Chronic Diseases and Their Risk Factors in Minnesota: 2011
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Introduction

Chronic diseases are common

Chronic diseases and injury are among the most common and costly health problems facing our state today. While public health has made great strides in fighting communicable diseases, chronic diseases and injury have emerged as a far greater threat to the overall health and well-being of Minnesotans. Chronic diseases and injury are among the leading causes of death and years of potential life lost in Minnesota, and they also contribute significantly to long-term disability and poor quality of life.

10 leading causes of death, Minnesota, 2009

Source: The Minnesota Center for Health Statistics
www.health.state.mn.us/divs/chs
Chronic diseases are costly
Nationally, 75 percent of the two trillion dollars spent on health care is spent on chronic diseases. Treatment costs associated with chronic diseases in Minnesota are estimated at $5 billion annually. Lost productivity and absenteeism due to an unhealthy workforce add another $17 billion in costs to Minnesota’s businesses (Milken Institute, 2007). An estimated 96 percent of all U.S. health care dollars are spent on medical services, with only 4 percent spent on prevention (The Hamilton Project, Brookings Institution, 2007).

Many factors which influence health are modifiable
Four health risk behaviors – lack of physical activity, poor nutrition, tobacco use and excessive alcohol consumption – are responsible for the development of many of the most prevalent chronic conditions. By one estimate, more than three-quarters of all deaths can be attributed to tobacco use, poor diet and physical inactivity. Preventing chronic diseases by modifying risk behaviors will ultimately help people live longer, healthier lives and keep health care costs down. Additional support can be provided by shaping policies, system changes and environments which make healthy choices the easy choices.

Screening and disease management can cut costs and improve quality of life
Early detection of some chronic conditions can slow or halt disease progression, optimize disease management and improve the length and quality of life. Use of evidence-based, high quality screening for early stage disease can contribute to a reduction in medical care costs. Providing patients and their caregivers with resources and tools to support self-management of chronic diseases can further enhance quality of life and improve disease outcomes.
In this report

This report provides a snapshot of the burden of chronic diseases, injury and their associated risk factors in Minnesota. It is intended to generate awareness among stakeholders, policy makers, providers and the public, not to serve as an exhaustive review. It uses a select set of chronic disease indicators which for the most part are collected through statewide disease surveillance systems. Notably absent from this report are detailed analyses by race, ethnicity, income, and other socio-demographic factors which clearly influence health. Links to sources of additional data and more detailed analyses are provided at the end of each section.

* to age 75
Source: The Minnesota Center for Health Statistics
www.health.state.mn.us/divs/chs
Alcohol Use

Background

Alcohol is a significant contributor to death and disability from many acute and chronic conditions including falls, burns, drowning, and motor vehicle crashes; violent acts including homicide, suicide and assault; chronic diseases including cancer, digestive disease and cardiovascular disorders; unintended pregnancies, sexually transmitted diseases; and alcohol related birth defects. Alcohol is associated with social and family disruption, lack of educational attainment and reduced productivity. Alcohol causes more deaths and illness than other drugs because of its properties and the extent of its use.

Percent of adults who are heavy drinkers, Minnesota

Source: Minnesota data - Behavioral Risk Factor Surveillance System

Percent of youth reporting alcohol use in the past month, Minnesota

Sources: 2010 Minnesota Student Survey
Additional highlights

♦ Alcohol is the third leading preventable cause of death in the U.S.

♦ In Minnesota, there were 1,150 alcohol-attributable deaths and 28,979 years of potential life lost (2007).

♦ The economic costs associated with alcohol use in Minnesota were an estimated $5.06 billion (2007).

♦ Alcohol use contributes to a number of chronic diseases including breast, liver, upper digestive tract and colon cancers; digestive disease; liver disease including cirrhosis and hepatitis; and cardiovascular disorders including cardiomyopathy, arrhythmia, hypertension and hemorrhagic stroke.

♦ Of Minnesota adults, 20 percent reported binge drinking, which is higher than the national average of 15.5 percent (2009).

♦ Among ninth graders in Minnesota, more American Indian and Hispanics report drinking in the past 30 days (31 percent and 29 percent respectively) than Asian, African-American or white ninth graders (15 percent, 17 percent and 18 percent respectively).

For more information


▪ MDH Alcohol and Other Drugs Program, www.health.state.mn.us/alcohol
Alzheimer’s Disease

Background

Alzheimer’s disease is a major cause of morbidity and mortality creating substantial burden for those affected, their families, caregivers and society. Alzheimer’s disease is the most common type of dementia, characterized by progressive deterioration of cognitive abilities severe enough to interfere with daily life. The most common symptom is a gradual increase in difficulty remembering new information such as names and recent events. More advanced symptoms include impaired judgment, disorientation, behavior changes, difficulty speaking, swallowing and walking.

Projected number of cases of Alzheimer’s Disease, Minnesota

Source: Rates projected by Hebert, et al, 2003, used to estimate Minnesota numbers
Additional highlights

♦ Alzheimer’s disease is the sixth leading cause of death in the U.S. An estimated 5.4 million Americans of all ages have Alzheimer’s disease (2011) including 5.2 million people 65 years of age and older and 200,000 people under age 65.

♦ Women comprise two-thirds of all Americans living with Alzheimer’s disease.

♦ People with fewer years of education, older African-Americans and Hispanics appear to be at higher risk for Alzheimer’s disease.

♦ About half of those with Alzheimer’s disease have not been diagnosed, and missed diagnoses are more common among African-Americans and Hispanics. Costs of health care, long-term care and hospice for people with Alzheimer’s disease and other dementias are projected to rise from $183 billion in 2011 to $1.1 trillion in 2050.

♦ Nearly 200,000 Minnesotans are caring for persons with Alzheimer’s—a value of $2.6 billion in unpaid care.

For more information

♦ Minnesota Department of Health Alzheimer’s Disease information, www.health.state.mn.us/divs/hpcd/alzheimer
Arthritis

Background

Arthritis is a major cause of disability and the third leading cause of work limitation in Minnesota and the U.S. Arthritis is an umbrella term for more than 150 different conditions affecting the joints, surrounding tissues and other connective tissues. Symptoms include pain, aching, stiffness or swelling in or around a joint. While the prevalence of arthritis increases with age, it affects people of all ages. Self-management, education, physical activity and weight management are key strategies to reduce the impact of arthritis.

Prevalence of adults with physician-diagnosed arthritis, Minnesota

![Graph showing prevalence of adults with physician-diagnosed arthritis from 2005 to 2009 by age group.]

Source: Minnesota Data - Behavioral Risk Factor Surveillance System

Prevalence of adults with physician-diagnosed arthritis who have activity limitations, Minnesota

![Graph showing prevalence of adults with physician-diagnosed arthritis who have activity limitations from 2005 to 2009 by age group.]

Source: Minnesota data - Behavioral Risk Factor Surveillance System
Additional highlights

- The number of people in Minnesota affected by arthritis is projected to increase to more than 1.2 million people by 2030, an increase of 32 percent.
- Two-thirds of those reporting doctor-diagnosed arthritis are younger than 65 years of age.
- Among Minnesota adults between the ages of 18 and 64, 35 percent report work limitations related to arthritis.
- The economic impact of arthritis in Minnesota in 2003 was $2.2 billion, with $1.5 billion in medical costs and nearly $750 million in lost earnings.
- Adults with arthritis are employed at lower rates and work fewer hours due to arthritis-related limitations.

For more information

- Minnesota Arthritis Program, www.health.state.mn.us/divs/hpcd/arthritis
Asthma

Background

Asthma is a chronic disease of the airways that involves episodes of bronchoconstriction (tightening of the muscles around the airways in the lungs), inflammation (swelling of the bronchial tubes) and increased production of mucus. Symptoms of asthma include wheezing, shortness of breath, coughing and chest tightness. People with asthma have it all the time but will have asthmatic episodes when something irritates their lungs. Triggers include respiratory infections, pollen, tobacco smoke and air pollution. Asthma episodes that are more severe may be more likely to result in a hospitalization.

Asthma hospitalization rates, Minnesota

![Graph showing asthma hospitalization rates from 1998 to 2009 in Minnesota.]

Source: Minnesota Hospital Association

Percentage of adults with asthma

![Graph showing the percentage of adults with asthma from 2000 to 2010 in the United States and Minnesota.]

U.S. Median

Minnesota

Source: Behavioral Risk Factor Surveillance System
Additional highlights

♦ 9.1 percent of Minnesota adults report that they have been diagnosed with asthma at some point in their lives and 7.6 percent report that they currently have asthma (2010).

♦ 8.7 percent of Minnesota children (age 0-17) have been diagnosed with asthma at some point in their lives and six percent currently have asthma (2007).

♦ Asthma hospitalization rates are highest among children under age five. Asthma hospitalization rates are higher for boys than girls through the late teenage years, after which rates are higher for women than men.

♦ Despite its steady decline since 2000, rates among children living in the Twin Cities metropolitan area remain higher than rates for children living in Greater Minnesota.

♦ Asthma hospitalization rates follow seasonal patterns, with the highest rates in the fall and a smaller peak in the spring. The lowest rates are generally seen in the summer.

For more information

• Minnesota Department of Health Asthma Program, www.health.state.mn.us/asthma
Cancer

Background
Cancer is a group of diseases that have in common the uncontrolled growth and spread of abnormal cells. Lung cancer, colorectal cancer, breast cancer and prostate cancer are the most commonly diagnosed cancers and the most common causes of cancer death. Smoking is the single largest known preventable cause of cancer, responsible for one out of every three cancer deaths. Eating the right foods, exercising regularly, maintaining a healthy weight and reducing alcohol consumption can also reduce the risk of developing cancer. Screening can prevent colorectal and cervical cancers, and reduce the risk of dying from breast, cervical and colorectal cancer.

Trends in cancer incidence, Minnesota

Data Source: MDH, Minnesota Cancer Surveillance System (Jan 2011). Rates are per 100,000 persons and are age-adjusted to the 2000 U.S. population. Excludes common skin cancers, in situ tumors, and tumors based on clinical diagnosis only.

Mortality from cancer, Minnesota

Source: The Minnesota Center for Health Statistics. Analyses conducted by Minnesota Cancer Surveillance System. Rates are per 100,000 persons and are age-adjusted to the 2000 U.S. population. Includes all cancer deaths in the specified year regardless of year of diagnosis.
Additional highlights

♦ Cancer has been the leading cause of death in Minnesota since 2000.
♦ Half of Minnesotans alive today will develop a life-threatening malignancy.
♦ Each year more than 24,000 Minnesotans are diagnosed with a potentially serious form of cancer.
♦ Population growth and the aging of the baby boomer generation account for most of the increase in the number of Minnesotans being diagnosed with and dying from cancer.
♦ Compared to national data, the overall cancer incidence rate in Minnesota was five percent lower among non-Hispanic whites, but twice as high among American Indians (2004-2008).
♦ Women of color are two times more likely to be diagnosed with cervical cancer than non-Hispanic white women.
♦ Compared to national data, the overall cancer mortality rate in Minnesota was seven percent lower among non-Hispanic whites, but twice as high among American Indians (2003-2007).
♦ More than 200,000 Minnesotans are living with a history of cancer.

For more information:

▪ Minnesota Cancer Alliance, www.mncanceralliance.org
Chronic Obstructive Pulmonary Disease

Background

Chronic obstructive pulmonary disease (COPD) is a lung disease in which blockage of the airways in the lungs makes breathing difficult. Chronic bronchitis and emphysema are the most important conditions that make up COPD. The major risk factor for COPD is cigarette smoking; however, not all patients with COPD are current or former smokers. Exposure to second hand smoke, air pollution, and dust and chemicals in the workplace are also risk factors for COPD.

Mortality rate from chronic obstructive pulmonary disease among adults aged 45 years and older

Source: The Minnesota Center for Health Statistics, CDC Wonder, wonder.cdc.gov/

Chronic obstructive pulmonary disease hospitalization rates among adults aged 45 years and older, Minnesota

Source: Minnesota Hospital Association
Additional highlights

- COPD mortality rates in Minnesota are lower than the national rates. In 2007, the mortality rate from COPD among adults aged 45 years and older in Minnesota was 90.7 per 100,000 residents compared to 113.2 per 100,000 for the U.S.

- COPD mortality rates steadily declined between 1999 and 2007 in both Minnesota and the U.S.

- COPD mortality rates are higher for men than women. In 2007, the COPD mortality rates were 110.2 per 100,000 for males and 79.0 per 100,000 for females.

- COPD mortality rates increase with age. In 2007, the rate was 2.9 per 100,000 for ages 45-54, 20.4 per 100,000 for ages 55-64 and 244.7 per 100,000 for ages 65 and older.

- In 2004-2007, COPD mortality rates for whites (94.4 per 100,000) were higher than for American Indians (81.6 per 100,000) and African-Americans (37.0 per 100,000).

- COPD hospitalization rates increase with age. In 2008, the rate per 10,000 was 7.8 for ages 45-54, 20.4 for ages 55-64 and 80.5 for ages 65 and older.

- Overall, COPD hospitalization rates do not differ by sex. In 2008, the rate was 34.7 per 10,000 for women and 34.8 per 10,000 for men.

For more information

- Minnesota Environmental Health Tracking Program, www.health.state.mn.us/tracking
Diabetes

Background

Diabetes is a complex, serious and increasingly common chronic disease in which the body does not make or use insulin correctly resulting in high levels of glucose in the blood. The most common forms of diabetes are: type 1, an autoimmune form usually striking children and young adults; type 2, the most common form, caused by the body’s failure to properly use insulin; and gestational diabetes, which develops in some pregnancies but usually disappears when pregnancy ends. Five critical actions can help prevent complications: controlling blood glucose, controlling blood pressure, lowering LDL cholesterol, being tobacco free and taking aspirin daily.

Percentage of adults with diagnosed diabetes, by age, Minnesota

Average rate for achieving optimal diabetes care* at the clinic level, Minnesota

* Measures the percentage of patients with diabetes ages 18-75 who reach all five of the following treatment goals:
  - Blood pressure less than 130/80 mmHg
  - LDL-C less than 100 mg/dl
  - Hemoglobin A1c less than 7
  - Documented tobacco-free status
  - Daily aspirin use (ages 41-75 on aspirin therapy unless contraindicated)
Additional highlights

- An estimated 375,000 adults have diabetes in Minnesota.
- One in three Minnesotans has diabetes or is at high risk for the disease.
- Every year 20,000 Minnesotans are newly diagnosed with diabetes.
- Diabetes is the sixth leading cause of death in Minnesota.
- Having diabetes doubles the risk of premature death.
- Diabetes costs Minnesota $2.7 billion each year.
- Ninety-five percent of Minnesotans with diabetes have chronic kidney disease (stage 1-5), 50 percent have arthritis, 31 percent have heart disease, 30 percent have periodontal disease, 20 percent have depression and 18 percent have vision loss.
- Diabetes complications disproportionately affect minority populations, those with low incomes and the elderly.
- Populations of color, American Indians and recent immigrants are also at higher risk for type 2 diabetes. As these populations groups increase in number, diabetes prevalence increases.

For more information:

- Minnesota Diabetes Program, www.health.state.mn.us/diabetes
Heart Disease

Background
Heart disease includes a number of conditions which affect blood flow to, and functioning of, the heart. The most common type of heart disease is coronary artery disease, also known as coronary heart disease. A myocardial infarction, also known as heart attack, occurs when the vessels supplying blood to the heart become blocked. Heart muscle tissue is deprived of oxygen, resulting in tissue death.

Heart disease mortality rate

![Graph showing heart disease mortality rate from 2000 to 2009 for the U.S. and Minnesota.](image)

Source: Centers for Disease Control & Prevention and The Minnesota Department of Health Center for Health Statistics

Number of hospital discharges, myocardial infarctions and congestive heart failures, Minnesota

![Graph showing number of hospital discharges from 2005 to 2009 for CHF and MI.](image)

* Acute Myocardial Infarction (ICD-9: 410); Congestive Heart Failure (ICD-9: 428)

Source: Minnesota Uniform Billing (UB) Claims Data, Health Economic Program - Minnesota Department of Health and Minnesota Hospital Association
Additional highlights

- Minnesota has the lowest overall heart disease mortality rate in the United States.
- The mortality rate due to heart disease declined 31 percent from 2000 to 2009.
- Heart disease is the second leading cause of death in Minnesota, comprising 19 percent of all deaths in 2009.
- Heart disease kills more men than women in every age group.
- Unlike nationally, the mortality rate for heart disease in Minnesota is similar for whites and African-Americans.
- Mortality due to heart disease is persistently higher in rural Minnesota counties compared to the Twin Cities metropolitan area.
- Compared to non-Hispanic whites, the mortality rate due to heart disease was more than 30 percent higher in American Indians during 2005-2009.
- Compared to non-Hispanic whites, premature deaths due to heart disease are highest in blacks and American Indians, and lowest in Asians and Pacific Islanders.
- In 2009, there were more than 8,500 hospitalizations for acute myocardial infarction, and over 11,700 hospitalizations for congestive heart failure.
- From 2005 to 2009, the number of hospitalizations for acute myocardial infarction has fallen 12 percent, while the number of hospitalizations for congestive heart failure has fallen nine percent.

For more information

- Minnesota Heart Disease and Stroke Prevention Program, www.health.state.mn.us/cvh
Hypertension

Background

Hypertension, also known as high blood pressure, is one of the most important risk factors for both heart disease and stroke. Controlling hypertension through lifestyle changes and medication use has been shown to significantly reduce the risk of both coronary heart disease and stroke.

Percent of adults reporting having been diagnosed with high blood pressure

* This measures the performance of patients ages 18-85 with a diagnosis of hypertension or high blood pressure, whose blood pressure was adequately controlled at less than 140/90 mmHg during the measurement year.

Source: Centers for Disease Control & Prevention and The Minnesota Department of Health Center for Health Statistics

Percent of adults reporting having been diagnosed with high blood pressure

* Source: Minnesota Community Measurement, www.mnhealthscores.org
Additional highlights

- As of 2009, 21 percent of Minnesota adults reported being told that they had high blood pressure — consistently lower than the median value of 28.7 percent for all states.
- There has been very little change in rates of high blood pressure awareness in Minnesota adults since 2001.
- After excluding high blood pressure experienced only during pregnancy, rates of hypertension are similar between men and women.
- Non-Hispanic blacks are more likely to report having high blood pressure (27 percent) than non-Hispanic whites (21.7 percent), Hispanics (21.9 percent), and other races (11.9 percent).
- Rates of high blood pressure increase significantly with age, affecting more than half of individuals over age 65.
- High blood pressure is significantly more common in individuals with lower incomes and in those with lower educational attainment.
- Management of blood pressure in Minnesota clinics has improved in recent years, with almost three of four patients getting their blood pressure under control.

For more information

- Minnesota Heart Disease and Stroke Prevention Program, www.health.state.mn.us/cvh
Injury & Violence

Background

Unintentional injury and violence account for more years of potential life lost (YPLL) before age 65 than any other single cause in Minnesota. Among children, youth and young adults, injury and violence are the leading cause of death and need for hospital treatment. There is a strong correlation between childhood violence and related stressors, including child abuse, neglect and repeated exposure to intimate partner violence. Violence in childhood is also associated with risky behaviors and health problems in adulthood.

Hospital treated injury morbidity and mortality, Minnesota

Deaths due to unintentional injuries, Minnesota

Source: Minnesota Hospital Association/Minnesota Injury Data Access System
Age adjusted data represents approximately 95% of all patient discharge data.
Nonfatal injury includes ED-treated and hospitalized cases.
Additional highlights

- Nearly 3,000 Minnesotans die annually from preventable injury-related causes, motor vehicle crashes (33 percent), suicide by firearm (11 percent) and unintentional poisoning (nine percent).

- About 100 occupants and drivers aged 15–24 are killed and more than 5,400 injured in motor vehicle crashes.

- Unintentional injury is the leading cause of death among ages 1–34 and the third (2009) leading cause of death among all ages combined.

- Unintentional falls are the leading cause of nonfatal injury for children and for all adults aged 35 and older.

- Seniors account for 38 percent of all injury-related deaths.

- More than 10,000 Minnesotans sustain a traumatic brain injury each year.

- In 2005, more than 61,000 Minnesotans were sexually assaulted.

For more information

- Minnesota Injury Data Access System (MIDAS), www.health.state.mn.us/injury/midas

- Centers for Disease Control’s web-based Injury Statistics Query and Reporting System (WISQARS), www.cdc.gov/injury/wisqars

- Minnesota Injury and Violence Prevention Unit, www.health.state.mn.us/injury
Nutrition

Background

The key to a healthy diet is balance. Eating a balanced diet is important to maintaining and improving health. No single food provides all the nutrients needed to stay healthy; however, there is evidence that a diet rich in fruits and vegetables can lower the risk of diabetes, heart disease, stroke and cancer. Over the past two decades, changes in dietary habits coupled with sedentary lifestyles have led to increases in nutrition-related chronic diseases in the U.S. While chronic diseases tend to express themselves in adulthood, a growing number of children are developing clinical signs of adult chronic diseases.

Percent of adults who report consuming five or more servings of fruits and vegetables daily, Minnesota

Source: Minnesota data - Behavioral Risk Factor Surveillance System

Percent of youth who report consuming at least five servings of fruit, fruit juices or vegetables daily, Minnesota

Source: Minnesota Student Survey: Minnesota Department of Education
Additional highlights

♦ 85 percent of Minnesotans do not eat enough fruits and vegetables to meet the daily recommendations for their age and gender.

♦ Minnesotans underestimate the amount of fruits and vegetables they should eat for good health. Ninety-nine percent of adult Minnesotans agree that fruits and vegetables make an important difference to their health, but only 25 percent of adults know how many cups they should eat every day.

♦ Minnesota social norms may not encourage healthy eating. Over half of Minnesotans report that a dinner party or social gathering that does not include fruits and vegetables is acceptable.

♦ Only half of Minnesotans regularly eat breakfast. Eating breakfast promotes healthy weight, while skipping breakfast is linked to obesity.

For more information

▪ Minnesota Department of Health Nutrition Program, www.health.state.mn.us/nutrition
Obesity

Background

The increasing rate of overweight and obesity threatens the health of children, youth and adults, placing them at much greater risk for premature death and many diseases and health conditions. These conditions include hypertension, hyperlipidemia (high cholesterol), type 2 diabetes, coronary heart disease, stroke and cancer. The obesity epidemic appears in both boys and girls, men and women, and among all racial and ethnic groups.

Percent of overweight and obese adults, Minnesota

Source: Minnesota data - Behavioral Risk Factor Surveillance System

Percent of overweight or obese youth, Minnesota

Source: Minnesota Student Survey and Youth Risk Behavior Surveillance System
Additional highlights

- More men reported being overweight (45.4 percent) than women (30.4 percent), but the rates of obesity were similar.
- According to the 2007 National Survey of Children’s Health, 23.1 percent of Minnesota children age 10–17 reported being overweight or obese.
- In 2008, 34.4 percent of children age 2–5 participating in the Women, Infants, and Children program were obese or overweight.
- In 2010, six percent of 12th grade females and 13 percent of 12th grade males were obese.
- The percentage of Minnesota youth who were obese according to body mass index (BMI) data gathered for the Minnesota Student Survey did not change between 2007 and 2010.
- Minnesota youth appear less likely to be obese than youth across the nation.

For more information

- Minnesota Department of Health Overweight and Obesity Prevention Program, www.health.state.mn.us/obesity
Oral Disease

Background

Oral health is integral to overall health. There is a wide range of both acute and chronic conditions that manifest themselves in or near the oral cavity, including inherited, infectious, neoplastic and neuromuscular diseases and disorders. The most common oral diseases are tooth decay (dental caries) and gum diseases (periodontal diseases), which cause significant morbidity and can result in tooth loss. Most oral diseases are preventable, yet oral diseases remain prevalent, especially in vulnerable and underserved populations.

Percent of adults aged 65+ who have had all their natural teeth extracted due to tooth decay or gum disease, Minnesota

![Graph showing the percentage of adults aged 65+ who have had all their natural teeth extracted due to tooth decay or gum disease in Minnesota and the U.S. from 1999 to 2008.]

Source: Behavioral Risk Factor Surveillance System, apps.nccd.cdc.gov/brfss/

Percent of adults with any permanent teeth extracted due to tooth decay or gum disease, Minnesota

![Graph showing the percentage of adults with any permanent teeth extracted due to tooth decay or gum disease in Minnesota and the U.S. from 1999 to 2010.]

Source: Behavioral Risk Factor Surveillance System, apps.nccd.cdc.gov/brfss/
Additional highlights

- More than 75 percent of Minnesota adults reported visiting a dentist or dental clinic in the past year, which is slightly higher than the median national percentage (71.3 percent in 2008).

- In 2008, 74.3 percent of the population had their teeth cleaned by a dentist or dental hygienist.

- Since 1999, the percentage of people aged 65 and over who have completely lost their teeth has been declining (22.5 percent in 1999 to 13.0 percent in 2008).

- Fifty-five percent of third graders in Minnesota have a history of dental caries and 18 percent have untreated tooth decay according to the Basic Screening Survey.

- The average dental sealant rate among third graders in Minnesota is 64.1 percent, significantly better than the national average (23 percent).

- Although oral diseases are preventable, they remain highly prevalent, particularly among vulnerable and underserved populations.

- Disparities exist between urban and rural areas when it comes to access to dental health care; only one-quarter of Minnesota dentists practice in rural areas.

For more information

Physical Activity

Background

Physical activity is a public health priority impacting nearly every aspect of health. Lack of physical activity, combined with a poor diet, is the second leading cause of preventable death and disease in the United States and a huge economic burden on the state. Physical inactivity is associated with an increased risk of obesity, heart disease, stroke, diabetes, depression and cancer.

Percent of adults at recommended physical activity level, Minnesota

Source: Minnesota data - Behavioral Risk Factor Surveillance System

Percent of youth physically active for at least 30 minutes five or more days a week, Minnesota

Source: 2010 Minnesota Student Survey
Additional highlights

♦ Nearly one in three Minnesota adults do not get enough physical activity.

♦ Minnesotans who are older, female, do not have a college degree, have high blood pressure, have diabetes or high body mass index are less likely to meet physical activity guidelines.

♦ Fifty-seven percent of inactive and insufficiently active Minnesotans are interested in adding more walking to their physical activity routine.

♦ Sixty-three percent of Minnesotans walk for transportation in a typical week.

♦ One-fifth (21 percent) of adult Minnesotans do enough walking for transportation to meet recommendations, i.e., more than 2.5 hours per week.

♦ Biking for transportation—i.e., for at least ten minutes at a time to travel to and from work, to do errands, or to go from place to place—appears to be much less common than walking for transportation. Only four percent biked for transportation in the week before the survey.

♦ Those who do active transportation are more likely to meet guidelines than those who do not.

For more information

• Behavioral Risk Factor Surveillance System, www.cdc.gov/brfss

• 2010 Minnesota Student Survey, www.health.state.mn.us/divs/chs/mss

• Minnesota Physical Activity Program, www.health.state.mn.us/physicalactivity
Stroke

Background

Stroke, also known as a cerebrovascular accident or brain attack, occurs when the blood supply to part of the brain is suddenly interrupted. Deprived of oxygen, the nerve cells in the affected part of the brain cannot function and often die. There are two main types of stroke. An ischemic stroke occurs when there is a blockage of a blood vessel supplying the brain. A hemorrhagic stroke occurs when a blood vessel in the brain ruptures.

Stroke mortality rate

![Stroke mortality rate graph]

Source: Centers for Disease Control & Prevention and The Minnesota Center for Health Statistics

Number of hospital discharges after stroke, Minnesota

![Number of hospital discharges after stroke graph]

* Cerebrovascular Disease (Stroke) (ICD-9: 430-438)
Source: Minnesota Uniform Billing (UB) Claims Data, Health Economic Program - Minnesota Department of Health and the Minnesota Hospital Association
Additional highlights

♦ As of 2007, Minnesota had the 12th lowest stroke mortality rate among all states.
♦ The mortality rate due to stroke declined 38 percent from 2000 to 2009.
♦ Stroke is the fourth leading cause of death in Minnesota, comprising five percent of all deaths in 2009.
♦ Stroke kills more women than men, and disproportionately impacts individuals over the age of 75.
♦ Compared to non-Hispanic whites, mortality rates are significantly higher for African-Americans, American Indians and Asians/Pacific Islanders.
♦ The highest stroke mortality counties are located outside the Twin Cities metropolitan area.
♦ Compared to whites, premature deaths due to stroke are higher in African-Americans, American Indians, and Asians/Pacific Islanders.
♦ The decline in stroke hospitalizations is mainly due to a reduction in admissions for transient ischemic attacks.

For more information

• MDH Heart Disease and Stroke Prevention Program www.health.state.mn.us/cvh
Tobacco Use and Exposure

Background

Tobacco is the single most preventable cause of death and disease in Minnesota. The Surgeon General has found that smoking causes coronary heart disease, stroke, chronic obstructive pulmonary disease, pneumonia, sudden infant death syndrome, reduced infant birth weight and at least ten kinds of cancer. Nearly one of every seven deaths in Minnesota is caused by smoking. In 2007 the excess medical costs in Minnesota related to smoking were an estimated $2.87 billion.

Percent of adults who are current smokers, Minnesota

![Graph showing the percentage of adults who are current smokers in Minnesota from 1999 to 2010.](image)

Source: Minnesota Adult Tobacco Survey

Percent of high school students who smoked cigarettes in the last 30 days, Minnesota

![Graph showing the percentage of high school students who smoked cigarettes in the last 30 days from 2000 to 2008.](image)

Source: Minnesota Youth Tobacco and Asthma Survey
Additional highlights

♦ Smoking rates have dropped steadily for both youth and adults since 1998, when the state’s tobacco lawsuit brought new resources to the fight against tobacco use.

♦ The number of packs of cigarettes sold in Minnesota has declined from a peak of almost 121 packs per capita per year in 1981 to fewer than 50 in 2009.

♦ Passage of the state’s comprehensive smoke-free workplace law in 2007 and the adoption of multiple voluntary and community-based policies creating smoke-free homes and tobacco-free outdoor spaces reduced reported exposure to secondhand smoke in any location to a new low of 46.6 percent in 2010.

♦ Disparities in tobacco use and exposure to secondhand smoke persist, with Minnesota smokers tending to be male, be younger, have lower incomes and fewer years of education.

♦ Adults with no education beyond high school are four times more likely to be smokers than adults who graduated from college, and lower income Minnesotans are three times more likely to be smokers than upper income adults.

♦ Young adults (ages 18-24) have the highest smoking rate (21.8 percent) of all age groups.

♦ A cause for concern is the increase in smokeless tobacco use among current smokers, which rose from 4.4 percent in 2007 to 9.6 percent in 2010.

For more information

▪ The Minnesota Center for Health Statistics Tobacco Reports, www.health.state.mn.us/divs/chs/tobacco/index.html

▪ Minnesota Adult Tobacco Survey, www.madulttobaccosurvey.org
