Shared decision making and antibiotic stewardship: Will pharmacists rise to the challenge?

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Case Study

Jeff Singh, a 46-year-old otherwise healthy male, enters the pharmacy with a prescription for moxifloxacin 400 mg PO daily for 7 days. He comes in after 10 days of persistent cough that has bothered him so much that he was having trouble falling and staying asleep. Mr. Singh had a fever during the first few days of the illness but now he is just really bothered by the cough, which is producing greenish-yellow sputum. He visited a walk-in clinic a few days before and the doctor indicated he “likely has bronchitis, which is usually caused by a virus,” but said “just in case,” he would give Mr. Singh a prescription for antibiotics. He left it up to Mr. Singh to decide if he was feeling ill enough to take the medication. Worried that his cough is persisting, he asks for the pharmacist’s advice.

The pharmacist advises Mr. Singh to fill the prescription, just to be safe, and counsels him on the proper use of the medication, offering to call him in a week’s time.

One week later, upon follow-up on completion of his prescription, Mr. Singh tells the pharmacist that his cough is somewhat better but he did experience some stomach upset and diarrhea that caused him to miss his daughter’s ballet recital. He indicates, however, that his gastrointestinal symptoms have since begun to improve. Mr. Singh wonders if he made the right decision about taking the antibiotic prescription.

Antibiotic overuse is fuelling the global public health threat of antimicrobial resistance (AMR). The growth of AMR, coupled with the lack of new antibiotics in development, has spurred antimicrobial stewardship efforts to help curb

unnecessary antibiotic use and prevent a postantibiotic era where infections could, once again, become a leading global cause of morbidity and mortality.¹ Although AMR is a major concern, there are other notable harms with antibiotics; 1 in 5 emergency department visits for adverse drug events were due to antibiotics.² Over 90% of human antibiotic use is in the community setting,³ and as much as 50% of this usage is unnecessary.⁴ Clinicians and patients alike often overestimate the benefits and underestimate the risks of antibiotics. To add to this, clinicians tend to assume patient demand for antibiotics when, in many cases, the patient desires a clear plan of action, as opposed to the provision of an antibiotic prescription.⁵⁻⁷

Shared decision making (ShDM) is an approach to align the goals of the patient and the provider and manage expectations of antibiotic treatment. ShDM provides a framework for 2-way information exchange that informs a joint decision between the clinician and patient. It has been described as a “meeting between experts,” where the clinician is the expert in clinical evidence, while the patients are the experts in their own circumstances and preferences. ShDM involves a balanced discussion about the benefits and harms of treatment options, the course of illness and supportive treatment measures, with equal importance placed on patient expectations, values and preferences.⁸ ShDM involves 5 key steps, called the SHARE approach:⁹

- Seek your patient’s opinion
- Help your patient explore and compare treatment options, benefits and risks
- Assess your patient’s values and preferences
- Reach a decision with your patient
- Evaluate and follow up on the decision

ShDM has been shown to reduce antibiotic use for acute respiratory infections without any notable impact on patient outcomes, while at the same time improving patient satisfaction with the decision-making process.^{10,11} While most of ShDM related to antibiotic stewardship focuses on the physician and the patient, there is evidence that pharmacists have been successful in ShDM initiatives for other health conditions. One study found that pharmacist-led ShDM for patients with major depressive disorder improved medication adherence, treatment satisfaction and patient understanding of medications compared to standard care.¹² ShDM has also been incorporated successfully into medication reviews for deprescribing in older adults residing in long-term care homes, resulting in 70% of residents with at least 1 medication discontinued.¹³

As the medication expert, the pharmacist is well suited to engage in and support the ShDM process when it comes to antibiotic use. A few practical tips for ShDM for antibiotic use in the pharmacy:

1. **Consider which scenarios are suitable opportunities to engage patients in ShDM.** The ShDM approach may be appropriate in conditions where antibiotics have equivocal benefit and infections are often viral in nature (e.g., bronchitis without underlying lung disease, sore throat without group A *Streptococcus* identified, sinusitis less than 7 days in duration). Ideal candidates are patients who present with these conditions and a prescription for an antibiotic but express uncertainty about whether the antibiotic is needed, or patients without a prescription who are experiencing symptoms of a probable viral infection and have expressed interest in antibiotic therapy.
2. **Seek your patient's opinion.** Gauge the patient's interest in ShDM (e.g., Are you aware of, or did your doctor review, how this antibiotic will impact your symptoms?). Some patients may have already engaged in a ShDM discussion with their prescriber while others may not wish to play an active role in this specific circumstance.
3. **Help explore and compare treatment options.** For interested patients, have a balanced discussion about the benefits AND the risks of antibiotics for the specific scenario. For example, bronchitis is unlikely to resolve any faster with antibiotics and is more likely to result in unwanted side effects. Decision aids such as those from the Ottawa Hospital and infographics from Public Health Ontario (Appendix 1, available online at www.cpjournal.ca) can help support this discussion, and prescribers may also be interested in using them in their own ShDM discussions.
4. **Assess values and preferences.** Ask about what their goals and expectations are with respect to antibiotic use (e.g., How soon do you expect to feel better? How troublesome would it be to have diarrhea caused by this antibiotic?). This can help to identify and manage unrealistic expectations of antibiotic use.

5. **Reach a decision.** To increase patient satisfaction, offer a concrete plan, including nonpharmacologic measures to aid symptoms and specific parameters regarding when patients should return to their provider for advice. The Choosing Wisely Canada viral prescription pad (link available in Appendix 1) can be a useful tool to validate a patient's viral symptoms and provide alternatives to antibiotic use.
6. **Evaluate and follow up.** ShDM is a team effort. Consider collaborative opportunities for ShDM, and keep the patient's prescriber informed with any updates after ShDM has taken place.

Case Study

Let's get back to Jeff Singh, our initial patient case. After learning about shared decision making, the pharmacist decides that this is an optimal scenario in which to employ it.

The pharmacist asks Mr. Singh about his expectations with respect to antibiotics. He hopes to feel better in 2 to 3 days so that he's not coughing during his daughter's ballet recital. The pharmacist informs Jeff that a cough from bronchitis can last up to 3 weeks and antibiotics generally don't shorten this duration. The pharmacist also lists a few relatively common adverse events that might be possible with antibiotic use, such as diarrhea, nausea and stomach upset. The pharmacist uses a decision aid to help inform the patient about the risks and benefits of antibiotics along with some tips to help reduce the cough such as breathing steam from a hot shower and using dextromethorphan as needed.

Mr. Singh decides to hold off on antibiotics.

Upon follow-up in 1 week's time, Mr. Singh's cough is improving and he was able to attend his daughter's recital by managing his cough symptoms.

The above case highlights an opportunity for pharmacist involvement in ShDM to help reduce unnecessary antibiotic use while improving patient satisfaction with his or her care.

Of course, there are some limitations with pharmacist involvement in ShDM. A recent paper by Rosenburg-Yunger et al.¹⁴ describes challenges to pharmacist involvement in ShDM in the context of diabetes management, which also apply to ShDM for antimicrobial stewardship. These include lack of time, lack of knowledge about ShDM, patient unwillingness and lack of collaborative opportunities within the health care system. However, with more pharmacists practising in patient-centred clinic settings and the increasing involvement of pharmacists in prescribing for selected conditions,^{15,16} ShDM could become central to ensuring that pharmacists are actively engaging with patients to truly ensure their values and needs are met.

Despite these current limitations, we believe that in the face of an imminent public health crisis of antibiotic resistance, the time is right for pharmacists to consider their role in ShDM to support conversations about antibiotic use. Advancing our

understanding of exactly how this can be effectively integrated through practice-based research will be key, but are pharmacists willing to rise to the challenge of exploring ShDM as part of their practice? ■

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