



# OBESITY IN MANITOBA ADULTS

A summary of the report, *Adult Obesity in Manitoba: Prevalence, Associations, and Outcomes* by Randy Fransoo, Patricia Martens, Heather Prior, Dan Chateau, Chesley McDougall, Jennifer Schultz, Kari-Lynne McGowan

Summary written by Gail Marchessault

We've all heard that obesity has increased in Canada. A new report shows this is also the case in Manitoba, though the impact on the healthcare system may not be as significant as expected. While the heaviest Manitobans use more health services than average, the difference is small and not likely to overwhelm the system.

This is true despite strong links between obesity and chronic diseases, according to the Manitoba Centre for Health Policy (MCHP) report *Adult Obesity in Manitoba: Prevalence, Associations, and Outcomes*.

## Overweight people did not have a huge increase in health problems or premature death.

Perhaps the biggest surprise was that so-called overweight people did not have a huge increase in health problems or premature death. Their weight even seemed to protect their health in some cases. Being "overweight" seems to have a very different impact on health than being obese. It may not increase risk as much as the label implies.

The bad news is that more than a quarter of Manitobans were obese in 2007-08. But weight is only part of the story, according to Health Canada. When assessing health risks, you also need to consider lifestyle habits, physical fitness and general health.

## Combining methods results in new findings

MCHP researchers looked at the health and health service use of about 35,000 Manitoba adults over the age of 18 who took part in one of three surveys between 1989 and 2008. The surveys included the Manitoba Heart Health Survey, the National Population Health Survey, and the Canadian Community Health Survey.

These surveys were all province-wide, but only the Heart Health Survey included First Nations communities. This means that for areas with many First Nations communities the results in this report may under-estimate the actual prevalence of obesity.

In the surveys people reported their height and weight. They also answered questions on their activity level, hours of sleep, smoking habits and so on. Their answers were linked anonymously with their use of health services and outcomes such as disease and death.

This is the first study to connect people's weight with their use of health services using such a large sample. The researchers can do this because they have excellent information on health service use, including doctor visits, hospital stays, and prescription drugs.

Most of the information on height and weight was self-reported. These numbers were "corrected" to account for people's tendency to under-report weight and over-report height. This improves accuracy.



People's height and weight were used to get their Body Mass Index (BMI). People were classified as "Normal" if their BMI was 18.5 to 24.9; "Overweight" if BMI was 25 to 29.9; and "Obese" if BMI was 30 or higher.

A 5'5" woman weighing 150 pounds would have a BMI of 25. At 180 pounds, her BMI would be 30. A 5'10" man weighing 175 pounds would have a BMI of 25. At 210 pounds, his BMI would be 30.

### Mapping obesity in Manitoba

A slightly higher proportion of men (28%) than women (26%) were in the obese group in 2007-2008. More men were also categorized as overweight (45% versus 34%).

Weights were up for both men and women since the first survey in 1989-90. Then, only 18% of men and 17% of women were classified as obese. However, obesity among women seemed to plateau about 10 years ago.

Obesity rates were lowest in Brandon and Winnipeg. They were higher in rural areas and highest in the North. The report also contains rates for smaller areas of the province. These and other results are available on MCHP's website.

The largest increase in obesity occurred among young adults (18-34 year-olds). This is disturbing because it means that starting younger, they will be exposed to obesity-related risks for longer.

### Many factors influence obesity

The researchers examined 23 factors that might influence people's chances of being obese. The most powerful influences included a person's age and sex, where they lived, whether or not they were married, had finished high school and were working. Unfortunately, none of these can be changed very easily.

Table 1 contains examples made up to illustrate the impact of several key factors on obesity.

Of all the factors looked at, age had the biggest influence. You can see this by comparing the first few rows of the table where the only change is age. So, 25-year-old Cathy has a 13% chance of being obese. At age 50, Nancy's risk almost doubles. And at age 75, Brenda's risk is similar again to Cathy's. The same holds for men: compare Tom and Henry.

Generally speaking, middle-aged adults were the most likely to be in the Obese group. People's chances of being obese rose sharply from age 18 until about age 60. They dropped again after that.

You can see men's slightly higher risk of obesity in the last column of the table. Compare Tom to Cathy and Henry to Nancy.

Each of the next four men differs from Henry by one trait. Henry is a healthy 50-year-old high-school graduate. He lives

**Table 1: How Six Factors Play out for Predicting Obesity**

Name	Sex	Age	High School Graduate	Household Income	Eats Fruits or Vegetables 5+ Times/Day	Active During Leisure and Travel Time	Probability of being in Obese Group
Cathy	Female	25	Yes	\$60,000	Yes	Yes	13.0%
Nancy	Female	50	Yes	\$60,000	Yes	Yes	21.6%
Brenda	Female	75	Yes	\$60,000	Yes	Yes	14.0%
Tom	Male	25	Yes	\$60,000	Yes	Yes	17.7%
Henry	Male	50	Yes	\$60,000	Yes	Yes	25.2%
Peter	Male	50	No	\$60,000	Yes	Yes	31.3%
Jack	Male	50	Yes	\$20,000	Yes	Yes	25.3%
Larry	Male	50	Yes	\$60,000	No	Yes	26.6%
Bill	Male	50	Yes	\$60,000	Yes	No	32.4%
Joe	Male	50	No	\$20,000	No	No	41.2%
Mary	Female	50	No	\$20,000	No	No	36.5%

in a high-income household. He is active in his leisure time and eats fruits or vegetables five or more times daily. Henry's risk of being obese is 25.2%.

Peter is similar to Henry except he did not finish high school. This difference alone raises his risk to 31.3%.

On the other hand, Jack, a lower income earner than Henry, is hardly more likely to be obese. And not eating the recommended five fruits and veggies a day affects Larry's risk of being obese just a little.

**Being sedentary for more than 30 hours a week was associated with a greater risk of obesity even for people who were otherwise active.**

Being active in leisure and travel time has a bigger impact. Bill is not active, and his risk of obesity jumps to 32.4%.

The last two rows show results for middle-aged people with the deck stacked against them. Joe and Mary have a 41.2% and 36.5% chance of being obese. This is considerably higher than their more fortunate same-age counterparts, Henry and Nancy.

These examples show that age, sex, education, and physical activity level have a strong influence on weight. Our income and the number of fruits and vegetables we eat are much weaker influences.

Geography, marital status and employment were mentioned previously as strong influences. Other important factors were having activity restrictions, being sedentary (less is better), and smoking (less obesity, but higher mortality). Getting more sleep was also linked with less obesity but this finding was not conclusive.

The factors that can be changed are most important for future planning and prevention efforts. These findings support initiatives to help people become both more active and less inactive. That phrase might sound odd, but our results show that even for people who were active in their leisure time, it remained important to also reduce time spent sitting. Being sedentary for more than 30 hours a week was associated with a greater risk of obesity even for people who were otherwise active. So, both more activity and less inactivity are helpful.

It is important to note that despite including many variables, this study was only able to explain a small amount of why people are obese. This means there are other reasons for the

recent rises in weight, perhaps changes in our diets or our physical and social environment.

### How does weight affect health?

High blood pressure and diabetes were much higher for people in the Obese group compared to the Normal group. High blood pressure was nearly twice as common. Diabetes was more than twice as high for men and more than four times as high for obese women. Women in the Overweight group were right in between. Overweight men were closer to the Normal weight group.

These are important results because high blood pressure and diabetes are quite common. They can cause serious problems themselves and are related to other major health problems, especially heart disease and stroke.

There was a strong relationship between BMI and heart attacks for men. For women, there was a small increase in respiratory difficulties with increasing BMI. Other diseases, such as common types of cancer, showed mixed or non-significant results. This is likely due to the small number of people in the surveys who developed these conditions in the study period.

While people in the Obese group were at higher risk for most diseases, people in the Overweight group were not always at higher risk. In some cases their risk of disease was similar to those in the Normal weight category.

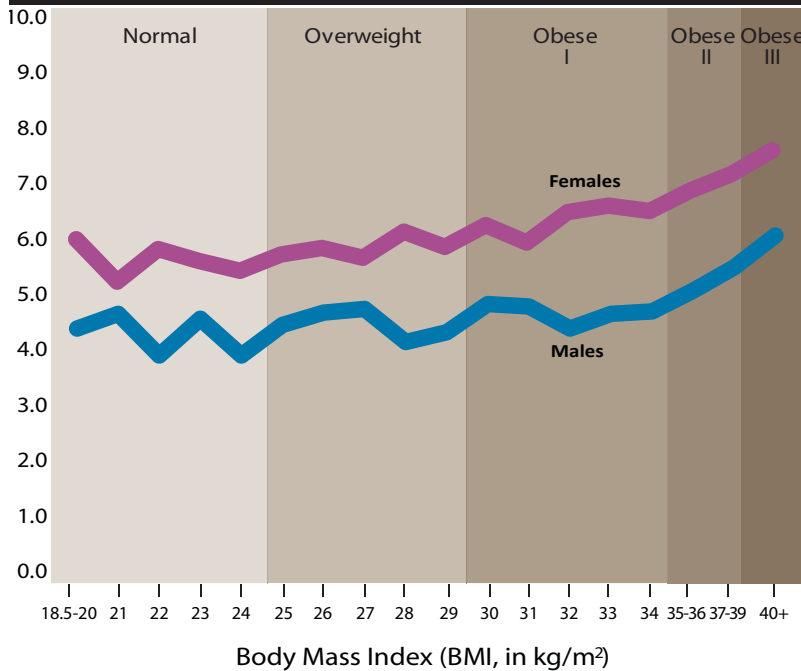
Are obese people more likely to die young? Age, living in northern Manitoba, smoking, and binge drinking all had more impact on death than obesity.

**The Obese group almost always used more healthcare services than the other groups. However, the differences were small and often did not come into play until the very highest BMIs.**

There was no direct relationship between BMI group and death once age and sex were considered. However obesity remains significant because it increases risks for heart disease and stroke. And these diseases are leading causes of death.

Again, the story may be different for people in the Overweight group. They did not seem to face any higher mortality risk than those in the Normal group.

**Figure 1: Average annual number of doctors visits, by BMI**



Obese women had more hip and knee replacements, and obese men had more heart procedures.

Those in the Overweight group generally used no more services than the Normal group. In some cases they used less (women’s admissions to nursing homes and the number of days men spent in hospital).

**Looking back to see ahead**

This study shows that obesity has become common in Manitoba, and rates continue to rise for men. Finding the largest weight increases in young adults is especially concerning. The link between obesity and chronic diseases was strong.

Being overweight did not increase the risk for mortality but it did increase the risk for some poor health outcomes. Logically, being overweight increases the risk of becoming obese.

The results point to a focus on increasing physical activity and decreasing inactivity. There was also a suggestion that it wouldn’t hurt to eat more fruits and vegetables and get a decent night’s sleep.

**How does weight affect health service use?**

The Obese group almost always used more healthcare services than the other groups. However, the differences were small and often did not come into play until the very highest BMIs.

As shown in Figure 1 (above), people in the Obese group visited doctors more often than others. However, they only visited about 15% more overall. As well, the rise in visits only occurred from a BMI of 35 for men and 32 for women.

Likewise, costs of prescription drugs went up quite slowly until very high BMIs were reached. Hospitalizations were higher for those in the Obese group, but only for BMIs at or above 33. Home care use did not differ much either.

On the other hand, obese adults had more gallbladder surgery and needed more care when they entered a nursing home.

Obesity is more complex than we once thought. Despite almost daily reports of new findings, we still don’t know the answers to many key questions. Are people in the Overweight category really at risk? Should weight recommendations change with age? How do we help people with weight issues improve their health and quality of life? Hopefully, research will continue to find answers that we can use to stem and reverse the trend of increasing obesity.

Given the gaps in our knowledge about what causes obesity and how to help people with weight problems, a public health focus on facilitating healthy behaviours is the most promising approach.



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<http://mchp-appserv.cpe.umanitoba.ca/deliverablesList.html>

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