

North Dakota Diabetes Report

June 1

2014

HB1443

Report to Legislative Management on diabetes-related efforts within the North Dakota Department of Health, the North Dakota Department of Human Services, the North Dakota Indian Affairs Commission, and the North Dakota Public Employees Retirement System.

**Report to the Legislative Management
HB1443**

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North Dakota Diabetes Report

This report is generated to comply with a statute enacted by the North Dakota Legislature in 2013. That statute, NDCC 23-01-40, requires that in even-numbered years, four state agencies (the North Dakota Department of Health, the North Dakota Department of Human Services, the North Dakota Indian Affairs Commission, and the North Dakota Public Employees Retirement System) collaborate to develop a report on the impact of diabetes on North Dakotans and propose recommendations to address this epidemic.

This report describes the scope of the diabetes epidemic in North Dakota, the cost and complications of diabetes, and how the four reporting agencies address diabetes in populations they serve. In addition, the report presents recommendations on how to improve the health of North Dakota residents with, or at risk for developing, diabetes.

A committee with representatives from each of the entities named in the legislation was assembled to review the legislation and develop the report. The group met to share data about diabetes in the populations each entity serves, discuss how diabetes was addressed by each entity, and develop a plan for future efforts. (See Appendix 3 for a list of the participants.)

Because North Dakota is one of the first states to pass this kind of legislation, North Dakota's process and experience may serve as a model for other states pursuing or implementing similar legislation. The National Association of Chronic Disease Directors (NACDD) works with states to assist them through this process. A representative from the NACDD, Ms. Marti Macchi, met with a Department of Health member of the collaborative group. Ms. Macchi offered background information and shared experiences from other states which are implementing similar legislation. She also reviewed an initial draft of this report and provided input from the national perspective.

Take Away Messages

This report includes a great deal of data and information and may seem overwhelming. Before moving into the details of the report, it may be helpful to summarize a few key points.

One "take away" message from this report is the recognition that it will take a concerted effort from a number of entities if we are to be successful in reducing diabetes among North Dakotans.

A second message is type 2 diabetes can be prevented! Type 2 diabetes and obesity go hand in hand. As North Dakotans' waistlines increase, so does their risk for type 2 diabetes and many other chronic diseases that share the same risk factors (lack of physical activity and poor nutrition). Most cases of type 2 diabetes and other chronic diseases (heart disease, stroke,

hypertension, cancer, obesity) can be prevented with behavior changes. Behavior changes need to be addressed not only at the individual level, but also at the population level. North Dakotans need to work together to enact policies that make the healthy choice the default choice; or the easier choice.

For those who already have diabetes or another chronic disease, policies should support the proper care and management of the disease to both prevent costly complications and to improve the quality of life for our residents living with a chronic disease.

Economic Effects

Diabetes is an expensive disease. According to the CDC, in 2012, diabetes cost the nation **\$245 billion dollars** in direct medical costs (\$176 billion) and reduced productivity (\$69 billion). **This is an 87 percent increase since 2002.** This amount does not account for those that have not been diagnosed with type 2 diabetes, or the 35percent that have prediabetes that will soon have diabetes if changes are not made.

In 2007, diabetes cost **North Dakota over \$400 million dollars.** If North Dakota follows the national trend, in 2012 diabetes would have cost North Dakota **\$560 million** (\$403 million for direct costs and \$157 million for indirect costs). Not only does diabetes affect North Dakota's pocket book, it also affects the quality of life for those living with diabetes, their families and friends, and their employers.

Diabetes and Our Children

According to former Surgeon General Richard H. Carmona, "Today pediatricians are diagnosing an increasing number of children with type 2 diabetes—which used to be known as adult-onset diabetes. Research indicates that one-third of all children born in 2000 will develop type 2 diabetes during their lifetime. Tragically, people with type 2 diabetes are at increased risk of developing heart disease, stroke, kidney disease, and blindness. These complications are likely to appear much earlier in life for those who develop type 2 diabetes in childhood or adolescence. Because of the increasing rates of obesity, unhealthy eating habits, and physical inactivity, we may see **the first generation that will be less healthy and have a shorter life expectancy than their parents.**"

National Security

A growing prevalence of diabetes and obesity in young adults has caused concerns for national security. According to a group of senior military leaders, currently one in three recruits are turned away because they are "too fat to fight." The obesity and diabetes trends directly affect the military in terms of recruitment, retention, and military readiness. Diabetes of any type is cause for rejection into military service, in accordance with Department of Defense directive (DoD instruction no. 6130.3, *Physical Standards for Appointment, Enlistment, and Induction*, 2 May 1994). Members of the military who develop diabetes during active duty are referred for possible medical discharge or retirement.

Workforce Capacity

Diabetes can and does affect the workforce. For example, people diagnosed with type 2 diabetes have more stringent requirements to obtain commercial driver's licenses (CDL) than those who do not have diabetes, making them less likely to obtain jobs requiring a CDL. In addition, those with type 2 diabetes may be at increased risk for heart disease and stroke, which will affect their employers and coworkers.

People with type 2 diabetes have higher rates of absenteeism (number of workdays missed due to poor health) and presenteeism (reduced productivity while at work). By decreasing diabetes prevalence, North Dakota can improve the health of our workforce and increase worker productivity and quality of life.

Definitions

The following are terms used in this document and their definitions.

Diabetes

The body is not producing enough insulin or not able to effectively use insulin (which is needed to remove sugar from our blood cells).

Prediabetes

A blood glucose level that is higher than normal, but not high enough to be classified as diabetes.

Prevalence

The proportion of a population found to have a condition, like diabetes; a concept used in studies.

A1C Level

A blood test to determine glucose levels in the blood.

Type 1 Diabetes

An autoimmune disorder characterized by the loss of insulin-producing cells; it requires insulin for disease management.

Type 2 Diabetes

Insulin deficiency and resistance that develops gradually and requires medical and nutritional therapy, along with oral medications and injections.

Gestational Diabetes

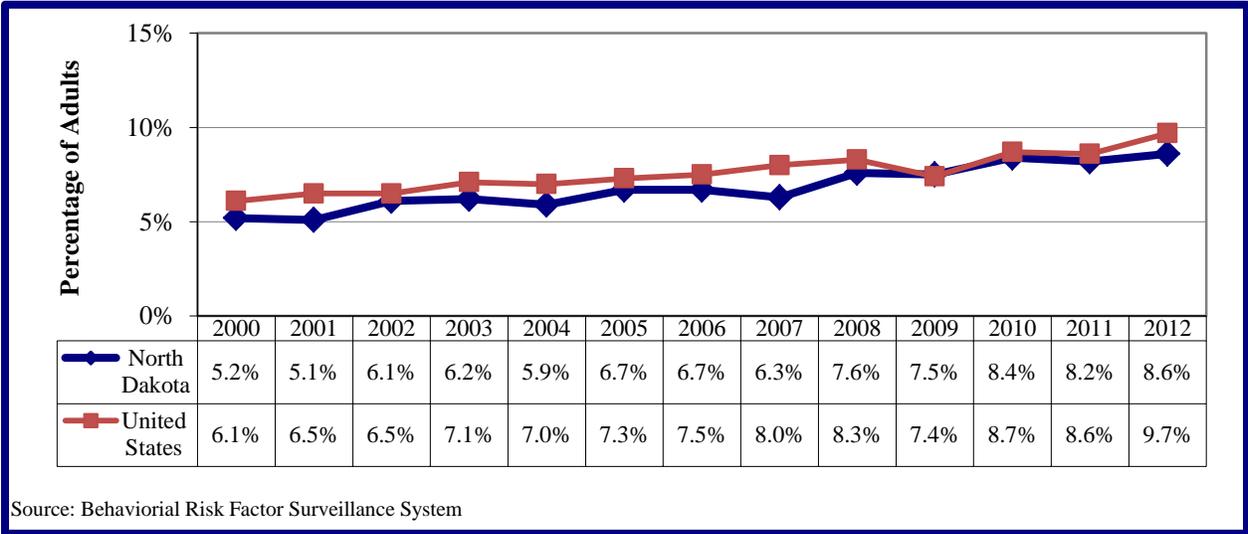
Occurs in 2 to 5 percent of all pregnancies and causes complications for both mother and child.

Diabetes Burden in North Dakota

Diabetes is a major health problem in North Dakota, affecting all population groups. The prevalence of diagnosed diabetes among adults (18 and older) in North Dakota has increased over 2.5 times over the past 16 years, from 3.1 percent in 1996 to 8.6 percent in 2012. North Dakota’s rising prevalence has remained close to, but slightly below, the national prevalence over the past 12 years.

In 2012, an estimated 45,232 adults in North Dakota were living with diagnosed diabetes, with an additional 13,149 adults who had undiagnosed diabetes. According to CDC, 35 percent of the population has prediabetes which translates to over 184,000 North Dakotans.

Prevalence of Diabetes Among Adults in North Dakota and the United States



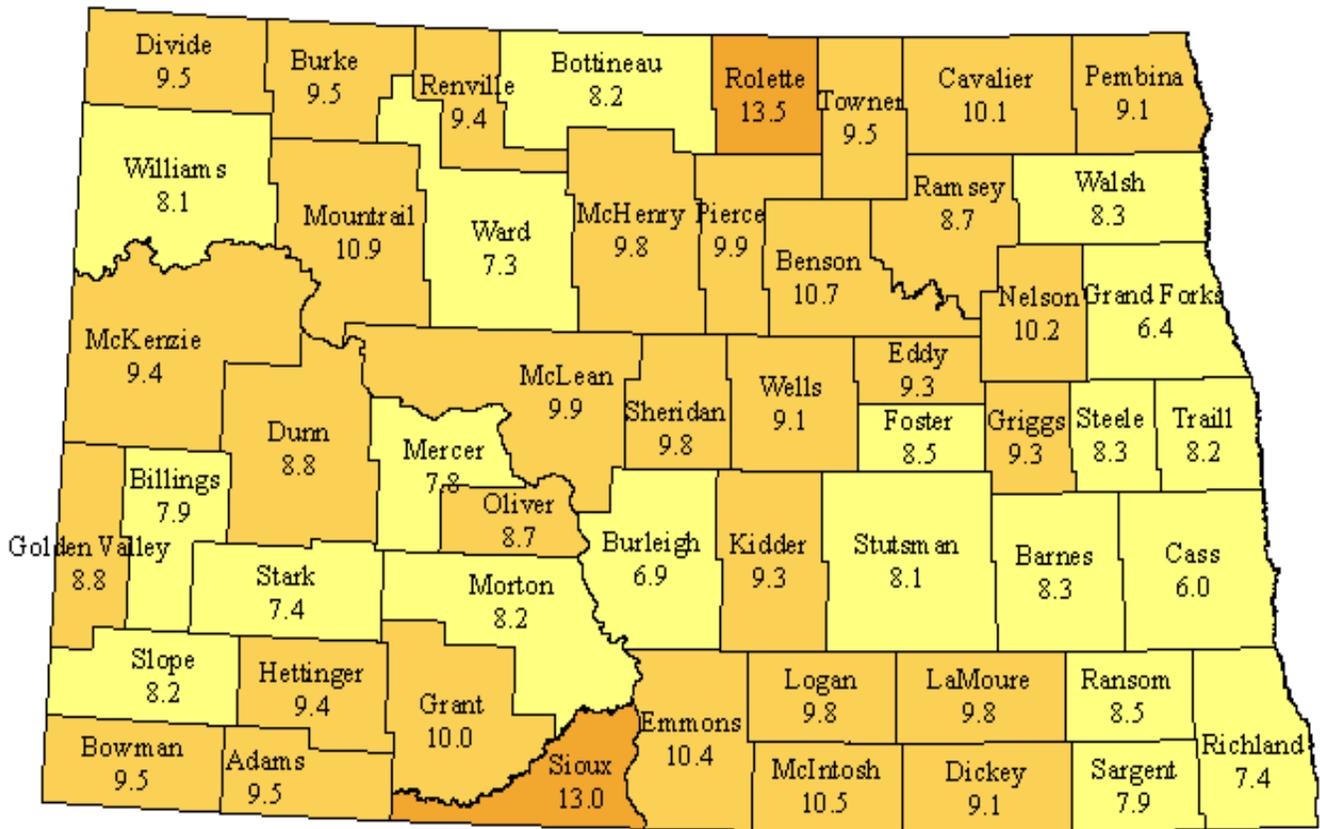
Age is a major risk factor for diabetes. The prevalence of diabetes increases with age, which emphasizes the importance of addressing modifiable risk factors for type 2 diabetes early and throughout the lifespan.

Gender is not an important risk factor for diabetes among North Dakotans. The difference in prevalence between males and females is not statistically significant.

Race is a significant risk factor for diabetes among North Dakotans. American Indians have a prevalence rate of diabetes that is nearly twice that of non-native residents.

Certain **geographic regions** of the state have higher prevalence rates of diabetes. Sioux and Rolette counties have the highest prevalence rates. These counties also have the highest percentage of American Indians among their population compared to other counties in North Dakota. Cass and Grand Forks counties have the lowest diabetes prevalence. These two counties also have the highest population density in the state and are home to the two largest universities in the state, so the population is younger compared to other counties.

Prevalence of Diabetes in North Dakota by County, 2008



Diabetes is Serious. People with diabetes have a much higher mortality rate than those without diabetes.

The North Dakota and United States diabetes age-adjusted mortality rates have remained stable since 1999. The North Dakota diabetes mortality rate, which has ranged between 26 and 27 percent over the past 16 years, is slightly higher than for the rest of the United States. The mortality rate for N.D. men with diabetes is slightly higher than for women with diabetes.

The diabetes mortality rate for Native Americans is **more than five times** the rate for non-native residents in North Dakota.

Diabetes is Costly. Diabetes is an expensive disease. According to the CDC, in 2012, diabetes cost the nation **\$245 billion dollars** in direct medical costs (\$176 billion) and reduced productivity (\$69 billion). **This is an 87 percent increase since 2002.** This amount does not account for those that have not been diagnosed with type 2 diabetes, or the 35percent that have prediabetes that will soon have diabetes if changes are not made.

In 2007, diabetes cost **North Dakota over \$400 million dollars.** If North Dakota follows the national trend, in 2012 diabetes would have cost North Dakota **\$560 million** (\$403 million for direct costs and \$157 million for indirect costs). Not only does diabetes affect North Dakota's pocket book, it also affects the quality of life for those living with diabetes, their families and friends, and their employers.

These are the economic costs. It is not possible to put a value on human suffering and lives lost. People who lose their lives to diabetes leave behind family and friends who struggle to carry on in the absence of loved ones. People living with diabetes suffer pain and disability, along with the challenges of managing a chronic disease.

Diabetes and its complications are controllable

Many complications can be prevented or delayed by taking steps to control or manage diabetes. Established care practices for people who have diabetes can prevent or delay the development of serious health complications, such as lower limb amputation, blindness, kidney failure, and cardiovascular disease. Some of these care practices are clinical services provided by a physician or other health professionals, while others are self-care practices conducted by the patients themselves.

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Clinical Services

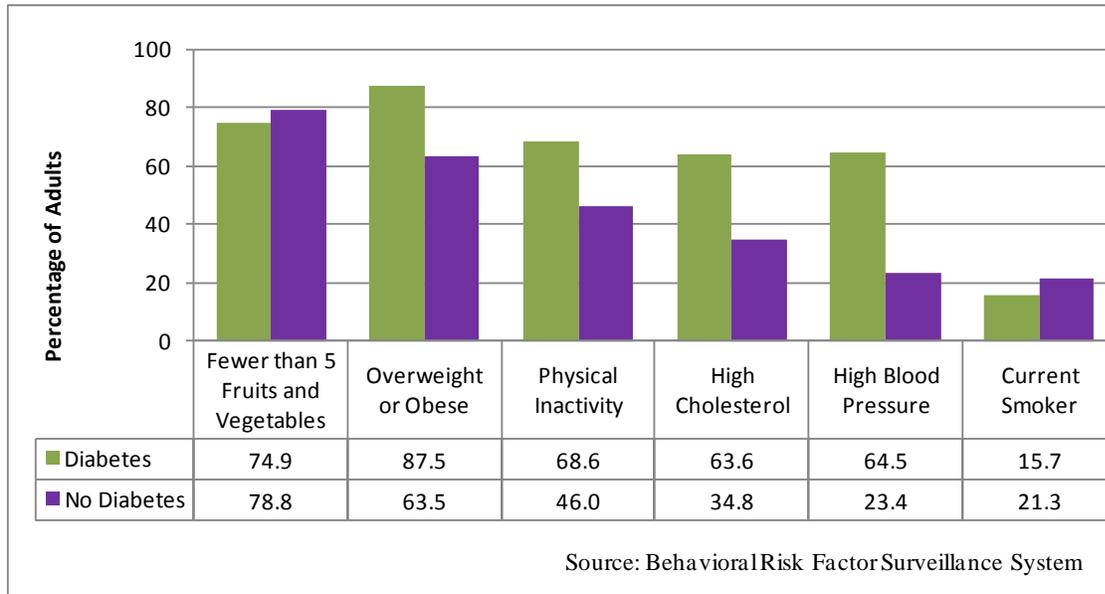
Care Practice	North Dakota 2008	Healthy People 2020 Target
Annual dilated eye exam	69.8%	76.8%
Annual medical foot exam	78%	90%
Two or more hemoglobin A1C tests per year	59%	76%
Annual flu vaccine	71%	--
Pneumococcal vaccine – ever	59%	--

Self-Care Practices

Care Practice	North Dakota 2008	Healthy People 2020 Target
Annual medical visit for diabetes	88%	--
Daily glucose self-monitoring	60%	66%
Daily foot self-exam	59%	--
Diabetes education	57%	61.6%

Diabetes is Preventable – North Dakotans who have been diagnosed with diabetes exhibit some of the same high risk behaviors when compared to the adult population not diagnosed with diabetes. Rates of overweight/obesity in diagnosed people are still higher than rates in the undiagnosed population; they also show higher rates of physical inactivity, high cholesterol and high blood pressure than those without diabetes. However, people with diabetes are less likely to smoke than those without a diabetes diagnosis. Both groups have similar high rates of consuming fewer than five fruits and vegetables daily.

Modifiable Risk Factors Associated with Diabetes



Diabetes Among North Dakota Public Employees Retirement System Members

In 2013, among the adults covered by the NDPERS, 7 percent, or 4,859 individuals, have been diagnosed with diabetes based on claims filed with that diagnosis. Figure 1 shows the geographic distribution of diabetes for NDPERS members by county. Just as with statewide data, diabetes prevalence increases with age among NDPERS members.

Figure 1: NDPERS Geographic Distribution of Diabetes by County



NDPERS Costs Associated with Diabetes

The 4,859 NDPERS members with diabetes incur significant costs for their medical care. The total costs of all diabetic NDPERS members in 2012 and 2013 were close to \$45 million each year. It is important to note that these numbers do not include costs that may be related to diabetes, yet are not directly coded as diabetes-related. For example, conditions like hypertension, heart disease, kidney disease, influenza, and others may be made worse by diabetes, and may in turn make diabetes more difficult (and more expensive) to manage/control, however, those numbers are difficult to capture. **Among NDPERS members, diabetes is the fifth highest cost of illness or disease.**

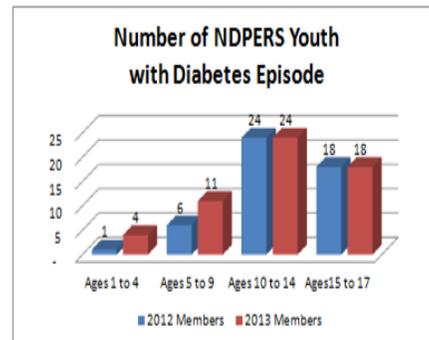
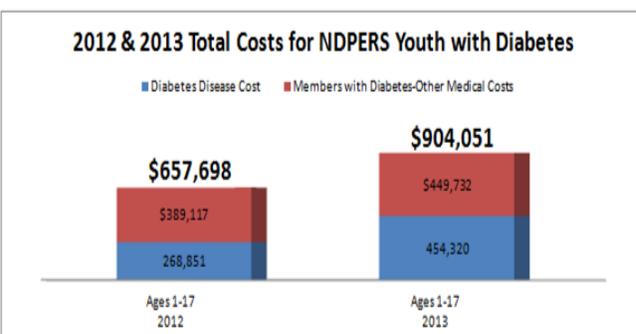
NDPERS Top 10 Disease by Total Paid

Disease	Average Number of Members	Total Disease Payment*	Total Payment**	Average Paid/Member
Hypertension	3829	\$2,396,986	\$59,784,593	\$15,615
Depression	5990	\$6,074,192	\$57,182,351	\$9,546
Back and Spine, Pain or Condition	8586	\$8,854,752	\$50,914,266	\$5,930
Hyperlipidemia	2723	\$550,295	\$38,698,289	\$14,212
Diabetes	2861	\$5,809,275	\$35,042,609	\$12,250
Cancer, All	650	\$15,965,750	\$28,257,405	\$43,501
Osteoarthritis	916	\$7,139,282	\$16,650,186	\$18,174
CAD, All	595	\$4,958,017	\$15,084,986	\$25,360
Pneumonia	209	\$1,634,897	\$13,584,627	\$64,921
Chronic Renal Failure, ESRD	214	\$1,958,454	\$10,860,604	\$50,710

Diabetes in Youth

There is no reliable source for data on the prevalence of either type 1 or type 2 diabetes among youth in North Dakota. Research by CDC shows that type 2 diabetes remains fairly rare among youth with a prevalence rate of only 0.26%, although prevalence is increasing more among African American, Hispanic/Latino American, and American Indian youth compared to white youth. In addition, CDC sponsored research has shown that among youth aged 12 to 19 years, the overall prevalence rate of prediabetes may be as high as 23%.

NDPERS Youth with Diabetes



NDPERS Overview of Diabetes and Associated Complications

Diabetes in Pregnancy

Diabetes is becoming a more common complication during pregnancy. Gestational diabetes is a known complication of pregnancy, but increasingly, pregnancies occur in women with pre-existing type 1 or type 2 diabetes. Women with gestational diabetes or pre-existing diabetes are at increased risk for preeclampsia or Cesarean section. In addition to these complications, women with pre-existing diabetes are at increased risk for preterm birth, miscarriage, or stillbirth. Babies born to women with diabetes are at increased risk of high birth weight, which can result in nerve damage to the shoulder during a vaginal delivery or lead to delivery by Cesarean section. These babies also have higher risk of birth defects of the brain, spine or heart, low blood sugar after birth, and increased lifetime risk of being obese or overweight as adults and of developing type 2 diabetes.

Associated Complications

Diabetes is the leading cause of adult blindness, end-stage kidney disease, and non-traumatic lower-extremity amputations. People with diabetes are two to four times more likely to have coronary heart disease and suffer from a stroke than people without diabetes. As mentioned above, diabetes can cause serious complications during pregnancy, resulting in preterm births, Cesarean sections due to larger babies, life threatening conditions such as preeclampsia, birth defects, and increased risk of type 2 diabetes for both the mother and the child once she/he reaches adulthood.

Diagnosis Description - Primary Diagnosis	NDPERS 2013 - Diabetes Costs				
	Total Paid	Facility Inpatient	Facility Outpatient	Professional	Ancillary
Diabetes mellitus without complication	\$ 1,661,120	\$ 34,194	\$ 133,315	\$ 1,203,547	\$ 290,064
Diabetes with ketoacidosis	\$ 160,685	\$ 148,572	\$ 4,018	\$ 5,891	\$ 2,204
Diabetes with hyperosmolarity	\$ 177			\$ 177	
Diabetes with other coma	\$ 506			\$ 284	\$ 222
Diabetes with renal manifestations	\$ 39,253		\$ 13,460	\$ 23,975	\$ 1,818
Diabetes with ophthalmic manifestations	\$ 93,242		\$ 19,718	\$ 61,819	\$ 11,705
Diabetes with neurological manifestations	\$ 63,180	\$ 23,945	\$ 12,489	\$ 25,327	\$ 1,419
Diabetes with peripheral circulatory disorders	\$ 56,079	\$ 49,550	\$ 116	\$ 6,401	\$ 12
Diabetes with other specified hypoglycemic manifestations	\$ 297,797	\$ 238,833	\$ 15,890	\$ 23,967	\$ 19,107
Diabetes with unspecified complications	\$ 91,687		\$ 1,083	\$ 3,500	\$ 87,104
Diabetes (Diagnosis 249-25093 as primary)	\$ 2,463,726	\$ 495,094	\$ 200,089	\$ 1,354,888	\$ 413,655
Diabetes (Diagnosis 249-25093 any position)	\$ 5,809,275	\$ 2,801,800	\$ 675,749	\$ 1,775,448	\$ 556,278

Diabetes in Combination with other Common Chronic Disease

It is always important to remember that diabetes does not exist in a vacuum – people with diabetes often have additional chronic illnesses that impact their ability to self-manage their diabetes, and provide additional diabetes management challenges for their doctors. For example, 58 percent of people with diabetes also have arthritis. Symptoms of their arthritis may limit their capacity to use physical activity as a method of improving their blood sugar control. Eighteen percent of those with diabetes also have asthma. Inhaled corticosteroids used to control asthma attacks can make blood sugar control more difficult. People with diabetes also have higher rates of high blood pressure (81%) and high cholesterol levels (73%) than those without diabetes.

Recent research makes a clear link between diabetes and colon cancer. Those with diabetes have a 30 percent higher death rate from colon cancer than those without diabetes. In addition, diabetes makes cancer treatment more challenging because of the possibility of developing adverse effects, such as anorexia, nausea and weight loss. In addition, acute diabetes complications such as severe hyperglycemia may delay cancer treatment.

Diabetes Among Adult North Dakota Medicaid Members

- Just over 3 percent or, 1,238 adults, from the Medicaid population have been diagnosed with diabetes.
- Eighty-seven children enrolled in Medicaid have been diagnosed with diabetes.
- Diabetes-related medication costs for Medicaid participants **have increased by 114 percent** over the past **five years**.
- In 2013, diabetes-related medications cost \$2.6 million dollars, accounting for over 7 percent of all Medicaid drug costs.

Current Diabetes Efforts from Agencies

The North Dakota Department of Health, North Dakota Department of Human Services, North Dakota Public Employees Retirement System, and the North Dakota Indian Affairs Commission support a number of interventions related to diabetes. Each is described below.

Department of Health – North Dakota Diabetes Program

The North Dakota Department of Health has managed a diabetes program for over 30 years. Beginning in the early 80's, the Centers for Disease Control and Prevention (CDC) committed funds to support diabetes control efforts in the state. The program has evolved greatly over its 30-year history due to changes in science, the health care system, and funding. In July 2013,

funding was cut from the diabetes program and diabetes activities were integrated into a coordinated grant that includes heart disease, stroke, and school health. The funding for the combined programs is at a much lower level, thereby limiting the programs North Dakota is able to support with federal funding. The diabetes program **does not** receive any state funding at this time. **The entire diabetes program is supported by 0.7 FTE supported by a federal grant.**

Today, the diabetes program is a population-based public health initiative whose mission is to reduce the sickness, disability, and death associated with diabetes and its complications, and to prevent new cases of type 2 diabetes. The key strategies of the program focus on education and support of persons with, and at risk for diabetes, to help them effectively manage their condition; education and support for health care providers caring for those with and at risk for diabetes; and mobilization of communities to identify and address problems related to diabetes in their communities. The scope of these strategies varies greatly each year based on funding.

The diabetes program relies on a network of state, regional, and local partners to expand the reach of diabetes prevention and control efforts across the state. Staff at the NDDoH provides leadership for the program, as well as technical assistance, training, monitoring, and data collection, among other services. In concert with the state staff, a variety of partners are involved in diabetes control efforts. One of the major partners is the Dakota Diabetes Coalition (DDC). The DDC is a coalition of over 100 members representing health plans, health care professionals and organizations, academics, businesses, public health workers, and many others involved in addressing diabetes in the state. This coalition has been active for six years. The DDC is an incorporated, 501(c)(3) organization and is run by a Board of Directors.

Collectively, the Diabetes Program, the DDC, and many others work together to support diabetes prevention and control efforts in North Dakota. Key efforts of the program are described below.

- **Community Mobilization:** Create/maintain active partnerships at the state and local levels to jointly pursue issues related to diabetes in communities, among health care providers, persons with diabetes, and those at risk for diabetes. This is often accomplished by forming and maintaining local diabetes coalitions to address local needs.
- **Public Awareness/Education:** Promote education campaigns and messages that improve awareness of diabetes prevention and control to the general public. This is accomplished in various ways including media, presentations to local groups, the distribution of educational materials, among other methods.
- **Diabetes Self-Management Education (DSME) and Support:** This is a newer initiative that seeks to identify barriers to providers offering a DSME program at their site with the goal of increasing the number of DSME programs available around the state.
- **Professional Education and Health System Quality Improvement:** Provide access to current continuing education for health care professionals through state conferences, conventions, and webinars, as well as information and tools to assist providers in serving people with, and at risk for, diabetes. Participate with other groups in activities aimed at improving the quality of diabetes care.

- **Diabetes care provider report:** In partnership with Blue Cross Blue Shield of North Dakota (BCBSND), diabetes care is tracked through patient insurance claims. BCBSND provides quarterly reports to the NDDoH on the diabetes specific measures.
- **Surveillance and Evaluation:** Monitor data to assess the impact of diabetes, plan appropriate interventions and evaluate program efforts. Share data about the impact of diabetes in North Dakota with the public via media, publications, presentations, websites, and other methods of outreach.

Funding: The Diabetes Program received diabetes-specific CDC funding until June 28, 2013. This funding supported state-level diabetes personnel and operating costs, funded local diabetes coalitions, supported epidemiological and evaluation efforts, and supported special projects. Starting July 1, 2013, CDC consolidated diabetes funding into a grant that focuses on integrated activities for heart disease and stroke, diabetes, and school health. The new funding is at a much lower level for the combined programs, and currently only funds a 0.7 FTE for diabetes initiatives. CDC’s current focus for diabetes centers around two basic strategies:

1. Promote awareness of prediabetes among people at high risk for type 2 diabetes.
2. Promote participation in American Diabetes Association (ADA)-recognized, American Association of Diabetes Educators (AADE)-accredited, state-accredited/certified, and/or Stanford licensed diabetes self-management education (DSME) programs.

Maintaining diabetes prevention and control efforts has become increasingly difficult in a time of declining resources. The addition of new/enhanced programming is even more challenging. Programming in the area of prevention of diabetes is needed; however, no new funding exists to support such an effort.

Department of Health – Children’s Special Health Services (CSHS)

CSHS serves children with diabetes through three different programs:

- Specialty Care Diagnostic and Treatment Program
 - CSHS paid \$44,935 in health care claims for 27 eligible children with Diabetes Mellitus, Type I and II, in FFY 2013.
 - Examples of services covered include:
 - Medications
 - Diabetic supplies
 - Insulin pumps
 - Inpatient and outpatient hospital services, office visits, and laboratory tests
 - Dilated eye examination for children 10 and older
 - Diabetic education provided by a certified diabetic educator
 - Care coordination services that help families access other needed services and resources are provided for children who are eligible for CSHS treatment services.
- Multidisciplinary Clinics
 - CSHS funds a pediatric diabetes clinic through the Coordinated Treatment Center at Sanford in Fargo, N.D.

- A contract for \$27,941 is in effect for the 2013-2015 biennium, which supports 13 diabetes clinics per year. Clinics provide multidisciplinary team evaluations and individualized care plans to support ongoing management for participating children and their families. There is no charge to families for the service. Families that travel more than 50 miles one way to attend the clinic are able to receive help to offset travel expenses (mileage and lodging), if needed.
- The clinic team is comprised of medical specialists (pediatric endocrinologist, pediatrician), diabetes nurse educator, social worker, nurse, reception staff, exercise physiologist, licensed registered dietitian, and psychologist who see the children at one place and time. This type of service enhances coordination and supports access to care.
- Information Resource Center
 - CSHS provides health care resource information upon request. Examples of information frequently provided includes child growth and development, parent-support (e.g., parent-to-parent programs), well child care, special clinics, programs or doctors, financial help, and information on child's condition.

Department of Human Services

The ND Medicaid strategy related to diabetes care centers on the “Experience HealthND” program. Experience HealthND is a North Dakota Medicaid benefit for recipients with chronic health conditions. Conditions covered by the program include asthma, chronic obstructive pulmonary disease, **diabetes**, and heart failure. The program is voluntary, confidential and free to eligible recipients.

After enrolling in Experience HealthND, enrollees can call a nurse for information and assistance any day and at any time of the day. A registered nurse calls or meets with enrollees to learn what their needs are and prepares an individualized care plan for them. Working with enrollees and their health care provider, the nurse will provide information and education that enrollees can use to manage their health condition, as well as giving assistance in finding services and other support that helps them follow their doctor's treatment plan.

Enrollees and their nurse work together to use these beneficial Experience HealthND services:

- A toll-free number enrollees can call 24 hours a day, 7 days a week to speak with a nurse about their health concerns.
- Help in finding a doctor or coordinating with their doctor and other health care providers to get the most from their care.
- Education about choices they can make to improve their health.
- Information sources and education about how medicines, exercise, nutrition, recreation, rest, and other factors affecting their health and how well they feel.

North Dakota Public Employees Retirement System (NDPERS)

The NDPERS strategies related to diabetes center on the MediQHome Project, Case Management, HealthyBlue, and the “About the Patient” program.

MediQHome

MediQHome is a collaborative program between Blue Cross Blue Shield of ND (BCBSND) and medical providers across the state of ND. The program provides financial incentives to clinicians and organizations to support the patient-centered medical home methodology of care. BCBSND provides a semiannual care management fee payment to compensate for care coordination and better management of chronic conditions which are otherwise not accounted for in a fee-for-service payment model. The care management fees are paid using a tiered approach that is tied to patient outcomes. The MediQHome program also allows the provider access to a population health platform that allows the medical providers to identify overall how their population of patients is doing. The platform also allows providers to see gaps in care based on medical guidelines that are individualized to each patient and their chronic disease.

Diabetes is one of the targeted chronic conditions in the MediQHome program. The care management fee paid to providers is calculated based on how well the provider cares for their patients with diabetes, high blood pressure, and coronary artery disease (pay for performance). Providers are asked to make sure that these patients meet “optimal care” in the specific disease categories. For diabetes, optimal care means:

- HgA1c <8 (this is a lab value that indicates blood sugar control over a longer time period)
- Blood Pressure <140/90
- LDL <100 (bad cholesterol)
- Tobacco free

The MDInsight platform allows the provider to be able to quickly see if all of these “optimal care” measures have been completed for each patient. It also allows them to use the platform to look for a certain group of patients who may need follow up. This platform helps providers track their diabetes patients to make sure they are receiving quality care.

Case Management

The prevalence of chronic conditions, such as diabetes, is growing and the bulk of healthcare expenditures are used to treat these conditions. Case Management provides members at higher risk with telephonic outreach to enhance their knowledge about their condition, and also to provide collaboration between the member and healthcare team. Using evidence-based principles, an action plan is developed based on the member’s disease state, risk level, and goals. Case Management provides ongoing support throughout the member’s continuum of care by closing identified gaps of care, encouraging a healthy lifestyle, and educating the member about their chronic condition. Diabetics in the Case Management Program will receive education

materials and are also reviewed to identify gaps in care. Recommended diabetes care management includes a yearly office visit, A1C every 3 to 12 months, lipid panel every 12 months, microalbumin every 12 months, and a dilated eye exam every 12 months.

Healthy Blue

HealthyBlue (online Wellness portal) is available to all NDPERS members, including those who have self-reported having diabetes. Members can engage in disease-specific educational workshops, talk to wellness experts, and track exercise, nutrition, and medications. They can do this either online or on a mobile device and earn rewards for their engagement.

Agency-Based Wellness Programs

NDPERS offers a program to encourage participating employers to develop employer-based wellness programs to encourage a healthy lifestyle. Pursuant to NDCC 54-52.1-14, employers are offered incentives through their health insurance premium. Last year 197 out of 290 employers elected to participate in the wellness program. This is an employer participation rate of approximately 68 percent. However, 97 percent of employees covered on the insurance plan are working for employers that offer wellness programs and activities to their employees.

The break-down of the participating employers is as follows:

- 103 state agencies, universities and district health units
- 37 counties
- 18 schools
- 17 cities
- 22 political subdivisions

About the Patient Program (For more information see Appendix 5)

The Diabetes Management Program is an opt-in program for North Dakota Public Employee Retirement System beneficiaries with diabetes. On a monthly basis, newly eligible patients are sent a letter explaining the program and a wellness enrollment form. The wellness enrollment form allows patients to choose one of 50 community pharmacy locations across North Dakota for face-to-face program participation. Patients are eligible for three visits within the first year and two visits per year thereafter. By actively participating in the program, patients receive reimbursement of co-pays on diabetes medications, ACE inhibitors, and testing supplies on a quarterly basis. The patient curriculum is based on the seven self-care behaviors identified by the American Association of Diabetes Educators and principles of medication therapy management as outlined by the American Pharmacist Association. Patients are seen by a health professional, currently a community pharmacist, who has completed additional training in diabetes management outside of their terminal degree and must document continuing education in this area on an annual basis. All patient clinical encounters are documented and billed using the North Dakota Pharmacy Services Corporation electronic medical record software MTM

Express™. Return on investment calculations demonstrated a health cost savings of \$2.34 for every \$1.00 spent for the program.

Funding: Funding for the above programs is provided from the health premiums paid.

Indian Affairs Commission

The Indian Affairs Commission does not administer a program that specifically targets diabetes, but collaborates with the agencies on diabetes-related activities in American Indian communities and with American Indian populations. The Commission plays an important role as a liaison between the departments and the tribes.

Coordinated Efforts

The North Dakota Department of Health, North Dakota Public Employees Retirement System, Department of Human Services, Medicaid, and Indian Affairs Commission collaborate on diabetes-related activities, including the following:

Coordinated Chronic Disease Prevention and Health Promotion State Plan

NDDoH recently led an effort to develop a Coordinated Chronic Disease Prevention and Health Promotion State Plan to achieve measurable improvements across the top five leading chronic disease-related causes of death and disability (heart disease, cancer, stroke, diabetes and arthritis) and their associated risk factors. A committee composed of internal and external partners was created to give input and guide the process. In November 2011, a stakeholders meeting with over 50 partners was conducted to channel and use the expertise of the diverse group. Members of organizations responsible for this legislative report were among the participants. The plan developed through this stakeholder-driven process includes initiatives consistent with current statewide efforts and those noted in this report (See Appendix 4, for the “Coordinated Chronic Disease Call to Action” derived from the North Dakota State Plan to Prevent and Manage Chronic Disease).

Data from NDDoH

The North Dakota Public Employees Retirement System, Department of Human Services, and Indian Affairs Commission use data from burden/impact reports, fact sheets, presentations, and grant applications produced by the NDDoH.

Moving Forward, Improving Coordination

The NDDoH, NDPERS, the Department of Human Services, and Indian Affairs Commission will meet regularly (at least once every six months). Each agency will share information on their efforts and share any relevant data. The group will also identify opportunities to collaborate.

Recommendations/Action Plan/Budget

Goals and Action Items

The following goals and action items were identified by the committee as activities that would be most effective in improving outcomes for people with diabetes. They are based on accepted standards of practice and scientific evidence of what works to improve outcomes for those with diabetes, and are consistent with diabetes and other chronic disease state planning efforts. **The goals are listed in order of priority. The budgeted amounts are for two years.**

Goal #1 - Increase the availability and utilization of evidence-based lifestyle change programs such as the National Diabetes Prevention Program (DPP).

Rationale:

The Diabetes Prevention Program is a 16-week lifestyle change program which teaches participants ways to make modest behavior changes in their diet and physical activity levels to produce a weight loss of 5 to 7 percent of their body weight. The lifestyle changes reduce the risk of developing type 2 diabetes by 58 percent in people with prediabetes. This program can prevent the development of diabetes in those at risk, or significantly delay the onset of diabetes. **The program has a return on investment (ROI) of 3:1 for medical savings only, and an ROI of higher than 7:1 when counting both medical savings and productivity gains.**

Participants work with a lifestyle coach in a group setting to receive a 1-year lifestyle change program that includes 16 core sessions (usually one per week) and six post-core sessions (one per month). The National Diabetes Prevention Program encourages collaboration among federal agencies, community-based organizations, employers, insurers, health care professionals, academia and other stakeholders to prevent or delay the onset of type 2 diabetes among people with prediabetes in the United States.

Personnel in nine sites across North Dakota have been trained to provide the DPP, but lack of funding and reimbursement has been a barrier to implementation. Working to expand the availability of this program through organizations, businesses, hospitals, and public health would give North Dakotans with prediabetes the opportunity to prevent or delay the development of diabetes. The CDC supports a DPP curriculum that can be used by public and private community groups.

Goal #1 Cost \$1,740,000

Suggested Initiatives:

- Designate state funds and an FTE to the NDDoH to hire a Diabetes Prevention Program (DPP) Coordinator to focus on expanding the DPP across North Dakota. (\$120,000)

- Provide training at more sites on the DPP in North Dakota and engage state, county, and local government agencies to provide access to DPP as a covered benefit for employees. (\$120,000 to conduct six trainings over two years)
 - Implement a NDPERS pilot project to integrate the DPP into the NDPERS plan.
- Work with health care providers to implement systems for referral of people with prediabetes or multiple risk factors for type 2 diabetes to DPP.
- Coordinate implementation of a statewide marketing campaign to raise awareness about prediabetes and educate North Dakotans that type 2 diabetes can be prevented. This would include marketing the existing DPP sites. (\$1,500,000)
 - Media campaign material development (\$250,000)
 - Media time (\$1,250,000)
- Provide outreach and information to employer groups about DPP and encourage them to offer DPP as a covered employee benefit.

Goal #2 - Increase the availability and utilization of sustainable evidence-based diabetes and chronic disease self-management education and other health education or behavior change initiatives to improve control of A1C, blood pressure, and cholesterol and to promote tobacco cessation.

Rationale:

Much of the sickness and death associated with diabetes can be prevented by appropriate clinical management and patient self-management practices. Controlling blood sugar, blood pressure, and cholesterol (the ABC's), plus stopping the use of tobacco products, are critical to prevention of diabetes complications (blindness, kidney disease, nerve damage, and heart disease).

Comprehensive diabetes self-management education (DSME), as well as disease management/case management programs, have been shown to improve outcomes for people with diabetes and have a return on investment of 4.34:1.

Health Care Reform and associated quality standards will increase the demand for qualified diabetes educators and evidence-based diabetes prevention and control interventions.

Physical inactivity is a major risk factor for diabetes, obesity, and many other chronic diseases. The CDC recommends 150 minutes of moderate physical activity per week. Approximately 50 percent of North Dakotans do not get the recommended amount of physical activity.

Goal #2 Cost \$920,000

Suggested Initiatives

- Designate state funds and an FTE to the NDDoH to hire a Diabetes Self-Management Education (DSME) Coordinator to focus on expanding evidence-based DSME programs across North Dakota. (\$120,000)
 - DSME Coordinator would:

- Train local health departments and staff from other entities in the delivery of DSME classes.
 - Coordinate workshops for health care professionals to improve knowledge of diabetes diagnosis, treatment, and management.
 - Work with Diabetes Program Manager and proposed DPP Coordinator to develop a communication hub of diabetes information.
 - Work with the “Diabetes Educator Licensure Board” to review licensure requirements.
 - Work with diabetes stakeholders to define roles for health professionals, allied health professionals, community health workers, and others in promoting standard diabetes education management.
- Increase the number of nationally recognized diabetes education programs available to North Dakotans by providing grants to implement a DMSE program in identified facilities. (\$600,000)
- Increase the number of certified diabetes educators in North Dakota.
- Maintain current efforts in the NDPERS Health Plan. **(Cost for MediQHome, case management and wellness will be included in NDPERS premiums and will be determined as part of the health plan bid in 2015.)**
 - Through NDPERS carrier, continue efforts such as the MediQHome program and case management efforts relating to diabetes.
 - Maintain the NDPERS wellness program into the 2015-17 biennium. As part of that program, identify new ways to interact with people with diabetes through the Health Assessment functionality.
 - Provide seminars to participating employers and include a component on diabetes.
- Maintain the “About the Patient” Program. (\$200,000)
 - Conduct another study of the “About the Patient” program to assess the program’s effectiveness and identify “best practices”.
 - The results of this study could serve as a basis for replicating the program in other settings, such as at other employers or state agencies
 - NDPERS will set up a committee of those entities identified in HB 1443 to serve as an advisory group for this program going forward. The purpose of this group would be to share information on this program and identify opportunities.
- Add a program component relating to diabetes education and prevention to the agency wellness program.

Goal #3 – Support local communities that have identified chronic disease management or obesity and physical activity as a top priority in their community.

Rationale:

The Center for Disease Control and Prevention provided the North Dakota Department of Health (NDDoH) with a Community Transformation Grant (CTG) to assess community capacity and need for services and interventions. The North Dakota State University Master of Public Health Program and the University of North Dakota Center for Rural Health, along with the NDDoH,

made up the CTG Leadership Team. They developed a report with their findings which supports the rationale for this goal.

Throughout North Dakota towns, efforts to address health issues are taking place, but the amount and extent of the programs varies from city to city and depends on many variables including population, existing infrastructure and funding. The Center for Rural Health conducted Community Health Needs Assessments (CHNAs) for hospitals throughout the state. The CHNAs included a series of focus groups, key informant interviews, and community-wide surveys from which the community members ranked the most pressing community health needs. From the CHNAs, over 56 percent identified chronic disease management or obesity and physical activity as significant health needs in their community.

The NDDoH also conducted roundtable sessions with local public health units (LPHUs) to assess the health data that represents their jurisdictions. The purpose of the roundtables was to identify health priorities for the public health unit and other local community groups. From the roundtable sessions, 50 percent of the LPHUs identified chronic disease or obesity and physical activity as the first or second priority in their community.

Providing grants to communities that have identified chronic disease or obesity and physical activity as a priority will enable North Dakota to make strides toward improving the health of its citizens.

Goal #3 Cost \$1,200,000

Suggested Initiatives:

- Conduct pilot study with six of the LPHUs that identified chronic disease or obesity and physical activity as a priority.
- Provide each LPHU with a community grant to address chronic disease or obesity and physical activity in their community.
 - LPHUs would apply for the community grants.
 - Only LPHUs who have completed a community assessment and identified chronic disease or obesity and physical activity would be eligible to apply.
 - The application would include a list of evidence-based items to select from and require an evaluation element.

Goal #4 - Support existing state health promotion plans, coalitions, and partnerships related to diabetes and chronic disease prevention and control.

Rationale:

The North Dakota Department of Health works with many statewide coalitions and partnerships including the Dakota Diabetes Coalition, Coordinated Chronic Disease Partnership, and Healthy North Dakota. Many local coalitions address diabetes, tobacco use, physical activity, asthma, and other conditions. These public-private partnerships with multi-sector representatives such as universities, schools, transportation, providers, pharmacists, local health departments,

foundations, businesses, and other organizations create a collective voice and leverage resources available to each of the partners.

The NDDoH chronic disease staff and approximately 50 partners developed a state plan entitled “North Dakota State Plan to Prevent and Manage Chronic Disease.” The development of the coordinated plan was required by the Centers for Disease Control and Prevention to address chronic diseases such as diabetes, coronary heart disease, arthritis, and lung diseases, which share common risk factors such as smoking, obesity, low levels of physical activity, and poor nutrition; and includes overarching goals and objectives. Considering that the risk factors and prevention strategies for many chronic diseases, including diabetes, are very similar, this chronic disease plan also serves as the state diabetes plan.

The chronic disease state plan includes interventions and strategies targeting changes in health care system delivery of clinical care and patient education, promoting linkages between clinical care and community resources, policy and environmental changes to support chronic disease prevention and management, and identifying improvements in data collection to address disparities and improve our ability to evaluate the impact of chronic disease on North Dakotans.

Goal #4 Cost \$240,000

Suggested Initiatives:

- Designate state funds and an FTE to the NDDoH to hire a coordinator to provide technical assistance to statewide coalitions and partners. (\$120,000)
 - The coordinator would:
 - Provide technical assistance to statewide coalitions.
 - Convene partners and coalition members to identify collaboration opportunities.
 - Work with state staff and partners to address how to implement priorities identified in the “North Dakota State Plan to Prevent and Manage Chronic Disease.”
 - **Direct funding for implementation of the plan is outside the funding of this report.**
- Support local communities and coalitions to implement evidence-based interventions, conduct training, collect data, and develop and maintain a web-based chronic disease resource directory for providers and the public. Funding would support:
 - Training opportunities for local communities based on needs. Two examples of potential training needs are cultural awareness training and policy development training. (\$120,000)

Goal #5 - Improve diabetes and chronic disease surveillance systems to determine the extent and impact of diabetes on North Dakotans.

Rationale:

The ongoing, systematic monitoring and improvement of data collection regarding diabetes and other chronic diseases is vital for public health planning. North Dakota lacks adequate surveillance data.

Goal #5 Cost \$43,000

Suggested Initiatives

- Improve Behavioral Risk Factor Surveillance System (BRFSS) data on populations in North Dakota that experience health disparities. One target would be to improve data collection for American Indians as this population experiences drastically higher mortality rates due to diabetes than does the rest of the North Dakota population. Each BRFSS call encounter costs \$35 per land line completion and \$75 per cell phone completion. Many households only have cell phones now. (\$43,000)
 - Adding 800 BRFSS calls to targeted population (land line) \$28,000
 - Adding 200 BRFSS calls to targeted population (cell line) \$15,000
- Expansion of data collection, analysis and reporting for the western part of the state.

Goal # 6 - Support Policies that improve outcomes for persons with, and at risk for diabetes and other chronic diseases. (The following are issues the legislature may consider for the improved health of all North Dakotans. However, direct funding for these items is outside the funding of this report.)

Rationale:

Systems and policy change is a cost-effective way for states to improve a population's health. There is strong evidence that comprehensive smoke free laws improve health by reducing heart attacks, respiratory problems such as asthma attacks and lung cancer, which in effect reduces the overall social and financial burden to individuals, families, communities, and states. Access to healthcare for the low-income/uninsured can reduce overall costs through preventive services and early interventions. Reimbursement for diabetes education classes by Certified Diabetes Educators can ensure that people learn how to manage their diabetes and prevent complications. Electronic Medical Records and information sharing can help ensure continuity and coordination of care and provide opportunities to engage patients in their own care.

Goal #6 Cost N/A

Suggested Initiatives

- Support the enrollment of eligible people in insurance plans, so that more uninsured people with diabetes will be able to receive appropriate medical care and avoid costly, unnecessary hospitalizations or emergency department visits.
- Support policies to expand usage of Electronic Medical Records by all health care providers.
- Support policies for Medicaid, NDPERS, and other insurers to provide reimbursement for evidence-based diabetes education classes, including prediabetes education.
- Support policies that increase physical activity in schools and early childhood centers.
- Support policies for healthier lunch and snack policies in schools and early childhood centers.
- Sponsor or support legislation and funding that promotes chronic disease prevention and control.
- Raise constituents' awareness about chronic disease prevention and control programs in communities and help establish new programs as needed.
- Ensure that all North Dakotans have access to health care, screenings and early detection services.

Total 2-Year Budget: \$4,143,000

Appendix 1: Overview of Diabetes

What is Diabetes?

Insulin is needed to move sugar from our blood to our cells for energy. 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 costly complications that greatly reduce the quality of life for those living with diabetes.

What is Prediabetes?

Prediabetes is a condition in which an individual's blood glucose or A1C levels (a blood test that provides an average of the patient's blood glucose levels over the last 12 weeks) are higher than normal, but not high enough to be classified as diabetes. People with prediabetes are at increased risk for developing type 2 diabetes, heart disease and stroke. Evidence has shown that people with prediabetes who lose 5 to 7 percent of their weight and increase their physical activity can prevent or delay the development of type 2 diabetes.

How are Diabetes and Prediabetes Diagnosed?

Appropriate blood testing for diabetes among those at risk for the disease is vital to ensure patients with elevated blood sugar levels or high A1C are identified as early as possible. Early diagnosis and appropriate treatment/management provides the best opportunity to prevent diabetes and its complications. Testing involves a simple blood test performed in a health care facility.

Types of Diabetes

Type 1 Diabetes 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. **There is no known way to prevent type 1 diabetes.**

Type 2 Diabetes is more common and affects 90 to 95 percent of people with diabetes. It develops gradually and is characterized by insulin deficiency and resistance. Risk factors for type 2 diabetes include: older age, obesity, family history of diabetes, personal history of gestational diabetes, impaired glucose metabolism, physical inactivity and race/ethnicity. Treatment can include medical nutrition therapy, oral medications and injections.

Type 2 diabetes in children and adolescents, although still rare, is being diagnosed more frequently among African Americans, Hispanic/Latino Americans, American Indians and Asian/Pacific Islanders. **Type 2 diabetes may be preventable through modest lifestyle changes.**

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. Women who have had gestational diabetes have a 35 to 60 percent chance of developing diabetes within 10 to 20 years.

Diabetes Management

Diabetes can affect many parts of the body and can lead to serious complications such as blindness, kidney damage and lower-limb amputations. Working together, people with diabetes, their support network and their health care providers, can reduce the occurrence of these and other diabetes complications by controlling the levels of blood glucose, blood pressure and blood lipids, and by practicing other preventive care practices in a timely manner.

Managing diabetes is a complicated endeavor. Diabetes is managed by a combination of appropriate clinical care from a health care provider who understands diabetes care, and individual efforts of the person with diabetes to take medications as directed, make better food choices and develop a regular pattern of physical activity. Controlling blood sugar to near normal levels is vital to prevent the development of complications of diabetes such as kidney disease, cardiovascular disease and nerve damage to the feet, and other debilitating conditions.

Specific medical guidelines for the management of diabetes should be followed. Healthcare professionals caring for a person with diabetes should:

- Measure blood pressure at every visit
- Check feet for sores at every visit and provide a thorough foot exam at least once a year
- Order an A1C test at least twice a year to determine what the patient's level of glucose control has been for the past 12 weeks
- Assess kidney function through urine and renal function blood tests at least once a year
- Test blood lipids (fats)—total cholesterol; LDL or low-density lipoprotein (“bad” cholesterol); HDL or high-density lipoprotein (“good” cholesterol); and triglycerides at least once a year

A person with diabetes should work with their health care provider(s) to schedule:

- A dental checkup twice a year
- A dilated eye exam once a year
- An annual flu shot
- A pneumonia shot (according to age guidelines)

The person with diabetes must become knowledgeable about how food choices, physical activity, illnesses and medications impact blood sugar individually and in myriad combinations. Diabetes Self-Management Education (DSME) in group classes are a proven way for a person with diabetes to learn what they need to know to help them manage their condition. The *Guide to Community Preventive Services*, a resource for evidence-based recommendations and findings about what works in public health, recommends DSME as an effective and cost efficient way for persons with diabetes to learn to improve blood sugar control, improve quality of life and prevent complications. The Guide is produced by the Community Preventive Services Task Force, an independent group established by the U.S. Department of Health and Human Services to examine the evidence and produce findings and recommendations about effective and ineffective programs, services, and policies.

Studies in the U.S. and abroad have found that improved blood glucose control benefits people with either type 1 or type 2 diabetes. In general, every percentage point drop in A1C blood test results can reduce the risk of microvascular complications (eye, kidney, and nerve diseases) by

40 percent. In persons with type 1 diabetes, intensive insulin therapy has long-term beneficial effects on the risk of cardiovascular disease. Blood pressure control reduces the risk of cardiovascular disease (heart disease or stroke) among people with diabetes by 33 to 50 percent, and the risk for microvascular complications (eye, kidney, and nerve diseases) by approximately 33 percent. Improved control of LDL cholesterol can reduce cardiovascular complications by 20 to 50 percent. Detecting and treating diabetes-related eye disease can reduce the development of severe vision loss by an estimated 50 to 60 percent. Comprehensive foot care programs can reduce amputation rates by 45 to 85 percent. Detecting and treating early diabetic kidney disease by lowering blood pressure can reduce the decline in kidney function by 30 to 70 percent.

Prevention of Type 2 Diabetes and Complications

There is good news in the fight against diabetes! Diabetes can be prevented or delayed; and the disease can be managed to avoid costly complications, such as, blindness, kidney failure, lower extremity amputation and cardiovascular disease. Early diagnosis and management by the patient and health care team is crucial to avoid complications. Following known standards of care in treatment with diet, physical activity and medications can bring blood sugar, cholesterol and blood pressure levels to near normal. The challenge with diabetes is developing ways to bridge the gap between what is KNOWN about how to treat and prevent the disease, and what actually happens in healthcare practice and what patients do to manage their own health.

Diabetes and obesity go hand in hand; as obesity rates in North Dakota rise, so do the diabetes rates. North Dakota lacks funding to combat obesity, leading to an increase in obesity rates and all the associated costly chronic diseases, including diabetes. With the continuous rise in obesity and diabetes, it is important to prepare for the increasing burden of diabetes in North Dakota. The recommendations in this report represent a first step towards addressing the challenges of diabetes.

Changes must occur in multiple parts of the health care system, community settings, and in personal behaviors in order to impact the diabetes epidemic. Many federal agencies have been active in responding to the diabetes epidemic, including the Department of Health and Human Services (HHS), the Centers for Disease Control and Prevention (CDC) and the National Institute of Diabetes and Digestive and Kidney Diseases. These agencies, along with non-government entities such as the American Diabetes Association, have amassed an impressive amount of evidence as to “what works” in diabetes control.

The **Diabetes Prevention Program (DPP)**, a large prevention study of people at high risk for developing diabetes, demonstrated that lifestyle intervention to lose weight and increase physical activity reduced the development of type 2 diabetes by 58 percent during a three-year period. The reduction was even greater, 71 percent, among adults aged 60 and older. Interventions to prevent or delay type 2 diabetes in individuals with prediabetes can be feasible and cost-effective. Research has found that lifestyle interventions are more cost-effective than medications. North Dakota has trained staff from nine sites across North Dakota where DPP can be implemented, but lacks funding to support these sites.

Appendix 2: Legislation: NDCC 23-01-40

23-01-40. Diabetes goals and plans - Report to legislative management.

1. The department of human services, state department of health, Indian affairs commission, and public employees retirement system shall collaborate to identify goals and benchmarks while also developing individual agency plans to reduce the incidence of diabetes in the state, improve diabetes care, and control complications associated with diabetes.
2. Before June first of each even-numbered year the department of human services, state department of health, Indian affairs commission, and public employees retirement system shall submit a report to the legislative management on the following:
 - a. The financial impact and reach diabetes is having on the agency, the state, and localities. Items included in this assessment must include the number of lives with diabetes impacted or covered by the agency, the number of lives with diabetes and family members impacted by prevention and diabetes control programs implemented by the agency, the financial toll or impact diabetes and diabetes complications places on the agency's programs, and the financial toll or impact diabetes and diabetes complications places on the agency's programs in comparison to other chronic diseases and conditions.
 - b. An assessment of the benefits of implemented programs and activities aimed at controlling diabetes and preventing the disease. This assessment must document the amount and source for any funding directed to the agency from the legislative assembly for programs and activities aimed at reaching those with diabetes.
 - c. A description of the level of coordination existing between the agencies on activities, programmatic activities, and messaging on managing, treating, or preventing diabetes and diabetes complications.
 - d. The development or revision of detailed action plans for battling diabetes with a range of actionable items for consideration by the legislative assembly. The plans must identify proposed action steps to reduce the impact of diabetes, prediabetes, and related diabetes complications. The plan must identify expected outcomes of the action steps proposed in the following biennium while also establishing benchmarks for controlling and preventing relevant forms of diabetes.
 - e. The development of a detailed budget blueprint identifying needs, costs, and resources required to implement the plan identified in subdivision d. This blueprint must include a budget range for all options presented in the plan identified in subdivision d for consideration by the legislative assembly.

Appendix 3: Committee Members

The following people participated in the preparation of this report.

North Dakota Department of Health

Tera Miller, Diabetes Program Director

Clint Boots, Chronic Disease Epidemiologist

North Dakota Public Employees Retirement System

Sparb Collins, Executive Director

Deb Knudsen, Program Development and Research Manager

Kathy Allen, Employee Benefit Programs Manager

Division of Medical Services, the Department of Human Services

Julie Schwab, Director of Medical Services

Indian Affairs Commission

Bradley Hawk, Indian Health Systems Administrator

National Association of Chronic Disease Directors

Marti Macchi, Senior Consultant for Diabetes

Appendix 4: Coordinated Chronic Disease Call to Action

Nearly every North Dakotan has a family member, friend, or co-worker who has been affected by a chronic disease. North Dakota's Coordinated Chronic Disease State Plan can change this through a united effort and shared vision to improve the health and quality of life for North Dakotans.

Collaboration ensures that the whole is greater than the sum of its parts. Where do you fit in? You are a key part of the team, and here are some examples of ways you can begin to make a difference:

If you are a school or university:

- Make your entire campus a tobacco-free environment.
- Provide healthy foods in vending machines and cafeterias.
- Include health promotion messages in health classes.
- Include comprehensive school physical activity programs.
- Adopt comprehensive school and staff wellness policies.

If you are a hospital:

- Collaborate to sponsor community screening and education programs.
- Implement comprehensive tobacco-free policies at your facility.
- Seek or maintain accreditation/certification to ensure quality (Heart, Stroke, Cancer, Baby Friendly or other).
- Collaborate to sponsor patient navigation and survivorship programs.

If you are a community-based organization:

- Support policy, environmental, and systems changes for chronic disease prevention and control.
- Collaborate to provide community prevention programs.
- Provide chronic disease prevention awareness information and screening programs for clients.

If you are an employer:

- Implement comprehensive tobacco-free policies at your facility.
- Use incentives and implement programs (paid time off for screenings, worksite wellness programs) to reduce barriers and encourage regular screenings.
- Provide healthy food options in vending machines and cafeterias.
- Adopt comprehensive worksite wellness policies and programs.

If you are a local health department:

- Support policy, environmental and systems changes for chronic disease prevention and control.
- Provide navigation services for clients.
- Collaborate in community prevention and health promotion campaigns.

- Consider the benefits of public health accreditation.
- Adopt comprehensive worksite wellness policies

If you are a faith-based organization:

- Encourage members to get preventive screening tests.
- Provide space for physical activity programs.
- Learn how to provide healthy potluck and meeting meals.
- Provide chronic disease prevention and health promotion information to members.

If you are a legislator:

- Sponsor or support legislation and funding that promotes chronic disease prevention and control.
- Raise constituents' awareness about chronic disease prevention and control programs in your district and help establish new programs as needed.
- Ensure that all North Dakotans have access to health care, screenings and early detection services.

If you are a health care provider:

- Provide culturally relevant counseling, information, and referrals for screening tests.
- Adhere to guidelines and best practices for prevention, treatment and supportive care.
- Refer patients to smoking cessation, physical activity, nutrition, breastfeeding, self-management and mental health programs.

If you are a North Dakotan:

- Stop using tobacco products or never start.
- Support comprehensive tobacco-free environment policies.
- Increase your daily physical activity.
- Eat more fruits and vegetables and maintain a healthy weight.
- Know when to be screened and do it on schedule.
- Take an active role in your health care decisions.

Appendix 5: About the Patient Report



Collaborative Drug Therapy Program

About The Patient— 1641 Capitol Way Bismarck, ND 58501
T: 1.888.326.4657 DD: 701.231.6685 E: wbrown@aboutthepatient.net

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Background

The Uniform Group Insurance Program-Collaborative Drug Therapy Program in accordance with section 54-52.1-17 of the North Dakota Century code purpose is to improve the health of individuals with diabetes in order to manage health care expenditures through face-to-face collaborative drug therapy services by pharmacists and certified diabetes educators. For covered individuals waived or reduced co-payment for diabetes treatment drugs and supplies are provided as an incentive for program participation. The North Dakota Pharmacist Association or specified delegate currently About the Patient facilitates patient curriculum based on national standards for diabetes care, enrollment procedures, documentation of clinical encounters, and assess economic/clinical outcomes. Funding of program is through the uniform group insurance program and if necessary an additional charge on the policy premium for medical and hospital benefits coverage may be added up to two dollars per month.

The About The Patient Program has been administering the Diabetes Management Program since July of 2008. A cost analysis of the Diabetes Management Program was conducted by the Center for Health Promotion and Prevention Research, University of North Dakota School of Medicine and Health Sciences in November of 2010. Return on investment calculation demonstrated a \$71.14 pmpm health cost savings (\$2.34 saved for every \$1.00 spent for the program). Funding and program administration by About The Patient is evaluated biannually and current funding is through June 2015.

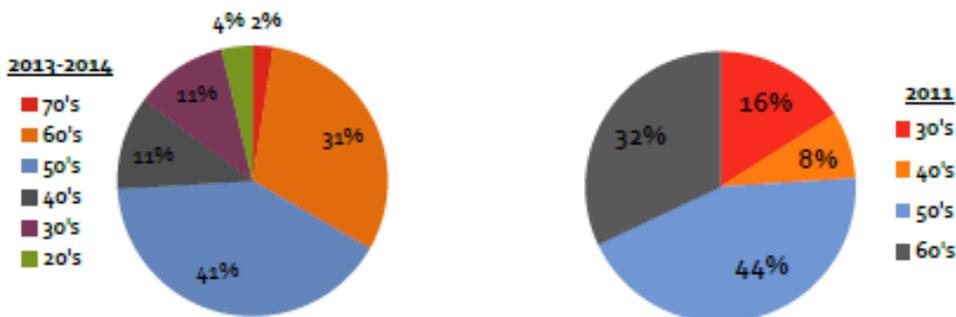
Program Description

The Diabetes Management Program is an opt-in program for North Dakota Public Employee Retirement System beneficiaries with diabetes. On a monthly basis newly eligible patients are sent a letter explaining the program as well as a wellness enrollment form. The wellness enrollment form allows patients to choose one of 50 community pharmacy locations across North Dakota for face-to-face program participation. Patients are eligible for three visits within the first year and two visits per year thereafter. By actively partaking in the program patients receive reimbursement of co-pays on diabetes medications, ACE inhibitors and testing supplies on a quarterly basis. The patient curriculum is based on the seven self-care behaviors identified by the American Association of Diabetes Educators and principles of medication therapy management as outlined by the American Pharmacist Association. Patients are seen by a health professional, currently a community pharmacist, who has completed additional training in diabetes management outside of their terminal degree and must document continuing education in this area on an annual basis. All patient clinical encounters are documented and billed using the North Dakota Pharmacy Services Corporation electronic medical record software MTM Express™.

Interventions

Demographic

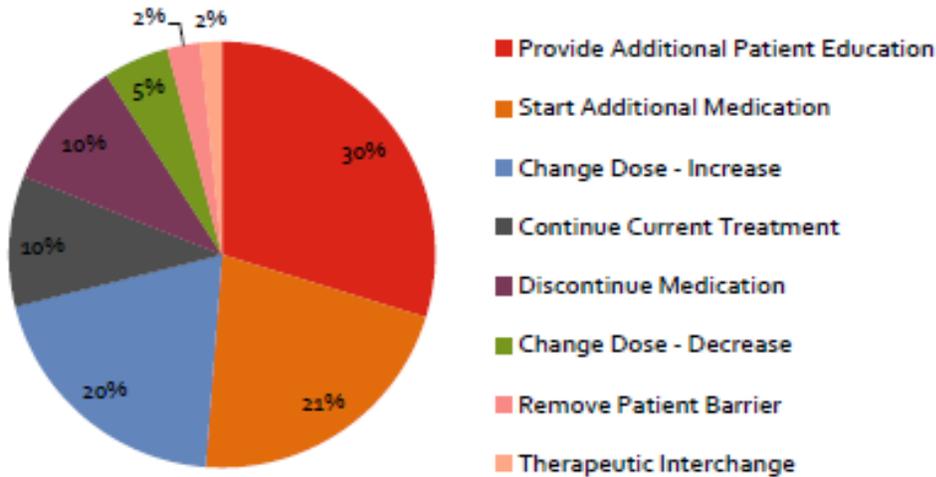
From third quarter of 2013 through first quarter of 2014, 52% of the actively participating patients are male. Age distribution is demonstrated below:



National and current patient trends are demonstrating that younger people are being diagnosed with Diabetes. This creates great opportunities for early disease management to prevent long term costly complications.

Pharmacist Interventions

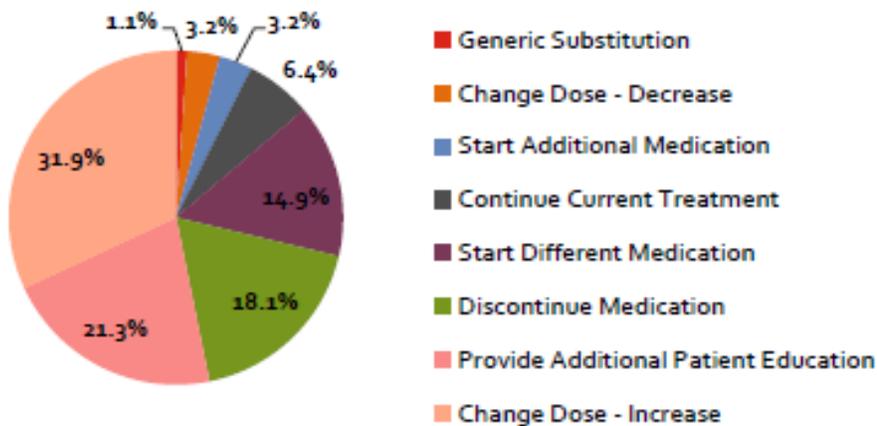
Within the 9 month reporting period there were 121 interventions made by the providers in collaboration with the patients in order to manage diabetes and prevent costly complication. Descriptions of intervention are listed below:



The most common reason for providing additional patient education was regarding insulin. The pharmacist was able to clarify how the patient should be taking their insulin, especially the rapid acting formulations.

The most common recommendations for starting medication related to ACE inhibitor use for renal protection or untreated dyslipidemia. Most increase dose recommendations were for insulin where 50% were for basal insulin and 50% for rapid insulin.

In contrast to 2011 interventions, pharmacists now are **optimizing medication use and starting to identify and address barriers to medication adherence** compared to general education about the medications.



Patient Satisfaction with Program

Based on a 5 point Likert scale where 5 is excellent and 1 is poor.

	Current	2011
1.) Professional appearance of the provider	5.0	4.7
2.) Appearance of the meeting area	4.8	4.3
3.) System for scheduling your appointment	4.8	4.7
4.) The provider's interest in your health	4.9	4.7
5.) How well the provider helps you manage your medications	4.3	4.3
6.) How well the provider explains possible side effects	4.1	4.3
7.) The provider's efforts to solve problems that you have with your medications	4.3	4.3
8.) The responsibility that the provider assumes for your drug therapy	4.2	4.3
9.) Ability of the provider to answer your questions about your medications	4.4	4.3
10.) Ability of the provider to answer your questions about your health problems	4.4	4.3
11.) The provider's efforts to help you improve your health or stay healthy	4.9	4.7
12.) The program services overall	4.3	4.7
13.) Ability of the provider to see you at your scheduled time	4.8	4.3
14.) Courtesy and professionalism of the staff	5.0	4.7
15.) Follow-up after the appointment	4.8	4.3
16.) The educational materials provided	4.9	4.3

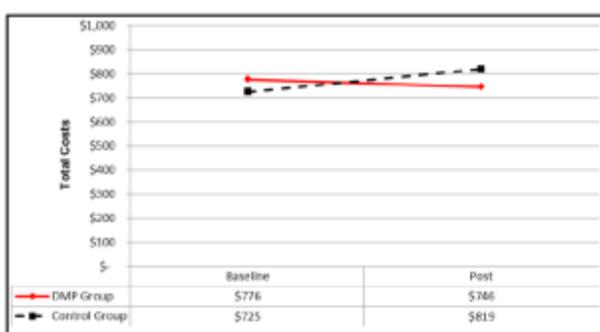
Satisfaction among participants in the program remains high.



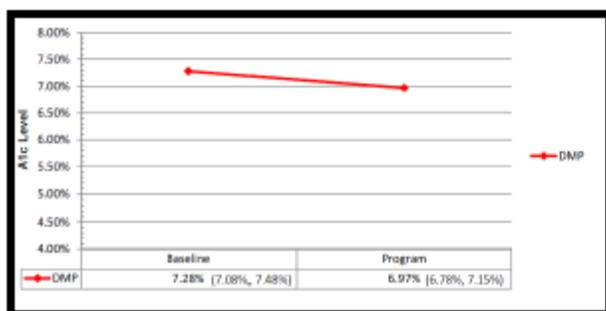
Trends and Savings

Face to Face Diabetes Management provided by pharmacist to NDPERS beneficiaries over 24 months (n= 346). Initial cost analysis 2008-2010.

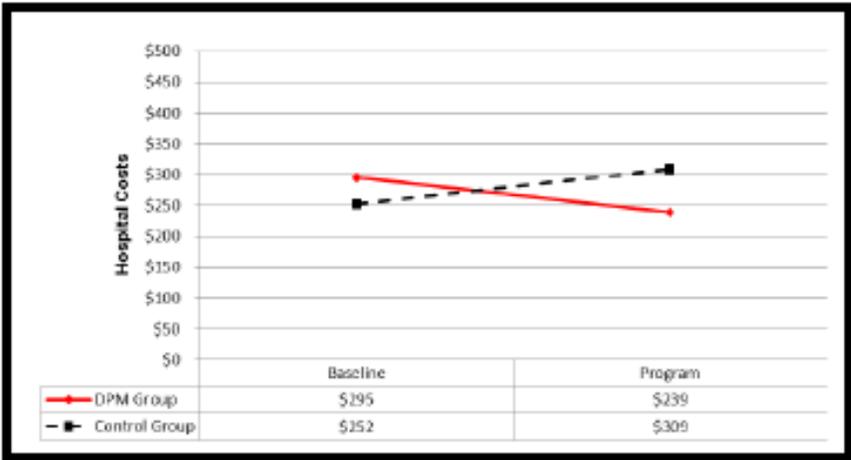
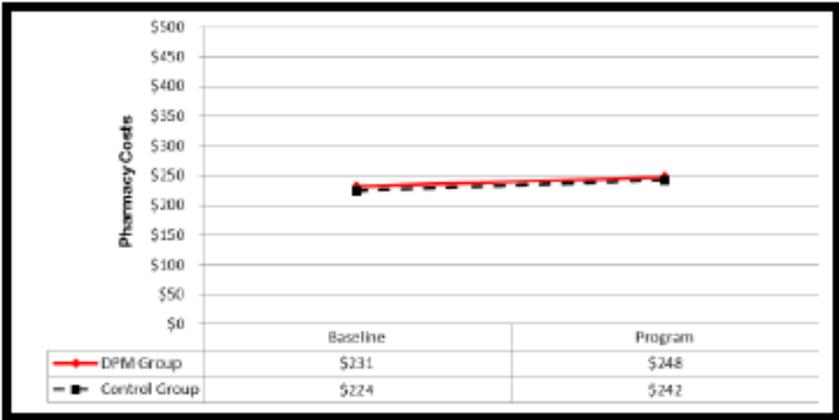
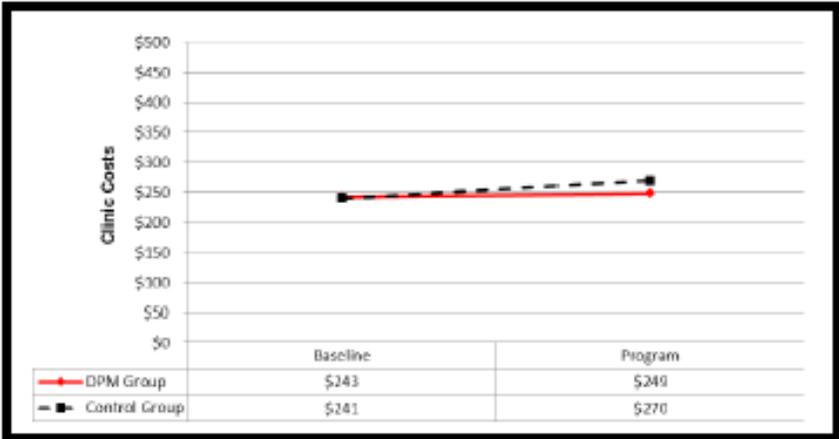
Demographics	
Mean Age	53.7 years
Type 2 Diabetes	72%
Average # of Medical Conditions	6.1
Average # of Medications	10.3
Average # of Pharmacist Identified Medication Related Problems	3.4



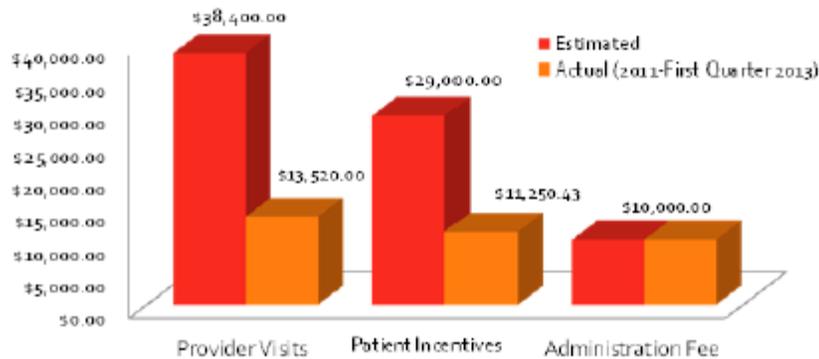
Overall health care expenditure **monthly savings of \$71.14 per program participant** compared to control. **For every \$1.00 spent** (administrative expensive and patient incentives) on the Diabetes Program **NDPERS saved \$2.34**. Sample size at time of analysis was able to identify trends however was too small to determine statistical significance.



In worldwide studies, lower A1c is correlated with better prevention of microvascular complications such as Kidney Disease and Blindness.



Levels of Services July 2011 - June 2013



Marketing:

In 2008 when the program was first launched a letter to all eligible patients as well as a follow up postcard was delivered and over 200 individuals opted into the program that year. Current recruitment occurs on a monthly basis where newly eligible patients are sent a letter and a wellness enrollment form that lists all the program provider locations. In 2012, current marketing strategy engaged ~4% of the newly eligible patients.

Direct Marketing to Eligible Patients 2013-2014

During the fourth quarter of 2013 a direct to consumer marketing campaign was launched with a goal to activate 10% of the eligible patient population over the next biennium. Newly eligible patients will continue to receive a letter and enrollment form on a monthly basis. In addition, all eligible patients will receive a letter explaining the program along with enrollment form and two follow up postcards.

	Letter/Enrollment form	Postcard 1	Postcard 2
Newly Eligible	Monthly		
All Eligible Patients Last Names Starting with A-L	Fourth Quarter 2013	First Quarter 2014	Second Quarter 2014
	Oct- A-D	Jan-A-D	Apr-A-D
	Nov- E-H	Feb-E-H	May-E-H
	Dec-I-L	Mar-I-L	Jun-I-L
All Eligible Patients Last Names Starting with M-Z	First Quarter 2014	Second Quarter 2014	Third Quarter 2014
	Jan-M-P	Apr-M-P	Jul-M-P
	Feb-Q-T	May-Q-T	Aug-Q-T
	Mar-U-Z	June-U-Z	Sep-U-Z

Marketing efforts from the fourth quarter 2013 through first quarter 2014 have increased enrollment. Currently have 198 (5.6% of total eligible population) patients with signed wellness forms. We are currently half way to our activation goal for the 2013-2015 biennium.

Letter



Diabetes Management Program

Date

Dear Member ,

Living with daily health concerns can affect all parts of your life. North Dakota Public Employees Retirement System (NDPERS) knows that the care you receive now is important to your future health. Having a health care team (Primary care Provider, Diabetes Educator, Clinical Pharmacist, and Dietician) is the best way to manage diabetes. We have joined forces with *About the Patient* to provide free clinical pharmacy services to round out your health care team. The best part is that it may be as simple as spending a little extra time when you fill your prescription at your local pharmacy, if they are a provider.

We know your time is valuable. Our way of thanking you for taking part in this program is to *refund co-pays for diabetes medications, testing supplies and certain medicines used for kidney safety every six months while in the program.*

Taking part in the program is easy. Call 1-888-326-4657 to sign up over the phone or visit the **About The Patient** website: www.AboutThePatient.net to download the enrollment form. At your convenience, schedule a one-on-one visit with a pharmacist specially trained in diabetes. A list of diabetes management programs in your area is listed on the back of this letter.

You do not need to be a patient or customer at the location of the program. Your medications will continue to be covered through any pharmacy of your choice. Because the diabetes management program is customized to your needs, you can opt out at any time.

After all, it is all about you and your health. Now is the best time to manage your diabetes. Hope to hear from you soon!

Sincerely,

Wendy Brown Pharm.D, PA-C, AE-C
Clinical Coordinator



Location	Address	City	Certified Local Pharmacist
Belcourt Drug	1110 Hospital Rd Suite #1	Belcourt	Mary Jo
Churchill Pharmacy	1190 W. Turnpike Ave.	Bismarck	Patricia, Daniel
Dakota Pharmacy	705 East Main Ave.	Bismarck	Stacey, Crystal
Gateway Health Mart-North	5101 North 11th St.	Bismarck	Pat, Barb, Janel, Jennifer, Pamela, Allison
Gateway Health Mart-South	835 S. Washington	Bismarck	Lance, Tom, Jennifer, Brita
Northbrook Drug	1929 N Washington St	Bismarck	Cindy, Debra, Kim, Thomas
St. Alexis Community Pharmacy	900 E. Broadway Ave.	Bismarck	Connie
The Medicine Shoppe	1304 E Blvd. Ave.	Bismarck	Tanya, Jodi
White Drug #5	117 N 5th St.	Bismarck	Ken, LeNeika
Central Pharmacy	990 Main St.	Carrington	Shane, Kristin
White Drug #53	201 E 3rd Ave. S.	Cavalier	Kinsey
Bell Pharmacy (Thrifty White #47)	323 5th St NE Suite 2	Devils Lake	Donna, Allison
Clinic Pharmacy	1001 7th Street NE	Devils Lake	Diane
White Drug #63	425 College Drive S #10	Devils Lake	Marcus
ND Pharmacy	446 18th Street West	Dickinson	Dawn
Family Health Care Pharmacy	301 NP Avenue	Fargo	Miguel, Betty, Nicole, Jennifer, Sue
Linson Pharmacy	3175 25th Street S	Fargo	Steve
Sanford Mills Ave Pharmacy	737 Broadway	Fargo	Susanne, Grece
NDSU College of Pharmacy	Sudro Hall On the NDSU Campus	Fargo	Heidi, Alicia, Jeanne, Liz, Wendy
Southpoint Pharmacy	2400 32nd Ave S	Fargo	Shayla, Jeff, Karla, Staci
The Medicine Shoppe #80	1605 S University Dr	Fargo	Oliver, Ross
White Drug #68	4255 30th Ave S	Fargo	Krystal
White Drug #39	1401 33rd St SW	Fargo	Cindy
Thrifty Patient Care Center	706 38th Street NW	Fargo	Melissa, LaNell, Wendy
Forman Drug Inc.	350 Main St S	Forman	Diane, Nathan
Thrifty White #65	544 Hill Avenue	Grafton	Samantha
Family Medicine Residency Pharmacy	725 Hamline Street On the UND campus	Grand Forks	Jana
Thrifty White Drug #9	2475 32nd Ave S Suite #1	Grand Forks	Donell, Tim
Wall's Medicine Center	708 S Washington Street	Grand Forks	Dan
Hazen Drug	30 W. Main	Hazen	Mike
White Drug #55	112 S Main St	Hettinger	Kim
Hillsboro Drug	13 North Main St.	Hillsboro	Randy
White Drug #45	310 First Ave S	Jamestown	Paul
Gateway Health Mart	500 Burlington Street SE	Mandan	James, Heather, Robert
Thrifty White Drug #43	511 First Street NW	Mandan	Mark, Nedine
B & B Northwest Pharmacy	20 Burdick Exp. W	Minot	Marla
Key Care Pharmacy	400 Burdick Express E #201	Minot	Marla
Market Pharmacy	1930 S Broadway	Minot	Brad
Thrifty White Drug #40	2700 8th St NW	Minot	Tayna
White Drug #17	1015 S Broadway Suite 3	Minot	Tayna
Central Pharmacy	4 N 8th Street	New Rockford	Shane
Tara's Thrifty White	610 Main Ave	Oakes	Tara
White Drug #50	107 2nd Street SE	Rugby	Kyle
Turtle Lake Drug	218 E Main	Turtle Lake	Jamie
Central Avenue Pharmacy	323 N Central Ave Suite 101	Valley City	Doreen
Thrifty White #60	148 S Central Ave	Valley City	Thrifty Patient Care Pharmacists
Southtown Econodrug	587 S 11th Street	Wahpeton	Ashley, Paula
White Drug #46	1100 13th Ave East	West Fargo	Holly, Danielle
Service Drug Pharmacy	317 Main	Williston	Lisa, Jody

Postcard 1

To enjoy activities that are important...
Your Health Matters

When was the last time you sat down one-on-one with a local medication expert to talk about your diabetes medication?

ND Public Employees Retirement System is providing **FREE** one-on-one face-to-face visits with specially trained pharmacists in your area.

- For taking part in the program, **copays on select medications and testing supplies are waived.**

Call or click today for more information:
1-800-326-4657
www.AboutThePatient.net

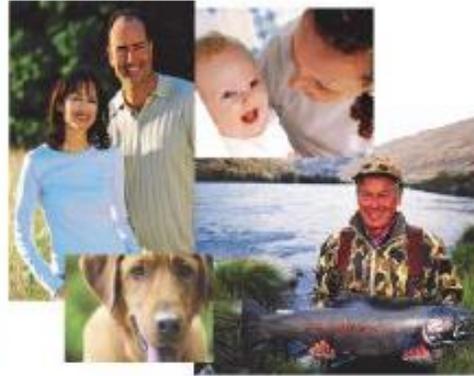
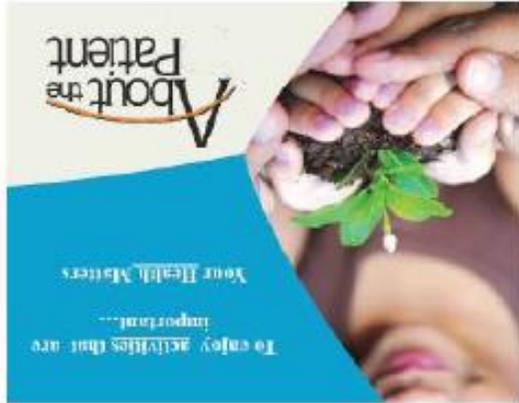
PATIENT NUMBER

1-800-326-4657
www.AboutThePatient.net

Sponsored by:

About the Patient

Postcard 2



ND Public Employees Retirement System is providing **FREE** one-on-one face-to-face visits with specially trained pharmacists in your area.

Co-pays on select medications are **refunded**.
 To learn more *** 1-888-326-4657
www.AboutThePatient.net



RETIREMENT SERVICES



Sponsored by:



Strategic Goals

Marketing campaign for eligible patients with diabetes beginning fourth quarter 2013 through first quarter 2014. Increased activation of eligible patients

BCBS of North Dakota executive summary from March 2014 demonstrated that per Medi-Q-Home findings the NDPERS patient's optimal diabetes compliance exceeded the target and state averages for 2013

Based on the success of the diabetes program model expand to a broader Collaborative Drug Therapy Program. Opt-in eligible population would contain the top chronic conditions (Diabetes, Coronary Artery Disease, Hypertension, Heart Failure and Asthma) seen in the NDPERS population. Patient education would be face to face identifying and reducing barriers to medication adherence*.

Treatment → Adherence → Outcomes†

* Ho P, Bryson C, Rumsfeld. Medication Adherence: Its Importance in Cardiovascular Outcomes. *Circulation*. 2009; 119:3028-3035. Adherence To Long-Term Therapies: Evidence for Action. World Health Organization. 2003. http://www.who.int/hiv/pub/prev_care/tttherapies/en/. Accessed 3/28/2014. ISBN 92 4 154599 2.

† Brown M, Bussell J. Medication Adherence: WHO Cares? *Mayo Clinic Proceedings*. 2011;86(4):304-314.

Proposed Level of Services July 2015-June 2017

July 2015-June 2017	
Direct Program Cost	0.00
Provider Visits	\$132,000.00
Patient Incentives	\$43,000.00
Subtotal	\$175,000.00

Administration Costs	
Subtotal	\$20,000.00

Marketing Costs	
Direct to consumer mailings	\$5000.00
In-pharmacy marketing	
Subtotal	\$5000.00

TOTAL Biennial Expenses	\$200,000.00
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Expense estimates are for serving ~200 patients (~5% participation rate) over the next biennium. Each patient would be eligible to receive a Comprehensive Medication Review (CMR-\$400.00) and up to 2 Targeted Medication Reviews (TMR-\$80.00) the first year and one CMR (\$200.00) and one TMR (\$80.00) in for any subsequent years of participation in the program.

In-kind from NPhA and NDSU: Telephone (maintaining toll free direct number for patients), office space, office supplies, Training/Credentialing/Certification of providers, patient curriculum, Clinical Coordinator, Data Analysis.

About The Patient would like to thank the North Dakota Pharmacist Association and North Dakota Public Employees Retirement System for their continued partnership to provide innovative community based clinical pharmacy services to eligible patients in North Dakota.

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