



# State of Health Report



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## Body Weight

### Body Weight in North Dakota

#### Body Mass Index

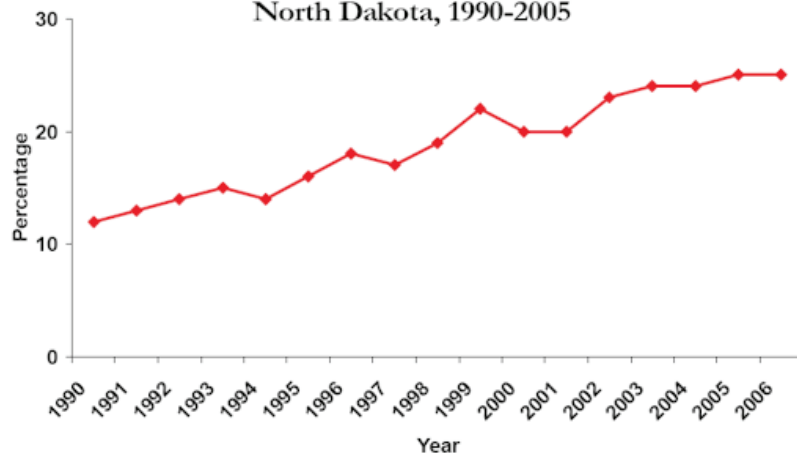
The body mass index (BMI) is a calculation based on a person's height and weight that is used to determine whether a person is a healthy weight, underweight, overweight or obese. If you know your height and weight, you can calculate your own BMI online: <http://nhlbisupport.com/bmi/>. If your BMI is 18.5 to 24.9 your body weight is normal. A BMI of 25.0 to 29.9 is considered to be overweight, and a BMI of 30 or higher is considered to be obese.

In 2006, 64 percent of North Dakotans were either overweight or obese. In past years, the prevalence of overweight and obesity has increased markedly for both adults and children.

Between 1990 and 2006:

- The percentage of North Dakotans considered obese (BMI >30) increased 108 percent (from 12% to 25%).
- The percentage of North Dakotans who are overweight (BMI 25.0-29.9) increased 11 percent (from 35% to 39%).
- The percentage of North Dakota high school students who were overweight (at or above the 95th percentile for BMI) increased from 7.2 percent in 1999 to 11.2 percent in 2005.

Prevalence of Obesity Among Adults by Year  
North Dakota, 1990-2005



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## Health Risk of Obesity

Having an elevated body weight (being overweight or obese) decreases life expectancy and is a risk factor for many diseases, including:

- Heart disease.
- Diabetes.
- Arthritis.
- Depression.
- Hypertension (high blood pressure).
- Stroke.
- Sleep apnea.
- Some cancers.

**The more overweight a person is, the greater the risk to his or her health.**

- Overweight and obesity is higher among males (75%) than females (54%). (North Dakota, 2006)
- The percentage of people overweight or obese increases with age, with the highest risk among people ages 55 to 64 (74%). (North Dakota, 2006)
- Overweight and obesity is higher among American Indians (71%) than among whites (59%). (North Dakota, 1997-2006)
- Other people at increased risk for being overweight or obese include people with:
  - Diabetes (86%).
  - High blood pressure (80%).
  - High cholesterol (76%).

## Economic Impact of Obesity

Direct attributable cost of obesity is measured by determining the expenses for diagnosis, treatment and services for treating obesity. Indirect costs of obesity, such as absenteeism and death, are not included in direct cost estimates. In 2000, the direct attributable cost of obesity for North Dakota was estimated to be \$209 million per year, or \$327 per North Dakotan every year. (1)

(1) Finkelstein, EA, Fiebelkorn, IC, Wang, G. State-level estimates of annual medical expenditures attributable to obesity. *Obesity Research* 2004;12(1):18–24. FROM [http://www.cdc.gov/nccdphp/dnpa/obesity/economic\\_consequences.htm](http://www.cdc.gov/nccdphp/dnpa/obesity/economic_consequences.htm)

## What Does the Data Show?

### What Is a “Healthy Weight?”

A broad range of body weights is perfectly consistent with good health. For instance, a person 6 feet tall who weighs between 137 and 184 pounds has a normal body weight. Body weights outside the normal range result in higher mortality and are associated with a variety of health problems. The further the body weight is from normal, the greater the health risk appears to be. Most data available in North Dakota is based on self-reported height and weight.

### Body Weight Among North Dakotans

North Dakota has a problem with body weight. In 2006, 65 percent of North Dakotans had body weights outside accepted norms, of whom almost all were either overweight or obese. North Dakota is a bit above the median for body weight compared to other states, but all states have experienced large increases in body weight.

### Trends in Obesity and Overweight Among Adults

The percentage of people who are overweight and obese has risen steadily for more than 15 years. Although there appears to be some recent sign of leveling off, it is not clear if this will be sustained. Nearly all the rise is due to an increase in the number of North Dakotans who are obese (BMI 30 and higher). In North Dakota between 1990 and 2006, the percentage of people who were overweight (BMI 25.0-29.9) increased 11 percent (from 35 % to 39 %), and the percentage of people who were obese (BMI 30 and higher) increased 108 percent (from 12% to 25%).

### Adults at High Risk of Being Overweight or Obese

Among the people at highest risk of being overweight or obese are those with other cardiovascular risk factors, including those with high cholesterol (76% overweight or obese), high blood pressure (80% overweight or obese) and diabetes (86% overweight or obese). American Indians are also at increased risk of being overweight or obese (71%). Males in North Dakota are at higher risk of being overweight or obese than are females (75% vs. 54%). The 18- to 24-year-old age group has the lowest rate of obesity (13%), and the highest rate is among people age 55 to 64 (34%).

### Body Weight Among Teens

Among high school students in 2005, 11 percent were overweight and an additional 13 percent were considered to be at risk of becoming overweight. These values were slightly lower than those reported for the nation. Being overweight was more common among males than females (16% vs. 6%) but appeared to be relatively stable between the freshman and senior year. The percentage of high school students who were overweight rose from 7 percent in 1999 to 11 percent in 2005 and increased for both males and females.

### Body Weight Among Children

Among North Dakota children younger than 5 enrolled in the Special Supplemental Nutrition Program for Women, Infants and Children (WIC), approximately 14 percent were considered overweight in 2005, which was similar to the result reported for the nation. The percentage of

children in North Dakota who were overweight was 11 percent among white children and 20 percent among American Indian children.

Physical measurement of height and weight among the sixth grade children in North Dakota (2002) found 16 percent of the children were overweight and an additional 17 percent were at risk for becoming overweight. Overweight was more common among males (18%) than females (14%) and more common in rural children (19%) than urban children (12%).

### **Trends in Body Weight Among Children**

The percentage of children who were overweight or at risk for overweight appeared to increase slowly between ages 2 and 4. A slow upward trend in overweight prevalence for this age group was apparent during the past 10 years, especially among American Indian children.

### **Consequences of Obesity and Overweight**

Is this increase in body weight associated with an increase in disease? It is too early to tell for many diseases since body weight affects human health over a long period of time. However, analysis of diabetes incidence (the risk of which increases as body weight increases) is concerning. The prevalence of North Dakota adults reporting that they were ever diagnosed with diabetes increased from 3.5 percent in 1990 to 6.7 percent in 2006. Adults reporting being diagnosed with high cholesterol rose from 30 percent in 1997 to 34 percent in 2005; however, no increase in the percentage of North Dakotans with high blood pressure is apparent at this time.

### **Weight Loss Efforts Among Adults**

In 2003, the last year for which data is available, 38 percent of North Dakotans reported that they were trying to lose weight. Females were more likely than males to report that they were trying to lose weight (44% v. 31%). Forty-nine percent of people who were overweight or obese reported that they were trying to lose weight, and 17 percent of those who were not overweight or obese reported that they were trying to lose weight. Among those trying to lose weight, 68 percent were using both diet and exercise, 16 percent were using diet only, 11 percent were using physical activity only, and 5 percent were using neither. Among those who were overweight but not obese, 6 percent reported being advised by a doctor, nurse or other health professional in the past 12 months to lose weight, while among those who were obese, 22 percent reported being advised by a doctor, nurse or other health professional in the past 12 months that they should lose weight. (2003 data)

### **Physical Activity Among Adults**

The amount of leisure-time physical activity recommended for adults is either 30 minutes of moderate physical activity (some increase in heart rate and breathing) five days a week or 20 minutes of vigorous physical activity (large increase in heart rate or breathing) three days a week. In 2005, 52 percent of adults did not get the minimum recommended amount of physical activity each week, and 23 percent reported getting no leisure-time physical activity.

### **Low Body Weight Among Adults**

Between 1997 and 2006, 1.6 percent of North Dakotans were below healthy body weight. Over half of those with low body weight were younger than 35 years old, and most of the rest were people older than 64. When compared to people without low body weight, those with low body weight were more likely to be female, make less than \$25,000 household income per year, and be current smokers. They also appeared more likely to report being in fair or poor health than people without low body weight.

### **Interpreting the Data**

North Dakota has a problem with overweight and obesity. The fact that the problem in North Dakota is not much different than the problem in other states makes it no less concerning. Obesity and overweight have been rising steadily among adults for more than 15 years, and the increase is the likely explanation for the observed increase in diabetes and high cholesterol. In time, other adverse health outcomes are expected to appear. The problem is most evident among adults, in part, because data is more available for adults. Clearly, children also are being affected.

Traditionally less of a problem among the affluent, obesity appears to be rising among all income and education groups. The problem appears to increase progressively with age, peaking around age 60.

Inadequate physical activity, excessive caloric intake, poor eating habits, consumption of processed foods including large amounts of refined sugar, lifestyle and leisure style habits such as television and computer use, poor nutrition education, and media advertising of high calorie but low nutrient-quality foods have been blamed for the problem, and many of these, or all of them, may be contributors.

Promoting regular physical activity and healthy eating and creating an environment that supports these behaviors are essential to addressing the problem.

## Links to Data Tables

[North Dakota Adults: At risk for overweight but not obese](#)

[North Dakota Adults: At risk for obese but not overweight](#)

[North Dakota Adults: At risk for overweight or obese](#)

[North Dakota Adults: Weight loss practices](#)

[North Dakota Adults: Prevalence of self-reported diabetes](#)

[North Dakota Teens: At risk for becoming overweight](#)

[North Dakota Teens: Overweight](#)

[North Dakota Children: Overweight among preschool children in WIC \(pdf\)](#)

[North Dakota Children: Overweight and at-risk for overweight among sixth grade children \(pdf\)](#)

[North Dakota Children: Physical activity among sixth grade children \(pdf\)](#)

The State of Health of North Dakotans document describes the health of North Dakotans by providing data about the issues that cause disease or create health risk. In addition, for some of the topics covered, information has been added describing the impact of the issue on human lives, solutions that work and current programs used in North Dakota to address the issue.

The document is and will remain under continuous development. Additional topics will be added as they are completed, and data from existing topics updated as new information becomes available. The link to the left provides active web links to the topics currently available and lists other topics planned for the future.

[More Health Reports](#)



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