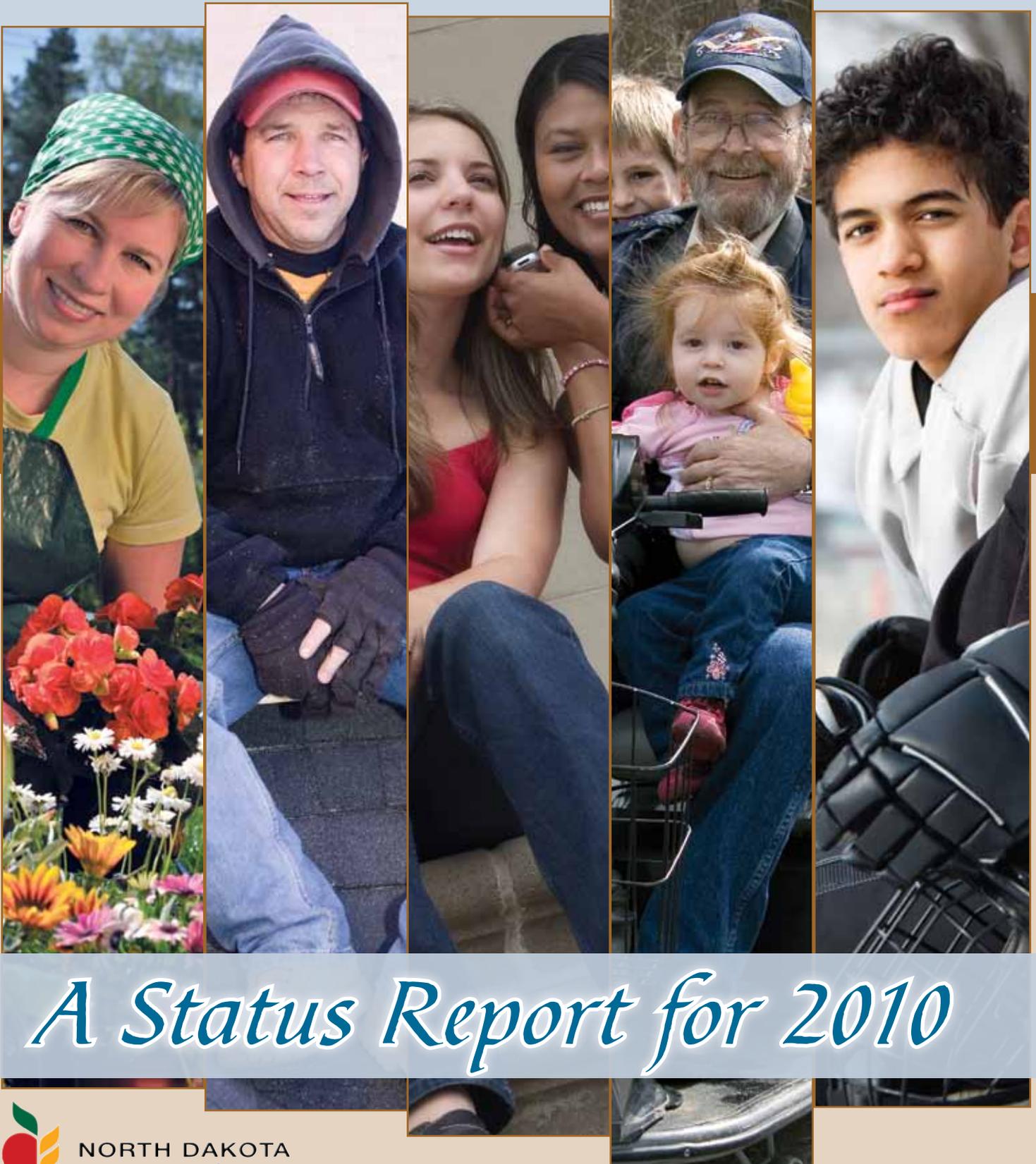


CHRONIC DISEASE *in North Dakota*



A Status Report for 2010



NORTH DAKOTA
DEPARTMENT of HEALTH



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DEPARTMENT *of* HEALTH

CONTENTS

CONTENTS

Reducing and Controlling Chronic Disease in North Dakota	5
Introduction	6
Heart Disease and Stroke Prevention Program	7
What Is Cardiovascular Disease?	8
Prevalence of Cardiovascular Disease in North Dakota	9
Leading Cause of Death in North Dakota	9
Economic Costs of Cardiovascular Disease	9
Risk Factors for Cardiovascular Disease	10
Signs and Symptoms of Heart Attack and Stroke	11
Working To Reduce the Burden	12
Diabetes Prevention and Control Program	13
Highlights of the NDDPCP	13
What Is Diabetes?.....	13
Types of Diabetes	13
Cost of Diabetes – Economic and Health-Related.....	13
Complications of Diabetes	14
Who Is Affected by Diabetes?	15
Prevalence of Diabetes in North Dakota.....	15
Challenges in Reducing the Prevalence of Diabetes.....	16
Reducing the Burden of Diabetes Through Prevention.....	16
Tobacco Prevention and Control Program	17
The Effects of Tobacco.....	18
Adult Tobacco Use Rates.....	19
Youth Tobacco Use Rates.....	20
Successful Cessation Programs	21
Successful Tobacco Programs.....	21
North Dakota Tobacco Quitline	22
North Dakota QuitNet.....	22
Healthy People 2010	23
Chronic Disease and Risk Factors.....	23
Moving on to Healthy People 2020	25
Disparities in Chronic Disease	26
Working To Solve Health Disparities	27
Conclusion	29
Acknowledgments	30
Data Sources	31

Reducing and Controlling Chronic Disease in North Dakota

Many North Dakotans are affected by chronic diseases and the health problems that lead to those diseases. Heart disease, stroke, diabetes, and the effects of tobacco use, secondhand smoke and poor lifestyle choices have most likely touched every North Dakotan in some way. Either they have had a personal experience with it, or a relative, friend or neighbor has dealt with the trials of disease and poor health.

The diseases and lifestyle habits detailed in this report – heart disease and stroke, diabetes, tobacco use and lifestyle choices – are intertwined. Tobacco users are at greater risk of heart disease, stroke and diabetes. Tobacco is likely contributing to many of the heart attack and stroke deaths we experience in our state, as well as to the prevalence of diabetes. People with diabetes also see an increased risk of heart disease. And those who have poor health habits also find themselves more likely to have a heart attack or stroke, or acquire diabetes.



We are aware of the statistics. Cardiovascular disease is the number one cause of death in North Dakota. Tobacco use is the number-one preventable cause of premature death and disease in our state and the nation. The prevalence of diabetes has risen sharply in our state over the past decade.

We've certainly had successes in combatting these diseases – youth tobacco use is down from 40.6 percent in 1999 to 22.4 percent in 2009; our Quitline and QuitNet services are very successful at helping people quit using tobacco; there are fewer people dying from heart disease and stroke; and a total of 32 of the 42 eligible hospitals have enrolled to participate in the state stroke registry in the past 12 months.

And still, we face some challenges, such as identifying and helping disparate populations find the help they need to deal with health issues; a rising prevalence of people who are overweight or obese; creating sustainable, effective programs with limited funding; and educating people about the consequences of unhealthy lifestyle choices.

Progress is being made, but we must continue to work harder. It's important that we remain good stewards of the responsibilities given to us and use the best science and resources available to prevent, detect and treat these diseases and health issues regardless of gender, disability, race, ethnicity, age or socioeconomic status.

It is essential that we continue informing people about the dangers of unhealthy life choices and encouraging lifestyle changes such as stopping tobacco use, continuing regular physical activity and eating healthy diets filled with fruits and vegetables. And then we must be there to help them make those changes – help them turn their life in a better direction that will surely result in healthier citizens and fewer medical and lost productivity costs for our state and taxpayers.

Terry Dwelle, M.D., M.P.H.T.M.
State Health Officer

INTRODUCTION

INTRODUCTION

The chronic diseases and disease contributors highlighted in this report are managed by two divisions within the North Dakota Department of Health (NDDoH) – the Division of Chronic Disease and the Division of Nutrition and Physical Activity. Both are part of the NDDoH Community Health Section.

The Division of Chronic Disease has a mission to improve the health and quality of life for North Dakotans who have chronic diseases by:

- ◆ Promoting healthy behaviors and disease self-management.
- ◆ Supporting health-care improvement measures.
- ◆ Developing community policies and practices.
- ◆ Increasing disease risk awareness.
- ◆ Reducing the negative health and economic consequences of the state's number-one cause of preventable disease and death – tobacco use.

The division accomplishes its mission by providing grants, training, education and technical assistance to communities and health-care providers.

The Division of Chronic Disease programs highlighted in this report include:

- ◆ Heart Disease and Stroke Prevention Program.
- ◆ Tobacco Prevention and Control Program.

The Division of Nutrition and Physical Activity has a mission to support growth and development; prevent overweight and obesity; and prevent and control diabetes through programs designed to improve healthful eating and physical activity.

The division accomplishes its goals through monitoring the nutrition and health status of North Dakotans; providing education and training; developing policy; advocating for nutrition and physical activity issues; promoting partnerships to plan, implement and evaluate community-based interventions; providing technical assistance; and supporting Healthy North Dakota nutrition and physical activity components.

The Division of Nutrition and Physical Activity programs highlighted in this report include:

- ◆ Diabetes Prevention and Control Program.
- ◆ Healthy People 2010.

This report provides information about what each program does for the citizens of North Dakota and presents data about how well people are doing regarding cardiovascular disease risk factors, diabetes risk factors and tobacco usage, as well as the care people are receiving. Data presented here is used to guide program activities and to measure progress over time.



HEART DISEASE & STROKE

HEART DISEASE AND STROKE PREVENTION PROGRAM

The Heart Disease and Stroke Prevention Program has a mission to provide public health leadership to improve cardiovascular health for all, reduce the burden and eliminate disparities associated with heart disease and stroke. It seeks to improve cardiovascular health of North Dakotans by facilitating partnerships and coordination among concerned parties, monitoring critical aspects of cardiovascular disease (CVD) and developing effective strategies to reduce CVD and related risk factors. The overarching statewide emphasis is on education, policy and systems change.

Heart Disease & Stroke Prevention Program

The goal of the program is to reduce disease, disability and death related to heart disease, stroke and related risk factors by:

- ◆ Increasing public awareness of the preventability of heart disease and stroke risk factors.
- ◆ Preventing risk factors for heart disease and stroke.
- ◆ Increasing detection and treatment of risk factors.
- ◆ Increasing early detection and treatment of heart disease and stroke.
- ◆ Increasing awareness of signs and symptoms for heart attacks and strokes and urgency to seek immediate medical care by calling 9-1-1.
- ◆ Decreasing recurrences of heart attacks and strokes.
- ◆ Identifying and eliminating cardiovascular-related disparities among specific population groups.

Core functions of the Heart Disease and Stroke Prevention Program are:

- ◆ **Programs** – Funding, technical support and resources are provided to local health systems, local health departments, tribes, communities, work places and other partners to increase their capacity to eliminate health disparities and prevent heart disease and stroke throughout the lifespan.
- ◆ **Partnerships** – Partnerships are formed with government agencies and public and private organizations to allow for maximization of resources in promoting heart-healthy and stroke-free communities.
- ◆ **Resources** – Educational materials, fact sheets, brochures and posters about heart disease, stroke, related risk factors and signs and symptoms of heart attack and stroke and the need to take immediate action are produced and disseminated.
- ◆ **Surveillance** – Trends in cardiovascular risk factors and diseases are tracked and differences in their distribution by age, gender, race/ethnicity, socioeconomic status and geographic location are documented. Data patterns are analyzed to identify groups of people most at risk of cardiovascular disease and those findings are shared with partners.
- ◆ **Evaluation** – Programs, policies and interventions are evaluated regularly to ensure they are working as planned and producing the intended results.

What Is Cardiovascular Disease?

Cardiovascular disease (CVD) is any abnormal condition of the heart or blood vessels. Cardiovascular disease includes coronary heart disease, stroke, congestive heart failure, peripheral vascular disease, congenital heart disease, endocarditis and many other conditions.

- ◆ **Atherosclerosis** – A complex process of thickening and narrowing of the arterial walls caused by the accumulation of lipids, primarily cholesterol, in the inner layer of an artery. With the addition of other debris and connective tissue, blood flow is restricted and can lead to a heart attack or a stroke.
- ◆ **Coronary Heart Disease** – The most common form of heart disease, which involves a reduction in the blood supply to the heart muscle by narrowing or blockage of the coronary arteries. It is often characterized by chest pain (angina pectoris), heart attack (myocardial infarction) and atherosclerosis in the coronary arteries.
- ◆ **Congestive Heart Failure (CHF)** – The inability of the heart to deliver an adequate blood flow, due to heart disease or hypertension. CHF is associated with breathlessness, salt and water retention, and edema.
- ◆ **Heart Attack** – Refers to death of, or death to, part of the heart muscle (myocardium) due to an insufficient blood supply, caused by blockage of one or more of the coronary arteries (infarction).
 - ◆ **Heart Disease** – Refers to any disease or condition of the heart, including coronary heart disease, heart failure, hypertensive heart disease, congenital heart disease, disorders of the heart valves, infections of the heart, cardiomyopathy, conduction disorders and rhythm disorders.
 - ◆ **Peripheral Arterial Disease (PAD)** – A condition that causes poor circulation in the legs. PAD affects millions of people in the U.S., most of who are not aware that they have the disease. Left untreated, PAD increases the risk of heart attack, stroke, amputation or death. PAD is characterized by pain, aching or fatigue in the leg muscles.
 - ◆ **Stroke or brain attack** – Refers to loss of muscle function, vision, sensation or speech resulting from brain cell damage caused by either an insufficient supply of blood to part of the brain (often due to blockage or narrowing of the arteries supplying blood to the brain), or a hemorrhage. The hemorrhage may involve bleeding into the brain itself or the space around the brain.



Prevalence of Cardiovascular Disease in North Dakota

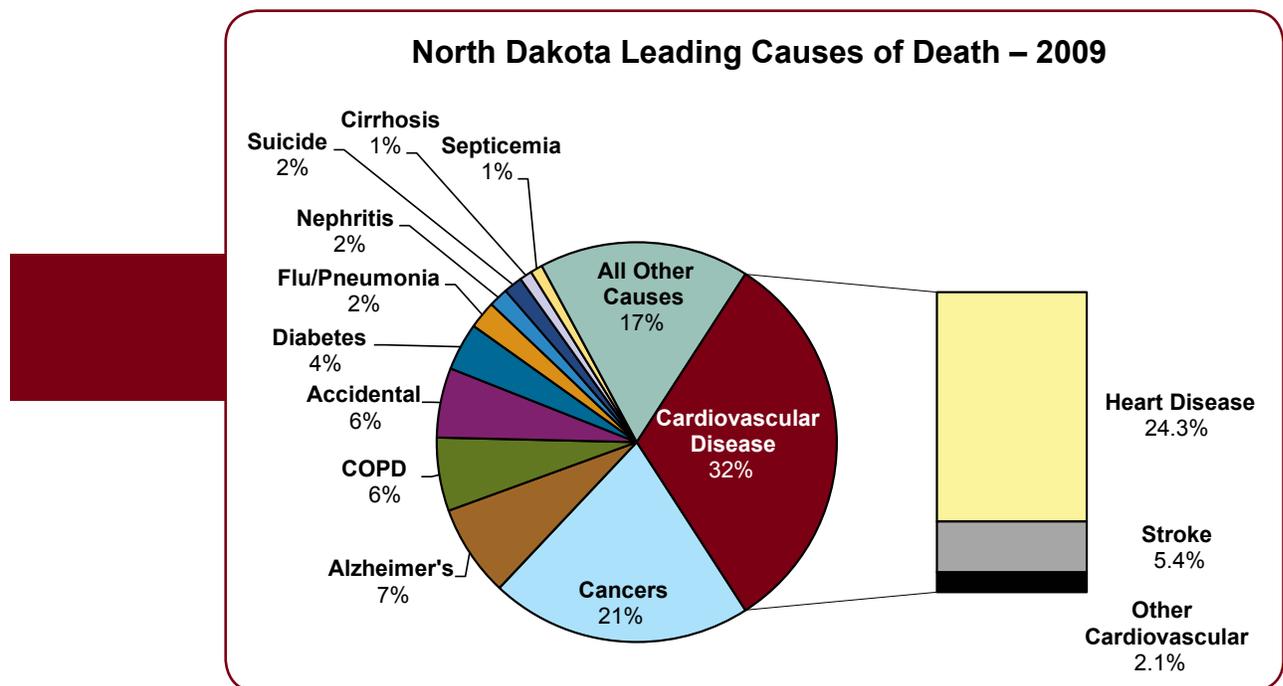
In 2009, the prevalence of cardiovascular disease among North Dakota adults ages 18 and older was 7 percent. Cardiovascular disease prevalence reflects the percentage of adults who responded yes to at least one of three questions in the Behavioral Risk Factor Surveillance Survey (BRFSS) asking about a history of heart attack, angina or coronary heart disease, or stroke.

Leading Cause of Death in North Dakota

In 2009, heart disease was the leading cause of death in North Dakota (24 percent of all deaths) while stroke (cerebrovascular disease) was the sixth leading cause of death (5.4 percent of all deaths).

North Dakotans ages 65 and older are more likely to die from heart disease and stroke than any other age group. In fact, 90 percent of stroke deaths and 84 percent of heart disease deaths in 2009 were people 65 and older.

Fifty-eight percent of North Dakotans with a history of stroke are 65 and older (2009), with stroke being the leading admission cause for long-term health care.



Economic Costs of Cardiovascular Disease

- ◆ According to the American Heart Association, cardiovascular diseases cost North Dakota \$1.1 billion in 2010. This includes the cost of health expenditures (physicians and other professionals, hospital and nursing home services, medications, home health care and other medical items) and lost productivity.
- ◆ In 2008, North Dakota Medicare (ages 65 and older) charges reached \$167 million for heart disease and stroke hospital discharges; more than \$22,000 per hospitalization.
- ◆ As the state's population ages, the economic impact of cardiovascular diseases on North Dakota's health-care system will become even greater.

Risk Factors for Cardiovascular Disease

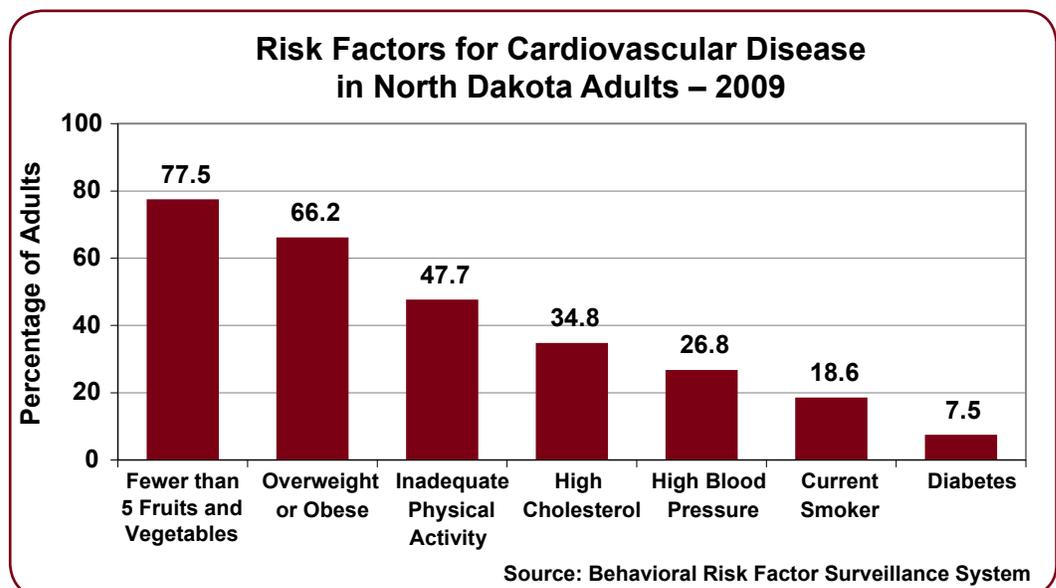
Although most of the major risk factors for heart disease and stroke are modifiable or preventable, more than 96 percent of North Dakotans report having at least one major risk factor or related condition (according to the 2009 BRFSS). In addition, more than one-half of adults in North Dakota (57 percent) are living with three or more of the seven primary risk factors for CVD.

The presence of more than one risk factor can speed up the progression of heart disease and the more risk factors a person has, the higher his or her chance of having a major heart event such as a heart attack or stroke.

Risk factors affecting the development of cardiovascular disease include:

- ◆ **High blood pressure** – A major risk factor for both heart disease and stroke. Currently, about one out of every four adults in North Dakota has been told by a health-care professional that they have high blood pressure.
- ◆ **High blood cholesterol** – Contributes to atherosclerosis (hardening of the arteries), the gradual buildup of fatty deposits in the arteries that may lead to heart attack and stroke. One in three North Dakota adults has been told by a health professional that they have high cholesterol.
- ◆ **Diabetes** – Seriously increases the risk of developing cardiovascular disease. The percentage of people with diabetes in North Dakota has more than doubled from 1997, when 3.5 percent of the adult population reported being diagnosed with diabetes; until 2009, when 7.5 percent reported this diagnosis.
- ◆ **Tobacco Use** – Cigarette smoking is the biggest risk factor for sudden cardiac arrest. Research shows that people who quit smoking before age 50 have half the risk of dying in the next 15 years compared to those who continue to smoke.
- ◆ **Obesity and Overweight** – North Dakota has seen the rates for obesity more than double since 1990 when 12 percent reported they were obese, to 28 percent in 2009. However, the combination of obesity and overweight is a bigger problem in North Dakota, rising from 47 percent in 1990 to 66 percent in 2009.
- ◆ **Physical Inactivity** – When people are not physically active, they are more likely to show increased risk for obesity, high blood pressure, high cholesterol and diabetes. About 48 percent of North Dakotans do not get regular physical activity.
- ◆ **Inadequate Fruits and Vegetables** – Compared with people who consume a diet with only small amounts of fruits and vegetables, those who eat more generous amounts as part of a healthful diet are likely

to have reduced risk of chronic diseases, including stroke and other cardiovascular diseases.



Signs and Symptoms of Heart Attack and Stroke

The promptness of treatment directly affects survival of a heart attack or stroke. Most heart attack deaths happen within the first two hours after the symptoms begin. Recognizing and responding promptly to heart attack symptoms and receiving the appropriate artery opening treatment within one hour of symptom onset can prevent or limit heart damage.

Substantial advances have been made in the diagnosis and treatment of ischemic stroke during the 1990s. However, nearly half of all stroke deaths occur before patients are transported to hospitals. Education efforts to increase public recognition of stroke warning signs can reduce delays in arriving at an emergency department.

Know the Warning Signs of a Heart Attack

- ◆ **Chest discomfort** – Most heart attacks involve discomfort in the center of the chest that lasts more than a few minutes, or that goes away and comes back. It can feel like uncomfortable pressure, squeezing, fullness or pain.
- ◆ **Discomfort in other areas of the upper body** – Symptoms can include pain or discomfort in one or both arms, the back, neck, jaw or stomach.
- ◆ **Shortness of breath** – This feeling often comes along with chest discomfort, but it can occur before the chest discomfort.
- ◆ **Other signs** – These may include breaking out in a cold sweat, nausea or lightheadedness.

Know the Warning Signs of Stroke

- ◆ Sudden numbness or weakness of the face, arm or leg – especially on one side of the body.
- ◆ Sudden confusion, trouble speaking or understanding.
- ◆ Sudden trouble seeing in one or both eyes.
- ◆ Sudden trouble walking, dizziness, loss of balance or coordination.
- ◆ Sudden, severe headache with no known cause.

If you feel that you or someone you are with is suffering a heart attack or stroke, call 9-1-1 immediately!

Working To Reduce the Burden

Services provided by the Heart Disease and Stroke Prevention Program include:

- ◆ **Administration and Management of the National Heart Disease & Stroke Prevention Grant from the CDC.**
 - **Heart Disease and Stroke Prevention Program** – Maintains and manages the infrastructure for a state-level program. Provides leadership in cardiovascular health promotion and cardiovascular disease prevention and control.
 - **MediQHome** – Collaborates with other state programs and private partners to implement a large-scale primary care intervention to address the detection, treatment and management of cardiovascular risk factors such as high blood pressure, high blood cholesterol and diabetes.
 - **Go Red Community Action Grant Program** – Provides funding to local communities to address detection and management of risk factors, identification of lifestyle changes and implementation of environmental supports to encourage and maintain lifestyle changes.
 - **Technical support and resources** – Disseminates information to grantees, local agencies and organizations, partners and the general public relating to heart disease, stroke, related risk factors and signs and symptoms of heart disease, heart attack and stroke.
- ◆ **State Stroke Program.**
 - Provides grants to local hospitals to improve acute stroke care through adherence to evidence-based guidelines, quality improvement activities, training, technical assistance and community education/awareness.
 - Designates hospitals as Primary Stroke Centers.
 - Implements a statewide health communication program to increase the awareness of the signs and symptoms of stroke and urgency to seek immediate medical care by calling 9-1-1.
 - Provides training and technical assistance to local hospitals, health-care providers and pre-hospital personnel on acute stroke care.
- ◆ **Stroke System of Care Task Force.**
 - Facilitates the sharing of best and promising practices to reduce duplication, identify gaps and advocate for positive policy and systems change. Provides leadership for the development of a statewide stroke system of care and serves on the task force as the state health officer designee.

State Stroke Program

Enhancing stroke care.

Improving outcomes.



DIABETES PREVENTION AND CONTROL PROGRAM

The North Dakota Diabetes Prevention and Control Program (NDDPCP) supports diabetes prevention, early diagnosis and disease management by working with communities, health professionals and health systems in the areas of policy, disease management, quality improvement and education. This is accomplished primarily through collaboration with other disease programs and statewide partners to develop and coordinate joint efforts.

Highlights of the NDDPCP

- ◆ **Building partnerships** – The NDDPCP works with public and private partners to improve diabetes knowledge and care.
- ◆ **Dakota Diabetes Coalition** – Chartered in 2004, this coalition was formed in response to a statewide assessment and planning initiative. Coalition members assist in the development and implementation of the state plan to prevent and control diabetes for North Dakotans.
- ◆ **Diabetes Care Provider Report** – In partnership with BlueCross BlueShield of North Dakota (BCBSND), diabetes care is tracked through patient insurance claims. The NDDPCP funds a disease management coordinator at BCBSND to manage the project and share information with care providers.
- ◆ **Surveillance and evaluation** – The NDDPCP collects and analyzes data to measure diabetes incidence, prevalence and impact, and evaluate program effectiveness.
- ◆ **Public awareness** – The NDDPCP collaborates with state partners to develop and deliver diabetes education campaigns; distributes materials that include messages on diabetes prevention and control; and maintains a website with relevant information about diabetes prevention and control.

What Is Diabetes?

Insulin is needed to move sugar from our blood to our cells. People with diabetes either do not produce insulin or their bodies cannot effectively use insulin. In both cases, sugar builds up in the blood and if not managed, can cause major complications that greatly reduce the quality of life for those living with diabetes.

Types of Diabetes

- ◆ **Type 1** is an autoimmune disorder and affects 5 to 10 percent of all people with the disease. It is characterized by the loss of insulin-producing cells and requires insulin delivered by injection or through a pump.
- ◆ **Type 2** is more common and affects 90 to 95 percent of people with diabetes. It develops gradually and is characterized by insulin deficiency and resistance. Treatment can include medical nutrition therapy, oral medications and injections.
- ◆ **Gestational diabetes** occurs in 2 to 5 percent of all pregnancies and causes complications for both mother and child. Normal glucose tolerance usually returns after pregnancy.

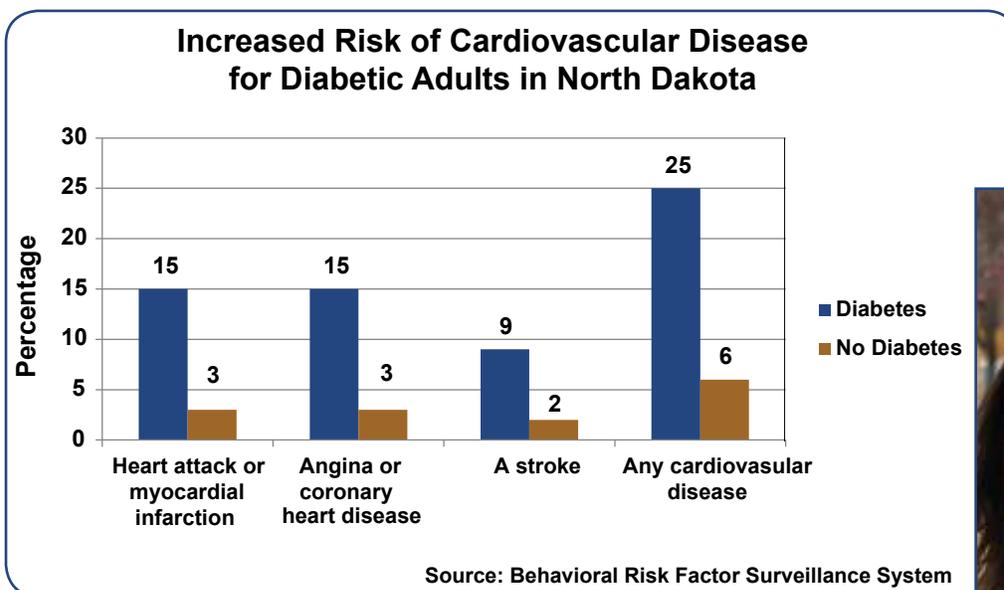
Cost of Diabetes – Economic and Health-Related

- ◆ Diabetes was the seventh leading cause of death in North Dakota in 2009.
- ◆ In 2007, diabetes cost North Dakotans \$400 million in direct and indirect costs. Direct costs include the cost of physicians and other professionals, hospital and nursing home services, the cost of medications, home health care, and other medical durables. Indirect costs include the lost productivity that results from illness and death.
- ◆ Diabetes costs the average North Dakota patient more than \$10,000 per year in direct and indirect costs.

Complications of Diabetes

Major complications of diabetes include the following:

- ◆ **Diabetic neuropathy** is a disease of the nervous system which can lead to amputations. The most common form affects the feet and legs. Research shows the incidence of a lower-limb amputation is eight times higher in diabetics 45 and older than non-diabetics 45 and older.
- ◆ **Diabetic nephropathy** occurs when the kidneys are no longer able to function on their own from kidney damage that can result in end-stage renal disease (ESRD). Diabetes is the leading cause of ESRD. Patients with ESRD must receive dialysis regularly, which is costly and decreases the quality of life. Treating a single patient with ESRD in North Dakota costs more than \$43,000 per year.
- ◆ **Diabetic retinopathy** affects up to 80 percent of patients with diabetes for over 10 years and can result in blindness. Research shows that 90 percent of new cases could be reduced with proper treatment and monitoring.
- ◆ People with diabetes are at increased risk of **cardiovascular diseases** such as heart disease, heart attack and stroke (see chart below). Approximately three-quarters of people with diabetes die of some form of heart or blood vessel disease. Having diabetes increases an elderly person's likelihood of experiencing cardiovascular disease to more than one-and-a-half times what it would be if they did not have diabetes.



Who Is Affected by Diabetes?

American Indians

- ◆ American Indians experience death from diabetes at more than five times the rate of Caucasians.
- ◆ American Indians are nearly twice as likely to get diabetes as Caucasians.

North Dakotans 65 and Older

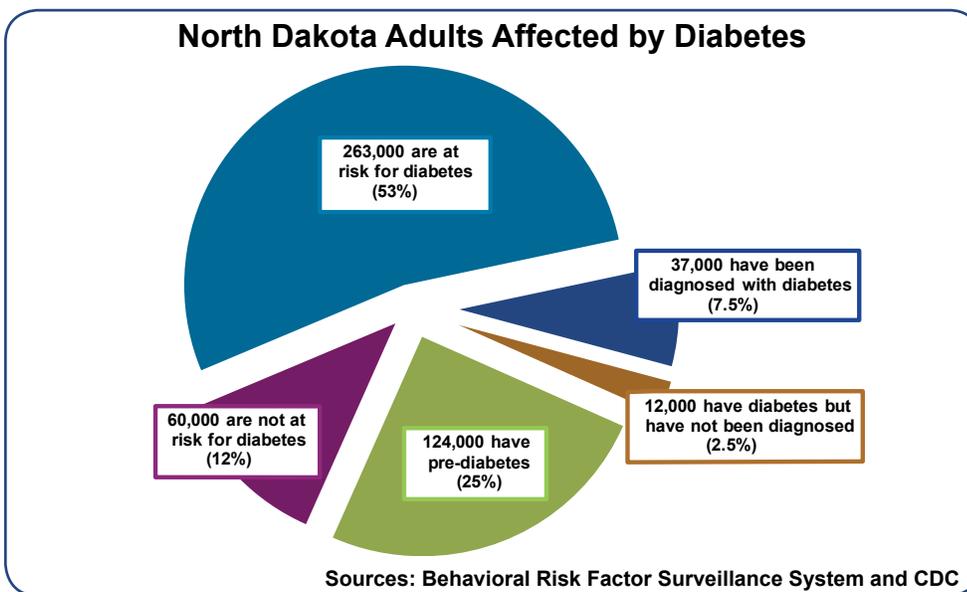
- ◆ The aging population has a diabetes prevalence rate of 18 percent, more than twice the rate of those ages 45 through 64.

Youth

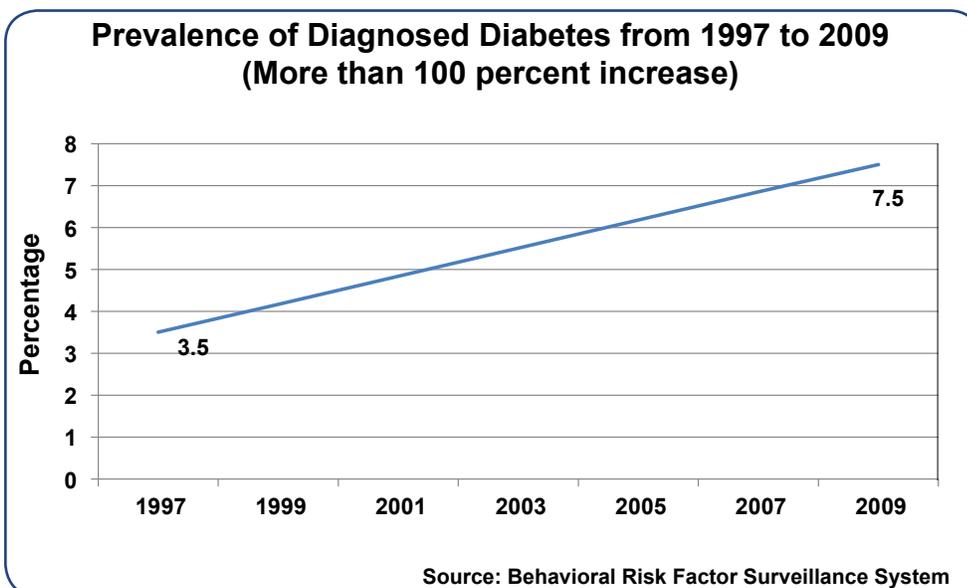
- ◆ There has been a dramatic rise in children suffering from Type 2 diabetes. It has been linked to the rise in children being overweight due to lack of physical activity and unhealthy eating habits.

Pregnant Women

- ◆ Women with gestational diabetes have a 20 to 50 percent chance of developing Type 2 diabetes within five to 10 years.



Prevalence of Diabetes in North Dakota



Challenges in Reducing the Prevalence of Diabetes

- ◆ Rising prevalence of diabetes.
- ◆ Increased obesity due to lack of physical activity and proper nutrition.
- ◆ Low income individuals are less likely to receive the care needed to manage diabetes.
- ◆ American Indian population experiences higher prevalences and diabetes death rates.
- ◆ Rural residents lack access to care for their diabetes.

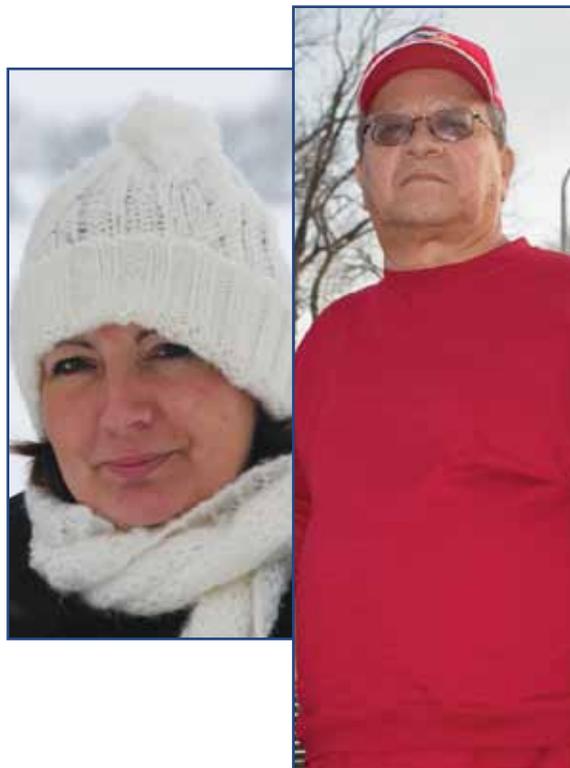
Because of the great impact of diabetes on our elderly and American Indian populations and due to the limited health-care services available to these populations, it will take a focused effort to overcome this disease in North Dakota.

Reducing the Burden of Diabetes Through Prevention

Reducing a pre-diabetic person's weight by 5 to 7 percent can reduce his or her risk of diabetes by 60 percent. A 200-pound person only needs to lose 10 to 15 pounds, which can be done through small behavior modifications. Modifiable risk factors that greatly reduce the risk of diabetes include:

- ◆ Eating more fruits and vegetables.
- ◆ Cutting fat and calories.
- ◆ Increasing physical activity to at least 30 minutes a day, five days a week.
- ◆ Lowering cholesterol.
- ◆ Lowering blood pressure to a normal reading.
- ◆ Quitting smoking or tobacco use.

Working on these modifiable risk factors is easier said than done. It is essential to provide educational training for people diagnosed with pre-diabetes to ensure that it doesn't progress to diabetes. Considering the personal and economic impact of diabetes on North Dakota citizens, prevention seems like the ethical and financial choice.



TOBACCO PREVENTION AND CONTROL PROGRAM

The North Dakota Tobacco Prevention and Control Program has a mission to improve and protect the health of North Dakotans by reducing the negative health and economic consequences of the state's number-one cause of preventable disease and death – tobacco use.

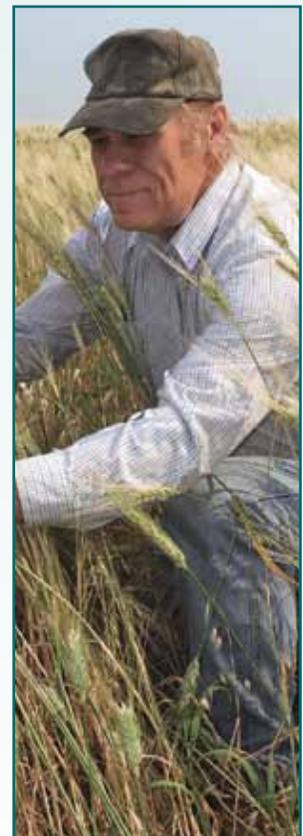
The goal of the program is to reduce disease, disability and death related to tobacco use by:

- ◆ Preventing initiation among youth and young adults.
- ◆ Promoting quitting among adults and youth.
- ◆ Eliminating exposure to secondhand smoke.
- ◆ Identifying and eliminating tobacco-related disparities among specific population groups.



Services provided by the Tobacco Prevention and Control Program include:

- ◆ **North Dakota Tobacco Quitline** – Free telephone service to help North Dakotans quit tobacco.
- ◆ **North Dakota QuitNet** – Free online service to help North Dakotans quit tobacco.
- ◆ **Baby and Me Tobacco Free** – Free service to help pregnant women and new moms quit tobacco.
- ◆ **City/County Cessation Program** – Free service to help city and county employees quit tobacco.
- ◆ **State Employees Cessation Program (NDPERS)** – Free service to help North Dakota state employees quit tobacco.
- ◆ **Public Health Service (PHS) Guidelines Initiative** – Free service to help health-care providers implement the Ask, Advise, Refer (AAR) strategy with their patients and clients.
- ◆ **North Dakota's Strategic Plan for the Identification and Elimination of Tobacco-Related Disparities** – A plan to identify disparate populations and help them overcome barriers that may be stopping them from quitting tobacco.
- ◆ **Tribal tobacco programs** – Tribal tobacco programs are granted funds and provided with technical assistance. Funds are used to help tribal members quit tobacco and to educate about the difference between ceremonial tobacco use and commercial tobacco use.
- ◆ **Emerging tobacco products – monitoring of and education** – Research about and preparation of educational materials regarding new tobacco products like electronic cigarettes, hookahs, dissolvable sticks, strips and orbs and snus, among others.
- ◆ **FDA Family Smoking Prevention and Tobacco Control Act – monitoring and education** – Staying in touch with national partners and relaying information about current activities and deadlines related to this new law.
- ◆ **Educational services** – Production of fact sheets, brochures, posters and reports about the effects of smoking, tobacco and secondhand smoke.
- ◆ **Tobacco surveillance** – Conducting surveys to measure the adult and youth smoking and tobacco usage rates in North Dakota. Surveys include Behavioral Risk Factor Surveillance System (BRFSS), Adult Tobacco Survey (ATS), Youth Tobacco Survey (YTS), Youth Risk Behavior Survey (YRBS) and North Dakota Secondhand Smoke Study.



The Effects of Tobacco

The U.S. Surgeon General has consistently documented the harmful effects that smoking, tobacco use and secondhand smoke can have on the human body.

- ◆ 2004 U.S. Surgeon General's Report – *The Health Consequences of Smoking* – “Smoking harms nearly every organ in your body. The toxins from cigarette smoke go everywhere the blood flows.”
- ◆ 2006 U.S. Surgeon General's Report – *The Health Consequences of Involuntary Exposure to Tobacco Smoke* – “The scientific evidence is now indisputable: secondhand smoke is not a mere annoyance. It is a serious health hazard that can lead to disease and premature death in children and nonsmoking adults.”
- ◆ 2010 U.S. Surgeon General's Report – *How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking-Attributable Disease* – “Cigarette smoke contains more than 7,000 chemicals and compounds. Hundreds are toxic and at least 69 cause cancer. Tobacco smoke itself is a known human carcinogen.”



Smoking and Spit Tobacco Can Cause:

Heart Disease
Stroke
Lung Cancer and Emphysema
Mouth and Throat Cancer
Stomach and Pancreatic Cancer
Kidney and Bladder Cancer
Cervix Cancer
Gum Disease
Cataracts
Pneumonia
Hip Fractures
Reproductive Complications

Exposure to Secondhand Smoke in Infants and Children Can Cause:

Asthma Attacks
Pneumonia
Bronchitis
Ear Infections
Weaker Lungs
Sudden Infant Death Syndrome

Exposure to Secondhand Smoke in Adults Can Cause:

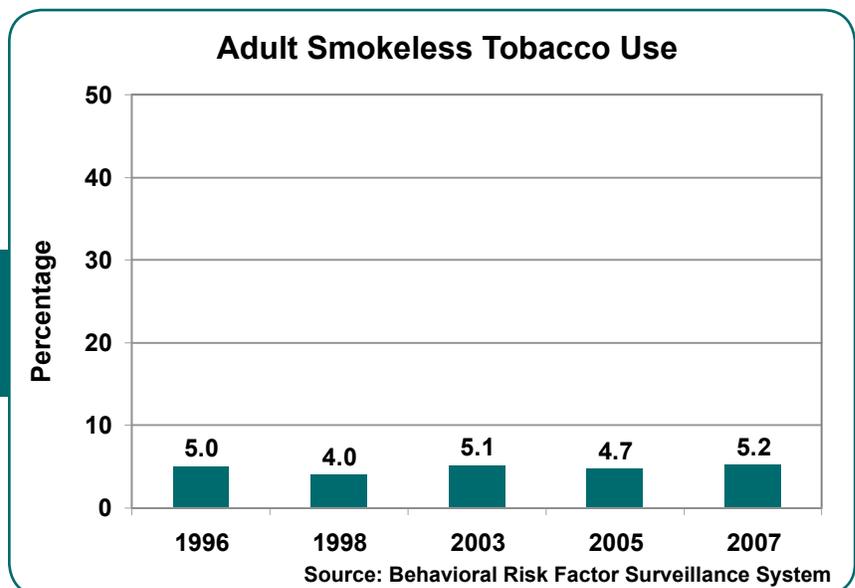
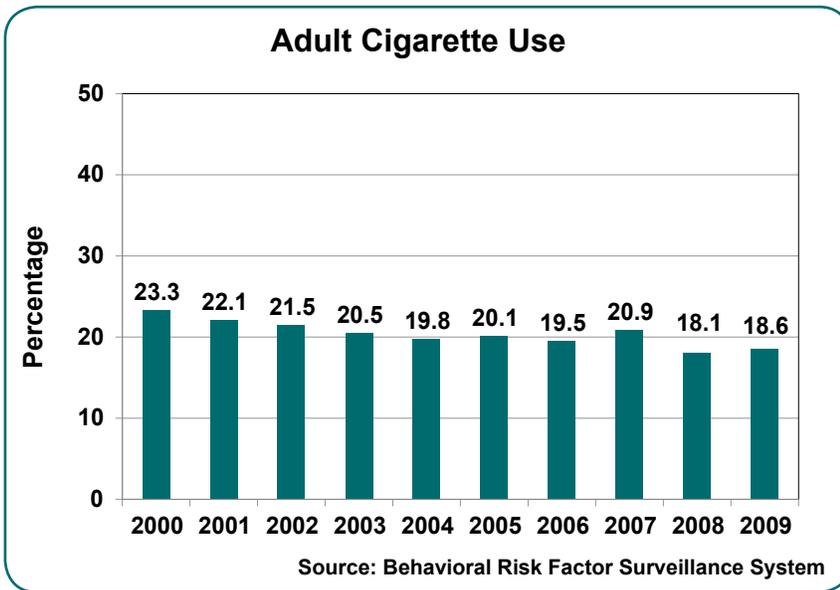
Stroke
Heart Disease
Lung Cancer
Asthma Attacks
Nasal Irritation
Low Birthweight Babies

Adult Tobacco Use Rates

According to the Behavioral Risk Factor Surveillance System (BRFSS):

- ◆ North Dakota adults smoke at a rate of 18.6 percent. The national average is 17.9 percent.
 - In 2009 in North Dakota, 55 percent of adult smokers tried to quit.
- ◆ North Dakota adults use smokeless tobacco at a rate of 5.2 percent. The national average is 3 percent.
 - Males use smokeless tobacco at a rate of 10 percent in North Dakota.

According to the CDC's Smoking Attributable Mortality, Morbidity and Economic Costs report, each year in North Dakota, 877 adults die prematurely from illnesses caused by smoking and about 110 people die from the effects of secondhand smoke.

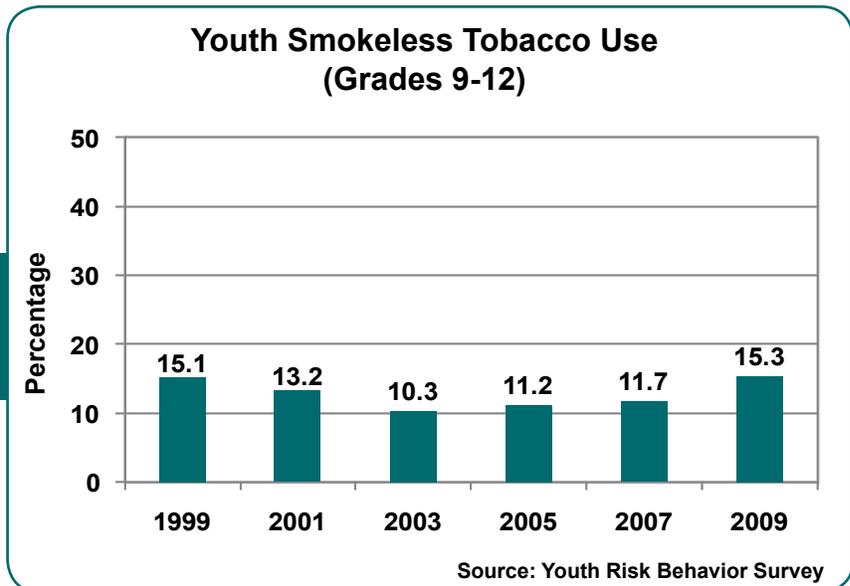
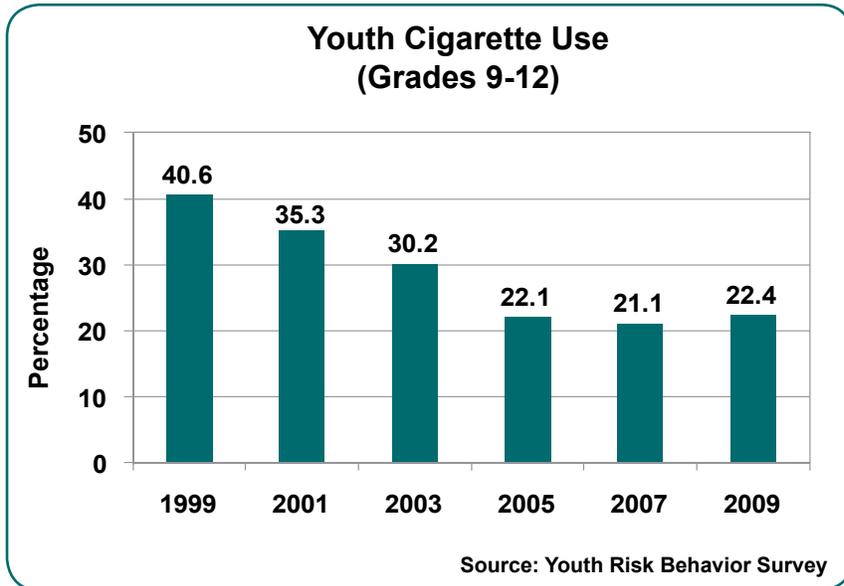


Spit tobacco is not a safe alternative to smoking.

Youth Tobacco Use Rates

According to the Youth Risk Behavior Survey (YRBS):

- ◆ North Dakota youth in grades nine through 12 smoke at a rate of 22.4 percent.
- ◆ North Dakota youth in grades nine through 12 use smokeless tobacco at a rate of 15.3 percent.
- ◆ The rate of current cigarette smoking more than triples between the time students are in grades seven and eight and the time they are in grades nine through 12.



Successful Cessation Programs

- ◆ **North Dakota Tobacco Quitline** – A telephone-based cessation service. See more information on the following page.
- ◆ **North Dakota QuitNet** – A web-based cessation service. See more information on the following page.
- ◆ **NDPERS Cessation Program** – A tobacco cessation service provided to state employees and their eligible family members that are at least 18 years old. The program is a combination of counseling, a physician's office visit, nicotine replacement therapy and prescription medication.
- ◆ **City/County Cessation Programs** – A cessation service provided to city and county employees and their eligible family members. The program is a combination of counseling, nicotine replacement therapy and prescription medication.
- ◆ **Baby and Me Tobacco Free** – A cessation program created to reduce the burden of tobacco use on pregnant woman and new mothers. See more information in the Disparities section of this report.
- ◆ **Public Health Service (PHS) Guidelines Initiative** – North Dakota's health-care providers and health-care settings are being helped to ensure they are following the PHS guidelines put in place by the U.S. Department of Health and Human Services. The program ensures that patients are asked about tobacco use, advised to quit and referred to a state or local cessation program at every health visit. This method is called Ask, Advise, Refer (AAR). The Tobacco Prevention and Control Program is training health-care staff about why tobacco is such a concern in regards to health-related issues and offering technical assistance as health-care providers set up their own PHS guidelines system.

Successful Tobacco Programs

- ◆ **North Dakota's Strategic Plan for the Identification and Elimination of Tobacco-Related Disparities** – This plan helps to identify disparate populations and help them overcome barriers that may be stopping them from quitting tobacco. See more information about this plan in the Disparities section of this report.
- ◆ **Tribal tobacco programs** – Five tribal tobacco programs are using grant funds provided by the Tobacco Prevention and Control Program in order to help their tribal members quit tobacco and to educate about the difference between ceremonial tobacco use and commercial tobacco use.
- ◆ **Emerging tobacco products – monitoring and education** – Many new tobacco products are now emerging as tobacco companies try to replace lost cigarette sales as smoke-free laws become stronger. Some of these products include electronic cigarettes, hookahs, dissolvable sticks, strips and orbs and snus, among others. In an effort to educate the public and partners about the dangers and realities of these new products, a tool kit is being created. These products are advertised as safe alternatives to smoking, but they still contain nicotine and other chemicals that are not safe.
- ◆ **FDA Family Smoking Prevention and Tobacco Control Act – monitoring and education** – This new Tobacco Control Act was passed in June 2009. Tobacco Prevention and Control Program staff stay attuned to the new phases of the law as it evolves and provide education to local partners, citizens and businesses throughout the state on how to deal with the differing aspects and deadlines of the law.



STATISTICS

North Dakota Tobacco Quitline

- The North Dakota Tobacco Quitline was launched in September 2004. The Quitline provides free, confidential counseling to any North Dakota resident interested in quitting tobacco.

Residents can call the toll-free number at 1.800.QUIT.NOW (1.800.784.8669) for help with quitting.

- During 2009, the Quitline received 5,162 calls, an average of 430 calls per month.
 - ◆ About 15 percent of these calls were from minority callers.
 - ◆ Eight percent of these calls were from American Indians.

Of the 5,162 people who called the Quitline in 2009, 2,236 enrolled in counseling.

Quitline = Success

Six months after counseling, 36.1 percent of former tobacco users are not using tobacco.

Quitline = Satisfaction

Of Quitline callers, 97 percent said they would recommend the program to others trying to stop using tobacco.

Quitline = FREE!

Quitline phone counseling is free to any North Dakotan. Eligible enrollees also are able to get a FREE two-month supply of nicotine patches, gum or lozenges to help them stop using tobacco.

North Dakota QuitNet

- North Dakota QuitNet came online in February 2010, providing free, confidential computer-based assistance and advice to help North Dakotans quit using tobacco.

Residents can log on to www.nd.quitnet.com to receive:

- ◆ Access to professional counselors.
- ◆ Assistance in designing a quit plan.
- ◆ Support from other quitters 24 hours a day, seven days a week, every day of the year.
- ◆ QuitTips e-mail messages that offer tips about staying quit.
- ◆ A FREE two-month supply of nicotine patches, gum or lozenges to help with the quitting process (for eligible enrollees).

Use Quitline and QuitNet Together!

The Quitline and QuitNet can be used together so people can get all the help that works for them.



North Dakota Tobacco
QUITLINE
 1.800.QUIT.NOW
 1.800.784.8669

NORTH DAKOTA
QUITNET
 nd.quitnet.com

HEALTHY PEOPLE 2010

HEALTHY PEOPLE 2010

Healthy People 2010 is a set of health objectives that the nation and states should strive to achieve. Health objectives are organized into 28 focus areas. The health of North Dakota citizens can be measured and monitored by looking at trends in multiple health areas.

Many programs within the North Dakota Department of Health utilize Healthy People 2010 to track program specific indicators and to plan program activities.

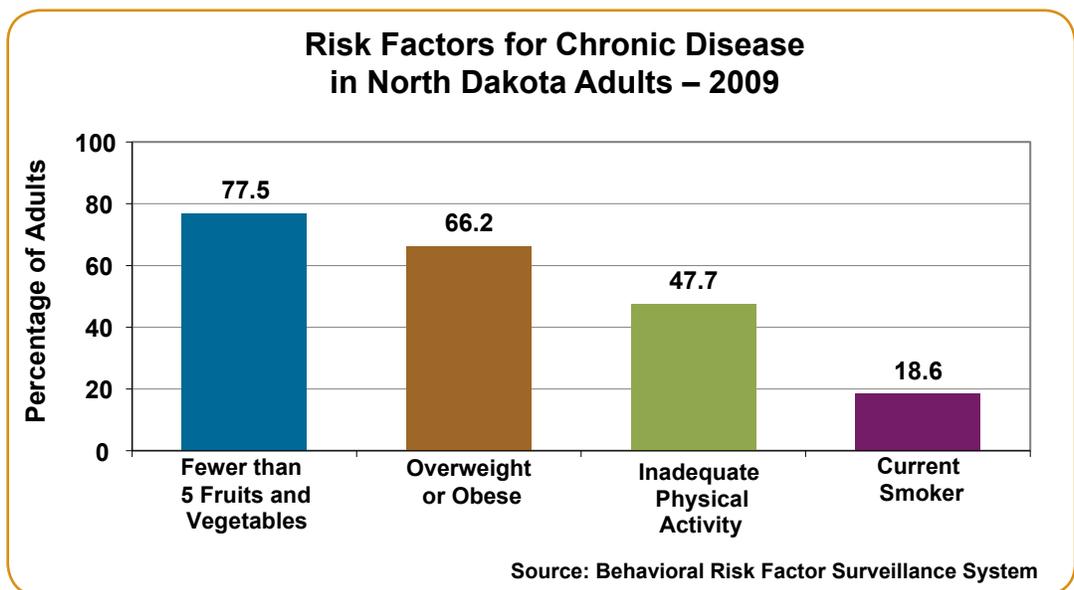
Chronic Disease and Risk Factors

Certain health behaviors and conditions known as risk factors are associated with increased chances of developing chronic disease. “Non-modifiable” risk factors are those that people are not able to change, such as age, gender and heredity/family history.

There are also “modifiable” risk factors – those factors that people can modify or control through lifestyle changes. These preventable risk factors include poor dietary habits (illustrated by the amount of fruits and vegetables consumed), overweight and obesity, physical inactivity and cigarette smoking.

Trends in Risk Factors

Trends in modifiable risk factors help assess the health of North Dakotans and areas where improvement is needed.

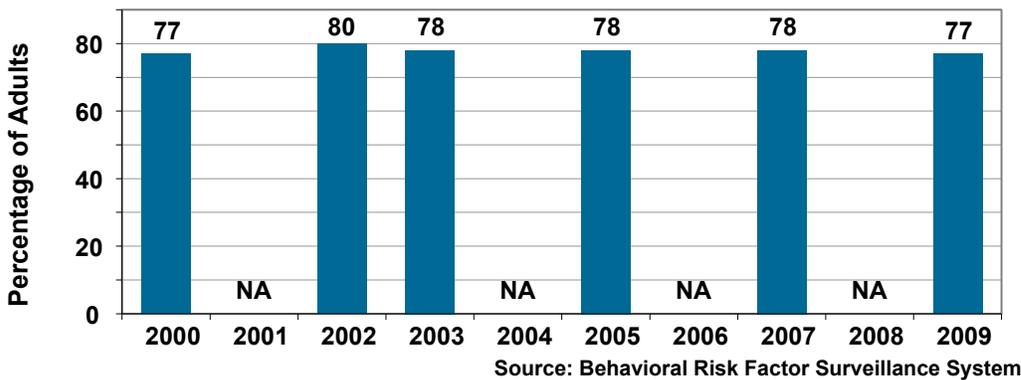


Fruits and Vegetables

The number of servings of fruits and vegetables eaten is used as a measure of dietary habits. Compared with people who consume a diet with fewer fruits and vegetables, those who eat more are likely to have reduced risk of chronic diseases.

Healthy People 2010 goals for all Americans were to increase the proportion of people who consume at least two daily servings of fruit to 75 percent of the population and the proportion who consume at least three daily servings of vegetables to 50 percent.

**Fewer Than Five Fruits and Vegetables Daily
North Dakota Adults**



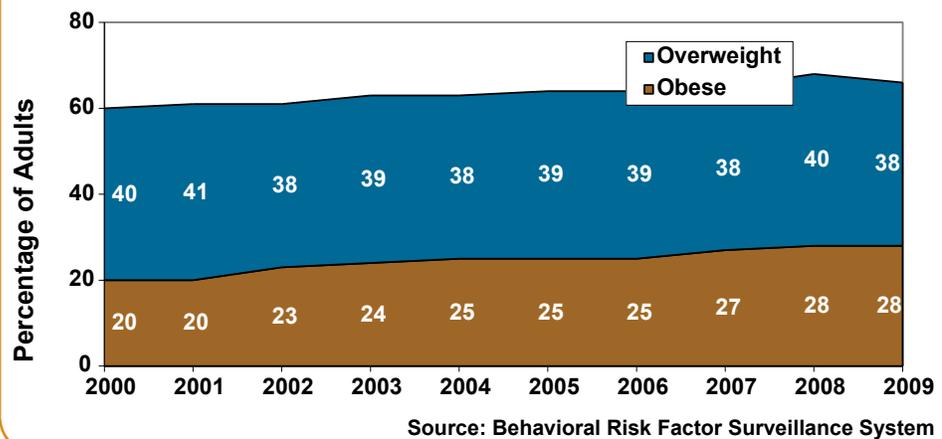
Weight

Adults who are overweight or obese are at increased risk for diabetes, as well as for high blood pressure, high cholesterol, coronary heart disease, stroke and other diseases such as osteoarthritis, sleep apnea, respiratory problems, and endometrial, breast, prostate and colon cancers.

Two-thirds of adults in North Dakota are overweight or obese. Obesity has increased over the past decade from 20 percent in 2000 to 28 percent in 2009. The HP2010 goal for all Americans

was to increase the percentage of adults who are at a healthy weight to 60 percent and to reduce the percentage of adults who are obese to 15 percent.

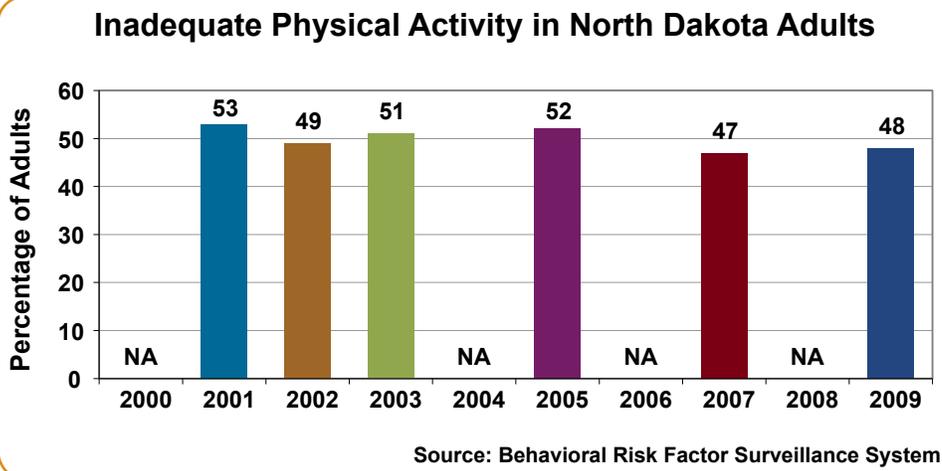
Overweight and Obesity in North Dakota Adults



Physical Activity

Regular exercise can help control blood cholesterol, diabetes and obesity, as well as help to lower blood pressure in some people. When people are not physically active, they are more likely to show increased risks for chronic diseases including diabetes and cardiovascular disease.

HP2010 goals were to increase the proportion of adults who engage regularly in moderate physical activity to 50 percent and to increase the proportion of adults who engage regularly in vigorous physical activity to 30 percent of the population. Over the past



decade, around one-half of North Dakota adults did not reach HP2010 goals for adequate physical activity.

Smoking

Smoking causes heart disease, lung cancer, emphysema and other chronic lung diseases, damages lung function, raises blood pressure and is a factor in other diseases.

The HP2010 goal was to reduce cigarette smoking by adults to no more than 12 percent. Although North Dakota has been unable to achieve this goal, we have seen a decrease in the percent of adults who smoke from 23.3 percent in 2000 to 18.6 percent in 2009.

Moving on to Healthy People 2020

Healthy People 2020 was launched in December 2010. The number of topic areas and objectives has been expanded. There are nearly 600 objectives in Healthy People 2020, with more than 1,300 measures. Each Healthy People 2020 objective has a reliable data source for national data, a baseline measure and a target for specific improvements to be achieved by the year 2020.

The North Dakota Department of Health will continue working on tracking objectives for Healthy People by forming a new Healthy People 2020 committee.

DISPARITIES

DISPARITIES IN CHRONIC DISEASE

The chronic diseases and health conditions highlighted in this report affect many North Dakotans, but some population groups are more susceptible to certain diseases or addictions and/or have a harder time finding help to overcome their illnesses or addictions. These high-risk groups are said to have a health disparity. These disparities often occur within racial, ethnic, sexual orientation and socioeconomic groups.

Some of the disparities affecting individuals in North Dakota include:

Heart Disease and Stroke

- ◆ **Adults older than 45 with cardiovascular risk factors.**
- ◆ **Adults older than 65** – Older adults are more likely to experience a heart attack or stroke than young or middle-aged adults.
- ◆ **American Indians** – American Indians living in North Dakota experience death due to cardiovascular disease at twice the rate of Caucasians.
- ◆ **Lower education status** – North Dakotans with less than a high school education are almost three times more likely to experience cardiovascular disease than individuals who have some post high school and/or are a college graduate.
- ◆ **Lower economic earnings** – Those earning less than \$25,000 a year have a prevalence rate of cardiovascular disease that is at least one-and-a-half times higher than those earning between \$25,000 and \$49,000 and three times greater than those earning \$50,000 or more.

Diabetes

- ◆ **American Indians** – American Indians are nearly twice as likely to get diabetes as Caucasians.
- ◆ **Adults older than 65** – The aging population has a diabetes prevalence rate of 18 percent, more than twice the rate of those ages 45 through 64.
- ◆ **Youth** – There has been an increase in youth suffering from Type 2 diabetes. It has been linked to overweight children who lack appropriate amounts of exercise and have unhealthy eating habits.
- ◆ **Pregnant women** – Women with gestational diabetes have a 20 to 50 percent chance of developing Type 2 diabetes within five to 10 years.
- ◆ **Adults with lack of exercise and unhealthy eating habits.**

Tobacco Use

- ◆ **American Indians** – According to the BRFSS, tobacco use among American Indians is more than twice as high as the state average, at nearly 50 percent.
- ◆ **18- to 24-year-old adults** – According to the BRFSS, people in this age group smoke at a higher rate than the general adult population, at approximately 19.4 percent.
- ◆ **Pregnant women** – According to NDDoH's Division of Vital Records, pregnant women in North Dakota smoke at a rate of 17 percent.
- ◆ **Lower education status.**
- ◆ **Lower economic earnings.**
- ◆ **Other groups** – Members of the military; members of the lesbian/gay/bisexual/transgender (LGBT) communities; homeless people; bar and casino workers; new Americans (i.e., refugees, immigrants); rural residents, and; people with mental or physical disabilities.



Working to Solve Health Disparities

In an effort to help solve the chronic disease health disparities in North Dakota, the following steps are being taken.

Heart Disease and Stroke

- ◆ **Section 5 of the North Dakota State Plan to Reduce Heart Disease and Stroke** – This section of the state plan outlines the goals, strategies and potential action steps to be addressed within the community, health-care and workplace settings that will influence and direct the program’s work toward the elimination of health disparities in heart disease and stroke.
- ◆ **Portraits of Health and community meetings** – Individual stories and images were collected from each of the four American Indian reservations located within the state’s borders. In addition, community meetings were held on two reservations with community members and health-care workers to listen and learn about personal health and access to care issues, and potential ways to address these issues. These findings are influencing the way the program develops interventions and resources.
- ◆ **GoodHealthTV** – Culturally competent and entertaining programming was developed to increase health literacy for heart disease and stroke among the American Indian population. The programming is played on large screen monitors placed in hospital and clinic waiting areas and community commons.
- ◆ **Health communications and resources** – Messages are created for priority populations and presented in health communication venues used by these groups.
- ◆ **Blood pressure management and reduction of sodium consumption** –
 - Participating in the National Sodium Reduction Initiative.
 - Exploring population-based strategies that can reach large numbers of people and improve the well-being of entire communities, such as sodium reduction, within the state procurement process.
 - Exploring the use of community health workers to improve management of blood pressure.
 - Improving physician adherence to high blood pressure treatment guidelines.



Diabetes

- ◆ **Dakota Diabetes Coalition (DDC)** – The DDC is a statewide organization working in partnership with the North Dakota Department of Health Diabetes Prevention and Control Program. DDC members share resources and tools proven to be effective. Most importantly, members share time and ideas. The DDC is working to increase tribal membership to identify ways to partner and further its reach.
- ◆ **State Plan** – A state plan for diabetes is being developed. It includes objectives to prevent and control diabetes in the American Indian population. Objectives include improving access to care, diabetes management to prevent complications, and efforts to prevent diabetes all together. Tribal partners are assisting in the development of the state plan and will play a key role in implementing the objectives.

- ◆ **Diabetes resources** – The NDDPCP identifies and/or develops resources that resonate with target populations, including culturally designed resources from the National Diabetes Education Program. North Dakota authored diabetes materials include:
 - *Diabetes...Finding the Balance: Caring for Your Body, Mind, Heart, and Spirit* – This popular Northern Plains American Indian diabetes wellness guide about controlling and preventing diabetes has been recently updated and will be reprinted for distribution across the state.
 - The *Arnold series* is a culturally crafted animated series with messages about diabetes, heart disease and tobacco prevention. The NDDPCP supports airtime for this series to be played on GoodHealthTV.
- ◆ **Diabetes health communication** – The program continues to explore methods to best engage targeted populations. Both the NDDPCP and the DDC websites have been redesigned to make them more user-friendly and make information more readily available for all consumers.
- ◆ **Tribal partnership** – NDDPCP staff partnered with the staff from one tribal diabetes team and have agreed to meet monthly to stay informed about projects and to share information and resources.
- ◆ **North Dakota Health Disparities and Health Equity Report** – The NDDPCP epidemiologist has recruited a team of selected representatives of disparate populations and diabetes experts to prepare a North Dakota Health Disparities and Health Equity Report.

Tobacco Use

- ◆ **Baby and Me Tobacco Free** – This is a tobacco cessation program created to reduce the burden of tobacco use on the pregnant and post-partum population. Women who quit tobacco are less likely to have low-birthweight babies and reduce the damaging effect of secondhand smoke on their children. The program combines cessation support specific to pregnant women, offers practical incentives, targets low-income women (the largest group of tobacco users during pregnancy), and monitors success. The program collaborates with local agencies that already provide prenatal services. Each participant receives at least four sessions of cessation counseling, support and carbon monoxide (CO) monitoring, usually during a regular prenatal visit. After the birth of the baby, the mother returns monthly to continue CO monitoring and, if tobacco-free, she receives a \$25 voucher for diapers each month for up to 12 months after delivery.
- ◆ **North Dakota’s Strategic Plan for the Identification and Elimination of Tobacco-Related Disparities** – This plan was originally created in 2005, and was updated in 2010. The updated plan focuses on maintaining a CDC best-practice approach, supports infrastructure to carry out the plan, continues to evaluate appropriate data, identifies appropriate partners and collaborations and specifies tools and processes to continue to advance the goals of the plan.
- ◆ **Tribal tobacco programs** – Tribal tobacco programs are using grant funds to help tribal members quit using tobacco and learn about the deadly effects of commercial tobacco.



CONCLUSION

CONCLUSION

Great work has been done to help control and manage chronic diseases in North Dakota. As we work to educate about healthier lifestyles and help people manage diseases and conditions, we continue to be faced with challenges. Challenges include continued high-budget advertising from tobacco companies, limited funding for prevention of cardiovascular risk factors, increases in the number of people receiving cardiovascular medical care, rising prevalence of those diagnosed with diabetes, rising numbers of people who are overweight or obese and increasing medical costs.

The North Dakota Department of Health chronic disease programs are working to meet those challenges head on. They continue their efforts to identify partners, eliminate barriers to quality health care and engage local champions to assist in developing culturally competent strategies. They engage communities to find solutions to the problems facing our citizens, monitor and evaluate the effects of the programs offered and adjust strategies as needed to provide the most appropriate and effective services.

The Heart Disease and Stroke Prevention Program is working to reduce the burden and eliminate disparities associated with heart disease and stroke, educating people about the symptoms of heart attack and stroke and the importance of calling for help immediately, and striving to help people reduce risk factors associated with heart disease and stroke.

The Tobacco Prevention and Control Program is helping people quit using tobacco, working to reduce the number of youth who start and implementing plans that were devised to help our disparate populations deal with tobacco use.

The Diabetes Prevention and Control Program is working to educate people about diabetes and health habits that may lead to an increased risk of getting the disease, and helping people with diabetes manage the disease so they can live healthy, quality lives.

Healthy People 2010 continues surveillance and evaluation of the health factors affecting North Dakotans, offering critical information that is used by other programs to set goals and priorities as they work to help our citizens.

All that has been done to this point provides a solid base for future successes. Progress has been made, but the work must continue. Providing chronic disease services and information to our citizens will help them live full, healthy lives and allow them to pass their knowledge and love on to future generations of North Dakotans.



ACKNOWLEDGMENTS

ACKNOWLEDGMENTS

Thank you to those individuals who helped create this status report and to those who work to make the programs highlighted successful.

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Thank you to all of our state and national partners who help us create successful strategies, overcome challenges and provide services to the citizens of North Dakota.

DATA SOURCES

Behavioral Risk Factor Surveillance System (BRFSS)

The Behavioral Risk Factor Surveillance System (BRFSS) is the world's largest telephone survey. The BRFSS is a state-based, random-digit-dialed telephone survey of the noninstitutionalized civilian population 18 and older. It is designed to monitor the prevalence of the major behavioral risks among adults associated with premature morbidity and mortality. Information from the survey is used to improve the health of the American people.

North Dakota Department of Health, Division of Vital Records

The Division of Vital Records provides information about vital events that occur in North Dakota, including births. Statistics about pregnant women who smoke are based on information provided by the mother during recording of the birth.

North Dakota Tobacco Quitline Reports

The North Dakota Tobacco Quitline vendor regularly provides reports of the number of people using the Quitline, how they found out about the service, what the quit rate is and what the satisfaction rate is.

Smoking-Attributable Mortality, Morbidity and Economic Costs (SAMMEC)

SAMMEC provides an online database that allows users to estimate the adverse health outcomes and disease impact of smoking on adults and children. The adult SAMMEC application provides users the ability to estimate the number of annual deaths, years of potential life lost, medical expenditures and productivity losses among adults due to smoking.

Youth Risk Behavior Survey (YRBS)

The YRBS, developed in 1990, monitors priority health risk behaviors that contribute markedly to the leading causes of death, disability and social problems among youth and adults in the United States. The survey is administered to students in grades seven through 12 every other year in a random sample of North Dakota schools. Statistics used in this report are based on survey results from grades nine through 12.



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