

Facts on Kids in South Dakota Children's Health Issues



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Introduction

The focus of this Facts on Kids monograph is Children's Health. The monograph looks at different areas of concerns about children's health - diabetes, obesity, asthma, motor vehicle crashes, and access to health insurance. The World Health Organization (WHO) defines health as "a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity." During the past 20 years, the rate for asthma has increased steadily. Type 2 diabetes is increasingly being diagnosed in children and adolescents. Children are increasingly at risk for obesity. Trends show the percentage of overweight children and adolescents increased from the 1960 to 2000.

- *The percentage of overweight children ages 6 to 11 increased from 4.2% in the 1960s to 15.3% in 1999-2000.*
- *The percentage of overweight adolescents ages 12 to 19 increased from 4.6% to 15.5% from the 1960s to 2000.*
- *The increase was similar among boys and girls.*

Motor vehicle crashes continue to be a major cause of death, particularly for teens. Access to health care is an essential component of children's health.

Diabetes¹

Type 1 diabetes was previously called insulin-dependent diabetes mellitus (IDDM) or juvenile-onset diabetes. Type 1 diabetes develops when the body's immune system destroys pancreatic beta cells, the only cells in the body that make the hormone insulin that regulates blood glucose. This form of diabetes usually strikes children and young adults, who need several insulin injections a day or an insulin pump to survive. Type 1 diabetes may account for 5% to 10% of all diagnosed cases of diabetes. Risk factors for type 1 diabetes include autoimmune, genetic, and environmental factors.

Type 2 diabetes was previously called non-insulin-dependent diabetes mellitus (NIDDM) or adult-onset diabetes. Type 2 diabetes may account for about 90% to 95% of all diagnosed cases of diabetes. It usually begins as insulin resistance, a

disorder in which the cells do not use insulin properly. As the need for insulin rises, the pancreas gradually loses its ability to produce insulin. Type 2 diabetes is associated with older age, obesity, family history of diabetes, prior history of gestational diabetes, impaired glucose tolerance, physical inactivity, and race/ethnicity. African Americans, Hispanic/Latino Americans, American Indians, and some Asian Americans and Pacific Islanders are at particularly high risk for type 2 diabetes. Type 2 diabetes is increasingly being diagnosed in children and adolescents.

Diabetes Facts & Figures Among Youth²

Type 1 diabetes

- ♦ The risk of developing type 1 diabetes is higher than virtually all other severe chronic diseases of childhood.
- ♦ Peak incidence occurs during puberty, around 10 to 12 years of age in girls and 12 to 14 years of age in boys.
- ♦ Type 1 diabetes tends to run in families. Brothers and sisters of children with type 1 diabetes have about a 10% chance of developing the disease by age 50.
- ♦ The identical twin of a person with type 1 diabetes has a 25-50% higher chance of developing type 1 diabetes than a child in an unaffected family.
- ♦ There is a higher incidence of type 1 diabetes in Caucasians than in other racial groups.
- ♦ The symptoms of type 1 diabetes can mimic the flu in children.

Type 2 diabetes

Type 2 diabetes is a metabolic disorder resulting from the body's inability to make enough or properly use insulin. A growing number of children and adolescents are developing type 2 diabetes, which is more commonly diagnosed in adults. Type 2 diabetes commonly occurs in children who:

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- ◆ are overweight, as many as 80% may be overweight at the time of diagnosis.
- ◆ are older than 10 years of age and are in middle to late puberty; but cases of type 2 diabetes in children as young as four years old have been documented.
- ◆ have a family history of type 2 diabetes.
- ◆ are members of a certain racial/ethnic group (African Americans, Hispanic/Latino and Native American descent).

As the U.S. population becomes increasingly overweight, researchers expect type 2 diabetes to appear more frequently in younger, prepubescent children. Since type 2 diabetes in children and adolescents is a relatively new phenomenon, accurate statistics regarding the number of cases have not been generated. However, recent reports indicate that up to 45% of children with newly-diagnosed diabetes have type 2 diabetes.

National Prevalence of Diabetes Among People Under 20 Years of Age

About 151,000 people under age 20 have diabetes. Approximately one in every 400-500 children and adolescents has type 1 diabetes.

Clinic-based reports and regional studies indicate that type 2 diabetes is becoming more common among American Indian, African American, and Hispanic/Latino children and adolescents.

South Dakotans have one of the nation's highest rates of diabetes.

The table below illustrates the impact of diabetes in the state³.

Diabetes in South Dakota	
Total number of South Dakotans with diabetes	43,540
Number of children with diabetes	316
Number of new cases each year	534
Number of amputations each year caused by diabetes	188
Number of new cases of blindness caused by diabetes	33 to 67
Number on dialysis or receiving a kidney transplant	274
Annual economic cost of diabetes	\$271,772,254

The cost of treating children with diabetes can be substantial. Additionally, with the increasing rate of people who are overweight or obese, the number of cases of children diagnosed with type 2 diabetes is expected to rise. In fact, the percentage of adults

with diagnosed diabetes has increase throughout South Dakota and surrounding states. In 1990, there were fewer than 4% of South Dakota adults who were diagnosed with diabetes. In 2000, greater than 6% have been diagnosed.

Obesity

Obesity is defined as an excessive accumulation of body fat. Obesity is present when total body weight is more than 25 percent fat in boys and more than 32 percent fat in girls. Although childhood obesity is often defined as a weight-for-height in excess of 120 percent of the ideal, skinfold measures are more accurate determinants of body fat⁴.

Why are children becoming increasingly overweight? Obesity and overweight in children and adolescents is generally a by-product of an unhealthy diet, lack of physical activity or a combination of both. Genetics and life-style are also important in determining a child's weight. Additionally, television, computers, and video games contribute to a sedentary life-styles. According to statistics, 43% of adolescents watch more than two hours of television each day⁵.

Nationally, there are approximately 58 million overweight adults (about one-third). There are about 4.7 million children (11%) ages 6 to 17 that are considered overweight. Annually, about 300,000 deaths are attributable to poor diet and inactivity.

In order to get a better understanding of this problem the South Dakota Department of Health began collecting height and weight data on South Dakota children beginning with the 1998-1999 school year. The intent of this data collection was to start a data surveillance system of school-aged children⁶.

Using the data collected, Body Mass Indexes were calculated for the participating students. The table below is a breakdown of the findings⁷.

At Risk for Overweight and Overweight Body Mass Index for South Dakota School Children - 1999-2000 School Year				
Age	Number of Students	At Risk for Overweight	Overweight	At Risk and Overweight Combined
3 - 5 years	1,250	17.7%	12.8%	30.5%
6 - 9 years	6,554	16.2%	14.5%	30.7%
10 - 14 years	6,117	17.7%	16.8%	34.5%
15 - 17 years	1,064	14.9%	16.1%	31.0%
18 years	76	19.7%	18.4%	38.1%
Total	15,062	16.9%	15.4%	32.3%

Source: South Dakota Department of Health. At Risk for Overweight is defined as between the 85th and 94th percentile in the Center for Disease Control's reference population of children matched for age and gender. Overweight is defined as at or above the 95th percentile for children at that age and gender.

Asthma

Asthma is a chronic condition that occurs when the main air passages of the lungs, the bronchial tubes, become inflamed. The muscles of the bronchial walls tighten and extra mucus is produced, causing the airways to narrow. This can cause everything from minor wheezing to severe difficulty in breathing. Breathing may be so labored that an asthma attack becomes life threatening.

While physicians do not know exactly what causes asthma, childhood asthma seems to reflect a child's genetic predisposition and allergies. Exposure to allergens (even those that do not cause significant allergic reaction) may increase the severity of a child's asthma.

Asthma is a growing health concern in the United States. During the past 20 years, rates for asthma have increased steadily in all age groups. Children under the age of five have experienced the largest increase, with current rates at two-and-one-half times the rate of twenty years ago, according to the Surveillance for Asthma - United States, 1960-1995, (*Morbidity and Mortality Weekly Report*, 47, no. SS-1, Atlanta, Georgia, 1998).

Nationally, asthma accounts for 10 million lost school days annually. It is the leading cause of absenteeism attributed to chronic illness. The estimated cost of treating asthma in children under 18 is \$1.9 billion. One in every six emergency room visits is for asthma symptoms. Annually, approximately 5,000 deaths are attributed to asthma.

In South Dakota⁸:

- ◆ over 28,900 children and adults have asthma;
- ◆ asthma is the single most common chronic disease of childhood and impacts over 10,640 children;
- ◆ asthma is the number one cause of hospitalization among children under the age of 15;
- ◆ 21% of pregnant woman smoke, possibly predisposing their babies to asthma and other respiratory disorders.

Motor Vehicle Crashes

Motor vehicle crashes are a preventable but serious health concern in the United States and in South Dakota. Based on information from the National Center for Health Statistics, motor vehicle crashes are the leading cause of death for young drivers (ages 15 to 20). In 2001, 3,608 drivers age 15 to 20 were killed in motor vehicle crashes and 337,000 were injured.

Consider these statistics⁹:

- ◆ Two out of five deaths among the teens in the United States are the result of a motor vehicle crash.
- ◆ In 1999, 5,749 teens died of injuries caused by motor vehicle crashes. On average, that's one teen death on the nation's roadways every 91 minutes.
- ◆ The risk for motor vehicle crashes is higher among 16- to 19-year-olds than any other age group. In fact, per mile driven, a 16-year-old driver is seven times more likely to crash than a driver 25 to 29 years old.
- ◆ In 1999, the economic cost of police-reported crashes (both fatal and nonfatal) involving drivers ages 15 to 20 was about \$32 billion.

While there is no one reason why young drivers are involved in so many crashes, there are some factors that play a role^{10,11}:

Inexperience - Teens are more likely than older drivers to underestimate the dangers in hazardous situations, and they have less experience coping with such situations. In South Dakota, crashes by drivers under age 18 represent about 20% of all crashes, however, drivers under age 18 account for less than 6% of licensed drivers.

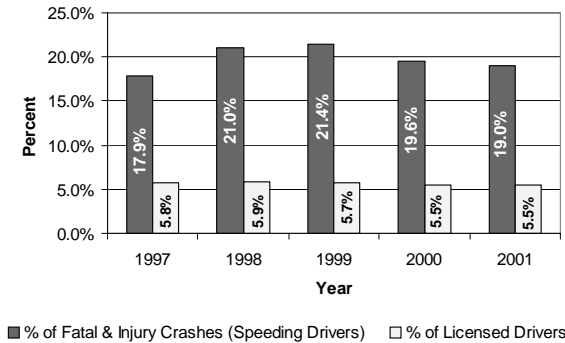


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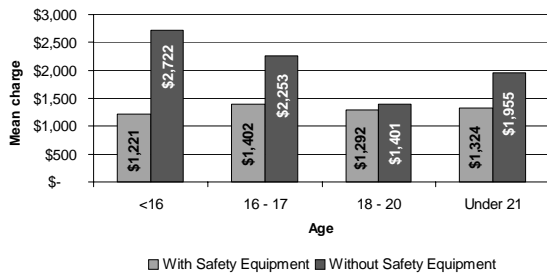
Inexperienced drivers are more inclined to speed, drive recklessly, or become distracted. The chart below shows the percentage of drivers in crashes under age 18 where speed was involved.

Crashes where driver is under 18 years old and speeding (1997-2001)



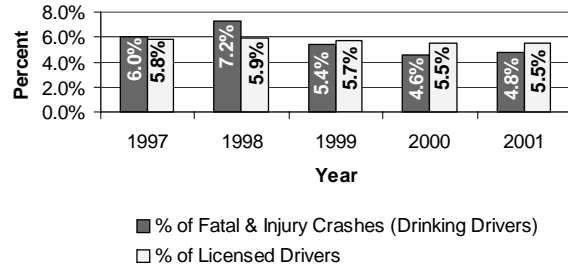
Low rates of seat belt use - Only 33% of high school students report they always wear seat belts when riding with someone else. Motor vehicle crash records from 1995 through 1998 linked to hospital records show mean charges for young drivers not wearing any safety equipment were much higher than those using some type of safety equipment.

Hospitalized drivers under age 21. Mean charges by safety equipment use (1995 - 1998)



Alcohol - At all levels of blood alcohol concentration, the risk of being involved in a motor vehicle crash is greater for teens than for older drivers. South Dakota's new zero-tolerance law for underage drinking and driving became effective on July 1, 1998. Under this law, anyone under 21 who has at least .02% of alcohol in their blood while in control of a motor vehicle can lose their license for 6 months, or one year for a subsequent offense. Refusing to submit to a chemical test can result in a one-year revocation of the individual's license.

Crashes where driver is under 18 years old and drinking (1997 - 2002)



Since experience appears to be a factor when drivers are involved in a crash, South Dakota has made an effort to develop younger drivers. South Dakota's new "Graduated Licensing" law, which took effect January 1, 1999 provides for levels of driving as described below¹².

Instruction Permit: All drivers under the age of 18, who have not held a valid drivers license for 180 consecutive days, are required to drive under an "instruction permit" for 180 consecutive days, without any traffic violations, before they can move up to the next level of licensing. The length of time required for holding the instruction permit will be reduced to three months if the person successfully completes an approved driver education program. The instruction permit allows the person to drive only with a licensed driver who is at least 18 years of age, who has one year of driving experience, occupying the seat beside the driver.

Restricted Permit: All drivers at least 14 and less than 18 years of age, who have completed the requirements of the instruction permit, can graduate to the "Restricted Permit". The restricted permit allows the young driver to operate the motor vehicle between the hours of 6am and 8pm standard time, with permission of the driver's parents, and during the hours of 8pm and 6am if the minor's parent or guardian is in the seat beside the minor providing supervision.

Operator's License: Once the young driver has reached 16 years of age, they can apply for an "Operator's License" if they have met the requirements of the instruction permit and have driven violation free for the previous 180 days. Once a person reaches the age of 18, they are automatically eligible for an operator's license.

Access to Health Care

Access to health care is an essential component of children's health. Studies have shown that children who do not have adequate access to health care are at risk for more serious conditions and longer, more expensive treatment¹³.

Children in rural areas face additional barriers to health care. According to the Agency for Health Care Policy and Research publication, *Improving Health Care for Rural Populations*,¹⁴ individuals in rural communities have the following concerns:

- Many small rural hospitals have closed, while other health care facilities are in financial straits.
- The number of primary care practitioners and other health care providers in rural areas is decreasing.
- Low population density in rural areas makes it inherently difficult to deliver services that target persons with special health needs.

Lack of health insurance coverage is one of the 12 health indicators included in the National Health Interview Survey (NHIS), a household interview survey conducted annually by Center for Disease Control's National Center for Health Statistics. According to this survey, there are about 7.2 million children under age 18 without health insurance in the United States. The NHIS indicates that the portion of children covered by private insurance declined in the first six months of 2002, likely due to a parent's loss of employment.

Programs, such as Medicaid and the Children's Health Insurance Program (CHIP) have reported increases in enrollment. Enrollment in CHIP has increased 22% from 2001 through the first half of 2002. In South Dakota, the number of children enrolled in Medicaid or CHIP has increase by 26,000 since June of 1998. Over 60,000 South Dakota children now participate in the programs. The guidelines for CHIP are described at South Dakota Department of Social Services website, www.state.sd.us/social/Medical/CHIP/Index.htm.

Endnotes

¹National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), National Diabetes Statistics, <http://www.niddk.nih.gov/health/diabetes/pubs/dmstats/dmstats.htm#1>

²Diabetes Facts & Figures among Youth, the American Diabetes Association, http://www.diabetes.org/main/info/facts/facts_youth.jsp

³American Diabetes Association, South Dakota Office, Diabetes Statistics, State of South Dakota.

⁴Defining Overweight and Obesity, Center for Disease Control, National Center for Chronic Disease Prevention and Health Promotion, <http://www.cdc.gov/nccdphp/dnpa/obesity/defining.htm>

⁵The Surgeon General's Call To Action To Prevent and Decrease Overweight and Obesity, http://www.surgeongeneral.gov/topics/obesity/calltoaction/fact_adolescents.htm

⁶The Surgeon General's Call To Action To Prevent and Decrease Overweight and Obesity, http://www.surgeongeneral.gov/topics/obesity/calltoaction/fact_adolescents.htm

⁷School Height and Weight Report for South Dakota Students, 1999-2000 School Year, South Dakota Department of Health, <http://www.state.sd.us/doh/Pubs2/weight2000.pdf>

⁸American Lung Association of South Dakota

⁹Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Teens Behind the Wheel.

¹⁰South Dakota Motor Vehicle Traffic Accident Summary, 1995 - 2001, South Dakota Department of Transportation, Office of Accident Records.

¹¹South Dakota Crash Outcome Data Evaluation System Data, 1995 - 1998, University of South Dakota, Business Research Bureau, South Dakota CODES Project.

¹²South Dakota Department of Commerce and Regulation, Driver Licensing, The Driver License, <http://www.state.sd.us/dcr/dl/manual.htm#Instruction%20Permit>

¹³Boulder County Health Department, *Access to Health Care Among Children in Boulder County*, <http://www.co.boulder.co.us/health/hpe/pdfs/childaccessreport.pdf>

¹⁴*Improving Health Care for Rural Populations*. Research in Action Fact Sheet. AHCPR Publication No. 96-P040, March 1996. Agency for Health Care Policy and Research, Rockville, MD. <http://www.ahrq.gov/research/rural.htm>



Steps to Ensure Our Children's Health

To protect our children's health and well being, individual responsibility must be combined with public policy. South Dakota has instituted several legislative changes in recent years designed to improve our children's health. These changes include the strengthened underage drinking/driving law, the graduated driver's license law, the primary seat belt law for youngsters under age 18, and the smoke-free public and work places law. In addition, the Governor and Legislature have funded expanded Out-of-School Time programs to ensure positive activities and supervision for school-age youngsters while parents are at work and expanded eligibility in the Children's Health Insurance Program (CHIP).

It is important to continue to monitor health indicators for our children and youth and assess causal factors. Only then can we take effective steps to address public health issues.

Additionally, parents, child care-givers, teachers, and youth workers play a crucial role in modeling healthy behaviors for our youngsters from nutrition and physical activity to seat belt safety to coping skills under stress.

Through continued monitoring of our children's health and well being and through the dual approach of individual responsibility and effective public policy, we have the best opportunity for protecting our children.



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The South Dakota KIDS COUNT Project is a national and state-by-state effort, sponsored by the Annie E. Casey Foundation, to track the status of children in the United States. By providing policymakers and citizens with benchmarks of child well-being, KIDS COUNT seeks to enrich local, state, and national discussions concerning ways to secure better futures for children and families. Additional funding for the state project comes from the South Dakota Departments of: Education and Cultural Affairs, Health, Human Services and Social Services.

www.usd.edu/brbinfo/kc

The Crash Outcome Data Evaluation System (CODES) project links South Dakota accident records with other databases to get a clearer picture of crash data in the state. Through data linkage, a more complete picture of crash data can be seen.

www.usd.edu/brbinfo/codes/index.htm

The South Dakota Coalition for Children (SDCC) is an advocacy organization that strives to shape policies and programs to ensure the well being of all children in South Dakota. The Coalition is composed of businesses, state and local organizations, and individual members. The SDCC is a member of the National Association of Child Advocates (NACA). The Coalition can be reached at P.O. Box 2246, Sioux Falls, SD 57101-2246, phone: 605.367.9667.
www.sdccchildren.org

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