

## Viewpoint

# From Guesswork to Best Work: Appropriate Use Intervention Summaries Show the Way

Daphne To,<sup>1,2</sup> Noah Ivers,<sup>1-3</sup> Mina Tadrous,<sup>2,4</sup> Jennifer Shuldiner<sup>1,2</sup>

<sup>1</sup>Institute of Health Policy, Management and Evaluation, University of Toronto; <sup>2</sup>Women's College Hospital Institute for Health System Solutions and Virtual Care, Women's College Hospital; <sup>3</sup>Department of Family and Community Medicine, University of Toronto; <sup>4</sup>Leslie Dan Faculty of Pharmacy, University of Toronto

## Introduction

Appropriate use “is when patients, caregivers, and health care professionals work together to choose safe and effective medications most suited for that person’s needs and goals to achieve best health outcomes.”<sup>1</sup> Appropriate use is foundational to high-quality, cost-effective, and patient-centred care. Despite inappropriate use (including overuse and underuse) of medications resulting in unnecessary harm to patients and the health care system, suboptimal prescribing practices remain widespread. In response, numerous interventions and policy levers have been proposed and implemented across various settings, populations, and drug classes; however, this landscape remains highly fragmented, making it challenging to determine which interventions are effective, under what circumstances, and for which conditions or medications.

This lack of clarity undermines efforts to select effective interventions and risks wasting resources on approaches that may not yield the desired outcomes. To support health system leaders, decision-makers, and policy-makers in understanding and selecting interventions to optimize prescribing by health care professionals, in partnership with Canada’s Drug Agency (CDA-AMC), we developed “Appropriate Use Intervention Summaries,” which are built on the foundation of an umbrella review (i.e., a review of systematic reviews).

## Evidence Base for Appropriate Use Interventions

Our team recently conducted a first-of-its-kind umbrella review on interventions to optimize prescribing.<sup>2</sup> Specifically, we focused on answering the question “What are the effects of interventions aimed at health care professionals that change prescribing patterns?” We systematically searched, appraised, and synthesized the literature, including 90 systematic reviews on any intervention aimed at optimizing health care professionals’ prescribing behaviours.

The evidence is clear: certain interventions consistently support more appropriate, safer, and more effective prescribing across diverse contexts.<sup>2</sup> Among the most impactful interventions are audit and feedback, clinician education, clinical decision support systems, and academic detailing ([Table 1](#)). We found that all 4 intervention types were effective at improving antibiotic prescribing as well as prescribing for chronic diseases. Audit and feedback interventions were also effective at improving opioid prescribing, while clinician education and academic detailing were effective at improving the management of mental health conditions. Through our review, we organized the literature in a way that allowed us to identify which interventions were effective and for which conditions.

**Table 1: Selected Evidence-Based Interventions for Appropriate Use**

Intervention	Description
<b>Audit and feedback</b>	An intervention that collects data on an individual health care professional's practice patterns and compares them to data from their peers and recommended clinical guidelines. The results are shared back to the health care professional to help them track, review, and improve their practice. <sup>3,4</sup>
<b>Clinician education</b>	Structured training and learning processes used to translate new knowledge into clinical practice by developing knowledge and skills. <sup>5,6</sup>
<b>Clinical decision support systems</b>	A digital intervention designed to help with health care professionals' clinical decision-making. It uses targeted clinical information, patient health information, and algorithms during routine patient care. <sup>7</sup>
<b>Academic detailing</b>	An interactive educational outreach intervention in which trained "academic detailers" conduct educational visits with health care professionals to provide evidence-based information to support the prescriber when making drug therapy decisions. <sup>8,9</sup>

## Appropriate Use Intervention Summaries

Next, we developed 4 Appropriate Use Intervention Summaries for the interventions highlighted previously. We supplemented the umbrella review with a targeted literature review to identify best practices for the implementation of these interventions. These summaries integrate evidence on these interventions and offer a practical pathway for action. Designed for health system leaders, decision-makers, and policy-makers, these summaries can function as roadmaps for implementing evidence-based interventions to optimize prescribing.

The [Appropriate Use Intervention Summaries](#) include a brief description of each intervention, an overview of its effectiveness for prescribing outcomes, key considerations for when the intervention is most effective, best practices for implementing the intervention, and Canadian examples of how this intervention has already been implemented.

There are already promising examples emerging across Canada:

- In Ontario, audit and feedback interventions have been used to reduce the prescribing of opioids in primary care and antipsychotic medications in long-term care.<sup>10,11</sup>
- In Nova Scotia, academic detailing has been used to improve appropriate prescribing for osteoarthritis.<sup>12</sup>

These successes demonstrate that not only do these interventions work, but they are also adaptable and scalable across multiple contexts when funded and/or supported by government or other system-level agencies.

## Summary

The Appropriate Use Intervention Summaries bridge the gap between broad ideas and real-world action. They translate high-level evidence into practical, step-by-step guidance to support better prescribing across Canada. Each summary outlines how and why an intervention works (i.e., the mechanism of action) along with the key steps for successful implementation. To stay relevant and impactful, these summaries must also evolve and be updated as necessary to reflect the emerging evidence and best practices.

Tools like the Appropriate Use Intervention Summaries are intended to help with the optimal implementation of interventions that support health care professionals' prescribing behaviours. They provide a starting point for health system leaders, decision-makers, and policy-makers who are planning to implement these interventions, as they help with intervention selection and design. Where these interventions have already been implemented, users are encouraged to reflect on how their interventions can be improved to increase the likelihood of effectiveness. These tools offer practical guidance for optimizing prescribing and can be integrated into health care planning, quality initiatives, and broader system improvement efforts.

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