

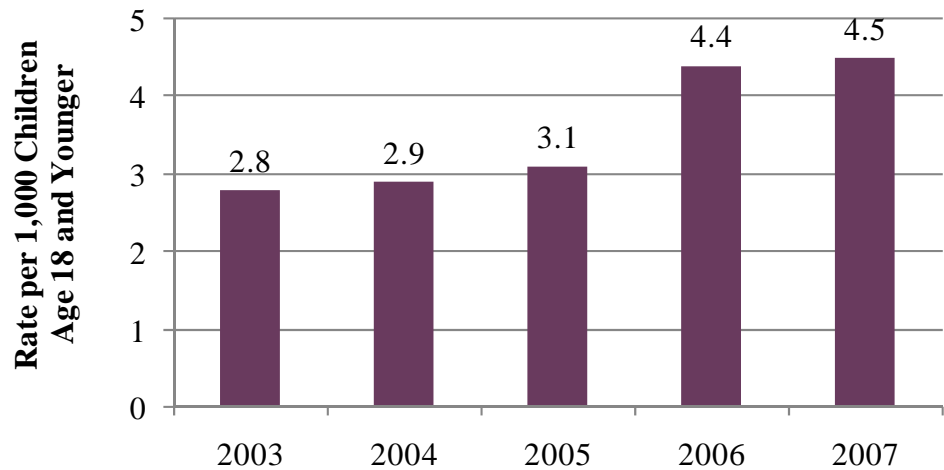
# Diabetes

## Diabetes in Children

Diabetes is a serious disease caused by excess glucose (sugar) in the bloodstream. This is due to the body's inability to produce or utilize sufficient levels of insulin. It is a burdensome and costly condition that can result in severe complications, even death. Associated medical problems include hypoglycemia (low blood sugar), hyperglycemia (high blood sugar), cardiovascular (heart) disease, kidney disease, stroke, eye complications, neuropathy (nerve damage), amputation and ketoacidosis (build up of fat by-products in the blood).

In recent years, Blue Cross Blue Shield of North Dakota has seen a significant increase in the prevalence of diabetes in members 18 and younger, from 2.8 per 1,000 children in 2003 to 4.5 per 1,000 children in 2007. Of considerable concern, 31 percent of the children with diabetes have type 2 diabetes, a condition historically considered by the U.S. Centers for Disease Control and Prevention (CDC) to be rare among children. Type 2 diabetes generally has been more common in adults who are overweight or obese and who have poor levels of activity.

**Prevalence of Diabetes  
North Dakota Children**



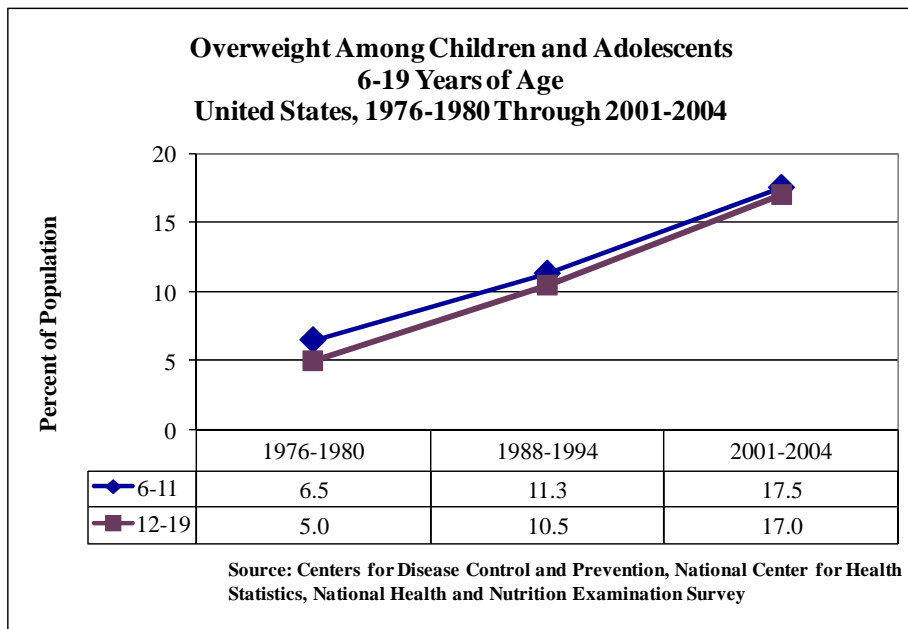
Source: Blue Cross Blue Shield of North Dakota

## Type 1 Diabetes

- Type 1 diabetes is characterized by the body's inability to produce insulin.
- A child who has type 1 diabetes depends on insulin injections to maintain proper blood sugar levels and avoid serious complications.
- Autoimmune, genetic and environmental factors are involved in the development of type 1 diabetes.

# Type 2 Diabetes

- Type 2 diabetes is characterized by the body's inability to utilize insulin properly.
- A child who has type 2 diabetes may depend on insulin injections or other medications to maintain proper blood sugar levels or may be able to control blood sugar levels through diet and exercise.
- Overweight, and obesity and inadequate physical activity are risk factors for the development of type 2 diabetes in children.



Evidence from the CDC suggests that the prevalence of type 2 diabetes in children is increasing nationally. This increase is attributed to the increases in the percentages of children who are overweight and physically inactive.

In order to reduce the risk of developing type 2 diabetes, North Dakota children and adults are encouraged to maintain a healthy weight, eat a nutritious diet including five fruits and vegetables daily, and engage in moderate physical activity five or more times per week.



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*Improving Health for All  
North Dakotans*

*The North Dakota Diabetes Prevention and Control Program strives to improve the health of all citizens of North Dakota by promoting efforts to decrease diabetes risk factors. For those who already have diabetes, the goal is to improve health through education, awareness, proper nutrition, physical activity, appropriate medications and self-monitoring of blood sugar levels.*

*Primary prevention of type 2 diabetes focuses on the areas of weight control, physical activity and nutrition.*

*Secondary prevention focuses on developing effective strategies to reduce the burden of diabetes and to improve the quality of care provided by health-care systems.*