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Pharmacare and Its Impact on Manitoba Drug Use

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MANITOBA CENTRE FOR HEALTH POLICY

Based on the report:

Effects of Manitoba Pharmacare Formulary Policy on Utilization of Prescription Medications

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- Pharmaceutical use is on the rise in Manitoba.
- Evidence-based drug research can create efficiencies and save costs on prescriptions.
- Drug use is influenced by Pharmacare listings.
- Manitoba physicians appear to apply the latest evidence when prescribing drugs.
- Warnings about drugs from Health Canada impact prescription rates.

In 2004, Manitoba spent roughly $194 million on prescription drugs through the Pharmacare program. In 2008, spending on prescription drugs cost our province over $229 million—an increase of 18% over five years. At that rate, five years from now, the total will exceed $270 million.

Having read that, some of you may be wondering: Is this because generally drugs cost more? Or does this mean Manitobans are taking more pharmaceuticals than ever before? Or are some newer, more expensive drugs replacing older cheaper ones? Or is it a combination of all these things?

The answer to all those questions is a qualified yes.

We say *qualified* because spending is not the primary focus of this study (although costs are always an underlying concern to the public and the province) and because the answers are far from straightforward. That's why a study like this one is so important. By looking at the what, when and why of prescription drug use over a period of time, we can answer those questions with the most up-to-date evidence. This benefits patients, physicians and the province.

The focus of this report by MCHP is on the usage patterns of 11 different drug classes over a 10-year period starting in 1995. Besides answering the above questions, we assess what happens when a specific drug is added to the Pharmacare list: does the use of that drug (and others that treat the same illness) change? Related to that, we look at what impact new drugs—some covered, some not—might have.

We address 11 specific questions considered important by Manitoba Health and Healthy Living in improving the cost-effectiveness of drug coverage under Pharmacare—their province-wide, income-based drug insurance program. So this is very much a case of looking at a lot of trees to get a picture of the forest.

Pharmacare covers drugs as: *Part 3*, meaning a physician must formally apply for you to be covered, *Part 2*, based on established criteria, such as prescribing azithomycin because you cannot tolerate other antibiotics; or *Part 1*, open listing, basically meaning so long as a physician prescribed it, you're covered, as long as you qualify based on your family income.

We looked at all Manitobans who had filled prescriptions during the years 1995-2005. Each year was divided into quarters. We divided people using each medication (or medication group) 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. city residence. We also made adjustments for three different drug coverage groups: high-income, low-income and those with 100% government drug coverage (such as receiving social assistance).

It should be noted that people don't always take the prescription after it has been filled, or only take part of it. Related to that, at times doctors may give patients samples they receive from drug companies. So numbers may slightly under- or overestimate actual use and not fully capture the intent of physician prescribing.

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Finding Answers

Does changing the Pharmacare status of a drug from Part 1 to Part 2 affect their use?

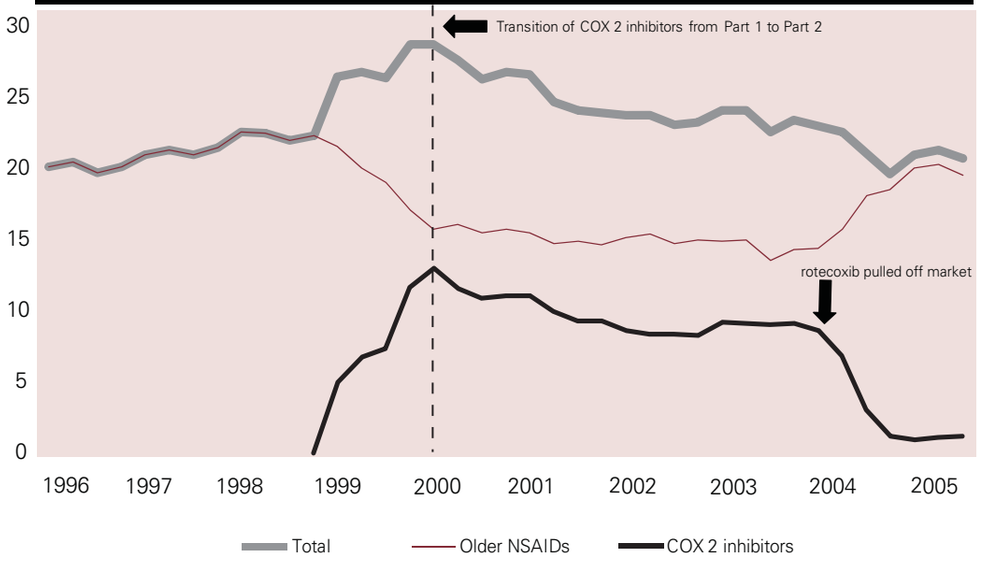
COX 2 inhibitors are used for inflammation and pain. They were believed to have fewer side effects than older anti-inflammatories when they were first introduced. When first listed as a Part 1 drug, rates of new use took off—20% per quarter for celecoxib (Celebrex) and 84% for rofecoxib (Vioxx). When they were switched to a Part 2 listing in 2000, the use of both declined steadily (see Figure 1). So change in status had a big effect. In 2004 rofecoxib was pulled from the market because of serious side effects.

Did the use of corticosteroid inhalers change when combination inhalers were introduced?

LABA-corticosteroid inhalers combine a long-acting airway-opening drug with a steroid in one inhaler. In 2005, 19% of adults with asthma or chronic lung disease had received a LABA-corticosteroid combination inhaler, such as Advair. Five per cent of children had received this type of inhaler.

New users of corticosteroid-only inhalers among adults with asthma or chronic lung disease declined since 1996. Following the addition of Advair, use declined even faster. With children, it was the opposite. New use of steroid inhalers had risen prior to Advair and continued to do so afterwards. This suggests that combination inhalers are being prescribed in place of corticosteroid inhalers in adults, but not children. Part of the reason may be that these combination inhalers are recommended (along with other drugs) in chronic obstructive lung disease, which is an adult problem.

Figure 1: Older NSAIDs and COX 2 Inhibitors Quarterly Incidence
Crude rates of new users with no use of any NSAIDs or COX 2 inhibitors (M01A) in prior year per 1,000 adults, 1996–2005



The impact of newly marketed medications

Did adding the narcotic Oxycontin lead to lower use of Tylenol 3 (and similar generic drugs)?

The use of Oxycontin jumped dramatically after it was added to the formulary. Meanwhile, the use of Tylenol 3 and its generics (generics are less expensive alternatives) did not drop as might have been expected—in fact they rose slightly. This suggests that Oxycontin was not being prescribed as a replacement for Tylenol 3.

Did the launch of a long-acting stimulant effect the overall use of stimulants in children?

From 1995-2003, new use of stimulants in children almost tripled. In 2003, Concerta, a new form of the drug methyphenidate, was introduced but wasn't covered by Pharmacare. Overall use

of stimulants did not increase following the introduction of Concerta. This stabilization in new use may be the result of public concerns about possible overprescribing of stimulants. We don't really know.

Impact of Health Canada warnings and clinical trial publications.

Did the Women's Health Initiative (WHI) study lead to higher use of bisphosphonates?

Hormone replacement therapy (HRT) was common treatment thought to reduce menopausal symptoms, offset osteoporosis and lower risk of heart attacks. The WHI study, published in 2002, reported that HRT did not lower heart attack risk and actually increased rates of stroke and breast cancer. Before this, new use of bisphosphonates (drugs to prevent bone loss) had risen 4% every quarter. After 2002, when HRT dropped off steeply, new use of bisphosphonates did not increase, but levelled off. So bisphosphonates were not used as a replacement for HRT.

Did the use of newer antipsychotics change after Health Canada warnings about risks in seniors?

Up until 2002, newer (atypical) antipsychotic drugs were increasingly prescribed to seniors. By the end of that year, when Health Canada warned that risperidone may cause strokes in patients with dementia, 2% of seniors had received these newer antipsychotics. Following the warning, new use of atypical antipsychotics continued to increase, but at a slower rate. This suggests that the warnings had an impact (see Figure 2). Still, almost 3% of seniors were prescribed atypical antipsychotics in 2005, so further monitoring is needed.

Use of commonly prescribed medications.

Has use of newer and older medications for diabetes changed over time?

The most dramatic increase in diabetes medications was seen in the first-line drug metformin. By 2005 it was the most commonly prescribed medication for diabetes, followed by sulfonylureas and insulins. However, glitazones, (whose reimbursement required prior approval under their Part 3 listing) also increased dramatically. By 2005, their use was comparable to that for insulin.

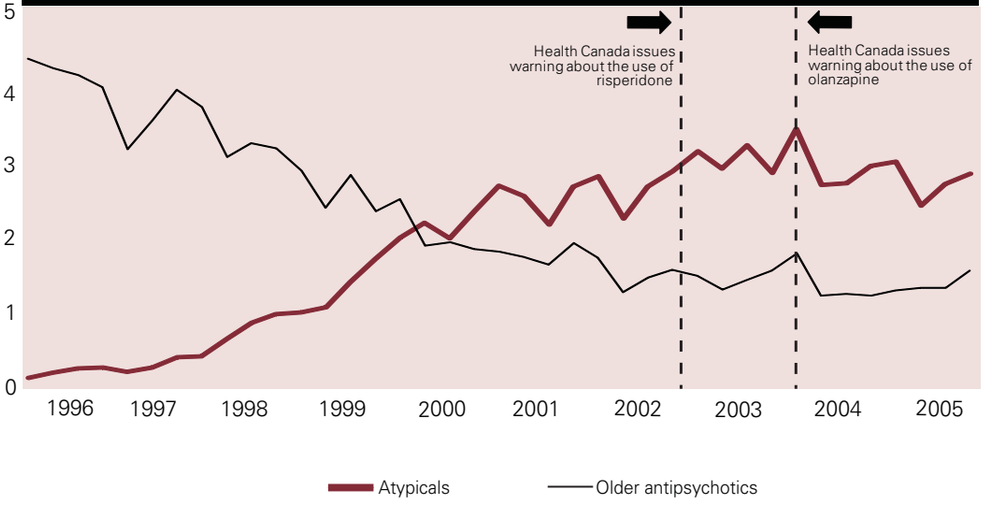
We also found signs of a more aggressive approach in diabetes treatment. New prescription rates of triple therapy (patients taking three medications at once) rose at a higher rate than that for dual and single drugs. So that's a change of interest.

Has the use of high blood pressure medications changed?

ACE (angiotensin-converting enzyme) inhibitors were the most commonly prescribed blood pressure drug (antihypertensive), followed by beta blockers, calcium channel blockers and thiazide diuretics (pills to make you pass fluid). For Manitobans with uncomplicated (meaning no other co-existing illnesses) high blood pressure, the recommended first-line agents, thiazide

Figure 2: Antipsychotics Quarterly Incidence Ages 65+

Crude rates of new users with no use of any antipsychotics in prior year per 1,000 adults aged 65+ years, 1996–2005



diuretics, were the most commonly prescribed initially, followed by ACE inhibitors. The use of ACE inhibitors for uncomplicated hypertension declined after 2002, while thiazide use went up.

These changes may be attributed to a major U.S. study published in 2002 which found that the less costly diuretics work better than newer drugs for treating high blood pressure, and also prevent some forms of heart disease. Before that study, diuretic use in the U.S. had fallen from 56% of blood pressure prescriptions in 1982 down to 27% in 1992. If diuretic use had stayed constant during that time, $3.1 billion annually would have been saved. It's easy to see the effects such findings might, and likely did, have on helping inform prescribing here in Manitoba.

Has use of cholesterol drugs in patients with high cardiovascular risk changed?

Large increases in long-term and new use of statins (cholesterol-lowering drugs) were observed over the 10-year study period. In 2005, about 8% of Manitobans had received a statin prescription, with atorvastatin being the most commonly prescribed. Perhaps the most curious finding was that people at low cardiovascular risk were just as likely to be prescribed a statin as those at high risk. And usage rates for both groups rose steadily at roughly the same rate of 3% per quarter.

Has use of heartburn medication changed?

Long-term use of all heartburn medications (proton pump inhibitors or PPIs) took a big jump from less than 1% of Manitoba residents in 1995 to 6% of the population in 2005. The generic drug omeprazole was the most commonly prescribed PPI.

Has use of antibiotics changed?

Overall, antibiotic use dropped for adults and children from 1995 to 2005. For both, penicillins were prescribed the most often, followed by the macrolide antibiotics. What was most interesting is that the use of newer macrolides—Part 2 restricted drugs—rose while the use of erythromycin—a Part 1 drug—declined. This suggests the former was being substituted for the latter. Given concerns that newer, more powerful antibiotics may increase antibiotic resistance in Manitoba, the province may want to look at this more closely.

Additional Insights

It should be noted that this study makes no suggestions about the correctness of prescribing. It is assumed that physicians prescribe based on the best information available to them at the time and in the best interests of their patients. The intent of this report is to improve the quality of that information for all concerned.

Our main objective was to try to answer questions considered important by policy makers and we've done that. Some answers are inconclusive. Others may influence Pharmacare decisions to come, or lay the foundation for further study.

That said, there are some general impressions to be gleaned from this study. Drug use is clearly influenced by both Pharmacare listing and by evidence, such as published drug studies. When the use of COX 2 inhibitors took off at an alarming rate, Pharmacare responded by switching them from Part 1 to Part 2, after which use of the drug decreased. Similarly, prescribing of atypical antipsychotics in seniors dropped off after a warning from Health Canada about risperidone.

So it's reassuring to know that physicians apply the latest evidence in their prescribing. It's also reassuring that the province—which is funded by our tax dollars—can influence prescribing through their drug policies.

Those are two very important points, because a key finding to come out of this study is that pharmaceutical use is on the rise in Manitoba. Along with that comes the associated increase in costs which ultimately comes out of Manitobans' pockets.

All of which underscores the importance of studies such as this—one of several in a series—in answering key questions about medication use, prescribing patterns, and the effect of drug policy decisions in Manitoba. The more complete the picture, the better it is for patients, physicians and the province.

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