospitals, an assessment of the key structures and processes required to establish and maintain AMS activities is essential. This will enable the AMS Committee and team to understand local factors influencing antimicrobial prescribing and use, and available human, financial and information technology (IT) resources.

Private hospitals may rely on external bodies, including private pathology providers, pharmacy providers, contracted IPC professionals and external specialists in ID and microbiology, to support AMS. A review of contractual and organisational arrangements between the private hospital and external bodies is important to ensure these arrangements will support the successful implementation of AMS activities within a private hospital.

Assessment of the current AMS program may also include reviewing local policies and prescribing guidelines to determine what AMS policies and guidelines are in place, their currency, and their availability to clinicians (see Chapter 2). Clinicians should be made aware of local policies and guidelines, how to access them, and these clinicians should be included in the review process.

AMS programs need to be tailored to the private hospital's clinical and organisational characteristics. Local factors such as patient characteristics and needs, the breadth of services provided, common indications for antimicrobial therapy, and AMR patterns will guide the focus of the private hospital AMS program.

19.3 Antimicrobial stewardship strategies in private hospitals

Barriers to implementing AMS programs in private hospitals that have been described in the literature include resource constraints, lower clinician participation in AMS education and training, less on-site access to ID pharmacy / physician staff with AMS expertise, less willingness from visiting medical practitioners to change their prescribing practices and less willingness by hospital managers to challenge prescribing behaviours of medical practitioners.^{7 14 15}

A range of strategies have been described in the literature that overcome barriers to AMS in private hospitals and focus on supportive and enabling strategies. Implementation of these strategies needs to account for the scope of services offered by the private hospital, differences in employment arrangements for the clinical workforce, and available resources.^{7 14}

19.3.1 Antimicrobial prescribing policies in private hospitals

All private hospitals in Australia should have antimicrobial prescribing policies in place that:

- Are consistent with *Therapeutic Guidelines: Antibiotic*
- Are tailored to the clinical activities of the private hospital
- Describe situations that require escalation or discussion with an ID physician or clinical microbiologist
- Outline referral processes that fit into the clinical workflow and are workable for clinicians.

(See Chapter 2 for further details).

Examples of AMS policies that may be suitable to amend for the private hospital setting include:

- NSW Clinical Excellence Commission (CEC) sample antimicrobial stewardship policy for a Local Health District or network.¹⁶
- Antimicrobial stewardship policy of the Western Australian Department of Health.¹⁷

19.3.2 Formulary restrictions and approval systems in private hospitals

Restricting antimicrobial use is an effective strategy for improving the appropriateness of antimicrobial prescribing in private hospitals.¹⁸

Public hospital AMS programs may use a restricted antimicrobial list, whereby certain broad-spectrum antimicrobial agents (potentially including 'last-line' agents, high-cost agents, or agents with a high toxicity profile) can only be prescribed with the oversight of nominated expert prescribers (e.g., ID specialists), with auditing and management by clinical pharmacists. These types of restrictive formularies may be more challenging to implement and therefore less common in the private hospital sector.¹⁸

Points to consider when designing a system to restrict antimicrobial prescribing include^{6,7,18}:

- Restricting access to broad-spectrum antimicrobials. This may be the most efficient and direct method of monitoring and limiting antimicrobial use. It needs to be accompanied by appropriate advice and escalation pathways for clinicians so that they know what they can prescribe instead of the restricted antimicrobial
- Engaging interested local clinicians (e.g., physicians, surgeons, pharmacists) as stewards of the approval system. These stewards require

access to an ID physician or clinical microbiologist to refer difficult or unusual cases for expert advice

- Having emergency arrangements in place to quickly access broad-spectrum or infrequently used antimicrobials if required.

Implementing formulary restrictions includes introduction of audit processes to monitor compliance with formulary changes. Private hospitals may outsource their pharmacy services to external contractors. Contractual agreements may therefore require revision to align contracts with formulary changes that support AMS.

Private hospital clinicians may be resistant to formulary restrictions and approval systems. Involving VMOs in discussions about how to implement formulary restrictions is important to obtain their buy-in.^{7,18}

VMOs may wish to consult with medical experts in making antimicrobial prescribing decisions that align with a new formulary. The private hospital AMS team may need to consider facilitating access to ID specialists during the implementation of formulary restrictions.^{6,7}

The Commission's *Priority Antibacterial List for Antimicrobial Resistance Containment* is a stewardship resource to improve prescribing by reducing the total quantity of antibacterial use. Private hospitals may use the list to guide local formulary decisions. A link to the list is provided in the Resources section of this chapter.

19.3.3 Implementing prescribing guidelines and structured care bundles in private hospitals

Prescribing guidelines should be available for the common infections treated in the private hospital. Prescribing guidelines support clinicians to make evidence-based antimicrobial prescribing decisions. Guidelines may:

- Endorse *Therapeutic Guidelines: Antibiotic*, accounting for local bacterial susceptibilities¹⁹
- Be developed in collaboration with local physicians, with input from an ID expert.

Different strategies have been described in the literature to increase uptake of prescribing guidelines^{20,21}:

- Ideally, guidelines will be readily available to clinicians, including when they are off-site in private consulting rooms but are responsible for patients admitted to the hospital

- Clinical care pathways and structured care bundles may be a useful way to promote consistent, evidence-based, high-quality prescribing, for example in the management of sepsis
- Guidelines may target priority prescribing issues – for example, through posters in operating theatres to promote evidence-based prescribing for surgical antimicrobial prophylaxis, and screensavers on computers used by VMOs in the hospital to promote AMS campaigns such as intravenous-to-oral switch
- Automatic stop orders for antimicrobials may be included in care bundles.

Electronic clinical decision support systems (eCDSSs) are a useful tool to promote prescribing in accordance with guidelines. Use of eCDSSs to provide antimicrobial prescribing advice is supported by private hospital stakeholders, with surveys indicating 60% are in favour of eCDSSs in private hospitals.²⁰

Hospital prescribing guidelines should include a process to update the information when changes occur.

19.3.4 Prescription review and feedback in private hospitals

Review of antimicrobial prescriptions and provision of feedback to prescribers regarding the quality of antimicrobial prescribing is an effective strategy for improving appropriate use of antimicrobials.^{6 22}

Review and feedback can be provided by a clinician with ID expertise, including medical, pharmacy and / or IPC nursing professionals.^{22 23}

Audits such as NAPS can help in identifying the units, services, groups of providers and even individual providers for whom prescription review and feedback interventions may be prioritised.²⁴

Use of an antimicrobial management team (AMT) to provide post-prescription advice to prescribers for patients on certain antimicrobials or with certain indications is a useful method for delivering AMS, which has been implemented in Australian private hospitals.⁹ Ward pharmacists, nursing staff, or a combination of both, can identify patients suitable for review by the AMT.⁹ Some eCDSSs, or electronic medication management records (eMMR), allow electronic alerts to be generated, flagging AMT review may be indicated.²³ A collaborative approach by the AMT, to include VMOs, through effective communication, is essential.

If prospective review of antimicrobial therapy is not viable, periodic auditing of the appropriateness of antimicrobial prescribing is another option. Contracting pharmacists to conduct monthly audits

is another method for gauging the quality of antimicrobial use in the hospital.^{22 23}

19.3.5 Monitoring and reporting antimicrobial use and resistance

Tracking and monitoring antimicrobial use and resistance allows AMS teams to identify target areas for improvement, and to measure the effect of AMS interventions. This should include monitoring of local resistance trends, including review of antibiograms and other infection prevention and control data as appropriate.²⁵ Participation in national surveillance systems, such as AURA, provide further opportunity to enhance data and information available to inform local practice.²⁶

Private hospitals may outsource pathology services to external providers – in some cases, to more than one external provider.²⁷ This can contribute to difficulties in implementing systems for rapid communication of critical results to AMS teams, and in collation of hospital-wide data such as antibiograms.¹⁸

Standardised and validated tools that can be used to measure usage and audit prescribing are available through the National Antimicrobial Utilisation Surveillance Program (NAUSP) and NAPS (see Resources section). Tools such as the Hospital NAPS or Surgical NAPS may be useful because data can be easily collected using available resources and tailored to the hospital casemix.

Audit results need to be communicated to prescribers so that action may result. Private hospitals may work with VMOs to identify how findings could be reported, who will receive feedback, and how to engage VMOs in education for quality improvement.

19.3.6 Measuring antimicrobial stewardship program performance and outcomes

Measuring the effectiveness of AMS program activities in health service organisations is a requirement for meeting the NSQHS Preventing and Controlling Infections Standard, and the AMS Clinical Care Standard and associated indicators.²

To meet the requirements of the Standard, AMS measurement includes structure (whether the essential elements of an AMS program are established and maintained), process (whether AMS policies and processes are being followed correctly) and outcome (whether patient outcomes have improved) measures.² Consider PICMoRS as an improvement strategy tool to enable the health service to support the review of safety and quality systems.²⁸

The measurement and evaluation of AMS initiatives is enabled by using standardised formats for collecting and reporting data, and using information technology solutions to collect, analyse and report

data. Examples of measures, and data collection tools that can be used to support measurement, are described at Table 19.1.

Table 19.1 AMS measures and data collection tools

Measures	Data collection tools
Regular standardised antimicrobial consumption data	National Antimicrobial Utilisation Surveillance Program (NAUSP) ²⁹
Proportion of antimicrobial prescriptions in which the indication has been documented	Local audit National Antimicrobial Prescribing Survey (NAPS) ²⁴
Proportion of prescriptions that are compliant with Therapeutic Guidelines: Antibiotic	Local audit National Antimicrobial Prescribing Survey (NAPS) ²⁴
Proportion of prescriptions for surgical antimicrobial prophylaxis compliant with guidelines	Local audit National Antimicrobial Prescribing Survey (NAPS) / Surgical National Antimicrobial Prescribing Survey (SNAPS) ²⁴
Antimicrobial Stewardship Clinical Care Standard indicators	Antimicrobial Stewardship Clinical Care Standard - Indicator Monitoring Tool (see Resources section)
National quality use of medicine (QUM) indicators: antibiotic therapy	National QUM Indicators for Australian Hospitals data collection tool for Indicator set 2: Antibiotic therapy ³⁰

Timely feedback to clinicians and health service managers is essential.

Patients in private hospitals may also contribute to the appropriate use of antimicrobials. NPS MedicineWise and the Commission and AURA have a range of consumer materials which promote AMS for patients and can help patients to ask questions that prompt discussion about their antimicrobial therapy with their attending VMO.³¹ The availability of consumer materials and ability for consumers to ask questions about AMS may be appropriate to include in AMS program evaluation measures.

19.3.7 Clinician education in private hospitals

Chapter 5 provides information on AMS clinician education and links to online resources.

Much of the AMS education literature has focused on education of junior medical staff in the public hospital system.^{14 32} In the private sector, antimicrobials are primarily prescribed by VMOs, and they need to be provided with AMS education and skills development.¹⁴

Educational resources need to be accessible to VMOs who may visit the hospital at irregular times, and who are less available to attend group education events within the hospital.^{9 18} Online education and self-directed education may therefore be more suitable for the private hospital setting.^{9 18}

AMS education uptake may be improved if endorsed by a professional body (e.g., the Royal Australasian College of Surgeons) and / or linked to continuing professional development for the clinician specialty. Private hospitals may also consider linking AMS education to VMO credentialing for admitting rights to the hospital.⁹

Health professionals directly involved in implementing the private hospital AMS program, including nurses, IPCs, pharmacists and medical staff can access AMS education across a variety of different formats. These include webinars, online training modules, video lectures and education activities organised by professional organisations and state or territory AMS networks/committees, such as Antimicrobial Awareness Week. Chapter 5 provides more information about these resources.

19.4 Conclusions

Since the release of the first edition of the NSQHS Standards in 2013, which included the requirement that all hospitals establish an AMS program, important lessons have been learned about what makes AMS programs successful in private hospitals. Although the basic elements of AMS are consistent between public and private hospitals, implementation of the AMS program needs to be tailored to the private hospital's clinical and organisational characteristics.

Differences between private and public hospitals need to be considered when planning, delivering, and evaluating AMS programs and activities.

VMOs are key to service delivery in private hospitals and need to be engaged in AMS activities to support program effectiveness. Clinical leadership and engagement by VMOs are important for program success.

Nursing and pharmacy staff play a significant role in supporting AMS in private hospitals, if resourced and supported.

Key AMS functions and personnel may be external to the private hospital. The AMS team, AMS Committee and hospital executive need to ensure required program supports are available for the team to carry out AMS functions.

Innovative solutions may be required to promote the adoption of evidence-based guidelines by prescribing clinicians. Solutions may need to extend to settings outside the private hospital environment, including private consulting rooms. Similarly, education and training need to be accessible to clinicians outside normal business hours. Education uptake may be increased through integration with hospital credentialing processes.

Resources

- Australian Commission on Safety and Quality in Health Care.
 - a. AMS Clinical Care Standard.
<https://www.safetyandquality.gov.au/our-work/clinical-care-standards/antimicrobial-stewardship-clinical-care-standard>
 - b. AMS Clinical Care Standard – Indicator Monitoring Tool.
<https://www.safetyandquality.gov.au/our-work/clinical-care-standards/antimicrobial-stewardship-clinical-care-standard/indicator-monitoring-tool>
 - c. AURA Surveillance System - reports and resources.
<https://www.safetyandquality.gov.au/publications-and-resources/aura-surveillance-system-reports-and-resources>
 - d. AURA 2021 - Consumer trifold: Do I really need antibiotics?
<https://www.safetyandquality.gov.au/publications-and-resources/resource-library/aura-2021-consumer-trifold-do-i-really-need-antibiotics>
 - e. Options to support implementation of antimicrobial stewardship.
<https://www.safetyandquality.gov.au/publications-and-resources/resource-library/options-implementation-antimicrobial-stewardship-different-facilities>
 - f. Priority Antibacterial List for Antimicrobial Resistance Containment. April 2020.
<https://www.safetyandquality.gov.au/publications-and-resources/resource-library/priority-antibacterial-list-antimicrobial-resistance-containment>
 - g. Safety and Quality Improvement Guide Standard 3: Preventing and Controlling Healthcare Associated Infections. Sydney: ACSQHC, 2021. [National Safety and Quality Health Service Standards \(second edition\) | Australian Commission on Safety and Quality in Health Care](#)
- Australian Guidelines for the Prevention and Control of Infection in Healthcare (2019).
<https://www.nhmrc.gov.au/about-us/publications/australian-guidelines-prevention-and-control-infection-healthcare-2019>
- Centers for Disease Control and Prevention. Implementation of antibiotic stewardship core elements at small and critical access hospitals.
<https://www.cdc.gov/antibiotic-use/core-elements/small-critical.html>
- National Centre for Antimicrobial Stewardship (NCAS).
 - a. Website
<https://www.naps.org.au/Default.aspx>
 - b. Microbiology fact sheets. Available at:
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