

# Is Australia ready to implement delayed prescribing in primary care? A review of the evidence

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## Background

Antibiotic resistance is a major global public health threat. Most antibiotic prescriptions for human consumption in primary care are for acute respiratory tract infections (ARTIs). Australia continues to be a high prescriber of antibiotics, compared with other Organisation for Economic Cooperation and Development (OECD) countries. Implementation of evidence-based strategies to reduce antibiotic use in primary care is needed. Delayed prescribing is one evidence-based strategy that is underused.

## Objectives

This article describes delayed prescribing, the evidence for its effectiveness, how it works, how it could be implemented in Australia and what individual general practitioners (GPs) can do.

## Discussion

Delayed prescribing, also called 'wait-and-see prescribing', is the process whereby a GP makes an antibiotic prescription available during the consultation, but asks the patient to delay its use to see if symptoms will resolve first. Evidence indicates that delayed prescribing is an effective strategy for reducing antibiotic use but requires implementation. Individual GPs can begin to use this strategy as a method of treating patients with ARTIs.

Antibiotic use is the main driver of antimicrobial resistance<sup>1</sup> and Australians continue to be high antibiotic users.<sup>2</sup> Most antibiotics are prescribed in primary care, mainly for the treatment of acute respiratory tract infections (ARTIs), such as sinusitis, pharyngitis, bronchitis, pneumonia, colds and influenza, or complications of ARTIs, such as otitis media.<sup>3</sup> In Australia, antibiotics are prescribed at 32% of consultations for upper respiratory tract infections and 70% of 'other' respiratory infections.<sup>4</sup> Yet, most ARTIs are self-limiting and antibiotics offer little to no benefit for nearly all ARTIs.<sup>5</sup> Numerous evidence-based strategies aim to reduce antibiotic use for ARTIs in primary care.<sup>6</sup> One of these is delayed prescribing.

## What is delayed prescribing?

Delayed prescribing, also called 'wait-and-see prescribing', is the process whereby a general practitioner (GP) makes available an antibiotic prescription during the consultation, but asks the patient to delay its use to see if symptoms will resolve first. Prescriptions can be made available in a number of different ways:

- The patient re-contacts the practice subsequently to request it by phone.
- The patient collects their pre-written prescriptions from the practice some days after the consultation.
- The GP post-dates the prescription.

- The GP gives the prescription to the patient but asks them to wait some days before having it dispensed. The last method listed seems most suitable for Australian conditions.

## Does delayed prescribing work?

A systematic review of 10 randomised controlled trials has shown that delayed prescribing of antibiotics for ARTIs has reduced antibiotic use in England, Spain, Norway, New Zealand and the US.<sup>5</sup> Compared with immediate prescribing, using a no-prescribing strategy resulted in the greatest reduction in antibiotic use. Despite this decrease in antibiotic use, there were no significant differences in clinical outcomes (eg duration and severity measures for pain, malaise, fever, cough, rhinorrhoea) between the immediate, delayed and no prescription groups for those with cough and common cold.

Immediate antibiotic use was slightly more effective than delayed use for patients with acute otitis media and sore throat, but adverse reactions, including nausea, vomiting and diarrhoea, were also increased. Therefore, when deciding whether to use antibiotics, GPs need to weigh up their benefits with their harms.<sup>7a</sup> Patients in the group asked to delay antibiotic use were only slightly less satisfied (87%) with the care they received than those

given immediate antibiotics (92%). In addition, there was no difference in re-consultation rates between the two groups.<sup>5</sup> Asking patients to wait before taking their antibiotics appears to be a patient-centred approach that does not increase emergency department presentations,<sup>8</sup> is associated with better outcomes<sup>9</sup> and is popular with patients.<sup>10</sup>

### How might delayed prescribing work?

GPs' management of ARTIs is complicated.<sup>11</sup> The decision by GPs not to prescribe antibiotics may worry the GP and patient because of the potential for serious downstream consequences of infection.<sup>12</sup> This is despite evidence suggesting that these are very rare in developed countries.<sup>7,13</sup> This may be a reason why it would be difficult to adopt a no antibiotic strategy as routine procedure.<sup>14</sup> Another reason is that some GPs feel pressured by patients to prescribe antibiotics.<sup>15</sup> However, this perception is often wrong as only a small percentage of patients actually expect antibiotics.<sup>9</sup> Patient satisfaction is increased more by time spent with the GP.<sup>16</sup> A clear explanation about the expected course and duration of disease, and a proper physical examination, is better correlated to patient satisfaction than a prescription.<sup>17</sup>

'Safety netting' is a diagnostic strategy that deals with uncertainty,<sup>18</sup> where doctors ask their patients to return if their infection does not improve. This can be adapted for managing potentially worrying ARTIs.<sup>19</sup> Yet, there are disadvantages to this approach for time-poor GPs, as well as costing patients more money and time. Delayed prescribing could work as a better 'safety net' as it offers a two-step educative approach. It provides GPs and patients with the experience of self-managing ARTIs without antibiotics under the reassurance that antibiotics are readily accessible without the need for a return visit to the GP.

### How can delayed prescribing be implemented in Australia?

In Australia, there has been little evaluation of interventions aimed at reducing antibiotic prescribing in primary care. A single study used GP and patient education, and successfully reduced the number of antibiotics dispensed by 32%.<sup>20</sup> The first study in Australia to test delayed prescribing, as part of a multifaceted intervention, has been funded as part of the first government-led antimicrobial resistance strategy.<sup>21</sup> But this study does not explore barriers to implementing delayed prescribing in clinical practice.<sup>22</sup> Further research is needed to investigate this, as despite its effectiveness, delayed prescribing is used infrequently worldwide<sup>23</sup> and probably even less so in Australia.

Some of the possible barriers to implementing delayed prescribing in Australia that have been reported in overseas literature include patients wanting to take antibiotics immediately, and hoarding them for later use, resulting in more antibiotics in society.<sup>24</sup> In Australia, fee-for-service provision of primary care may increase clinical servicing, including patient reviews, diagnostic testing and prescribing, compared with other countries.<sup>25</sup> This could make it more difficult to implement in Australia. There may also be a perception that it is quicker to prescribe than to educate. Addressing these barriers will be crucial to implementing delayed prescribing in the Australian context.

### What can individual GPs do?

The evidence base is now strong enough to advocate the implementation of delayed prescribing in Australia.<sup>26</sup> The challenge is working out the best way to do this on a large scale. Individual GPs can begin to use this strategy as a method of treating patients with ARTIs where they continue to experience diagnostic uncertainty and do not feel

comfortable with a no-antibiotics strategy. National guidelines in the UK for delayed prescribing suggest that individual GPs should offer:<sup>3</sup>

- reassurance to patients that antibiotics are not immediately necessary
- information on symptomatic management
- advice on when to commence antibiotics if symptoms persist
- an invitation to re-consult if symptoms worsen significantly.

### Conclusion

Australia continues to be a high antibiotic-prescribing country, where most of the antibiotics prescribed in the community are for ARTIs that are usually self-limiting. International evidence indicates that delayed prescribing is an effective strategy to support judicious antibiotic prescribing. Implementation of this effective strategy is warranted, but further research is required to explore the best method to do this. Individual GPs can begin to use this strategy as a method of treating patients with ARTIs in whom there is diagnostic uncertainty and when the no-antibiotic strategy is difficult to use. This approach offers patients the opportunity to make informed decisions about their own care, supporting the current agenda in primary care for patients to be at the centre of decision making.<sup>27,28</sup>

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