BOND UNIVERSITY | INSTITUTE FOR Evidence-Based Healthcare

EASS-PC

Evidence-based Antimicrobial Stewardship: Sustainable Implementation in Primary Care

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Acknowledgement of Country

Bond University acknowledges the Kombumerri people, the traditional Owners and Custodians of the land on which the University now stands.
We pay respect to Elders past, present and emerging.

Who are we?



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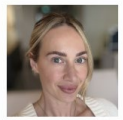
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RACGP

THERAPEUTIC GUIDELINES

Health Translation Queensland

Australian Commission on Safety and Quality in Health Care

PRIMARY SENSE

VicREN

Victorian primary care practice-based Research and Education Network

Why does this matter?

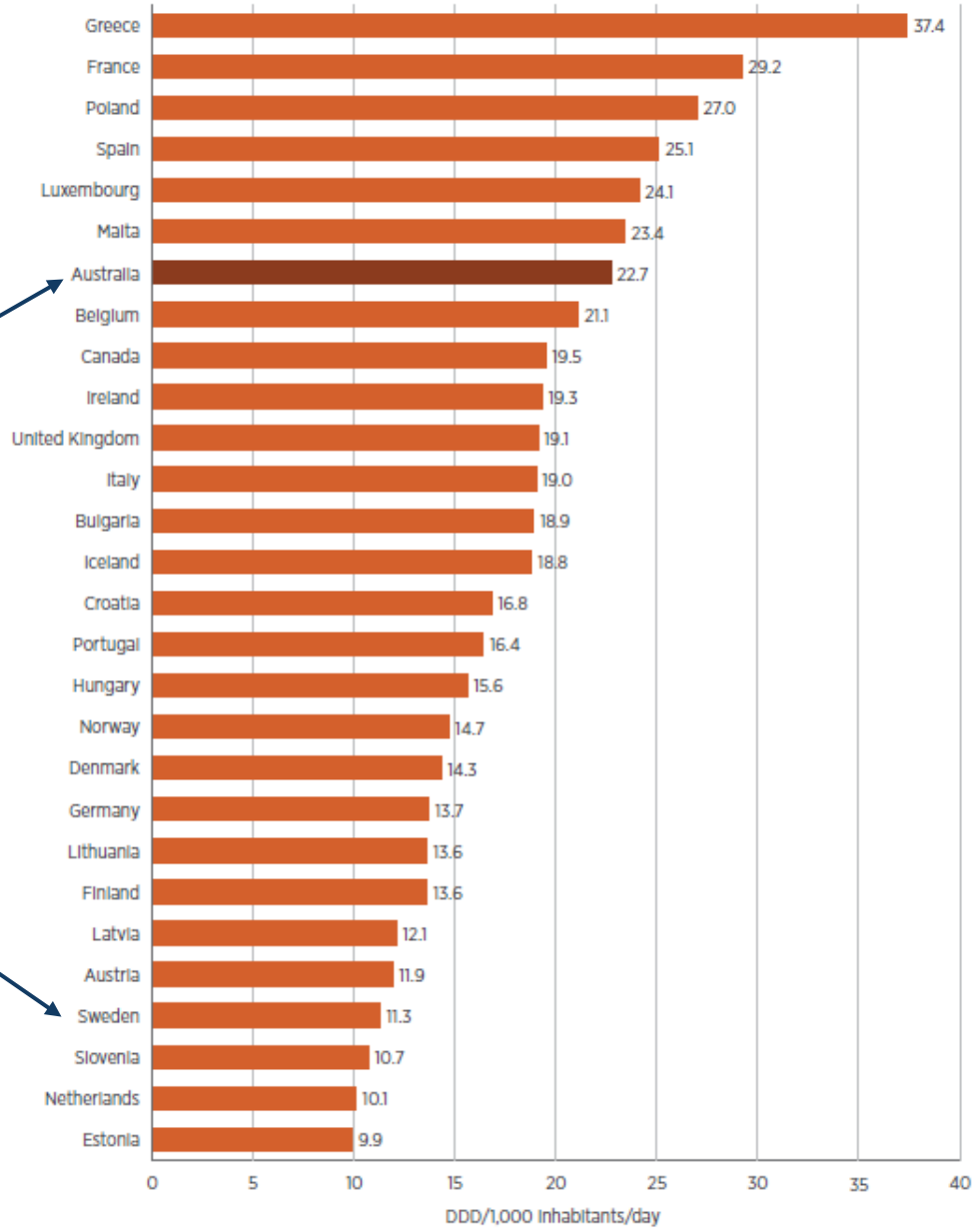
23.2 million

PBS antibiotic prescriptions supplied in Australia in 2024

Approximately 1 in 3 of all Australians are prescribed at least one course of antibiotics each year.

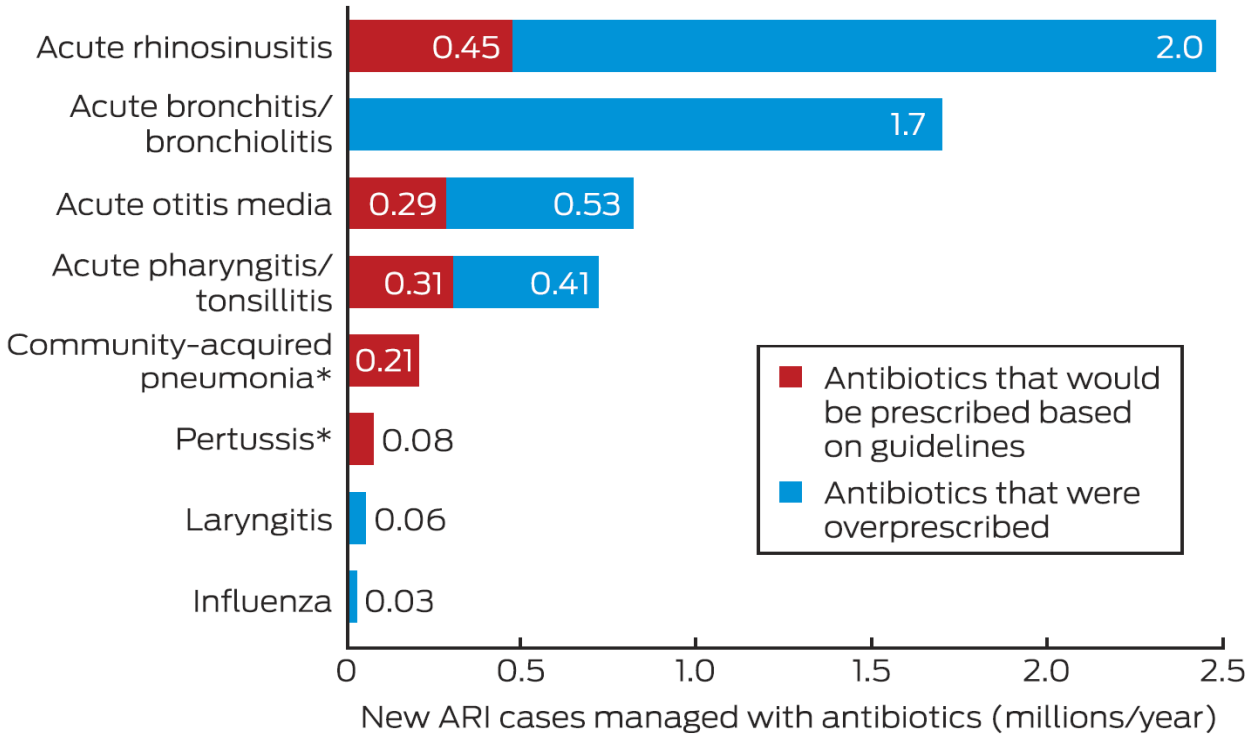
Why does this matter?

Australia remains in the ***top quarter*** of countries for antimicrobial use, as measured by defined daily doses per 1,000 inhabitants, compared with European countries and Canada.



DDD = defined daily doses
Note: Data were unavailable for the Czech Republic, Slovakia and Liechtenstein.
Source: ESAC-Net (Europe)[16]; CARSS (Canada)[17]; AURA (Australia)

Why does this matter?



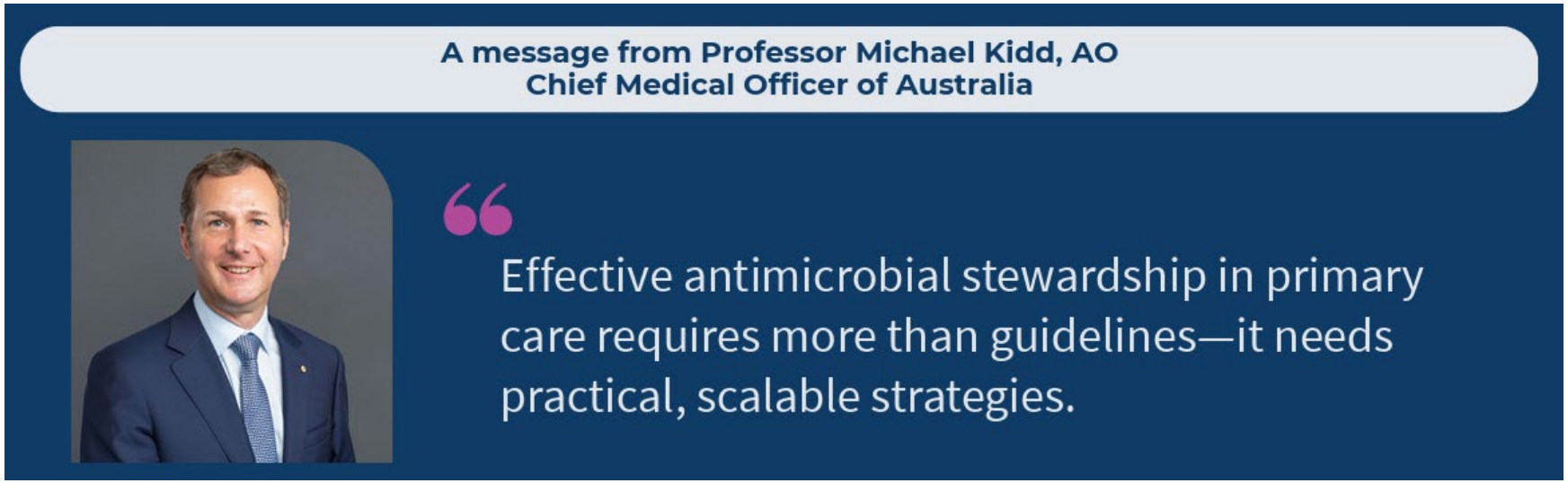
McCullough et al MJA 2016

4.6 million of 6 million antibiotics not needed are for acute respiratory infections

- **Urinary tract infections**
- **Skin and Soft tissue infections**
- **Conjunctivitis**

Therapeutic Guidelines

How can we support GPs in making the discussion around antibiotics easier?



The Trial

Standard Support

- Brief training on the different AMS strategies
- Digital patient-facing and practice resources [Website access]
- Access to relevant webinars and PD opportunities for GPs

Enhanced Support

ALL STANDARD SUPPORT +

- Printed/laminated patient-facing and practice resources
- Audit and feedback [Practice level]
- Interactive case-based webinars by local opinion leaders

Resources: Antibiotic Summary Table

Antibiotic Prescribing in Primary Care: Therapeutic Guidelines Summary Table 2025

For detailed and up-to-date information, including **second-line treatment options**, management of **special patient groups** (eg penicillin hypersensitivity, kidney impairment), paediatric dosing, and indications not covered in this table see *Therapeutic Guidelines: Antibiotic*.

No antibiotics	Selective	Antibiotic Therapy

See notes for exceptions and special considerations.

This summary table was developed based on the "Antibiotic prescribing in primary care: summary table" provided by *Therapeutic Guidelines*. https://www.tg.org.au/products/antibiotics-prescribing-summary

Indication	First-line treatment	Notes
Acute bronchitis	Symptomatic therapy	Antibiotic therapy is **not** indicated. Most cases are viral; even if infection is bacterial, antibiotic therapy is of limited benefit. See *Therapeutic Guidelines-Management of acute bronchitis* for resources to support discussion with the patient or carer.
Acute rhinosinusitis (i.e. the common cold)	Symptomatic therapy	Antibiotic therapy is **rarely required** – most cases are viral and self-limiting. See *Therapeutic Guidelines-Management of uncomplicated acute rhinosinusitis* for an approach to discussing management with the patient or carer.
COPD exacerbation	**Nonantibiotic therapy** (eg inhaled bronchodilators, oral corticosteroid therapy)	Antibiotic therapy is **not** routinely recommended for a COPD exacerbation; However, **consider** antibiotic therapy if there is an increase in sputum purulence with increased sputum volume and/or increased dyspnoea. If antibiotic therapy is indicated, use: **amoxicillin** 500 mg orally, 8-hourly OR **doxycycline** 100 mg orally, daily for 5 days.
Acute cystitis in adult females	**Nitrofurantoin** 100 mg orally, 6-hourly for 5 days	**Nonpregnant adult females younger than 65 years usually become symptom-free within 1 week without antibiotic therapy.** See *Therapeutic Guidelines-Nonantibiotic therapy for acute cystitis in nonpregnant adult females younger than 65 years* for the approach to nonantibiotic therapy.
Acute cystitis in children 3 months or older	Children who can swallow tablets or capsules: **nitrofurantoin** orally, 6-hourly for 5 days. Children <29 kg or cannot swallow tablets or capsules: **cefalexin** 12.5 mg/kg up to 500 mg orally, 6-hourly for 3 days	Take a urine sample for culture and susceptibility testing before starting treatment.

Resources: Consultation Support

EASSI-PC.ORG.AU

Scan the QR Codes to learn more about your condition and treatment options

These resources are designed to support discussions with your GP and help you choose the option that best meets your values and preferences.

PATIENT DECISION AIDS

These are tools that can help you understand your options, compare the pros and cons of each, and make informed decisions together with your GP that reflect what matters most to you.

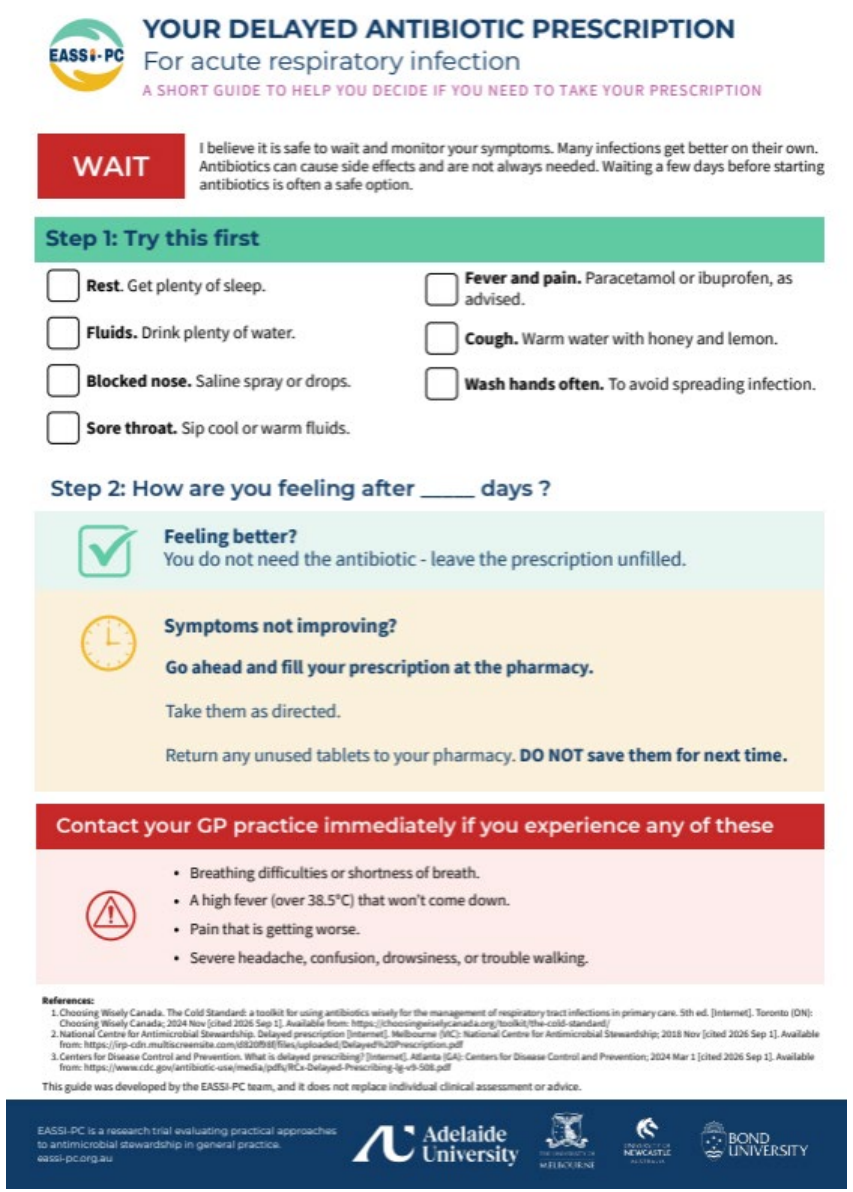
- Acute Bronchitis
- Middle Ear Infection
- Sinusitis
- Sore Throat

PATIENT INFORMATION SHEETS

These information sheets provide information about your condition, alternative treatment options, and self-care strategies to help you manage your symptoms and support recovery.

- Acute Bronchitis
- Cellulitis
- Cystitis
- Middle Ear Infection
- Rhinosinusitis
- Tonsillitis

Resources: Delayed Prescribing



YOUR DELAYED ANTIBIOTIC PRESCRIPTION

For acute respiratory infection

A SHORT GUIDE TO HELP YOU DECIDE IF YOU NEED TO TAKE YOUR PRESCRIPTION

WAIT

I believe it is safe to wait and monitor your symptoms. Many infections get better on their own. Antibiotics can cause side effects and are not always needed. Waiting a few days before starting antibiotics is often a safe option.

Step 1: Try this first

- ☐ **Rest.** Get plenty of sleep.
- ☐ **Fluids.** Drink plenty of water.
- ☐ **Blocked nose.** Saline spray or drops.
- ☐ **Sore throat.** Sip cool or warm fluids.
- ☐ **Fever and pain.** Paracetamol or ibuprofen, as advised.
- ☐ **Cough.** Warm water with honey and lemon.
- ☐ **Wash hands often.** To avoid spreading infection.

Step 2: How are you feeling after ____ days ?

Feeling better?
You do not need the antibiotic - leave the prescription unfilled.

Symptoms not improving?

Go ahead and fill your prescription at the pharmacy.

Take them as directed.

Return any unused tablets to your pharmacy. **DO NOT save them for next time.**

Contact your GP practice immediately if you experience any of these

- Breathing difficulties or shortness of breath.
- A high fever (over 38.5°C) that won't come down.
- Pain that is getting worse.
- Severe headache, confusion, drowsiness, or trouble walking.

References:

1. Choosing Wisely Canada. The Cold Standard: a toolkit for using antibiotics wisely for the management of respiratory tract infections in primary care. 5th ed. [Internet]. Toronto (ON): Choosing Wisely Canada; 2024 Nov [cited 2026 Sep 1]. Available from: https://choosingwiselycanada.org/toolkit/the-cold-standard/
2. National Centre for Antimicrobial Stewardship. Delayed prescription [Internet]. Melbourne (VIC): National Centre for Antimicrobial Stewardship; 2018 Nov [cited 2026 Sep 1]. Available from: https://irp-cdn.multiscreensite.com/d8209b8f/files/uploaded/Delayed%20Prescription.pdf
3. Centers for Disease Control and Prevention. What is delayed prescribing? [Internet]. Atlanta (GA): Centers for Disease Control and Prevention; 2024 Mar 1 [cited 2026 Sep 1]. Available from: https://www.cdc.gov/antibiotic-use/media/pdfs/RCx-Delayed-Prescribing-lg-v9-508.pdf

This guide was developed by the EASSI-PC team, and it does not replace individual clinical assessment or advice.

EASSI-PC is a research trial evaluating practical approaches to antimicrobial stewardship in general practice.
eassi-pc.org.au

Adelaide University · The University of Melbourne · The University of Newcastle Australia · Bond University

Resources: Decision Aids

AUSTRALIAN COMMISSION
ON SAFETY AND QUALITY IN HEALTH CARE

DECISION AID
for consumers

Sinusitis:
Should I take antibiotics?

What is this decision aid for?

- This decision aid is to help you and your doctor decide whether to use antibiotics when **you or your child** has sinusitis (acute rhinosinusitis). This is an infection of the hollow spaces in the bones of your face.
- This can help you to talk and make a **shared decision** with your doctor about what is best for you or your child.



What causes sinusitis?

- It is usually caused by a virus, but sometimes by bacteria. It is often hard for your doctor to tell which it is.
- It is also called 'acute rhinosinusitis'. Acute means it is a short-term infection.

How long do the symptoms last?

- Symptoms (pain in the face, blocked nose, or mucous dripping from the nose) usually get better in **1–2 weeks**, without antibiotics.

What are the treatment options?

There are two options that you can discuss with your doctor:

1. **Not taking antibiotics.**
   This means letting the infection get better by itself.
2. **Taking antibiotics.**

- With either option, symptoms can be treated with over-the-counter medicines – see below for some examples.
- Talk with your doctor about which might be suitable and how much to take.

What are the likely benefits and harms of each option?



In the first few days after seeing the doctor, more people who take antibiotics feel improved compared to those who do not take them.

By about 2 weeks, about the same number of people who take antibiotics feel improved as people who do not take them.

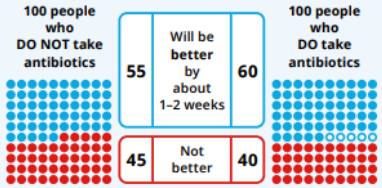
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These figures show what happens to people by about 1–2 weeks, in those who **do** take antibiotics and those who **do not**. Each circle is one person. It is not possible to predict whether you will be one of those who is helped or harmed.

Possible benefits

- Gets better by about 1–2 weeks
- Gets better by about 1–2 weeks due to antibiotics
- Not better by 1–2 weeks

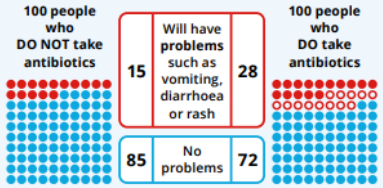


With antibiotics, about **5 more people** will be better by about 1–2 weeks.

Most will be improved by about 2 weeks anyway – with or without antibiotics.

Possible harms

- Has problems (such as vomiting, diarrhoea or rash)
- Has problems, possibly due to antibiotics
- No problems



With antibiotics, about **13 more people** will have problems such as vomiting, diarrhoea or rash.
Other **antibiotic downsides** are:

- The **cost** of buying them
- **Remembering** to take them
- The risk of **antibiotic resistance** (see next page).

Where do these estimates of benefits and harms come from?

- They are from reviews of the medical evidence of the benefits and harms of antibiotics for acute rhinosinusitis. One is a review of eight trials of 1,687 people.[1] The quality of this research evidence about benefits and harms is ranked as high. This means that further research is very unlikely to change these estimates.
- The other is a review of six trials of 781 people.[2]

Why might antibiotics be used?

There might be a special reason why your doctor may suggest antibiotics, such as in people with very severe illness, nasal obstruction or other diseases.

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What is antibiotic resistance?



- Using antibiotics means the bacteria can develop resistance to the antibiotic.
- This means that **antibiotics may not work if you need them in the future** to treat a bacterial infection.
- A person who has recently used antibiotics is more likely to have resistant bacteria in their body.

Are there other things I can do to manage sinusitis?

- Pain and fever are best treated with over-the-counter **paracetamol** or **ibuprofen**. Do not take more than the maximum recommended dose. Read the dose information on the packet.
- Aspirin should NOT be used by children who are younger than 16 years.
- **Saline nasal sprays or rinses** might reduce some symptoms. Do not use in young children.
- **Decongestants** may help if congestion is the main symptom. Do not use for more than five days. Do not use in children under 6 years. For older children, seek advice from your doctor or pharmacist.
- A **nasal steroid spray** might reduce symptoms by a small amount. Seek advice about use from your doctor or pharmacist.

When should you see a doctor and get further help?



If symptoms get worse or do not improve in five days, or any of these signs develop:

- Redness or swelling of the face
- Problems with your vision or bulging eyes
- Severe headache
- Cold or blue hands or feet with a warm body
- A high fever (over 38.5 °C)
- A rash that does not fade when the skin is pressed
- Pain in the arms and/or legs
- Confusion or drowsiness
- Neck stiffness.

Questions to consider when talking with your doctor



- ☐ Do I need antibiotics?
- ☐ What happens if I do not take antibiotics?
- ☐ Do I know enough about the benefits and harms of:
  - taking antibiotics?
  - not taking antibiotics?
- ☐ Am I clear about which benefits and harms matter most to me?
- ☐ Do I have enough information and support to decide?

References

1. Lemiengre M, et al. Antibiotics for acute rhinosinusitis in adults. Cochrane Database Syst Rev. 2018; CD006089
2. Burgstaller J, et al. Antibiotic efficacy in patients with a moderate probability of acute rhinosinusitis: a systematic review. Eur Arch Otorhinolaryngol 2016;273:1067–77.

The information in this decision aid is provided for general information only. It is not intended as medical advice and should not be relied upon as a substitute for consultations with a qualified health professional who can determine your, or your child's, individual medical needs.

Updated December 2023. Update due: December 2027. Developed by Professor Tammy Hoffmann and Professor Chris Del Mar (Institute for Evidence-Based Healthcare, Bond University).

safetyandquality.gov.au

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Resources: Patient Information Sheets

Australian Government
Department of Health

ACUTE BRONCHITIS

Acute bronchitis is an infection of the airways in the lungs, most commonly caused by a virus.
COVID-19 may need consideration in people with these symptoms below:



What does it feel like?

You will have a **cough** which may be associated with clear, yellow or green phlegm (pronounced 'flem'), **noisy breathing, blocked nose, sore throat, mild headache**, and **fever**.



What can I do to feel better?

Acute bronchitis usually gets better on its own. **Paracetamol** and **ibuprofen, warm drinks, honey, cough lozenges** and **inhaling steam** from the shower may help ease your symptoms. Avoid anything that irritates the airways, such as cigarette smoke.



Will antibiotics help?

Antibiotics are not usually needed. Taking antibiotics when you don't need them can lead to the bacteria becoming resistant to that antibiotic. When bacteria become resistant to an antibiotic, the antibiotic no longer works.



What can I do to stop it spreading?

Infections can spread to others when you cough, sneeze or blow your nose. **Cover your mouth with your elbow when you cough or sneeze, wash your hands** regularly, **dispose of tissues after use and stay away from crowded places while unwell**.



Do I need to see a doctor?

Not usually. The cough normally takes 2 to 3 weeks to go away. If your symptoms last longer or if you have **trouble breathing**, you are **feeling worse**, you have **other medical conditions such as chronic lung disease**, or you are concerned, see your doctor.

COVID-19 is caused by a virus, and it can cause cough, runny nose, and sore throat. People with these symptoms should be tested for COVID-19 and should isolate until test results are known.
For information go to health.gov.au/campaigns/coronavirus-covid-19

This information sheet was developed by the National Centre for Antimicrobial Stewardship and the University of Melbourne.
Information sheets on other common infections can be found at https://www.ncas-australia.org/community-information-sheets.

The information in this factsheet is not intended to be a comprehensive guide and is provided without warranty of any kind. It is strongly recommended you seek advice from a registered health care professional for diagnosis and answers to medical questions and to determine whether the observations in this factsheet are suitable for your circumstances. The University of Melbourne accepts no responsibility for any errors or omissions in the content of this factsheet and will not be liable to you or anyone else for any decision made or action taken in reliance on the information contained in this factsheet.

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Example: Shared decision making

Standard Support

Shared Decision Making – EASSI-PC

Enhanced Support

ALL STANDARD SUPPORT +

- Printed/laminated patient-facing and practice resources

What GPs/practices do – and how data are collected

GP COMMITMENT

1. For the Trial Duration

- NO PATIENT RECRUITMENT
- Read about the different strategies
- Practice as usual, and use the resources when relevant
- Participate in webinars, and Audit and feedback activities [depending on the study arm, part of PD]

2. Consenting/Admin

- Complete baseline/end of trial questionnaire
- Follow-up 5-minute surveys [1/3 months]

[Optional] interviews for some GPs (reimbursed)

DATA EXTRACTION

Primary outcome: Antibiotic prescribing and dispensing rates

- De-identified practice-level eMR prescribing data are collected in the **background** [Using PATRON]
- GP PBS/MBS release consent

What GPs/practices do – and how data are collected

ELIGIBILITY

- At least **one GP** is willing to participate
- You use **Best Practice or MedicalDirector** and agree to install PATRON software / data extraction
- Your practice or the GPs **have not participated in a study relating to reducing antibiotic use** within the past two years

What GPs/practices do – and how data are collected

PRACTICE MANAGERS

We will do our best to streamline the process, and we are happy to receive feedback along the way. We would like your help with:

- Share our trial with your GPs
- Facilitate a lunch meeting with your GPs, if needed [Sandwiches will be provided] 
- Nominate a staff member [or yourself] to help with the admin side (consenting documents, sharing and displaying resources if randomised to the Enhanced arm)

Some extra benefits

$1,000

One-off payment to the practice

eTG

Complimentary access for participating GPs

CPD

Eligible learning activities for GPs

AND

Help us reduce unnecessary antibiotic use and combat antimicrobial resistance

Thank you

Interested? Email us or scan the QR code to register your interest

eassipc@bond.edu.au