North Dakota 2020 Diabetes Report

North Dakota Century Code 23-01-40

Compiled by the North Dakota Diabetes Prevention and Control Program on behalf of:

- North Dakota Department of Health
- North Dakota Department of Human Services
- North Dakota Public Employees Retirement System
- North Dakota Indian Affairs Commission
- Mandan, Hidatsa, Arikara Nation | Three Affiliated Tribes
- Spirit Lake Nation

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EXECUTIVE SUMMARY

This report has been completed to comply with North Dakota Century Code (N.D.C.C.) 23-01-40. Diabetes goals and plans - which requires in even numbered years, four state agencies – the North Dakota Department of Health (NDDoH), the North Dakota Department of Human Services (NDDHS), the North Dakota Indian Affairs Commission, and the North Dakota Public Employees Retirement System (NDPERS) collaborate to develop a report on the impact of diabetes on North Dakotans and propose recommendations to address this epidemic.

This report describes the prevalence, complications, cost 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.

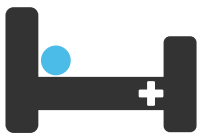
The NDDoH requested and compiled data about diabetes in the populations each entity serves such as how diabetes is addressed and actionable strategies for future efforts. Many of the future action items rely on policy, system, and environment change approaches in partnership across sectors and stakeholders. Each contributing partner and the four state agencies reviewed and came to consensus on the report that follows.

Acknowledgements

- *Brianna Monahan, Diabetes Prevention and Control Program Coordinator, NDDoH*
- *Clint Boots, Epidemiologist, NDDoH*
- *Janna Pastir, Director of the Division of Health Promotion, NDDoH*
- *Krista Fremming, Deputy Director for North Dakota Medicaid, NDDHS*
- *Rebecca Fricke, Chief Benefits Officer, North Dakota Public Employees Retirement System*
- *Brad Hawk, North Dakota Indian Affairs Commission*
- *Jared Eagle, Fort Berthold Diabetes Program*
- *Challsey Scallon-MSN RN, Spirit Lake Health Center, Diabetes Nurse Educator/Diabetes Quality Coordinator*

The Cost of Diabetes

In 2018, the total estimated cost of diagnosed diabetes was **$327 billion**



$237 billion
in direct medical costs

$90 billion
in indirect medical costs*

*related to absenteeism, presenteeism, inability to work and reduced productivity for those not in the workforce and premature mortality (1).

Medications constitute the largest portion (43%) of excess cost associated with the total direct medical burden.

- Insulin • $15 billion
- Other anti-diabetes agents $15.9 billion
- Prescription medications for conditions associated with diabetes $71.2 billion

People with diagnosed diabetes:

- Medical expenditures per year on average $16,750
- Medical expenses roughly 2.3x higher than those without diabetes. [1]

Associated Complications

Diabetes increases the risk for many health conditions including heart disease, blindness, end stage kidney disease and amputations. Diabetes also reduces a person's ability to fight infections and increases risk for complications from communicable illnesses. By managing diabetes with routine testing and medical visits, those impacted by diabetes can prevent and delay the onset of complications.

Due to the many risks and reduced quality of life, it is important to increase screening and diagnosis of pre-diabetes so that individuals at risk for type 2 can modify lifestyle behaviors that can prevent or delay the onset of diabetes.

[1] Yang, W., Dall, T., Beronjia, K., Lin, J., Semilla, A.P., Chatrabarti, R., Hogan, P. Economic costs of diabetes in the US in 2017. (2018). Diabetes Care; 41:917-928\https://doi.org/10.2337/dci18-0007.

OVERVIEW OF DIABETES RISK FACTORS IN NORTH DAKOTA

Risk Factors based on the 2018 Behavioral Risk Factor Surveillance System (BRFSS)

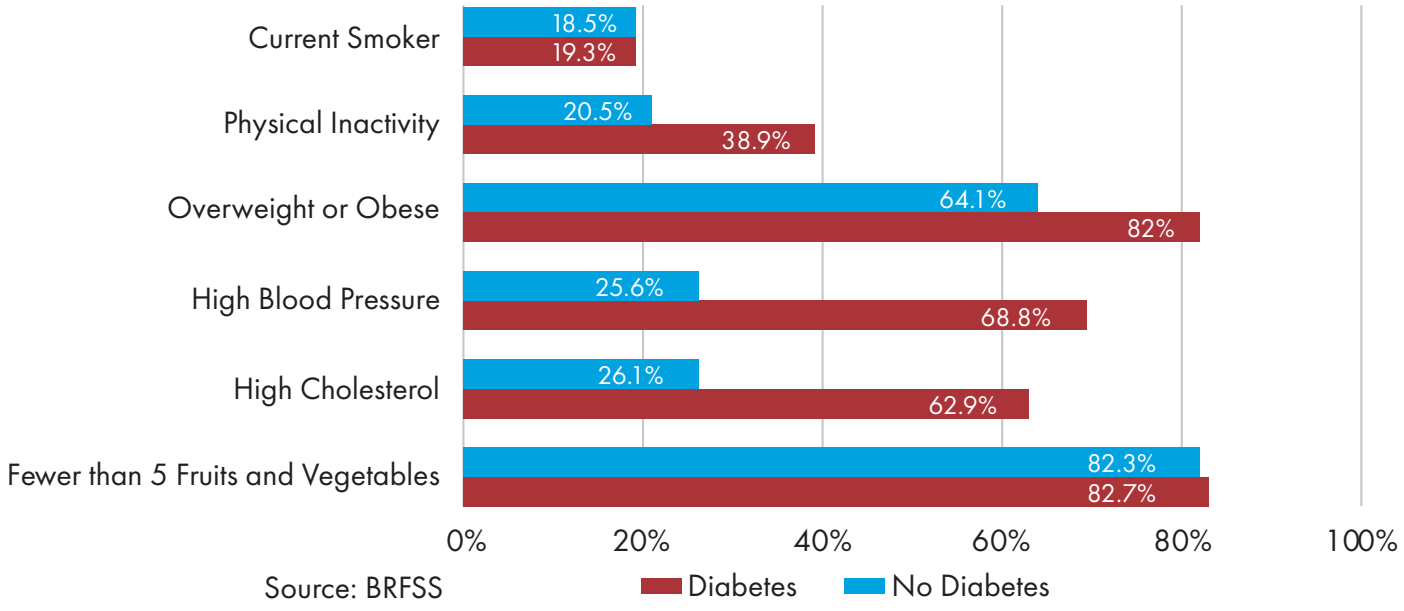
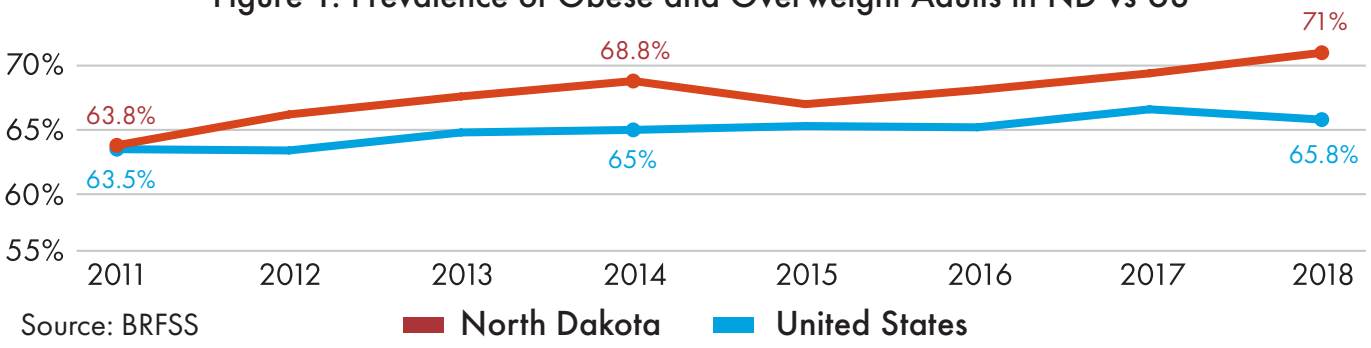


Figure 1. Prevalence of Obese and Overweight Adults in ND vs US



In 2018

54,657 adults were living with diagnosed diabetes (BRFSS 2018)

16,281 adults had undiagnosed diabetes (BRFSS 2018)

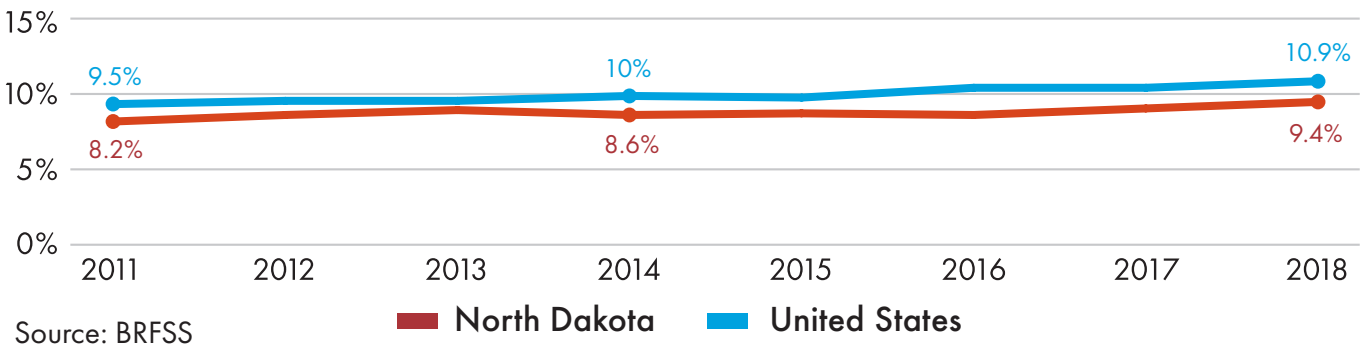
162,580 adults have prediabetes (North Dakota 2018 Census/CDC)

The prevalence of diagnosed diabetes among adults (18+) in North Dakota (ND) has increased over the past 6 years

From
8.2% (2011)
to
9.4% (2018)

*as shown in Figure 2 (below), data related to the impact of diabetes on family members is not available

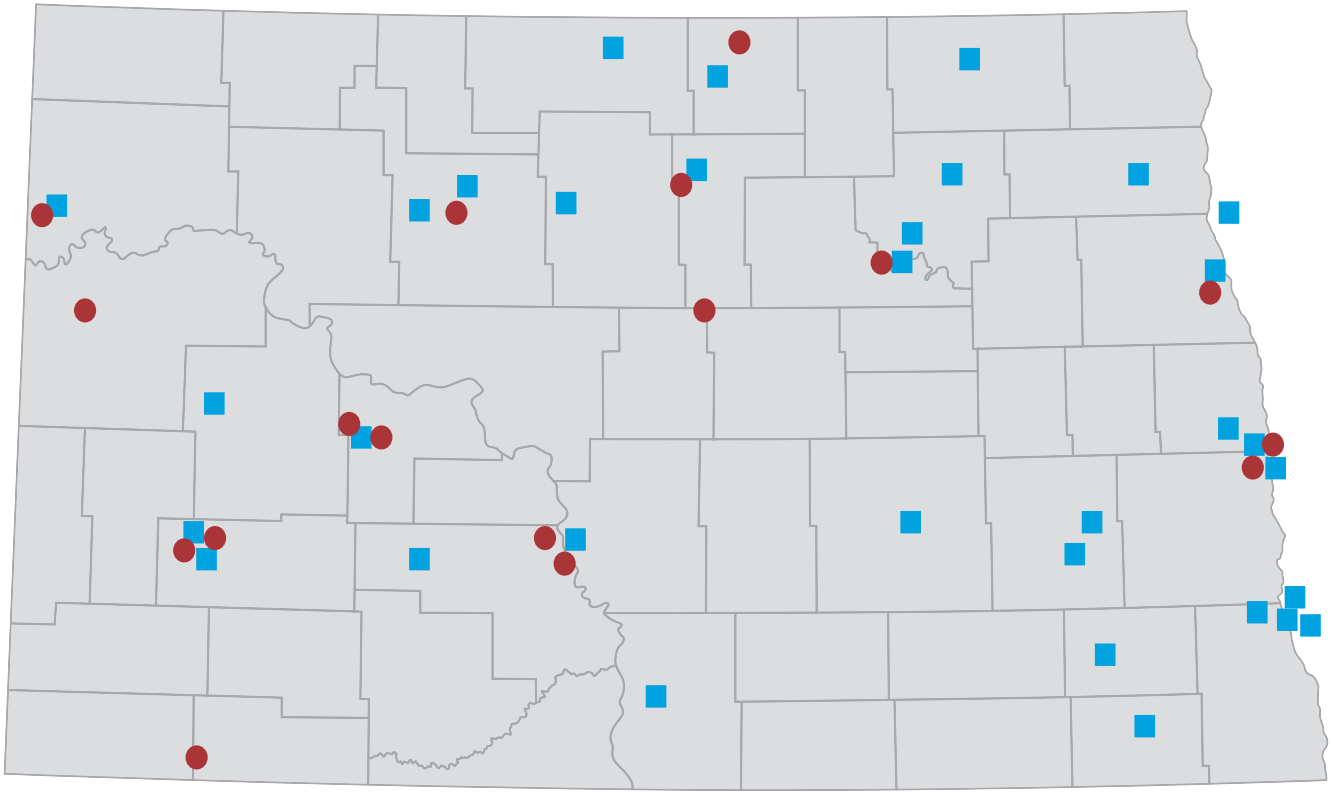
Figure 2. Percent of US and ND Adults with Diabetes



Source: BRFSS

The North Dakota Department of Health (NDDoH) receives federal funding for the ND Diabetes Prevention and Control Program (NDDPCP) from the Centers for Disease Control and Prevention (CDC). The CDC has a prescriptive expectation for how the funds are spent, totaling approximately $1.8 million dollars in the 2019-2021 biennium. The purpose of the funding is to coordinate diabetes prevention and control activities across the state, among various partners and practices through multiple programs and practices. The NDDPCP coordinator is responsible for increasing access to and enrollment in the National Diabetes Prevention Program (National DPP) for people at increased risk for developing type 2 diabetes. The coordinator is also responsible for increasing the use of Diabetes Self-Management Education and Support (DSMES) programs. The NDDPCP partners with health systems to facilitate the implementation of best-practice protocols and electronic health record improvements to provide system-wide approaches for improved screening, diagnosis, treatment, referral, and on-going management of people with diabetes and prediabetes. The NDDPCP Coordinator participates in efforts to leverage funding when appropriate with other NDDoH programs that address the lifestyle risk-factors for overweight, obesity, and diabetes, including the Preventive Health and Health Services and Maternal and Child Health Block Grants.

Diabetes Program Sites



Source: National Center for Chronic Disease Prevention and Health Promotion, Division of Diabetes Translation; Association of Diabetes Care & Education Specialists, 2020

National Diabetes Prevention Program
Diabetes Self–Management Education

Costs Associated with Diabetes

The NDPERS members identified with diabetes incurred a total of $63.1 million in allowed medical expenses. This amount includes all medical claims paid for these members, including diabetes-related expenses. $4.63 million was the allowed amount for claims with diabetes as the primary diagnosis.* Members with diabetes claims had the seventh highest cost during this eight-month period. North Dakota is one of only four states that does not have a mandated insurance requirement specific to diabetes coverage. Patients with diabetes have no guaranteed minimum coverage for their related medical expenses.

**All data and graphs for NDPERS are based on Reporting period January 1, 2019 to August 31, 2019. Information provided by Sanford Health Plan.*

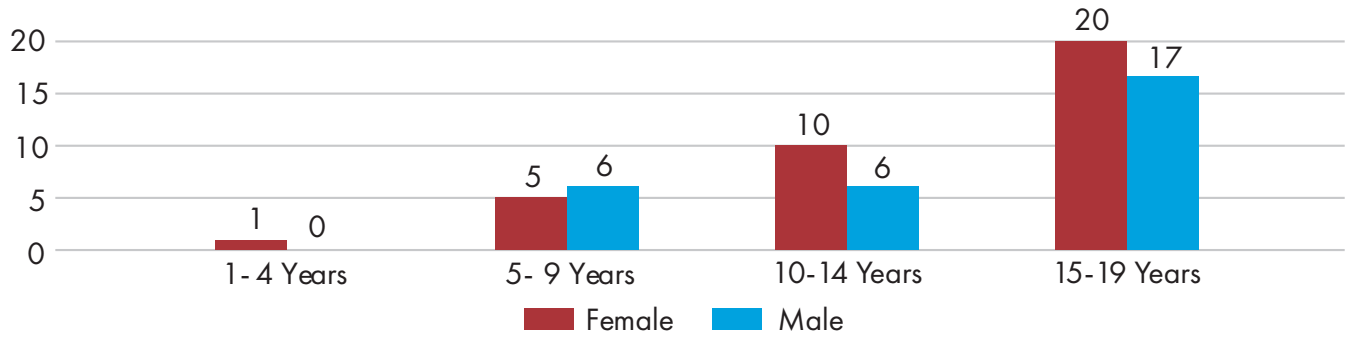
NDPERS Top 10 Diseases by Total Allowed

Diseases	# of Members Total	Total Allowed	Average Allowed/ Member
Cancer	2,028	$57,495,139.70	$28,350.66
Congenital Anomalies	2,977	$70,528,477.17	$23,691.12
Diabetes	**3,127**	**$63,093,855.42**	**$20,177.12**
Osteoarthritis	4,233	$78,170,676.94	$18,466.97
Major Depression	4,088	$65,104,653.51	$15,925.80
Hypertension	8,295	$127,042,004.20	$15,315.49
Hyperlipidemia	8,173	$113,317,875.97	$13,864.91
Back Pain	14,677	$144,757,522.76	$9,862.88
Neck Pain	9,903	$90,637,359.34	$9,152.52
Uncomplicated Hypertension	41,247	$231,564,008.37	$5,614.08

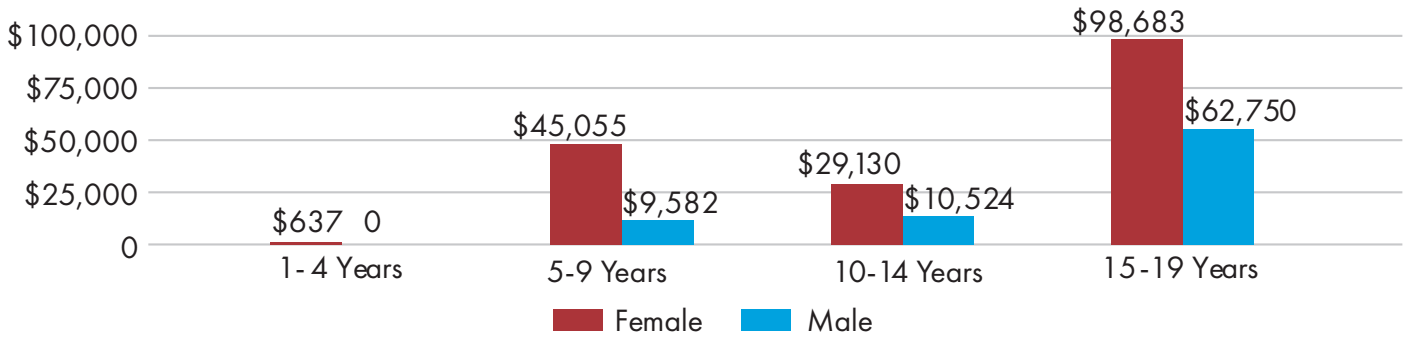
Incurred Claims Related to Diabetes and Its Complications - NDPERS Jan 2019 - Dec 2019

Diabetes With:	Inpatient	Outpatient	Professional	Total Allowed
Without Complications	$4,657.93	$890,304.39	$842,358.43	$1,737,320.75
With Other Complications	$189,332.59	$532,919.96	$532,919.96	$1,551,475.37
Ophthalmic Manifestations	-	$25,036.70	$556,430.22	$581,466.92
Ketoacidosis	$297,457.78	$2,096.73	$46,070.66	$327,625.17
Peripheral Circulatory Disorder	$74,730.26	$9,855.02	$95,535.67	$180,120.95
Renal Manifestations	$16,839.23	$22,387.60	$72,167.87	$111,394.70
Neurological Manifestations	-	$21,666.60	$51,103.65	$72,770.25
Maternal/Pregnancy	$27,367.32	$5,706.72	$19,174.85	$52,248.89
Hyper/Hypoglycemia	$9,223.39	$184.30	$2,395.21	$11,802.90
Other Manifestations	-	-	$1,845.78	$1,845.78
Total Allowed	**$601,608.50**	**$1,806,460.88**	**$2,220,002.30**	**$4,628,071.68**

NDPERS Youth with Diabetes Episode by Gender and Age



NDPERS Youth Diabetes Diseases Payments by Gender and Age



CURRENT NDPERS/SANFORD HEALTH PLAN (SHP) PROGRAMS AND SERVICES

Case Management Program

Sanford Health Plan provides support to members with diabetes through the assistance of a case manager who works with the member to develop a self-management plan that aligns with the physician's treatment plan. Education on recommended care, assistance with social determinants of health and suggestions on healthy lifestyle changes are also provided.

- Diabetes Prevention Program
- Free Dietetics Consults
- Free Ongoing Wellness Coaching
- Free Fitness Consults

Center for Lifestyle Medicine

Sanford Health Plan has a population health initiative targeting NDPERS members in Fargo and Bismarck with a diagnosis of obesity. Those members have free access to Sanford Health Plan's Center for Lifestyle Medicine.

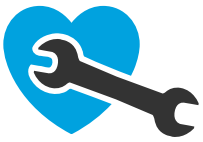
Fee-reduced "Exercise is Medicine" is available for all qualifying Sanford Health Plan members with prediabetes, obesity, depression/anxiety, type 2 diabetes, metabolic syndrome, high blood pressure, and/or high cholesterol residing in Fargo, Bismarck and Grand Forks.

Sanford Health Plan Member Outreach

Sanford Health Plan performs targeted outreach twice per year to members with type 2 diabetes and prediabetes, ensuring members know about all of the wellness benefits available to them.

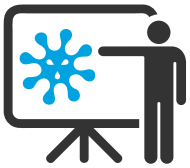
About the Patient

Administered by the ND Pharmacy Association, this program reduces out-of-pocket expenses for diabetic medication and supplies while including pharmacy consultation at no cost.



Profile by Sanford Health

Sanford Health Plan offers discounts to members for dietary products (Profile) and coaching services.



North Dakota Schools

North Dakota schools have free access to fit.sanfordhealth.org, which includes classroom curriculum and lesson ideas. The Sanford FIT team also consults with North Dakota schools free of charge.

North Dakota Worksites

Sanford Health Plan staff visit North Dakota workplaces to help with interventions to increase cultures of wellness, including starting fresh fruit programs, wellness education presentations, breakroom and cafeteria assessments, leadership training and employee health screenings.

NORTH DAKOTA MEDICAID

North Dakota Medicaid provides coverage for about 90,000 North Dakotans including families with children, pregnant women and people who are elderly or disabled. Diabetes affects many Medicaid members and can be costly to manage.

Between July 1, 2018, and June 30, 2019, 6,980 unique, traditional (fee for service) North Dakota Medicaid members had an incurred claim that included a diabetes diagnosis code or for diabetes-related medication or blood glucose test strip. The net payment made by North Dakota Medicaid for these claims was $6,811,804.23.

North Dakota Medicaid covers a variety of services, equipment and medications to help members manage their diabetes:

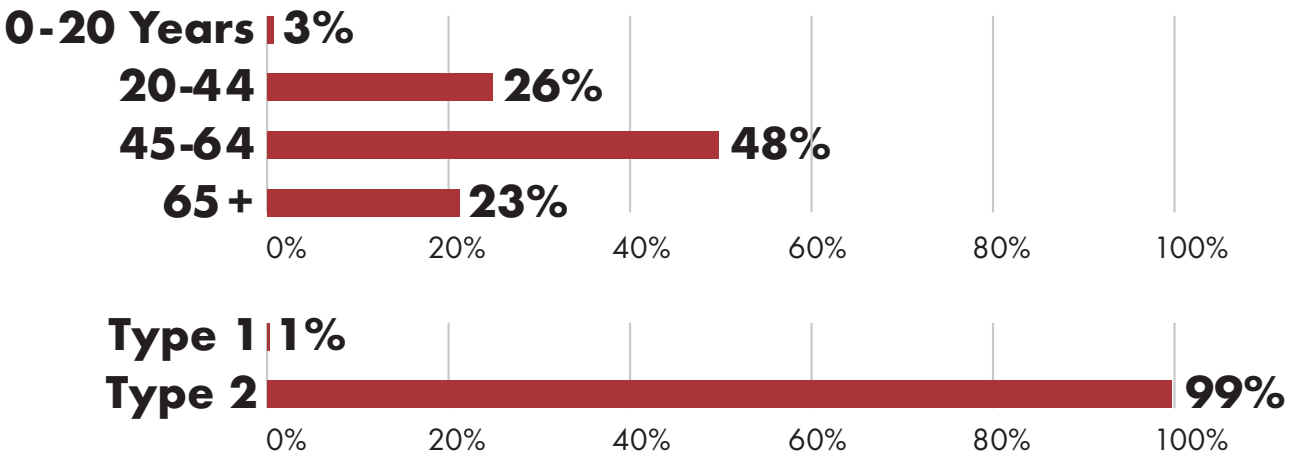
- *Diabetic self-management training and education on medical nutrition therapy (nutritional diagnostic, therapy, and counseling services) and blood glucose monitors (not continuous)*
- *Diabetic shoes and inserts*
- *Insulin pumps*
- *Medications and supplies including insulin, test strips, syringes, needles, etc.*

FY 2019	UNDER 18	18-44	45-64	65+	TOTAL
Diabetes Claims by Age Group	364	1,699	2,441	2,734	6,980
Net Payment	$558,916.93	$2,299,350.53	$3,565,696.54	$377,840.23	$6,811,804.23

Each tribal community was asked to provide input from their communities. The Mandan, Hidatsa, Arikara (MHA) Nation-Three Affiliated Tribes and Spirit Lake Nation responded. American Indian prevalence and mortality data is inclusive of all North Dakota residing American Indians and is included with the previous North Dakota data.

MHA Nation Prevalence and Summary

Diabetes is the top condition in the MHA Nation health system.



The Fort Berthold Diabetes Program conducts community and school screenings for body mass index (BMI), A1C, random blood sugar, cholesterol, and blood pressure throughout the year. MHA has an adolescent diabetes prevention and lifestyle adaptation program called Healthy Futures which focuses on youth at increased risk for diabetes. The Healthy Futures program consists of eight trained DPP lifestyle coaches who conduct regular interventions, a summer Lifestyle Camp and cooking and exercise classes.

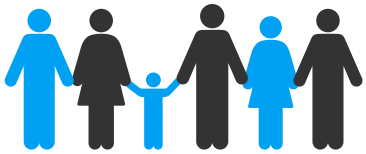
MHA Nation also offers:

- *Daily diabetes care and management*
- *Weekly diabetes specialty clinics*
- *Monthly diabetic shoe clinics*
- *A continuous glucose monitor (CGM) program*
- *An Elbowoods Memorial Health Center (EMHC) system offering 40 different medications*

Spirit Lake Health Center offers a diabetes self-management education and support (DSMES) program that provides classes to patients on a monthly basis by a diabetes nurse educator, a Certified Diabetes Nurse Educator, a Registered Dietitian Nutritionist (RDN) Certified Diabetes Care and Education Specialist (CDCES), and a Registered Nurse CDCES.

The diabetes program also provides:

- *Daily diabetes management or nutrition review*
- *Bimonthly diabetes eye clinics*
- *Foot care services offered by a registered nurse*



Spirit Lake Nation also has the Special Diabetes Program for Indians (SDPI), a community-based program focused on the prevention of prediabetes, type 2 diabetes and diabetes-related complications. The SDPI functions out of the Sacred Life Center, a diabetes fitness and education center with certified lifestyle coaches that implement a Diabetes Prevention Program (DPP).

SDPI also offers:

- *Monthly lunch and learns*
- *Quarterly grocery store tours led by a Registered Dietician*
- *Fitness and cooking classes*
- *One-on-one fitness consultations*

Spirit Lake is currently exploring the possibility of utilizing continuous glucose monitors for diabetes management and is developing a healthy foods initiative to encourage all tribal programs to provide healthy food options during staff meetings and/or community events.

ACTION PLANS, COORDINATION AND EVALUATION OF ACTIVITIES

Each of the contributing agencies develop action plans as they deem appropriate to address the risk factors and burden of diabetes. The NDDPCP Coordinator provided connection between the contributing agencies for this report, and others in the state, by leveraging activities and partnerships, ensuring organizations are working collaboratively with cross-cutting goals, and sharing examples of successful strategies that can be replicated between communities and organizations.

Each entity conducts assessment of program effectiveness, using data to make informed decisions to continuously improve access to or delivery of diabetes prevention and management activities within their reach and capacity to influence. Each of the contributing entities has committed to:

NDDoH: Continue to collect and analyze disease burden data; support community implementation of strategies that address risk-factors for diabetes; encourage health policy to influence the burden of disease; and leverage partnerships to improve access to and delivery of diabetes prevention and management programs statewide.

NDPERS: Routinely evaluate beneficiaries and determine if needs of the population are being met.

ND Medicaid: In order to provide better care coordination for people with or at risk of chronic conditions like diabetes, North Dakota Medicaid is exploring an alternative to its Primary Care Case Management (PCCM) program that would incentivize primary care providers to achieve quality outcomes for their patients.

MHA Nation: Increase focus on the obesity epidemic of adolescents through teaching nutrition/healthy cooking, providing opportunities for physical activity as part of school curriculums, and providing access to healthy food options for rural communities.

Spirit Lake Nation: Provide additional support in offering physical activities and nutritional services, specifically youth-focused. Continue efforts to provide access to healthier food choices, secure funding for continuous glucose monitoring for patients, contract an on-site podiatrist, and increase mental/behavioral health awareness.

Actionable Items for Consideration

Each of the contributing agencies agreed that, in addition to ongoing evaluation and improvement of their own strategies, diabetes can best be prevented through a cross-sector, community-based approach that increases:

- *consumption of minimally processed foods*
- *participation in physical activity*

The contributors recommend investing in/and or implementing the following:

Institute minimum health insurance policy coverage requirements for diabetes treatment and services. North Dakota is one of only four states that do not have a mandate or insurance requirement related to diabetes care. Because of this, prevention, management, and medication coverage vary greatly and places added burden on North Dakotans living with diabetes.

Encourage and support businesses in creating cultures conducive to their employees living healthy, fulfilling lives. Strategies include providing access to healthy food in the workplace; limiting long work hours or providing flexibility to allow for exercise; and providing parental, sick, and vacation leave. Mental health status can directly influence the physical health of individuals.

Encourage restaurants and concessions to offer healthy menu options, such as offering both full and half-portion options.

Explore and support a transition towards value-based care and reimbursement models designed to improve quality and reduce costs related to chronic disease. These efforts should encourage health systems to follow best-practice guidelines for disease management; provide effective coordination of team-based, patient-centered care; and innovate ways of preventing disease and monitoring patient outcomes.

Encourage retailers of all kinds to consider their environmental impacts and support mixed use communities/spaces that make patronizing retail establishments feasible by walking, biking, or public transit.

Support cities and counties participating in the Main Street Initiative and/or investing in infrastructure and green space that supports and encourages year-round, healthy living and physical recreation for residents of all ages and abilities.

Ensure healthy foods at schools and childcare settings, including restricting sugar sweetened beverages and snacks, teaching health and wellness literacy, and promoting healthy behaviors as part of practice and curriculum.

Increase access to nutritious food options across North Dakota, addressing availability, affordability, food security, and knowledge among communities.

The following strategies were identified as necessary for impacting diabetes in North Dakota:

- *Increased access to nutritious food options—addressing availability, affordability, food security, and knowledge among communities.*
- *Expansion of wellness programming for youth, including physical activity and cooking instruction.*
- *Equitable access to quality medical care that is aligned with best practice guidelines.*
- *Addressing the mental and behavioral health of persons with diabetes or at risk for diabetes.*

FINANCIAL IMPACT RELATED TO CURRENT AND FUTURE STRATEGIES

Budget Considerations

While none of the contributing entities suggested a need for additional funding at this time for their current workplans, there was consensus that implementation of the actionable items would best occur at the local level. For that reason, it is suggested to create a community grant fund specifically for communities and organizations to apply that would support local implementation of diabetes and risk-factor prevention strategies. The cost to implement any community strategies will vary based on the available resources and existing infrastructure.

The financial burden for individuals in North Dakota is related to the daily choices they have to face that are beyond diabetes care, including access to affordable nutritious food, safe places to engage in physical activity, and out-of-pocket healthcare costs for prevention and intervention. Access to affordable, fresh, nutritious food is not widely available but is the single most effective prevention method for diabetes and many other chronic conditions and diseases.

There are also costs associated with insurance and Medicaid coverage of improved glucose monitoring technology. Though the continuous monitors are not a large cost per individual, the long-term use and costs are not yet known. Much of the state has limited access to onsite diabetes specialists, so improved coverage for and utilization of technology that allows for remote monitoring and management of patients with diabetes would provide for improved and more equitable care.

It is also recognized that many schools are ill-equipped without onsite school nurses or access to telehealth school nursing for children with type 1 diabetes requiring insulin. Ensuring all schools have access during the entire school day to nurses through telehealth to assist children with insulin dose calculation would be a cost-effective approach for delivering care. This model of care is currently being utilized in 13 schools throughout North Dakota through Avera eCare., and has been shown to be effective not only for diabetes management, but for other health needs as well. The costs associated with this delivery model would be: $2,500 for a one-time implementation fee per site, a yearly equipment fee of $1,800 per school, and two other smaller enrollment fees that are based on school size. Learn more about Avera eCARE here. (Link to: http://www.averaecare.org/ecare/what-we-do/school-health/). Other models and/or entities that provide telehealth school nursing services should also be explored.

GLOSSARY

A1C: The Hemoglobin A1C test reflects an individual's average blood sugar for the previous three months. Specifically, the A1C test measures the percentage of hemoglobin — a protein in red blood cells that carries oxygen — is coated with sugar. The higher the A1C level, the poorer blood sugar control is and the higher the risk of diabetes complications.

BRFSS: The Behavioral Risk Factor Surveillance System (BRFSS) is the nation's premier system of health-related telephone surveys that collect state data about US residents regarding their health-related risk behaviors, chronic health conditions, and use of preventive services.

DSMES: Diabetes Self-Management Education and Support (DSMES) is an evidence-based diabetes management service model. Organizations offering DSMES services can apply for either accreditation by the American Association of Diabetes Educators (AADE) or recognition by the American Diabetes Association (ADA), and must be run by a Registered Dietitian, a Registered Nurse, or a Pharmacist. Reimbursement for DSMES services varies by insurer and policy.

Insulin: a hormone produced by the pancreas that is required for blood sugar to enter the cells in the body to be used for energy.

National DPP: The National Diabetes Prevention Program (National DPP) is an evidence-based lifestyle change program developed by the Centers for Disease Control and Prevention (CDC) to address the increasing burden of prediabetes and type 2 diabetes. Participation in the year-long program can reduce and individual's risk of developing diabetes by up to 58%.

Presenteeism: The practice of employees habitually coming to work when they shouldn't—especially coming in sick or working overly long hours. Presenteeism is modeled after absenteeism, which is the opposite: employees habitually not coming to work.

Type 1 Diabetes: In type 1 diabetes, the pancreas does not make sufficient insulin to allow for carbohydrates (sugar) to be used for energy. Type 1 diabetes can be diagnosed at any age, but is most often diagnosed in younger patients. Previously known as insulin-dependent or juvenile diabetes, type 1 diabetes accounts for only 5-10% of diabetes cases. There is no known prevention for type 1 diabetes, but can be effectively managed with medical intervention.

Type 2 Diabetes: In type 2 diabetes, the body resists the effects of insulin or does not produce enough insulin, leading to increased blood sugar levels. Type 2 diabetes has historically been diagnosed most often in adults over 45 years old, but is being seen with increasing frequency in progressively younger ages as rates of childhood obesity continue to rise. Type 2 diabetes accounts for 90-95% of diabetes cases, and most are preventable. Lifestyle intervention is effective for both the prevention and management of type 2 diabetes.

Value-Based Care: Value-Based Care provides a model for delivery of healthcare and payment that is based on patient outcomes. As opposed to a traditional fee-for-service model, in which physicians are paid based on the amount of services delivered, value-based care rewards providers based on improved patient health, reduction in the effects and incidence of chronic disease, and improved quality of life as the result of evidence-based care.

North Dakota Century Code 23-01-40

TITLE 23 HEALTH AND SAFETY CHAPTER 23-01 STATE DEPARTMENT OF HEALTH 23-01-40.
Diabetes goals and plans - Report to legislative management.

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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.

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