Grampians Health

Re S T A R T

Antimicrobial Stewardship Rounds

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Infection Prevention & Control (IPaC)

Disclosure of Conflict of Interest - nil

Acknowledge all members of the Infection Prevention and Control (IPaC) team - Horsham
Clinical Nurse Consultants Rachel Baker, Jenny Vague, IC Nurses Sarah Glasgow, Amy Elliott, Aimie Edwards
Pharmacy Team Debbie Norton, David Difederico, Nick Holland
* Medical Physician Roshan Brito - Mutunayagam

18th November 2024

Grampians Health

Regional Solution To effective AMS Rounds That works - ReSTART

18th November 2024

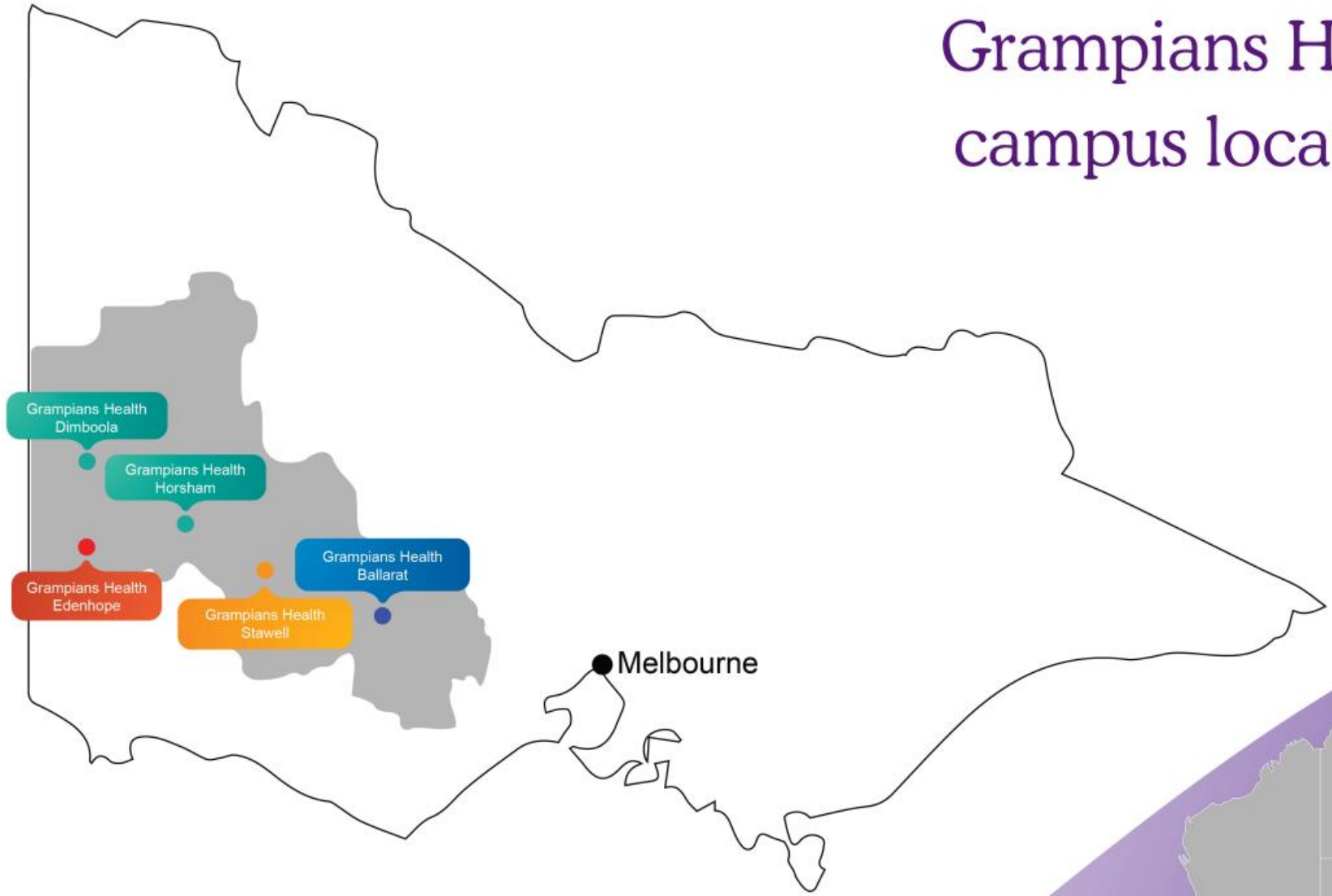
RATIONALE

Goal

To restart antimicrobial stewardship rounds at Grampians Health Horsham (GH-H), as a sustainable clinical practice that supports the core elements of the Antimicrobial Stewardship (AMS) Clinical Care Standard [1] by June 2023.

1. Australian Commission on Safety and Quality in Health Care. Antimicrobial Stewardship in Australian Health Care. Sydney: ACSQHC; 2023

Grampians Health campus locations



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Antimicrobial Stewardship: Grampians Health - Horsham

Antimicrobial stewardship programs are used by health care services to:

* reduce inappropriate antimicrobial use
* improve patient outcomes
* reduce adverse consequences of antimicrobial use.

AMS aims to increase the appropriate use of antimicrobials, ensuring patients who need antimicrobials receive the **right antimicrobial**,
at the **right dose**
and for the **right duration**.

Program requirements

- Develop a communication tool between the AMS rounds recommendations and treating team
- Engage with a lead physician to champion the AMS rounds
- Negotiate with pharmacy for a senior pharmacist minimum 1 hour per week
- Source a method of data entry to collate results and provide feedback reports to treating teams

Timeline - Task List

- Medical form
- Medical staff
- Pharmacy
- Database
- Education staff
- IPaC team
- Committee Approval
- Improvement activity

Feb 2023

May 2023

- MR396 pending
- Dr Roshan engaged
- Clinical pharmacist
- QI NAPS identified
- Quality Activity

- Rounds regular occurrence
- MR 396

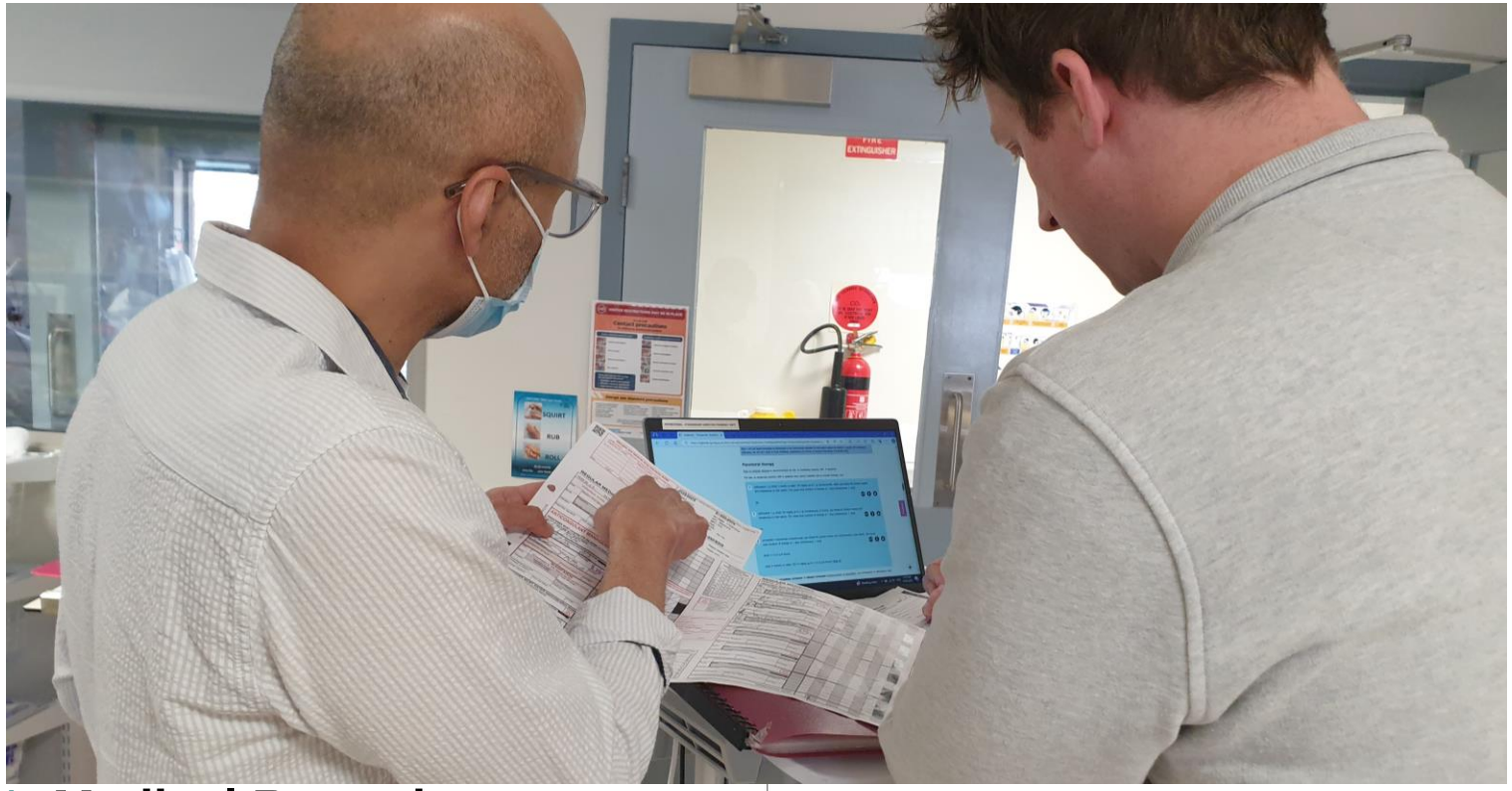
Jun 2023

- Evaluating providing feedback

1st PDSA

TEAM Collaboration

Medical



1. **Medical Record**

Medication Chart, Progress notes

2. **Microbiology findings**

Microbiology Cultures & sensitivities

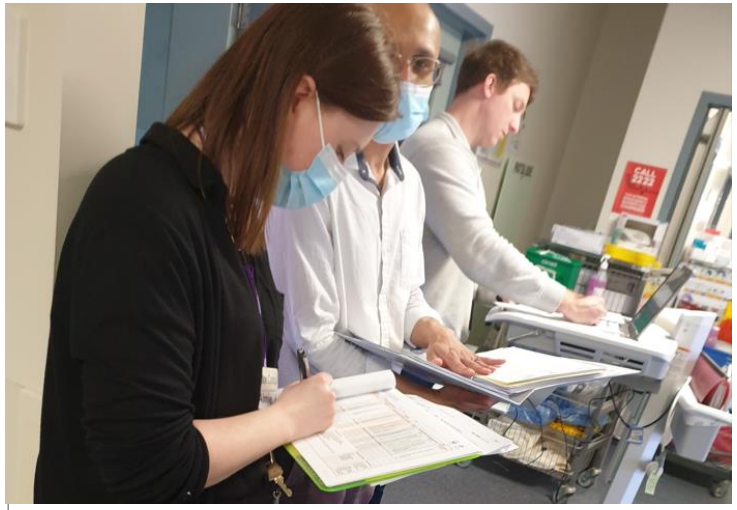
PCRs, Biochemistry, CRP, Lactates

Pharmacy

3. **Therapeutic Guidelines** [2]

4. **MR 396** Antimicrobial Approval Form

Infection Control



5. **Quality Improvement**

QI NAPS Data tool

- Recorded at time
- Data entry that day
- Follow up at 24 - 48 hours

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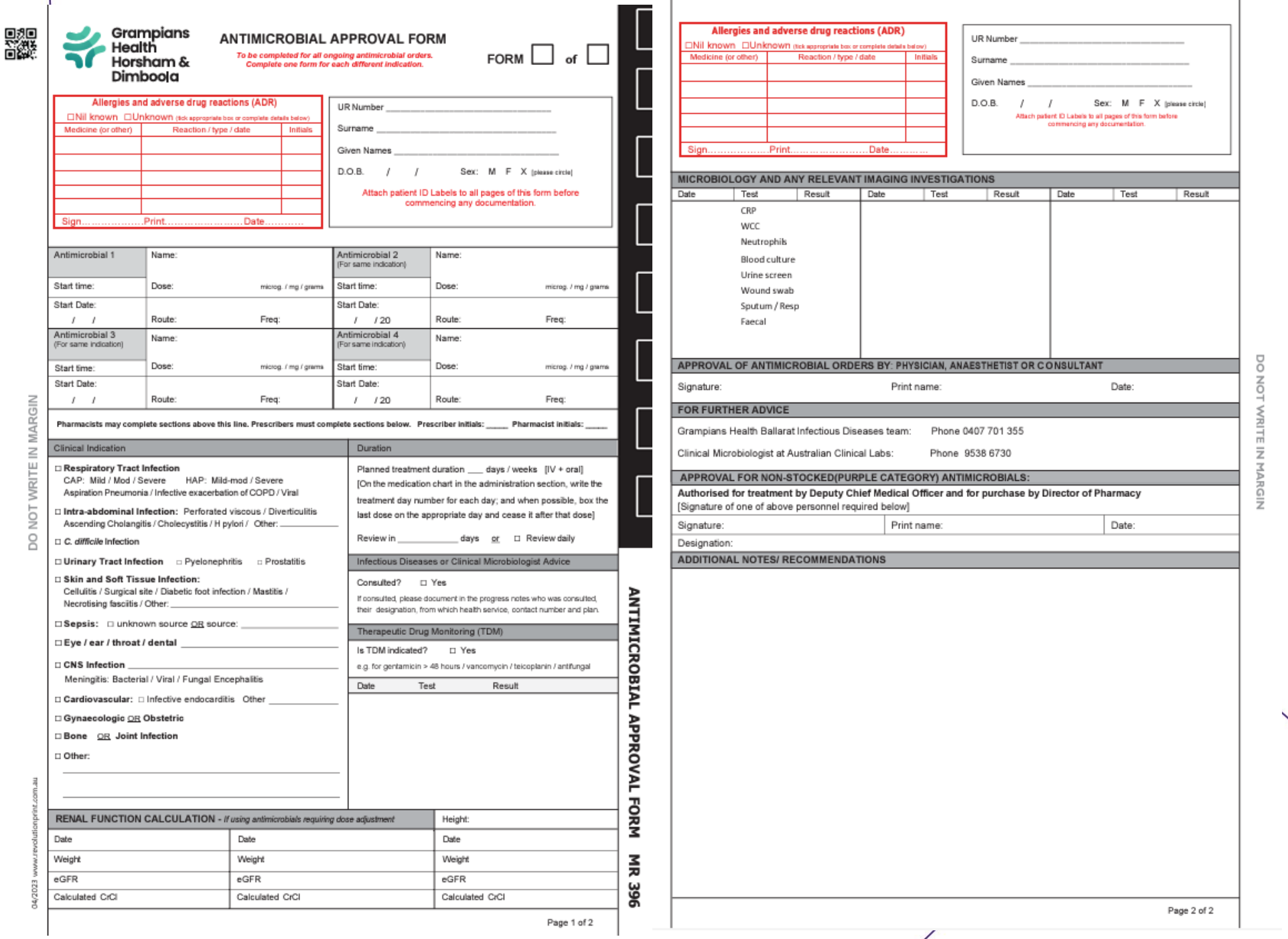
Antimicrobial Approval Form MR 396



Grampians Health Horsham & Dimboola

ANTIMICROBIAL APPROVAL FORM

To be completed for all ongoing antimicrobial orders. Complete one form for each different indication.

FORM ☐ of ☐

Allergies and adverse drug reactions (ADR)

☐Nil known ☐Unknown (tick appropriate box or complete details below)

Medicine (or other)	Reaction / type / date	Initials

Sign……Print……Date……

UR Number _____

Surname _____

Given Names _____

D.O.B. / / Sex: M F X (please circle)

Attach patient ID Labels to all pages of this form before commencing any documentation.

Antimicrobial 1	Name:	Antimicrobial 2 (For same indication)	Name:
Start time:	Dose: microg. / mg / grams	Start time:	Dose: microg. / mg / grams
Start Date: / /	Route: Freq:	Start Date: / / 20	Route: Freq:
Antimicrobial 3 (For same indication)	Name:	Antimicrobial 4 (For same indication)	Name:
Start time:	Dose: microg. / mg / grams	Start time:	Dose: microg. / mg / grams
Start Date: / /	Route: Freq:	Start Date: / / 20	Route: Freq:

Pharmacists may complete sections above this line. Prescribers must complete sections below. Prescriber initials: _____ Pharmacist initials: _____

Clinical Indication

☐ **Respiratory Tract Infection**
CAP: Mild / Mod / Severe HAP: Mild-mod / Severe
Aspiration Pneumonia / Infective exacerbation of COPD / Viral

☐ **Intra-abdominal Infection:** Perforated viscous / Diverticulitis
Ascending Cholangitis / Cholecystitis / H pylori / Other: _____

☐ ***C. difficile* Infection**

☐ **Urinary Tract Infection** ☐ Pyelonephritis ☐ Prostatitis

☐ **Skin and Soft Tissue Infection:**
Cellulitis / Surgical site / Diabetic foot infection / Mastitis / Necrotising fasciitis / Other: _____

☐ **Sepsis:** ☐ unknown source OR source: _____

☐ **Eye / ear / throat / dental** _____

☐ **CNS Infection** _____
Meningitis: Bacterial / Viral / Fungal Encephalitis

☐ **Cardiovascular:** ☐ Infective endocarditis Other _____

☐ **Gynaecologic OR Obstetric**

☐ **Bone OR Joint Infection**

☐ **Other:**

Duration

Planned treatment duration ___ days / weeks [IV + oral]
[On the medication chart in the administration section, write the treatment day number for each day; and when possible, box the last dose on the appropriate day and cease it after that dose]

Review in _____ days or ☐ Review daily

Infectious Diseases or Clinical Microbiologist Advice

Consulted? ☐ Yes

If consulted, please document in the progress notes who was consulted, their designation, from which health service, contact number and plan.

Therapeutic Drug Monitoring (TDM)

Is TDM indicated? ☐ Yes

e.g. for gentamicin > 48 hours / vancomycin / teicoplanin / antifungal

Date	Test	Result

RENAL FUNCTION CALCULATION - *if using antimicrobials requiring dose adjustment*		Height:
Date	Date	Date
Weight	Weight	Weight
eGFR	eGFR	eGFR
Calculated CrCl	Calculated CrCl	Calculated CrCl

Page 1 of 2

DO NOT WRITE IN MARGIN

ANTIMICROBIAL APPROVAL FORM MR 396

04/2023 www.revolutionprint.com.au

Allergies and adverse drug reactions (ADR)

☐Nil known ☐Unknown (tick appropriate box or complete details below)

Medicine (or other)	Reaction / type / date	Initials

Sign……Print……Date……

UR Number _____

Surname _____

Given Names _____

D.O.B. / / Sex: M F X (please circle)

Attach patient ID Labels to all pages of this form before commencing any documentation.

MICROBIOLOGY AND ANY RELEVANT IMAGING INVESTIGATIONS

Date	Test	Result	Date	Test	Result	Date	Test	Result
	CRP							
	WCC							
	Neutrophils							
	Blood culture							
	Urine screen							
	Wound swab							
	Sputum / Resp							
	Faecal							

APPROVAL OF ANTIMICROBIAL ORDERS BY: PHYSICIAN, ANAESTHETIST OR CONSULTANT

Signature: Print name: Date:

FOR FURTHER ADVICE

Grampians Health Ballarat Infectious Diseases team: Phone 0407 701 355

Clinical Microbiologist at Australian Clinical Labs: Phone 9538 6730

APPROVAL FOR NON-STOCKED(PURPLE CATEGORY) ANTIMICROBIALS:

Authorised for treatment by Deputy Chief Medical Officer and for purchase by Director of Pharmacy
[Signature of one of above personnel required below]

Signature: Print name: Date:

Designation:

ADDITIONAL NOTES/ RECOMMENDATIONS

Page 2 of 2

DO NOT WRITE IN MARGIN

National Centre for Antimicrobial Stewardship.

QI Quality Improvement NAPS National Antimicrobial Prescribing Survey

GUIDANCE NCAS

Audit date: / / **Patient identification number:** **Specialty:** **Ward:**

Antimicrobial	Indication			Review/Stop Date		Guideline compliance			Approval *(optional)*		IV to Oral Switch *(optional)*		Outcomes at 24 hours *(optional)*					Communication *(optional)*
	Was an indication documented?	*If no: did you contact the treating team to clarify indication?*	Specify documented or presumed indication	Was a review or stop date documented?	*If no: did you contact the treating team to clarify the duration?*	Was this compliant with guidelines?	*If 3: is there a documented explanation to justify any deviation?*	*If 3: did you contact the treating team to recommend compliant therapy*	Was this compliant with the restriction system?	*If no: did you contact the treating team (e.g. to obtain ID approval)?*	Is this an intravenous (IV) dose form?	If yes: is it suitable for an IV to oral switch	Indication now documented?	Review or stop date now documented?	Therapy now compliant with guidelines?	Antimicrobial now compliant with the restriction system?	Switched from IV to oral?	*More than one option may be selected per antimicrobial*
	Yes/No	Yes/No		Yes/No	Yes/No	1-6	Yes/No	Yes/No	Yes/No/NA	Yes/No	Yes/No	Yes/No/NA	1-4	1-4	1-5	1-4	1-4	1-5

Comments *(e.g. allergies, reasons for non-compliance, microbiology etc.)*

Guideline compliance

1. Compliant with Therapeutic Guidelines
2. Compliant with locally endorsed guidelines*
3. Non-compliant with guidelines
4. Directed therapy
5. No guidelines available
6. Not assessable

**Select Therapeutic Guidelines if local guidelines are the same*

Outcomes at 24 hours

1. Yes
2. No
3. Not applicable
4. Now ceased
5. No: adequate explanation is documented

Communication

If you contacted the treating team, what was the method of communication?

1. Pager / Text message
2. Progress notes
3. Verbal
4. Other
5. Did not contact treating team

Data Collection Form QI-NAPs

3. National Centre for Antimicrobial Stewardship. 2018. Data Collection Form QI-NAPs.

https://www.naps.org.au/Resources.aspx/

Results

For Quarter 1 of 2024/2025 (JUL, AUG, SEPT,)

a total of **106** inpatient antimicrobial prescriptions were reviewed.

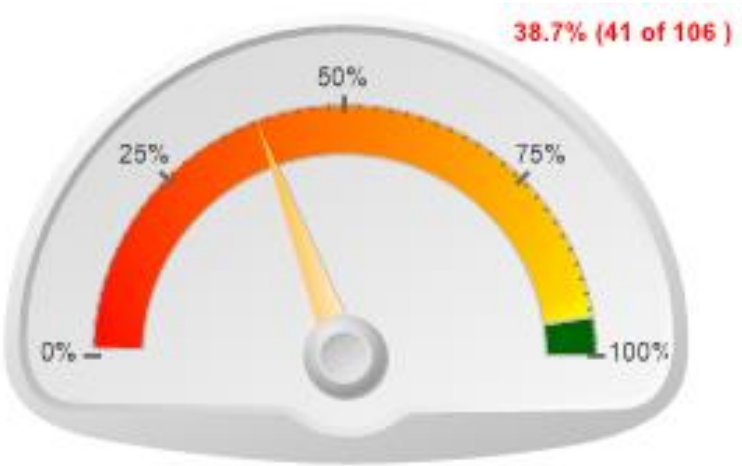
Of these only 41 out of 106, 38.7%, were assessed at the time of audit as compliant for questions 1-3 in the QI-NAPS audit tool.

Documentation of indication

The percentage of total prescriptions where an indication was documented.
For best practice this should ideally be greater than 95% (green section)

At 24 hours: 100.0% (106 of 106)

Review or stop date documented



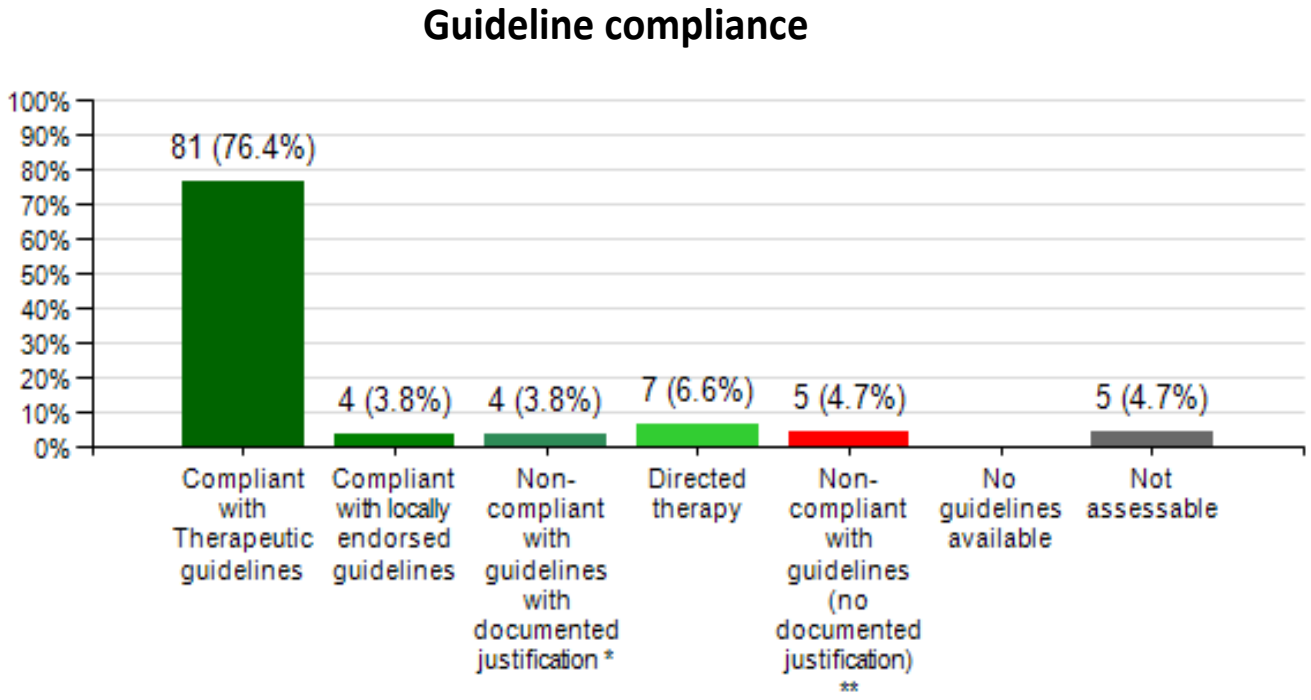
The percentage of total prescriptions where a review or stop date was documented.
For best practice this should ideally be greater than 95% (green section)

At 24 hours: 99.1% (105 of 106)

Review after 24 hours:

- Compliance increased from 97.3% to full compliance **100%**
- 64 prescriptions had been updated to include a review or stop date, **improving compliance** from 38.7% to **99.1%.**

Results



** Documented justification should be a sound and valid clinical reason for the deviation*
*** For best practice this should ideally be less than 5%*

At 24 hours - Non-compliant with guidelines (no documented justification): 0.0% (0 of 106)

At follow up review after 24 hours:

Nine (9) prescriptions had been adjusted or had documentation to justify variance from guidelines, bringing non-compliance rate down from 8.5% to **0%**

++ Improvement

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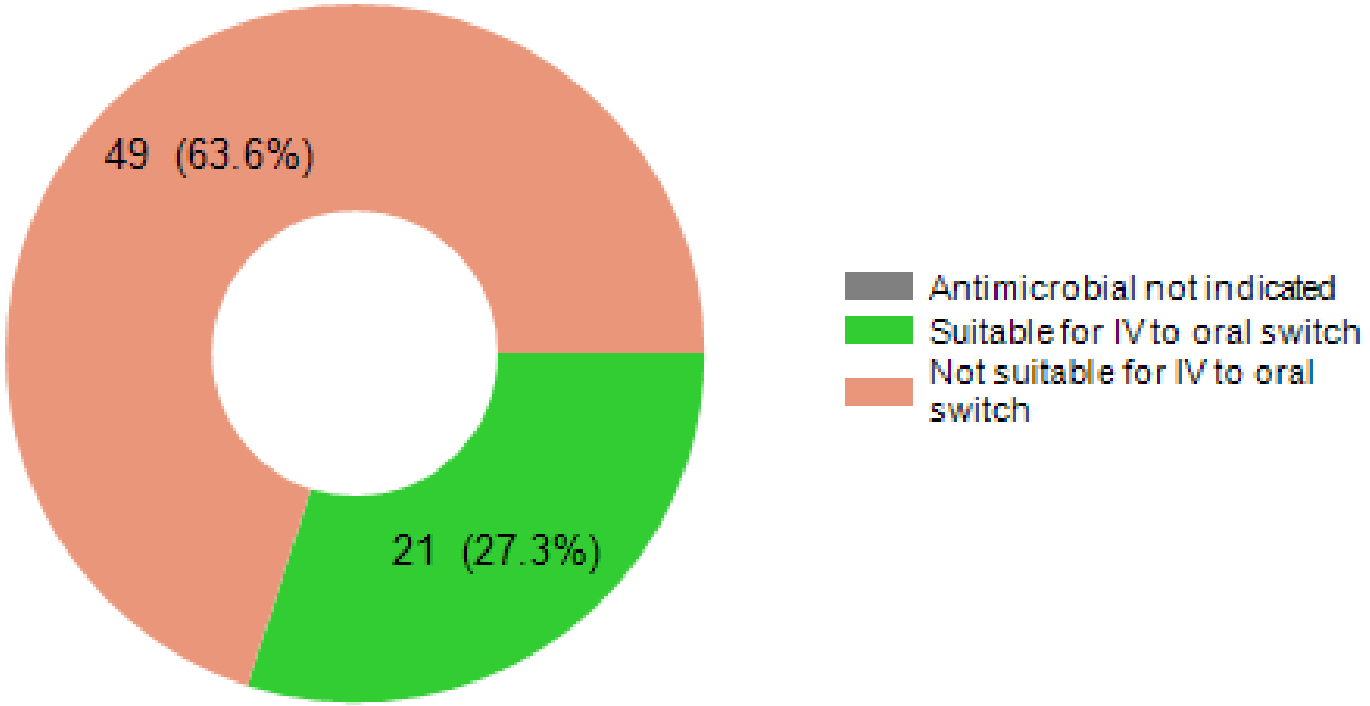
Results

Of the 106 prescriptions reviewed, 77 (72.6%) were of intravenous (IV) medication

Assessment of IV Antimicrobials

Number IV antimicrobials audited: 77 (72.6% of total antimicrobials audited)



At 24 hours, if suitable, switched from IV to oral: 42.9% (9 of 21)

Of these, 21 were identified as been appropriate to switch from IV to oral preparations, and of those recommended for this, only **9 were changed** at the 24-hour review.

Improvement

When broken down to specialty area, **overall compliance** was low at the time of AMS surveillance round.

BEFORE ROUND

General Medicine: 33 of 89 (37%)

General Surgical: 2 of 23 (8.7%)

Paediatrics: 0 of 1 (0%)

Obstetrics: No guidelines available to assess the 1 case reviewed

AFTER

General medicine: compliance **increased to 93.3%**

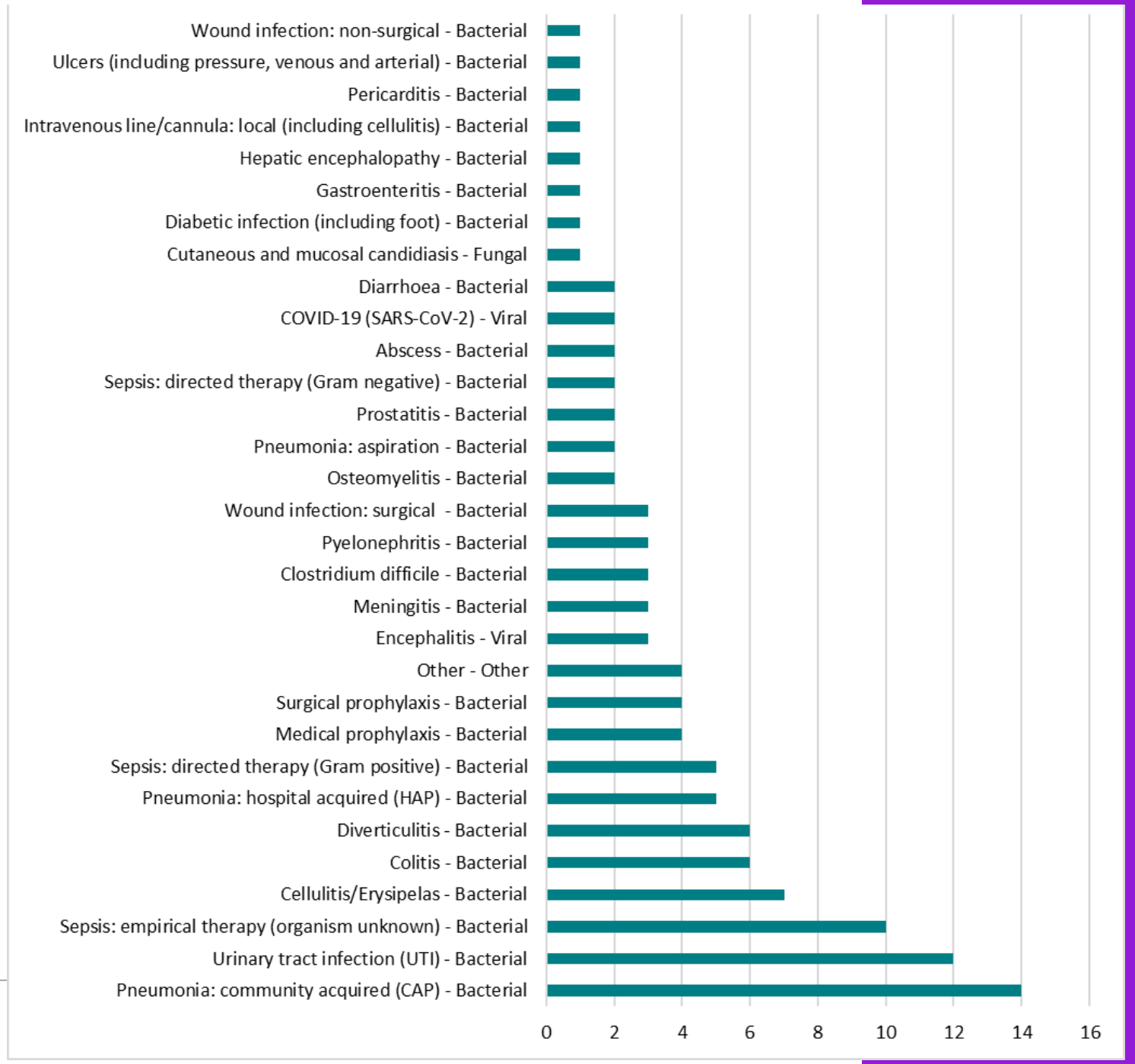
General surgical: compliance **increased to 87%**

Paediatrics: compliance increased to 100% (please note small sample size)

This improvement helps to validate that clinicians are taking on board recommendations made during AMS round and referring to the MR396 Antimicrobial Approval Form.

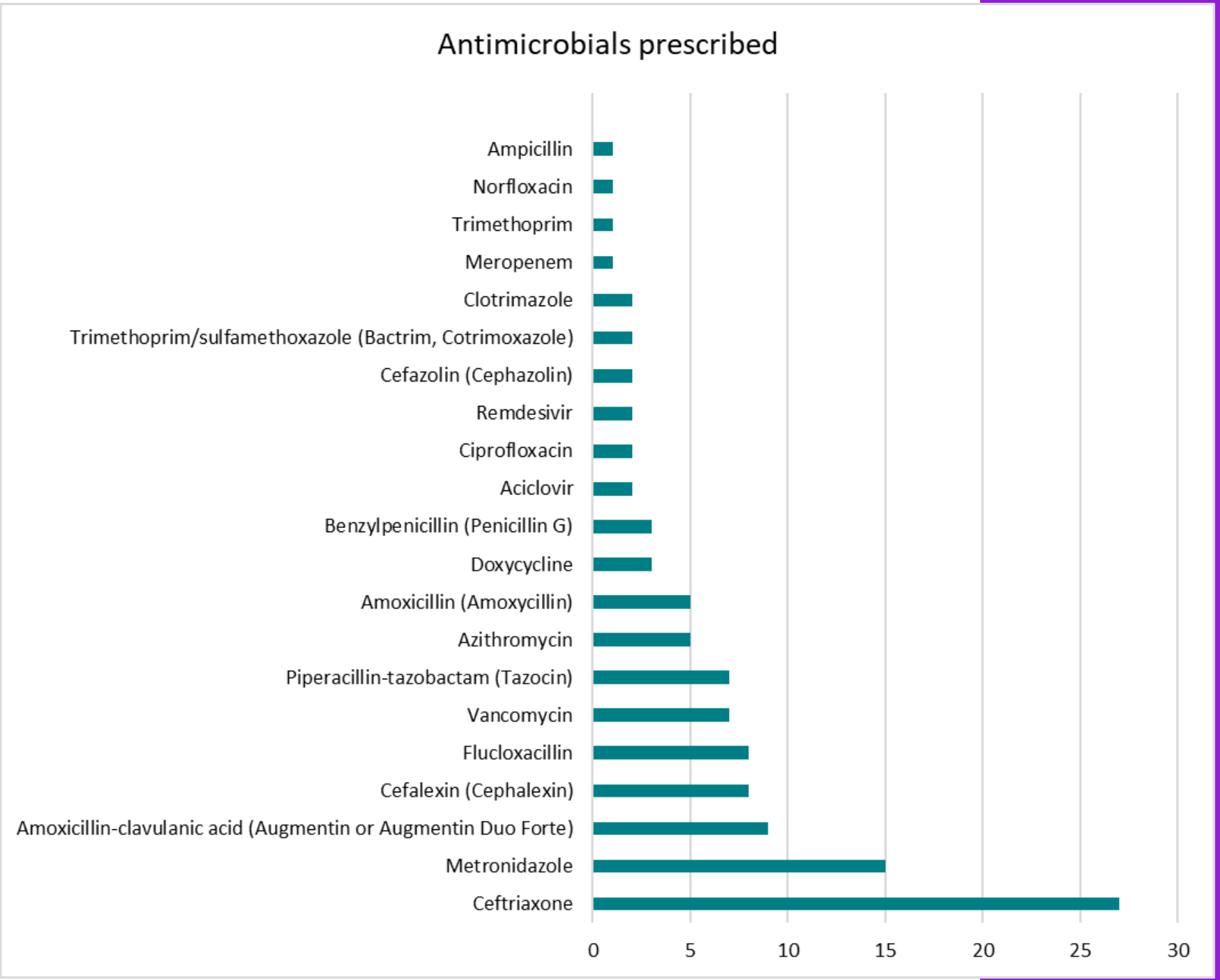
AMS ROUNDS Quality Improvement (QI) National Antimicrobial Prescribing Survey (NAPS)

Indication for prescription



AMS ROUNDS Quality Improvement (QI) National Antimicrobial Prescribing Survey (NAPS)

Antimicrobials prescribed



Logistics and Constraints

Time of team

- Availability of Medical
- Availability of Pharmacy
- Access to data bases and software
- Access to medical staff education
- No additional funding

embed into usual practice and be flexible

Antimicrobial Stewardship (AMS) Clinical Care Standard

Developed by the Australian Commission on Safety and Quality in Health Care to optimise care given to our patients and support clinicians in decision making with respect to the use of antimicrobials

	ACSQH Clinical Care Standard	What can Grampians Health staff do to deliver care per AMS Clinical Standards?
1	**Life-threatening Conditions** A patient with a life-threatening condition due to a suspected infection receives appropriate antibiotic treatment without waiting for the results of investigations.	Proactively use the Grampians Health - Horsham Adult Sepsis Pathway, where applicable.
2	**Use of Guidelines** When a patient is prescribed an antimicrobial, this is done in accordance with the current Therapeutic Guidelines or evidence-based, locally endorsed guidelines and the antimicrobial formulary.	Utilise the *Therapeutic Guidelines: Antibiotic* and GH-Horsham antimicrobial policies to guide prescribing of antimicrobials. The Ballarat Infectious Diseases team can be contacted to provide advice if needed for complex cases.
3	**Adverse Reactions to Antimicrobials** When an adverse reaction (including an allergy) to an antimicrobial is reported by a patient 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.	Ensure an accurate allergy or adverse reaction history is recorded. Check patient's antimicrobial allergy status before administering or prescribing antimicrobials. The **antimicrobial**, the **adverse reaction that occurred**, **when it occurred,** and **severity** should be recorded in the **ADR box** on the medication chart and on the **Alert Sheet**
4	**Microbiological testing** A patient with a suspected infection has appropriate samples taken for microbiology testing as clinically indicated, preferably before starting antimicrobial therapy.	Obtain samples for microbiology testing when clinically indicated in keeping with the patient's condition. E.g. in sepsis, obtain blood cultures prior to administering antimicrobials, other samples for microbiological testing in sepsis can be collected after antimicrobials have been initiated. Faecal MC&S, PCV * Need to add C difficile'
5	**Patient Information and Shared Decision Making** A patient with an infection, or at risk of an infection, is provided with information about their condition and treatment options in a way that they can understand. If antimicrobials are prescribed, information on how to use them, when to stop, potential side effects and a review plan is discussed with the patient.	Provide information about antimicrobial therapy to patient or carer in keeping with GH Person Centred Care and Partnering with Consumers Policies. Selected patient information leaflets about antimicrobial treatment are available *via Prompt* ' Receiving Antibiotics in Hospital '
6	**Documentation** When a patient is prescribed an antimicrobial, the indication, active ingredient, dose, frequency and route of administration, and the intended treatment duration or review plan are documented in the patient's healthcare record.	Ensure good clinical documentation. **Complete the Antimicrobial Approval Form MR396** **Always document the indication, and cease or review date for antimicrobial orders**
7	**Review of Therapy** A patient prescribed an antimicrobial has regular review of their therapy. The need for ongoing antimicrobial use, appropriate microbial spectrum of activity, dose, and route of administration are assessed and adjusted accordingly. Investigation results are reviewed promptly.	Ensure prompt review of investigations and consider de-escalation and switching to narrow-spectrum antimicrobials whenever appropriate. IV to oral switch should be considered where it is safe and appropriate.
8	**Surgical and Procedural Prophylaxis** A patient having surgery or a procedure is prescribed antimicrobial prophylaxis in accordance with the current Therapeutic Guidelines. This considers the need for prophylaxis, choice of antimicrobial, dose, route and timing of administration, and duration.	Prescribe and administer surgical prophylactic antimicrobials in accordance with the current *Therapeutic Guidelines: Antibiotics.*

1. Australian Commission on Safety and Quality in Health Care. Antimicrobial Stewardship in Australian Health Care. Sydney: ACSQHC; 2023

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Clinical Care Standard #4

Microbiological testing *****

- Microbiology Cultures & sensitivities
- Wound swabs
- Faecal / Urine
- PCRs,
- CRP,
- Lactates,
- Biochemistry
- Haematology

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Clinical Care Standard #5
Patient information shared decision-making

Consumers

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Receiving Antibiotics in Hospital

Information for patients and carers

What is an antibiotic?

Antibiotics are medicines that are used to treat or prevent infections. They work by killing or stopping the growth of 'bugs' (bacteria or fungi) that may be causing a problem in your body. Antibiotics can be given in different ways, such as: tablets, syrups, injections and eye drops.

Receiving antibiotics in hospital

Antibiotics are usually prescribed for treating a possible or known infection. Patients will receive a 'course' of antibiotics. If you are having a medical procedure that could increase your risk of infection, an antibiotic may be recommended before, during or shortly after the procedure. Your doctor may also recommend antibiotics if your immune system is too weak to fight off a serious infection.

What do I need to know about my antibiotic treatment?

When you are prescribed an antibiotic, your doctor should discuss:

- Why an antibiotic will be recommended for you
- The name of the antibiotic
- How it will be given to you while in hospital
- How long you are likely to be on the antibiotic
- Side effects you may experience

If you have not received this information, please ask your doctor, nurse or pharmacist.

Resistance to antibiotics

When bacteria develop new ways to defend against antibiotics, it is called 'antibiotic resistance'. This means that an antibiotic which used to work may no longer be able to treat your infection. One of the main causes of antibiotic resistance is antibiotics being used when they are not needed (e.g. for a common cold or flu). When you are in hospital, your doctor will discuss whether you need antibiotics based on your symptoms and test results.

Improving our antibiotic use?

Grampians Health is committed to ensuring that the right type and dose of antibiotic is used for each patient. Doctors, nurses, pharmacists and hospital managers all work together to improve antibiotic use. You may meet people from this team during your hospital stay.

Catalogue Number 706616| AMS Pharmacist | Published September 2020 | Review date September 2025 | GH Campus
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Activities to improve antibiotic use at Grampians Health include:

- Collecting information about antibiotic resistant infections
- Reserving some antibiotics for use only in specific conditions
- Promoting treatment guidelines to help doctors choose the most suitable antibiotic for each patient
- Monitoring which antibiotics are being used and why

How could antibiotic resistance affect me as a patient?

Some types of bacteria have become resistant to many different antibiotic treatments. News and television reports may call these bacteria "superbugs". Infections caused by superbugs are more difficult to treat and have a higher risk of complications. Hospitals have tests they can perform which may indicate if you have a resistant infection. When test results become available, your doctor will review and discuss possible treatment options. This may mean changing your treatment to a different antibiotic. If you have questions or concerns about your infection, treatment options or antibiotic resistance in general, please speak to your doctor, nurse or pharmacist.

Before you leave the hospital

You should receive information about your antibiotic treatment plan, including:

- Whether your antibiotic is being continued or changed on discharge
- How your antibiotics will be supplied
- How to take your antibiotic, including when to take it and for how long
- Potential side effects, and what to do if they happen to you
- Follow-up advice, including when you need to be reviewed by your GP

Your doctor, nurse or pharmacist will be available to explain or repeat this information.

You can also ask for it to be written down so you can look at it later.

Take the antibiotics as instructed. If you have trouble remembering to take your antibiotics, set an alarm or ask family and friends to remind you. Finish the whole course, unless your doctor tells you to stop. Speak to a pharmacist or doctor if you have questions, concerns or experience side effects.

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Best Practice Strategies

Antimicrobial prescribing pneumonic: MIND ME

Creed	Description
M	**M**icrobiology guides therapy wherever possible
I	**I**ndications to be evidence-based
N	**N**arrowest spectrum therapy required
D	**D**ose individualised to the patient and appropriate to the site and type of infection

M	**M**inimise duration of therapy
E	**E**nsure oral therapy is used where clinically appropriate

Did we achieve our Goal?

- ✓ Antimicrobial approval form MR396 in use for > 1year
- ✓ Rounds are not person dependent
  - *weekly round occur with medical staff other than lead physician*
  - *alternate pharmacists have participated*
  - *Infection Control Team members have all undertaken nursing role*
- ✓ QI NAPS provides collated data ready for reports for our Governance committee reports and medical / nursing feedback
- ✓ Sustainable practice that supports 6 out of 8 core elements of Antimicrobial Stewardship (AMS) Clinical Care Standard

Next Steps

- ✓ Move to a more paperless system - MS Guidance
- ✓ Rounds to support Check Again project

  Reviewing allergy and adverse drug reaction - target Penicillin with view to de- label were possible
- ✓ Integrate more consumer involvement
- ✓ Involve ID Physicians in supporting the use of data to continue to raise ongoing awareness and AMS Stewardship best practice.

References

1. Australian Commission on Safety and Quality in Health Care. Antimicrobial Stewardship in Australian Health Care. Sydney: ACSQHC; 2023
2. Antibiotic Expert Groups. Therapeutic guidelines: antibiotic. Version 16. Melbourne: Therapeutic Guidelines Limited; 2019.
3. National Centre for Antimicrobial Stewardship. 2018. Data Collection Form QI-NAPs. https://www.naps.org.au/Resources.aspx/

4. Australian Commission on Safety and Quality in Healthcare, Australian Guidelines for the Prevention and Control of Infection in Healthcare 2023 Recommendations

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Thank you & Questions

Acknowledge all members of the Infection Prevention and Control (IPaC) team - Horsham Clinical Nurse Consultants Rachel Baker, Jenny Vague, IC Nurses Sarah Glasgow, Amy Elliott, Aimie Edwards
Support from GH Director IPaC Sue Flockhart

Pharmacy Team Debbie Norton, David Difederico, Nick Holland
Support from Pharmacy Director Hazel Corbett & GH AMS Pharmacist David Brownridge

Medical Physician Dr Roshan Brito - Mutunayagam

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