Manitoba Centre for Health Policy

CHRONIC DISEASE IN MANITOBA: WHAT ARE THE COSTS?

A summary of the report, *The Additional Cost of Chronic Disease in Manitoba* by Greg Finlayson, Oke Ekuma , Marina Yogendran, Elaine Burland and Evelyn Forget.

Summary written by RJ Currie.

Suppose we were to ask you how many Manitobans have a chronic disease, what would you say? One in three? One in five? One in ten?

If you said one in three you'd be closest. But the news is worse than that. The latest Canadian figures suggest that about six out of ten people have a chronic disease. That's right; over half the people in Manitoba live with a chronic condition—such as arthritis, diabetes or asthma, to name but a few.

Chronic illness can have a devastating effect on people's lives. It also can have a profound impact on our healthcare system. Depending on the illness, Manitobans living with one of the chronic conditions we look at in this study use anywhere from 2.6 to 8.2 times more healthcare dollars than those not burdened by the condition.

To give you an idea of the impact in dollars, consider the following example.

Last year Manitoba spent $3.6 billion healthcare dollars for hospitals, physicians, prescriptions, nursing homes and home care. About 13% of that—or $500 million—was spent on people with one chronic illness alone: coronary heart disease (see Table 1). Yet less than 5% of Manitobans were diagnosed with it.

For many of you, these are alarming facts but so what? It makes sense that it costs more to treat people who have chronic illness. But for decision-makers in the province's regional health authorities (RHAs) and at Manitoba Health, understanding and perhaps more importantly quantifying the impact of chronic illness is vital. It will help in planning healthcare services to give the best bang for the buck—to limit the debilitating effects of chronic illness on Manitobans and on our shared healthcare system.

Over half the people in Manitoba live with a chronic condition.

To that end, Manitoba Health asked the Manitoba Centre for Health Policy if there was a way to calculate the cost of treating people with five common chronic conditions—arthritis (osteo and rheumatoid), asthma and chronic obstructive pulmonary disease (COPD), diabetes, coronary heart disease (CHD), and stroke. Not only that, but was it possible to figure out just how much more it costs to treat a person living with, say, diabetes, than a person without diabetes. And if the prevalence of diabetes can be lessened, can the financial benefits be measured as well?

The short answer to those questions is yes.

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Two Approaches

What makes this study different from others before it is we don't look at the cost of chronic illness per se. Other studies have looked at costs related to treating the specific illness, such as insulin for people with diabetes or perhaps syringes that they may pay for out of their own pocket. Or they would only include billings reported by a doctor as specifically related to diabetes.

Rather than looking at the specific condition, we look at individuals who have one of these five conditions. We compare what it costs the province to provide healthcare to each of these persons compared to individuals who do not have the condition.

We do this in two different ways. We'll use coronary heart disease to illustrate the difference.

In one method we take the average two-year cost for all Manitobans treated for CHD and compare it to the average two-year healthcare costs for all Manitobans without CHD. With this method, the healthcare costs for people with CHD is 4.6 times higher. We call this a population-based approach.

A second method—and arguably fairer—involves matching each person with CHD with a person of the same age and sex without the illness. This measure is arguably a fairer or perhaps more telling comparison because people with CHD tend to be over the age of 50. People in this age group tend to require more healthcare in the first place. So the cost differences between the two groups are much more likely attributable to CHD than in the first comparison. We call this a matching approach.

In this method for every, say, 50 year-old male with CHD, our matching group also has one 50-year old male. For men and women with other chronic conditions there are two and sometimes three similar men and women without the condition.

Table 1: Two Year Cost of Healthcare for People with Chronic Conditions, 2005/06 - 2006/07

Condition	Number of People	Total Healthcare Costs
Arthritis	249,402	$2,011,806,337
Asthma/COPD	119,193	$1,014,211,099
Coronary Heart Disease	57,170	$ 925,244,640
Diabetes	48,268	$ 675,651,902
Stroke	26,493	$ 588,660,452

Using this method of comparison, the 57,170 Manitobans with CHD are matched to the same number of Manitobans of the same age or sex without CHD.

To make these cost comparisons as fair as possible, we also adjust for people having other illnesses (comorbidity) at the same time as the chronic illness in question. So continuing with our CHD example, as much as possible, the differences in health costs between the two groups are related to the presence or absence of CHD.

In addition to looking at overall health treatment costs, we also itemize costs for various services—physicians, inpatient hospital and day surgery care, prescription drugs, home care and nursing home residence.

A quick look at costs

For a snapshot of the dollar impact of chronic illness, let's look at per-person costs over two years for each of the five chronic illnesses studied. We'll compare them to the provincial costs, followed by the matched costs in parentheses. We'll start with Manitobans treated following a stroke, who appear to be the most expensive to treat. Again, these are costs over two years (see Figure 1).

Last year, $500 million was spent on people with one chronic illness alone: coronary heart disease.

Stroke: On average it costs $22,000 to treat an individual who has had a stroke. This is 5.8 times the $3,800 spent treating someone who has not had a stroke. (The cost for the matched group is $10,278.)

Coronary Heart disease: The cost for treating a person with CHD is a little over $16,000, close to 4.6 times the $3,489 for someone without CHD. (The cost for the matched group is $9,384.)

Diabetes: The cost for treating a person with diabetes is just under $14,000, about 3.6 times the $3,882 for people without diabetes. (The cost for the matched group is $6,370.)

Asthma and COPD: An individual with asthma or COPD cost $8,509 to treat vs. $4,093 for someone without either of those conditions, so 2.1 times more. (The cost for the matched group is $4,910.)

Arthritis: It is not possible to compare people with arthritis to a matched group because once you get into senior years, Manitobans who have some form of arthritis—249,402 of them—outnumber those in our province who don't. So we are left with only a population-based comparison—$8,067 per person with arthritis compared to $2,806 for individuals without arthritis. So it cost 2.9 times more to treat them.

What's it add up to?

There is always a risk in studies such as these of inadvertently stigmatizing individuals who live with these illnesses. Nobody has a chronic condition like stroke or arthritis on purpose. So if there's good news to come out of this study it's that the numbers show the healthcare system is responding to the special requirements of those living with chronic disease.

Our main objective was to create a system that could quantify the impact of chronic illness. And we've done that. We can provide a precise accounting of healthcare costs for individuals with a chronic condition compared to persons without it. This can be done compared to the entire province, or against a group with similar characteristics, such as age and sex. It was not surprising to learn it costs more to treat people who have chronic conditions. That was a given. How much more, however, may be surprising. If our study has told us anything, it's how profound the impact of these illnesses is.

If we look at the provincial comparisons, for the most part (except for arthritis) spending on average for all Manitobans without one of these conditions is about $4,000 per person over two years. Spending on Manitobans with a chronic condition is from twice as much for asthma and COPD to six times as much for people who have had a stroke.

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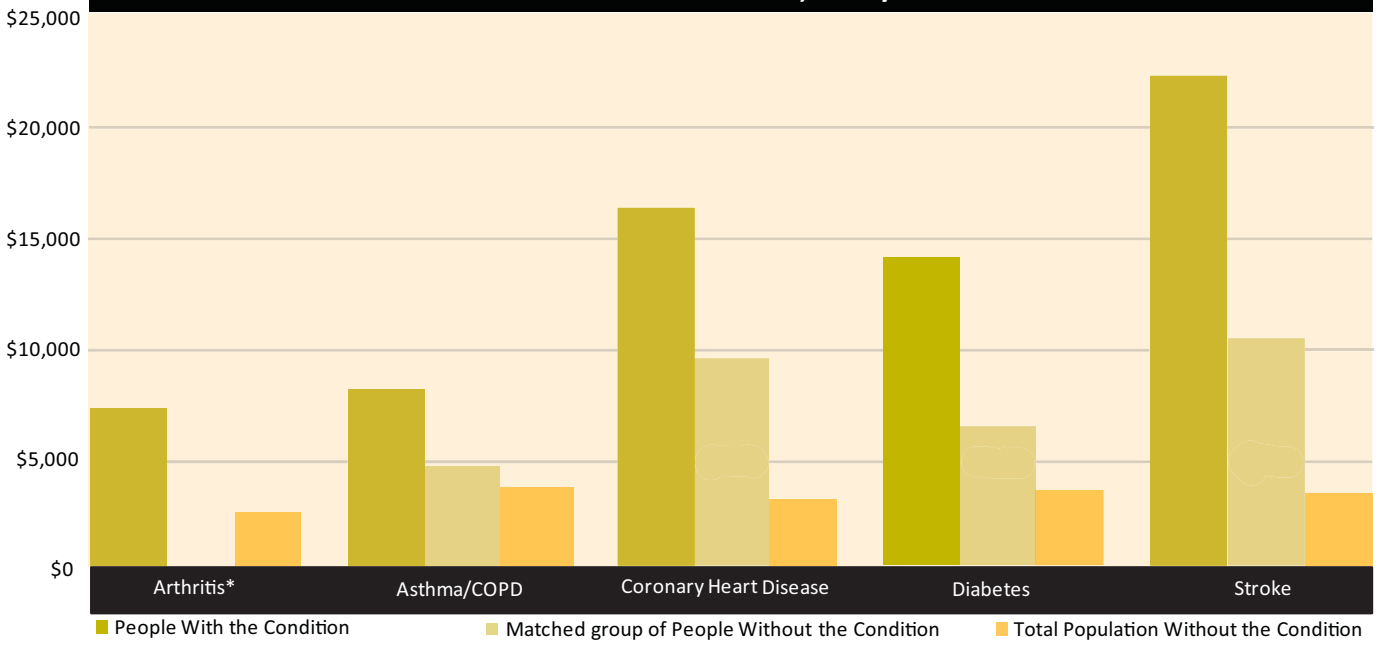
Even when we use the matching method, it still costs roughly twice as much to treat individuals with chronic illness—people with diabetes or stroke cost about 2½ times more to treat. If we look at different services, the cost of treating diabetes is driven mostly by drugs. For stroke it is mostly because of nursing home use—20 times the cost compared to people without stroke.

One of the most interesting—and surprising—findings to come out of this report is that there are differences in the ratio of costs depending on where you live in Manitoba. In some regions costs are quite a bit higher than the provincial average, in others, quite a bit lower.

Figure 1: Average Two-Year Healthcare Costs for Manitobans with a Chronic Condition and those without the Chronic Condition, 2005/06 - 2006/07



* A matched group was not possible for arthritis due to its high prevalence in older age groups

We see this not only for overall costs, but for the cost of various health services. Consider home care for example: if you look at how much more it costs from RHA to RHA for people with arthritis vs. those in each RHA who don't have it, the range is from 3.4 to 4.6 times as much (excluding Churchill which has a population too small for comparison). That's a noticeable difference. But for those with coronary heart disease, home care costs from 5.5 to 8.3 times as much. For stroke the range is 7.1 to 10.7.

There are differences in the ratio of costs depending on where you live in Manitoba.

Those are pretty big variations. But we see even bigger differences when we look at nursing home costs for people who have had a stroke: from 14 times to 26 times as costly from one RHA to another. That's almost double.

The reasons for such differences are not immediately clear. It isn't because of different costs in different areas because we used standardized costs regardless of where people received care.

It may be due to differences in physician practices—such as choosing to prescribe certain drugs or deciding to hospitalize people, which may depend on availability of beds. It could also be a reflection of the availability of certain services—such as how far home care workers have to travel, which in turn affects how many patients they see in a day. Maybe community-based services such as self-management programs play a part.

The list of possibilities doesn't end there. But clearly, this is something planners in the different RHAs may want to follow up on. Knowing one region is providing care at a lower cost has obvious advantages. Decision-makers in other RHAs can look at that and ask, What are they doing differently? Can we do some of those things here?

Of course, as the old adage says, an ounce of prevention is worth a pound (or in this case a dollar) of cure. Common sense says that if fewer people have a chronic disease, less overall will be spent on treating it.

Plenty of research shows that personal choices—such as healthier foods, physical activity or not smoking—can reduce your risk of getting one of these conditions. Research also points to a link between lower socioeconomic status and poorer health. So improving societal factors, like making good food and housing more affordable, or reducing environmental contaminants, should lessen the likelihood of people getting chronic diseases. Even educating people on managing these illnesses has been shown to reduce their need for healthcare.

We've long known that chronic disease places a physical burden on many Manitobans. Now we can see more precisely the financial impact it has on our province as a whole. This may lead to alternative and potentially more cost-effective means of treatment. In turn, this could reduce the prevalence and impact of chronic illness in Manitoba—which will benefit us all.

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