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Community Health Sciences

TOWARD OPTIMIZATION

Prescribing and Guidelines in Manitoba

A summary of the report, Pharmaceutical Use in Manitoba: Opportunities to Optimize Use
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Are Manitoba doctors prescribing according to the latest guidelines?

From 1998 to 2007, the amount Manitoba Health spent on prescription medications rose from $232 per person to $525. We know prescription costs have been going up; we know drug use has been climbing steadily. Prior to this report, however, there were almost no studies that looked at the entire population of our province to ask whether prescriptions are the ones most recommended for specific illnesses.

For the most part, physicians in Manitoba appear to be prescribing drugs to their patients according to current guidelines.

Answering that question is at the heart of this report by Manitoba Centre for Health Policy (MCHP). The good news is that for the most part, physicians in Manitoba do appear to be prescribing according to current guidelines. The bad news is there are one or two areas of concern.

Optimal prescribing might be the best term to describe what we evaluate in this study. For example, is the increasing use of a medication supported by the latest research? Are some drugs prescribed when the latest information suggests another should be tried first? Is the drug recommended most for a particular ailment actually the one that is prescribed most often?

At the request of Manitoba Health, this study takes a close look at prescribing of four different classes of drugs over an 11-year period ending in 2009. Some were chosen because they are extremely expensive, others because use has gone up dramatically, and others because per-capita spending on them has nearly tripled. These are just some of the reasons these drugs were of interest.

We include in this analysis all Manitobans with provincial health coverage who filled prescriptions each year for one of the following: 1) antipsychotics, benzodiazepines and related medications in older adults; 2) medication and glucose test strips for diabetes; 3) inhalers for asthma and chronic obstructive lung disease, and 4) drugs used to treat inflammatory disorders (for example, rheumatoid arthritis).

Each year was divided into quarters. People using each medication (or medication group) were split into two groups: long-term users—those who had taken the drug in the previous 12 months—or new users—those filling a prescription for a drug that they hadn't used in the 12 previous months. We adjusted for differences in sociodemographic characteristics such as age and rural vs. urban residence because we wanted to know if people in one group were more likely to receive a particular prescription.

Manitoba Centre for Health Policy

One reason Manitoba Health wanted this study was to try to optimize drug coverage under Pharmacare, the province-wide income-based drug program. This is an on-going process. The aim is to make sure Manitobans not only get the best bang for their buck, but also one that is recommended based on the latest clinical evidence.

Pharmacare lists drugs as: Part 3, meaning a physician must formally apply for the drug to be covered for you; Part 2, based on established criteria such as prescribing azithromycin because you cannot tolerate other antibiotics; or Part 1, open listing, basically meaning so long as a physician prescribed it, it's covered.

In short, Part 1 drugs are the easiest to prescribe, Part 3 the hardest. As such, Pharmacare (as we'll see later) can help influence prescribing in our province.

A look at four classes of drugs

1. Antipsychotics and related drugs in older adults

For this class of drugs, we looked only at Manitobans aged 65 and over. We focused on the newer—or atypical—antipsychotics. According to the latest guidelines, these atypicals should be avoided in older patients with dementia if possible. These medications have been linked to strokes in these patients.

It is further suggested that older patients not be given high doses of any antipsychotic due to possible side effects, such as movement disorders like tremors or spasms. High doses can also increase the risk of an adverse event like falling, which in older patients often leads to broken bones and other complications.

The use of atypical antipsychotics is rising, especially among Manitobans living in personal care homes.

Despite these cautions, the use of atypical antipsychotics is rising—especially among Manitobans living in a personal care home (PCH or nursing home). Over the 11 years of this study, as atypical antipsychotics began replacing older antipsychotics, prescribing of atypicals to PCH residents rose from less than 2% to 27%. That's a big jump.

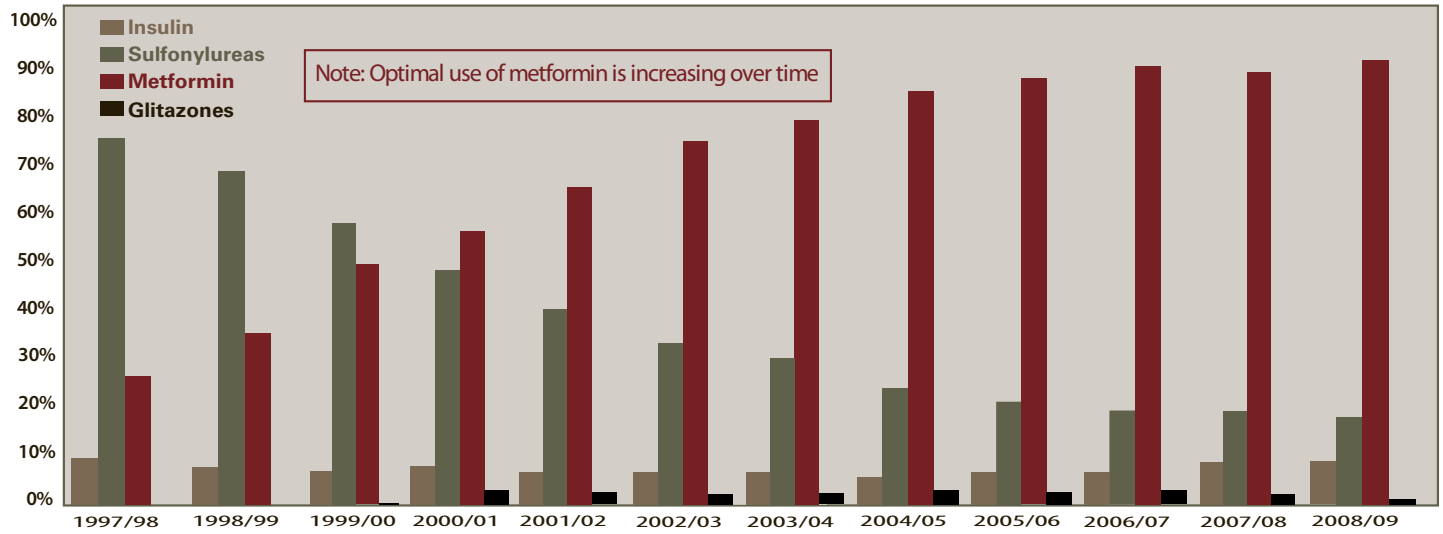
Among new users of atypical antipsychotics, the news is good and not so good. On the positive side, only about 10% of new users received high doses of these medications within the first year of treatment. And the older a patient was (and therefore more at risk for an adverse event) or if they were taking other medications, the less likely they were to be given high doses of antipsychotics. Not so good is that those who did get high doses were also more likely to have dementia.

2. Medications and test strips for diabetes

To treat type 2 diabetes, the drug recommended most is metformin. Its use has increased dramatically (Fig. 1). By the end of our study period, it accounted for over 82% of first prescriptions to treat diabetes. So this is very good news.

The use of newer, more costly drugs as a first treatment of diabetes was minimal. This may in part be because these drugs are generally not covered by Pharmacare, or are used only for specific patient circumstances. Whatever the reason, we see that guidelines for prescribing these newer drugs are being followed.

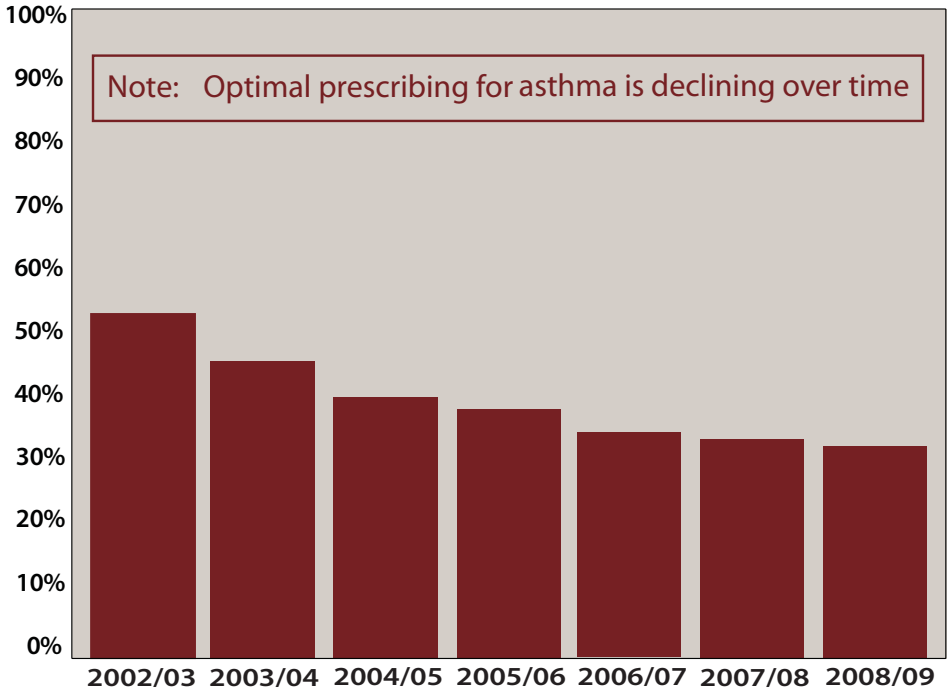
Figure 1: Proportion of New Users of Drugs for Diabetes Management by Type of Therapy and Year
Crude proportion among adults using drugs for management of diabetes mellitus, 1997/98-2008/09



The news is not so good when we look at the increased use of test strips to self-monitor blood glucose. Recent recommendations suggest if you are not taking a drug that causes low blood sugar then you probably don't need to self-test (except under special circumstances, such as when ill or changing medications). Based on this, it appears 43% of Manitobans using test strips may not need them. And up to 27% of all test strips being used may not be needed.

That said, it should also be pointed out that these are fairly recent recommendations, so we may soon see that pattern change.

Figure 2: Use of Oral or inhaled Corticosteroids Prior to LABA or LABA/ Steroid Combination Use for Adults with Asthma by Year



3. Inhaled medications for asthma and chronic lung disease

Several kinds of inhalers are used to treat asthma. One is a LABA-corticosteroid inhaler, which combines a long-acting airway-opening drug with a steroid to reduce inflammation. The other two inhalers we looked closely at are LABA-only and corticosteroid-only. According to guidelines, LABAs without corticosteroids should not be used because they may cause serious side effects in asthma patients. Due to these risks, it is recommended that asthma should be treated first with a corticosteroid alone. A combination inhaler should only be tried if that isn't effective.

Data from this report suggests that guidelines for treating asthma are less likely to be followed by general practioners and with patients with milder forms of asthma.

Given these recommendations, one would expect to see a rise in the use of LABA or LABA-corticosteroid inhalers after a trial of corticosteroids. Instead, the corticosteroid-first approach is on the decline (Fig. 2). The data also suggest that guidelines for treating asthma are less likely to be followed by general practitioners and with patients who have milder forms of asthma. The reasons for this are not clear, but may in part be because all the inhalers are listed by Pharmacare as Part 1, open—meaning they are equally easy to prescribe.

Biologic Agents

Broadly speaking, biologic agents—or biologics—refer to a group of drugs that work on the immune system, are injected and are expensive. The ones we looked at are used to treat inflammatory disorders, such as rheumatoid arthritis, ankylosing spondylitis, psoriasis and inflammatory bowel disease.

The news here is good. The use of these drugs appears to be for the inflammatory disorders we expected. As clinical trials show more of these agents to be effective, their use has increased. Even then, we are not talking about a lot of users; our latest figures show they are prescribed to less than two out of every thousand Manitobans. And more than 95% of those people had at least one of the approved indications for use. The fact that these drugs are listed by Pharmacare as Part 3—and therefore subject to an individual approval process—suggests Pharmacare policy plays a part in prescribing following guidelines.

4. Working toward optimization

It should be noted that the purpose of this study is only to determine whether or not drug use in Manitoba is following guidelines. It is assumed that physicians prescribe based on the best information available to them at the time and is in the best interests of their patients. Some factors known to influence prescribing simply aren't available in our data.

The relationship between research, guidelines, prescribing and patients is complex. So in cases where prescribing appears to be at odds with recommendations, there may be good reasons for it beyond what data can tell us. For example, it could mean that the guidelines have been recently revised. Perhaps the latest information just hasn't reached physicians yet.

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Studies like these are important in highlighting where such discrepancies exist. They help pinpoint where to make improvements at the policy and end user level, potentially saving costs and creating a healthier population.

Are Manitoba physicians prescribing according to the most recent guidelines? For the most part, yes.

We see this when it comes to prescribing biologics used to treat inflammatory conditions like rheumatoid arthritis. When these biologic agents are being used, it's to treat conditions they were approved for. For diabetes medications, the most highly recommended drug is the one most widely used. The use of newer and more expensive diabetes drugs is minimal. These are consistent with guidelines. So the news there is good. The rest of the news is more mixed.

Our look at antipsychotics use (among people over 65) shows that less than 10% of new users in Manitoba take high doses in the first year. This is fairly consistent with recommendations that suggest avoiding high doses if possible. On the other hand, despite warnings against using atypical antipsychotics among older people, their use in personal care homes has risen sharply—from about one-in-fifty to one-in-four. So there's something that will need a closer look.

Also not-so-good news is that the use of glucose test strips for diabetes appears to be higher than the most recent recommendations. In fairness, it should also be pointed out that the treatment recommendations for test strips are relatively new. What we have seen in this and other studies is that Manitoba physicians do try to apply the latest evidence in their prescribing. So we may soon see the use of test strips more closely follow guidelines.

Another area of concern may be with inhaled medications to treat asthma. The use of LABA does not appear to be in line with current recommendations. LABA and LABA-corticosteroid inhalers are often prescribed without an adequate trial of corticosteroids first. This suggests further education for patients and prescribers about LABAs is needed.

We have also seen that drug use can be influenced by Pharmacare listing. It follows that adopting policies to encourage more optimal use (based on the latest evidence and recommendations) of inhalers and all pharmaceuticals should be considered.

Those last two points are important because this study has underscored what we found in our previous look at prescribing—pharmaceutical use is on the rise in Manitoba. Along with that comes the associated increase in costs, which ultimately comes out of Manitobans' pockets.

This again emphasizes the importance of studies such as this—one of several in a series—in answering key questions about medication use and prescribing. Overall, Manitoba doctors are following the latest recommendations. But we've said it before and it's worth saying again: the more complete the picture, the better it is for patients, physicians and the province.

Manitoba Centre for Health Policy

Want the complete report? You can download it from the MCHP web site:
http://mchp-appserv.cpe.umanitoba.ca/deliverablesList.html

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