



IMPROVING THE SAFETY OF MENTAL HEALTH PRESCRIPTIONS

A summary of the report Evaluation of the Manitoba IMPROVE Program by Dan Chateau, Murray Enns, Okechukwu Ekuma, Ina Koseva, Chelsey McDougall, Christina Kulbaba, and Elisa Allegro

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An experiment to tackle a challenging problem

Nine out of 10 times patients visit a doctor in Canada, they leave with a prescription. There's no doubt that medication is a key part of healthcare today, and drugs to treat mental health conditions play a particularly big role. In Manitoba, they account for one in every four dollars spent on prescriptions. For common conditions like anxiety, depression and insomnia, medications can be very helpful. They can also be harmful if not prescribed and used correctly.

But with thousands of different drugs on the market, it can be hard for doctors to keep up with the current expert advice. As a result, patients sometimes receive prescriptions that are not recommended to treat their conditions safely. Various educational approaches have been developed to address the problem.

In 2011, Manitoba launched an experimental program to reduce prescribing that is not recommended for treating mental health conditions. Called IMPROVE, for “Improving Medication Prescribing and Outcomes Via medical Education,” the program is the first of its kind in Canada. Manitoba and other provinces are also interested in seeing how well it works because previous research available on similar programs has only been done in the United States, where the healthcare system is different than Canada's. This report by the Manitoba Centre for Health Policy (MCHP) presents the first evaluation of IMPROVE.

How the program works

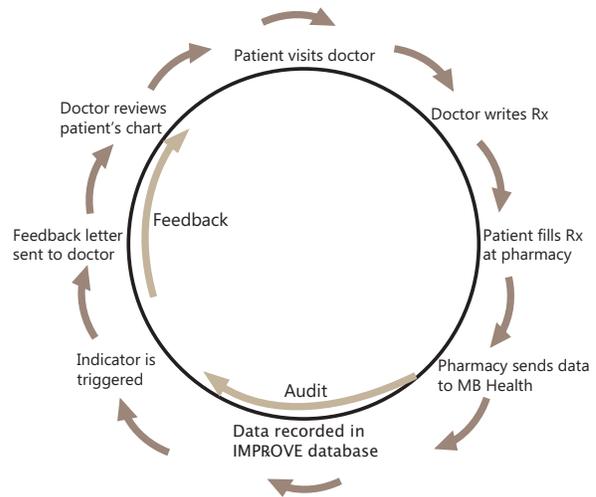
IMPROVE uses an approach called “audit and feedback” which has been shown to be an effective way to change prescribing. Here's how it works in Manitoba:

Every month, data from the sale of all prescription drugs in the province are reviewed electronically to look for patterns that might be unsafe or not recommended. The program looks for four kinds of patterns for certain medications:

- Patients who receive multiple medications of the same type.
- Patients who receive the same type of medication from more than one doctor.
- Prescriptions at a higher than recommended dose for an extended period of time.
- Patients who don't refill a prescription within 30 days of the end of the first prescription for that medication.

That's the audit part. (Figure 1 shows the program's various steps.) This monitoring is possible thanks to Manitoba's Drug Program Information Network, which connects all community pharmacies to a provincial government database. Not all provinces have a system like this.

Figure 1: IMPROVE Audit and Feedback Cycle



When one of these patterns is found for the drugs being monitored, an educational letter is mailed to the prescribing physician. This is the feedback part. The letter alerts the doctor to the concern that's been flagged. It identifies the specific patient so the doctor can review their chart and see whether there was in fact a problem with the prescription or whether there was a good reason for using it in this case. The letter also summarizes the current evidence about the issue and suggests other approaches to consider. It makes it clear that the purpose of the program is to inform doctors about prescriptions that are not recommended, and the decision about whether or not to change their treatment is left up to each doctor.

IMPROVE has so far focused on a few types of drugs often used in mental health treatments, such as antidepressants, sleeping pills, benzodiazepines (generally prescribed for anxiety or as sleeping pills), antipsychotics (when used for mood disorders), and opioids (painkillers). The provincial government works closely with leading physicians on advisory panels to determine the specific drugs and prescribing problems the program should monitor and to craft the feedback information.

For example, one prescribing issue that the program addresses is the use of multiple benzodiazepines for 60 or more days. When a patient fills two or more of this type of prescription, their doctor receives a feedback letter. The letter explains, among other things, that combining these drugs increases the risk of accidents and confusion, especially for older patients. And it suggests considering that the patient may have a single underlying cause for anxiety and sleeping problems, which are often the reasons for prescribing more than one benzodiazepine.

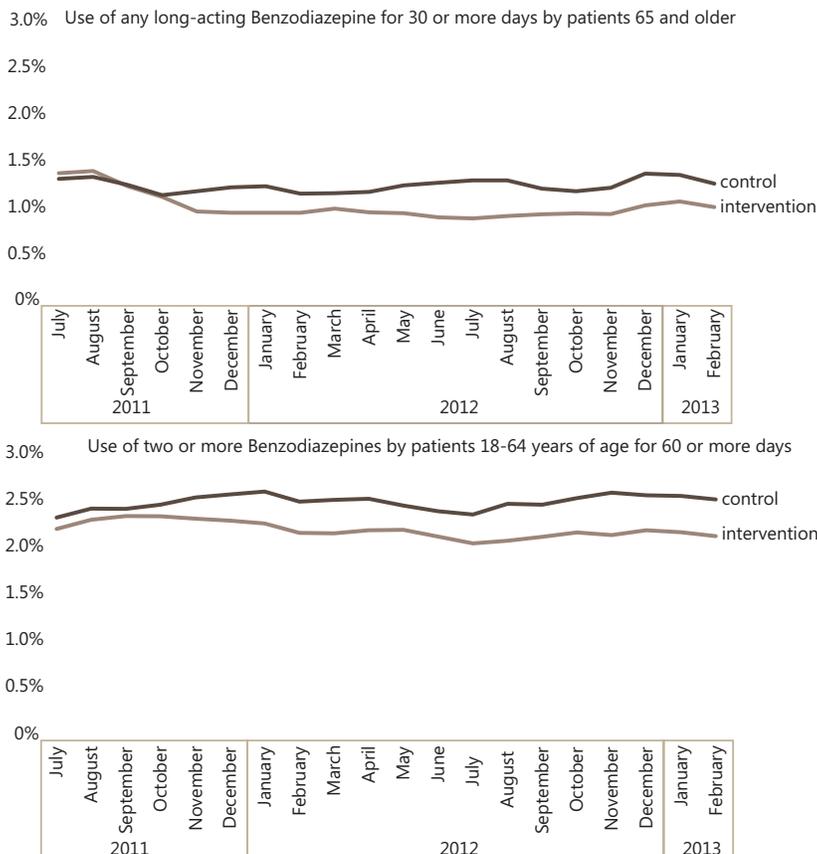
The evaluation

Would doctors change their prescribing behaviour in response to the feedback letters? That's what we set out to test.

Table 1: Intervention Effect and Trigger Frequency of Indicators

Quality Indicators	Frequency of Triggers	Intervention Effect
Use of benzodiazepine with long-acting metabolites for 30 or more days, ages 65 years and older	High	Significant improvement
Use of two or more benzodiazepines for 60 or more days, ages 18-64	High	Significant improvement
Patient failed to refill newly prescribed antidepressant within 30 days of prescription ending, ages 18-64	High	No change
Use of benzodiazepines at a higher than recommended dose for 60 or more days, ages 18-64	High	Significant improvement
Use of five or more psychotropics for 60 days or more ages 18-64	Moderate	No change
Use of two or more benzodiazepines for 45 or more days, ages 65 years and older	Moderate	Significant improvement
Use of two or more insomnia agents for 60 or more days, age 65 years and older	Moderate	Significant improvement
Multiple prescribers of 1 or more opioids for 30 or more days, ages 18-64	Moderate	No change
Use of two or more insomnia agents for 60 or more days, ages 18-64	Moderate	No change
Use of two or more benzodiazepines for 45 or more days, ages 0-17	Low	Too little data to evaluate
Multiple prescribers of 1 or more opioids for 30 or more days, ages 65 years and older	Low	No change
Patient failed to refill an antipsychotic within 30 days of prescription ending, ages 65 and older	Low	No change
Use of two or more selective serotonin reuptake inhibitors (SSRIs) for 60 or more days, ages 18-64	Low	Too little data to evaluate
Use of two or more SSRIs for 60 or more days, ages 65 years and older	Low	Too little data to evaluate
Use of benzodiazepines at a higher than recommended dose for 60 or more days, ages 0-17	Low	Too little data to evaluate

Figure 2: Trigger Rates for Two Indicators Before and After Intervention



The study was rolled out like a randomized controlled trial, the strongest method of health research because it compares two randomly selected but similar groups. In this type of study, the only important difference between the groups is that one receives the program or intervention and the other (the control group) does not. Given IMPROVE’s focus on mental health, the evaluation looked at prescriptions written by family physicians, psychiatrists, and pediatricians. All Manitoba doctors in active practice in those specialties were randomly divided into two groups. The intervention group received the feedback letters. The other group (the controls) did not. If the rate of prescribing issues for the intervention doctors decreased significantly more than for the control group, we could say that the program is working.

The program was introduced gradually, starting with eight types of prescription concerns in June 2011. Seven more prescribing issues were added a few months later. Each of these 15 indicators relates to a specific drug and prescribing scenario and focuses on one of three age groups: youth (under 18 years old), adults (18 to 64 years old), or older adults (65 years or older). The intervention and control groups each had about 570 physicians. The study ran for 21 months, ending in February 2013. As in all MCHP studies, the data we used were stripped of all identifying information to protect the confidentiality of patients and doctors.

Is the program working?

The key results of the evaluation fall into three areas: some types of prescribing improved through the program, for others the program was not effective, and some happened too rarely to evaluate. Table 1 shows how each type of prescribing changed and how frequently each happened over the course of the study. A high rate indicates a potentially bigger problem, so getting doctors to do less of that type of prescribing could have a bigger impact on patients’ health.

The program was clearly effective for the first set of prescribing issues in reducing how often they occurred. The rates for five of these indicators decreased more for the intervention group than the control group, meaning that doctors who got the feedback letters stopped writing as many of these prescriptions. The program’s impact on these five prescribing concerns was obvious within a few months. Figure 2 shows two examples. The pairs of lines (for the intervention and control groups) separate early and the gap

widens and then stays fairly consistent for the whole study. Three of these indicators happened very frequently over the course of the study (from 13,000 to 68,000 times each), so the program's impact was quite big here.

In contrast, four prescribing concerns turned out to happen so rarely that we dropped them from the evaluation. Their small numbers would not provide reliable evidence about the impact of the program. But this actually says good things about the safety of prescribing in the province, since it shows that use of those medications in ways that are not recommended does not happen frequently. Two of these issues focus on prescriptions for youth (both involve benzodiazepines and happened 100 times or less). The other two focus on adults or older adults receiving multiple prescriptions for a type of antidepressant (selective serotonin reuptake inhibitors, SSRIs); that type of pattern was flagged less than 800 times.

For the remaining six indicators, the program was not effective. Their rates did not change. However, an important factor may be that most of them involve situations that an individual doctor cannot control. For example, two of these prescribing issues focus on a patient failing to refill a prescription for an antidepressant or antipsychotic medication within 30 days of the end of the original prescription. The safety issue here is that those drugs are usually intended for long-term treatment and patients may be at risk of a relapse or worsening of their condition if they stop taking the medication. Two other indicators that did not improve involve “double doctoring” for addictive painkillers (opioids), which occurs when a patient gets prescriptions for these drugs from more than one doctor in the same month. Although the program was not effective in reducing this type of prescribing, it may still be worthwhile to flag these potentially serious concerns for doctors, so they can discuss them with their patients.

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Looking more closely at the data for just the intervention doctors, we learned that IMPROVE's universal approach—including all physicians rather than targeting the program to selected individuals—is the right way to go. Doctors who changed their prescribing behaviour after getting the feedback letters were not as a group different from those who did not respond to the program. And, where the program was effective, the positive changes did not come only from doctors who had the most room for improvement at the start of the program—those with high rates of not-recommended prescribing. The doctors who were already doing a good job at following the current evidence on prescribing had even lower rates of not-recommended prescriptions by the end of the program.

Lessons learned

Other audit-and-feedback programs have included face-to-face contact with doctors, but our evaluation showed that a program that uses only written feedback can also be successful in changing the way doctors prescribe. We learned that a program like IMPROVE is most likely to show measurable change when three factors are in place:

- The specific prescribing scenarios being monitored are fairly common.
- The objective is to reduce, rather than increase, certain types of prescribing.
- Addressing the problem is within the control of a single prescriber.

These and other findings in the evaluation will help shape future changes in the IMPROVE program and may encourage other jurisdictions to adopt a similar approach. Some indicators may be removed or tweaked. Others may be added, and the program may be expanded to monitor prescribing for other kinds of health conditions. As IMPROVE evolves, the program should continue to build on the key principles it was designed around: sending feedback to doctors that presents clinical evidence in an easy-to-read format, is specific to their patients, and provides information they can act on to deliver safe, appropriate care.

The Manitoba Centre for Health Policy at the University of Manitoba's College of Medicine, Faculty of Health Sciences, conducts population-based research on health services, population and public health and the social determinants of health.

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