

## ANTIMICROBIAL STEWARDSHIP

### Policy Statement

The facility recognises the importance of antimicrobial stewardship and adopts measures that promote adherence to the *Antimicrobial Stewardship Clinical Care Standard 2020* (Australian Commission on Safety and Quality in Healthcare).

Consumers with infections are managed according to antimicrobial stewardship principles and receive appropriate and optimal treatment.

### Definitions and Background Information

#### *Antimicrobial*

A substance that is safe for human use and used to treat or prevent infections caused by microorganisms.

Antimicrobials include the following categories of agents:

#### *Antibiotics or Antibacterials*

Agents which kill or inhibit the growth of bacteria

#### *Antifungals*

Agents which kill or inhibit the growth of fungi and yeasts

#### *Antivirals*

Agents which kill or inhibit viruses

#### *Antiparasitic agents*

Agents which destroy parasites and are used for parasitic infections such as intestinal worms

#### *Antiseptic agents*

Chemicals that are applied to the skin or other living tissue to inhibit or kill microorganisms, e.g. alcohol-based hand sanitiser used to disinfect during hand hygiene.

#### *Broad-spectrum antimicrobials*

Antimicrobials which are active against a wide range of microorganisms

#### *Narrow-spectrum antimicrobials*

Antimicrobials that target particular organisms or groups of organisms

#### *Antimicrobial Resistance (AMR)*

Occurs when microorganisms change in ways to protect themselves from an antimicrobial agent such that the antimicrobial agent is ineffective against the microorganism.

AMR is recognised as a global health priority that threatens to take modern medicine back to the pre-antibiotic era, where simple infections caused significant harm. To combat AMR, clinical care standards have been developed to facilitate the slowing down of the resistance.

### Antimicrobial Stewardship (AMS)

A systematic approach to optimising the use of antimicrobials in order to preserve the effectiveness of these important medicines for treating infections.

The responsibility for AMS is with clinicians and consumers in all parts of the health system, including in residential aged care facilities, as highlighted in Australia's National Antimicrobial Resistance Strategy – 2020 and Beyond. The strategy document also highlights the need to apply best-practice prescribing and AMS practices and recommends identifying and eliminating any barriers.

The Aged Care Quality Standards require the Australian Government subsidised aged care services to:

- Minimise infection-related risks (Standard 3(3)(g)) by implementing:
  - Standard- and transmission-based precautions to prevent and control infection
  - Practices to promote appropriate antibiotic prescribing and use to support optimal care and reduce the risk of increasing resistance to antibiotics
- Have a clinical governance framework, including antimicrobial stewardship (Standard 8(3)(3)).

### The Antimicrobial Stewardship Clinical Care Standard 2020

- Aligns with key principles that are the foundation for achieving safe, high-quality, person-centred care, shared decision making, and informed consent.
- Supports the requirements of the *National Safety and Quality Health Service (NSQHS) Standards*, which are applicable to all health service organisations.
- Includes 8 quality statements and a set of indicators for safe and appropriate care.
- Provides guidance to clinicians and health service managers on delivering appropriate care when prescribing antimicrobials.
- Involves using the **right** antimicrobial to treat the condition, in the **right** dose, at the **right** frequency, by the **right** route of administration, at the **right** time and for the **right** duration, based on accurate assessment and timely review.
- Aims to ensure the appropriate use and review of antimicrobials to optimise consumer outcomes, lessen the harms of adverse effects and reduce the emergence of antimicrobial resistance.
- Ensures that a consumer receives optimal antimicrobial therapy for the treatment or prevention of an infection, including assurance when an antimicrobial is not needed.

### Therapeutic Guidelines: Antibiotic

The primary resource (and 'formulary') recommended when prescribing antimicrobials providing national evidence-based guidelines for antimicrobial use in Australia.

In some cases, evidence-based and local adaptations that have been through a formal, robust endorsement process, such as a locally-based Infection Control or Antimicrobial Stewardship Committee, may be approved for use. These remain based on Therapeutic Guidelines, however, may be more relevant to local patterns of antimicrobial resistance or specific consumer populations requiring a localised approach or with highly specialised diagnoses out of the scope of Therapeutic Guidelines. They are not usually applicable to residential aged care facilities however, if appropriate in a particular setting, they may be used and are referred to as 'evidenced-based, locally endorsed guidelines and the antimicrobial formulary' in the Antimicrobial Stewardship Clinical Care Standard as detailed below.

## Procedure

---

1. Consumers with suspected infections are assessed and treated based on the Antimicrobial Stewardship Clinical Care Standard's quality statements, as detailed below, with guidance for implementation and monitoring of the recommended indicators as a measure of compliance with the Clinical Care Standard. Note there are no set benchmarks for the Antimicrobial Stewardship Clinical Care Standard indicators.
2. Internal review of compliance with the Clinical Care Standard is facilitated through infection reporting and information gathering, with an audit and analysis of the data to identify areas of concern and improve antimicrobial stewardship.
  - An audit may be conducted using the Meditrax Antimicrobial Stewardship Tool or a different suitable audit tool or process for collating and analysing antimicrobial use data.
  - The Australian Commission on Safety and Quality in Health Care provides an audit tool, the Antimicrobial Stewardship Clinical Care Standard Indicator Monitoring Tool – template, at <https://www.safetyandquality.gov.au/publications-and-resources/resource-library/antimicrobial-stewardship-clinical-care-standard-indicator-monitoring-tool-template>.
  - Participation in the annual Aged Care National Antimicrobial Stewardship Survey (AC NAPS), <https://www.naps.org.au/Default.aspx>, is recommended as this will provide feedback about antimicrobial use at the facility compared to other residential aged care services and will highlight key areas of concern for action.
3. Audit findings should be reviewed, collated, and presented at the Medication Advisory Committee (MAC) meeting (or a specific infection control committee or AMS meeting if there is a separate committee) to discuss and implement actions for improvement.
  - This may require investigating and understanding any reasons for not complying with the Clinical Care Standard concerning prescribing or inappropriate antimicrobial use, which includes whether:
    - the indication did not require any antimicrobials
    - the treatment involved an inappropriate dose, route, frequency, duration or spectrum of activity.
4. Areas identified in the Aged Care National Antimicrobial Stewardship Prescribing Survey (AC NAPS) reports as requiring improvement across residential aged care facilities in Australia are to be highlighted for action and education at the facility, including by utilising fact cards and posters available from:
  - The National Centre for Antimicrobial Stewardship (NCAS) - <https://www.ncas-australia.org/> - see section 'Latest Resources' for relevant information sheets (e.g. Topical Antifungals).
  - Australian Commission on Safety and Quality in Health Care – Antimicrobial stewardship in aged care - <https://www.safetyandquality.gov.au/our-work/antimicrobial-stewardship/antimicrobial-stewardship-aged-care>

5. Staff education and training to understand the concept and importance of antimicrobial stewardship are recommended to be implemented, as well as the procedures and actions to minimise the risk of infections and prevent their spread when they occur.
  - Learning objectives should include:
    - How to recognise the signs of infection, assess consumers and escalate concerns
    - Correct hand hygiene and use of personal protective equipment (PPE)
    - That infection prevention and control practices are a key part of effective antimicrobial stewardship practice
    - That preventing infection reduces the need for antimicrobials and the opportunity for organisms to develop resistance.
6. A process to promote and encourage appropriate vaccination to prevent infections is to be implemented, recognising that vaccination can reduce antimicrobial resistance by preventing infectious diseases and reducing the prevalence of primary viral infections, which are often inappropriately treated with antimicrobials.

## Clinical Care Standard

---

### Quality Statement 1: Life-threatening conditions

**A consumer with a life-threatening condition due to a suspected infection receives an appropriate antimicrobial immediately, without waiting for the results of investigations.**

#### Implementation

- A consumer who the registered nurse assesses to be unwell with a suspected infection has arrangements made for prompt review by the medical practitioner or other authorised prescriber.
  - Where the medical practitioner or other authorised prescriber determines the consumer's condition is life-threatening due to suspected infection, an appropriate antimicrobial agent to treat the infection is prescribed and commenced without delay.
  - In other cases, the medical practitioner or other authorised prescriber may determine it is appropriate to wait for the results of investigations.
- Timely medical review and assessment is prompted for all consumers unless it is the informed choice of the consumer or their substitute decision-maker, family or carers, for treatment to be withheld in the specific circumstances and with consideration of a palliative setting which may be supported by the consumer's advanced care directives and plan.
- Safe and high-quality end-of-life care should be aligned with the values, needs, and wishes of the consumer and their family or carers and should be considered in the treatment decisions for suspected life-threatening infections.
- Where the consumer's condition is determined to be life-threatening, clinical specimens are obtained as appropriate. However, empirical antimicrobial treatment (i.e. treatment based on knowledge of the microorganisms which most frequently cause the type of infection rather than on a microbiology report with antimicrobial susceptibility information) is commenced without delay while awaiting the results of investigations.

- Prompt commencement of antimicrobial treatment is facilitated by the availability of the prescribed agent from urgent use (emergency) stock, pre-placed antiviral stock from the National Medical Stockpile in the case of COVID-19 or influenza infections, supplies accessed through the local public health unit in the case of a declared outbreak, or via usual pharmacy supply processes or urgent out-of-pharmacy-hours supply if required.
- The Medication Advisory Committee (MAC) is to determine which urgent use (emergency) stock antibiotics are to be available as well as a protocol for their management so that availability is assured and they can be commenced immediately after they are ordered by the prescriber.
- If there is no immediate access to the appropriate antimicrobial (where the consumer and/or their substitute decision-maker agrees to treatment), arrangements to transfer the consumer to a hospital for prompt treatment are made.

### Quality Statement 2: Use of Guidelines

**When a consumer is prescribed an antimicrobial, this is done in accordance with the current Therapeutic Guidelines (or evidence-based, locally endorsed guidelines and the antimicrobial formulary).**

#### Implementation

- Consider providing access for authorised prescribers to Therapeutic Guidelines at the facility to enable prescribing of the most appropriate antimicrobial treatment for the particular infection. In addition, aged care facilities may have access to or advice available from a suitable evidence-based guideline and antimicrobial formulary where this is applicable as an alternative to Therapeutic Guidelines. This ensures treatment is according to national guidelines.
- The selected antimicrobial is prescribed with consideration of the appropriate spectrum of microbial activity, the active ingredient, dose, frequency, route of administration, and duration of therapy, as well as the individual consumer's allergy status, age, weight, renal function, other medications prescribed and other health conditions.

#### Indicator for monitoring

- The proportion of antimicrobials prescribed is in accordance with the current Therapeutic Guidelines or evidence-based, locally endorsed guidelines.

### Quality Statement 3: Adverse reactions to Antimicrobials

**When an adverse reaction (including an allergy) to an antimicrobial is reported by a consumer or recorded in their healthcare record, the active ingredient(s), date, nature and severity of the reaction are assessed and documented. This enables the most appropriate antimicrobial to be used when required.**

#### Implementation

- The consumer's history of previous adverse reactions to medicines is considered before prescribing, dispensing or administering an antimicrobial.
- Processes are in place to support clinicians in documenting adverse reactions to medicines reported or experienced by a consumer in their clinical notes/healthcare record.
- The consumer's healthcare record should be checked, and they or their family/substitute decision-maker should be asked about the following in relation to a previous adverse reaction:
  - Description of the event
  - Nature of the reaction (and how it was managed)

- Active ingredient(s) thought to have caused the reaction
  - Assessment of likelihood (i.e. certainty the active ingredient caused it)
  - The severity of the event (e.g. hospitalisation required)
  - Date and location of the care (enables access to the original record details).
- If a consumer experiences a new adverse reaction to an antimicrobial, the above criteria should be documented in their healthcare record. The reaction should be reported to the Therapeutic Goods Administration (TGA) – see ‘Adverse Event Monitoring’ and Reporting policy.
  - As many adverse reactions are expected side effects of medicines, collecting and documenting as much information as possible about a previous reaction will assist prescribers in determining the likelihood the adverse reaction may recur if the antimicrobial is used and the potential consequences to the consumer.

#### Indicator for monitoring

- The proportion of consumers with an adverse reaction to an antimicrobial with comprehensive documentation of the reaction in their healthcare record.

#### Quality Statement 4: Microbiological testing

**A consumer with a suspected infection has appropriate samples taken for microbiology testing as clinically indicated, preferably before starting antimicrobial therapy.**

#### Implementation

- Appropriate samples for microbiology testing are to be obtained when clinically indicated and before starting antimicrobial therapy.
- This supports the selection of the most appropriate antimicrobial specific for the infecting microorganism and the most narrow-spectrum antimicrobial suitable.
- Clinical specimens are obtained as appropriate when a consumer has a life-threatening or serious infection (such as sepsis); however, empirical antimicrobials are commenced as soon as possible. The treatment is reassessed as soon as the test results are available.
- Guidelines for appropriate microbiological testing, such as Therapeutic Guidelines, are followed.
- Guidelines to support the appropriate assessment of consumers for infections are available at the facility, e.g. Therapeutic Guidelines.
  - The registered nurse is to utilise suitable clinical resources such as Therapeutic Guidelines and/or the Aged Care Quality and Safety Commission’s To Dip or Not to Dip Clinical Pathway forms, which are available in the online fillable format (<https://www.agedcarequality.gov.au/resources/clinical-pathways-suspected-utis-forms>), to assess consumers with suspected urinary tract infections. The consumer’s medical practitioner or other authorised prescriber may then be contacted if indicated to request a review of the consumer, based on the evidence-based assessment undertaken, and the To Dip or Not to Dip Clinical Pathway form may be electronically communicated to the prescriber to assist in determining further management.
- Staff collecting clinical specimens should receive education and training in the appropriate method for obtaining the specimen correctly. This includes minimising the risk of contamination, correctly labelling the sample, and ensuring appropriate storage in the specimen refrigerator before collection.

- The registered nurse ensures the timely collection of the specimen by the pathology collection service.

### Quality Statement 5: Consumer information and shared decision making

**A consumer with an infection or at risk of an infection is provided with information about their condition and treatment options in a way they can understand. If antimicrobials are prescribed, information on how to use them, when to stop, potential side effects and a review plan are discussed with the patient.**

#### Implementation

- Information about the type of infection, its expected progression and the potential benefits and harms of the treatment options, which may or may not include antimicrobials, is discussed with the consumer and/or their family/carer to ensure the consumer's preferences and needs are considered.
- If an antimicrobial is not required, the consumer is reassured and informed about other treatments that can help with symptoms.
- If an antimicrobial is required, information about the length of treatment and when it will be reviewed/ ceased, as well as any potential adverse effects, is advised to the consumer and documented in the consumer's clinical notes/healthcare record, including the medication chart and progress notes, to facilitate appropriate administration and timely review/cessation of treatment.
- The pharmacist who supplies an antimicrobial for emergency stock use or on a prescription for a consumer includes all relevant information and instructions about how and when to take the antimicrobial to optimise its efficacy.
- In addition, the registered nurse should be able to obtain a printed Consumer Medicines Information (CMI) leaflet or a similar information resource to provide a consumer and/or their family/carer with written information about the antimicrobial and its use.

### Quality Statement 6: Documentation

**When a consumer is prescribed an antimicrobial, the indication, active ingredient, dose, frequency and route of administration, and the intended duration or review plan are documented in the patient's clinical notes/healthcare record.**

#### Implementation

- The registered nurse is to document in the consumer's progress notes details of the symptoms that prompted the request for a medical practitioner or other authorised prescriber review, noting when these commenced.
- A system is in place to ensure that when clinicians prescribe antimicrobials, there is documentation in the consumer's clinical notes/healthcare records of the:
  - clinical reason (i.e. type of infection suspected or being treated)
  - active ingredient
  - dose
  - frequency
  - route of administration
  - treatment review plan.

- The documentation of antimicrobial treatment supports the effective communication among clinicians involved in the consumer's care and allows the appropriateness of the treatment to be assessed and reviewed with reference to the information prompting the prescribing of the antimicrobial(s).
- The medical practitioner or other authorised prescriber should specify the duration of treatment in days or doses on the medication chart at the time of prescribing.

#### Indicators for monitoring

- The proportion of antimicrobial medication orders for which the indication for prescribing the antimicrobial is documented.
- The proportion of medication orders for which the antimicrobial duration, stop date or review date is documented.

#### Quality Statement 7: Review of therapy

**A consumer prescribed an antimicrobial has regular clinical review of their therapy, with the frequency of review dependent on consumer response to treatment and risk factors. The need for ongoing antimicrobial use, appropriate microbial spectrum of activity, dose, frequency and route of administration are assessed and adjusted accordingly. Investigation results are reviewed promptly when they are reported.**

#### Implementation

- The registered nurse should regularly monitor consumers who are prescribed antimicrobials and prompt and support the medical practitioner or other authorised prescriber in the regular review of consumers as appropriate to the clinical condition.
  - This includes the review of a consumer within 48 hours from the first prescription to ensure the antimicrobial agent and dose are appropriate for the site of the infection and consumer factors (e.g. renal function), and where antimicrobials are ceased when no longer necessary.
  - The medical practitioner or other authorised prescriber should communicate with the registered nurse, carers and the consumer about signs and symptoms which would prompt the request for further medical review or transfer to the hospital.
  - The medical practitioner or other authorised prescriber should be prompted to review microbiology test results as soon as they are available. The information is used to guide antimicrobial treatment decisions. This includes considering whether changing or stopping antimicrobials is appropriate.
  - The medical practitioner or other authorised prescriber is supported with prompt ordering and supply processes for a different antimicrobial agent when changing the treatment from broad-spectrum antimicrobials to appropriate narrow-spectrum agents once the pathogen is identified in microbiological testing.

#### Indicators for monitoring

- The proportion of prescriptions for which an antimicrobial review and updated treatment decision is documented within 48 hours after prescribing.



### Quality Statement 8: Surgical and procedural prophylaxis

A consumer having surgery or a procedure is prescribed antimicrobial prophylaxis in accordance with the current Therapeutic Guidelines (or evidence-based, locally endorsed guidelines). This includes recommendations about the need for prophylaxis, choice of antimicrobial, dose, route and timing of administration, and duration.

#### Implementation

- Consumers are prescribed and commence appropriate antimicrobial therapy, which is required for a specified time period prior to transferring from the facility to undergo planned surgery or a procedure.
- The antimicrobial therapy is guided by the treating authorised prescriber involved in the care of the consumer for the planned surgery or procedure, and who is also responsible for determining the appropriate therapy according to the current Therapeutic Guidelines (or evidence-based, locally endorsed guidelines) at the healthcare facility where the surgery or procedure will be conducted.
- The registered nurse and medical practitioner or other authorised prescriber should facilitate communication with the treating authorised prescriber and ensure the required antimicrobial therapy is charted, commenced and administered as advised.

#### Indicators for monitoring

- The proportion of patients who are prescribed commenced and administered prophylactic antimicrobials within the recommended time perioperatively.

### References

1. Australian Commission on Safety and Quality in Health Care. Antimicrobial Stewardship Clinical Care Standard. Sydney: ACSQHC, 2020, <https://www.safetyandquality.gov.au/our-work/clinical-care-standards/antimicrobial-stewardship-clinical-care-standard#quality-statements-in-the-2020-antimicrobial-stewardship-clinical-care-standard>
2. Australian Commission on Safety and Quality in Health Care. Antimicrobial stewardship in Australian health care. Sydney: ACSQHC; 2018, <https://www.safetyandquality.gov.au/publications-and-resources/resource-library/antimicrobial-stewardship-australian-health-care>
3. Therapeutic Guidelines – Antibiotic, 2021, [www.tg.org.au](http://www.tg.org.au)