



# North Dakota 2022 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

# TABLE OF CONTENTS

Executive Summary.....	1
Overview of Diabetes in the United States.....	2
Overview of Diabetes in North Dakota.....	3-7
North Dakota Department of Health.....	8
North Dakota Public Employees Retirement System.....	9-11
North Dakota Medicaid.....	12
Diabetes Programs for American Indians.....	13
Action Plans, Coordination and Evaluation of Activities.....	14-15
Budget Considerations.....	16
Glossary.....	17-18
Appendix.....	19
References.....	20

# 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.

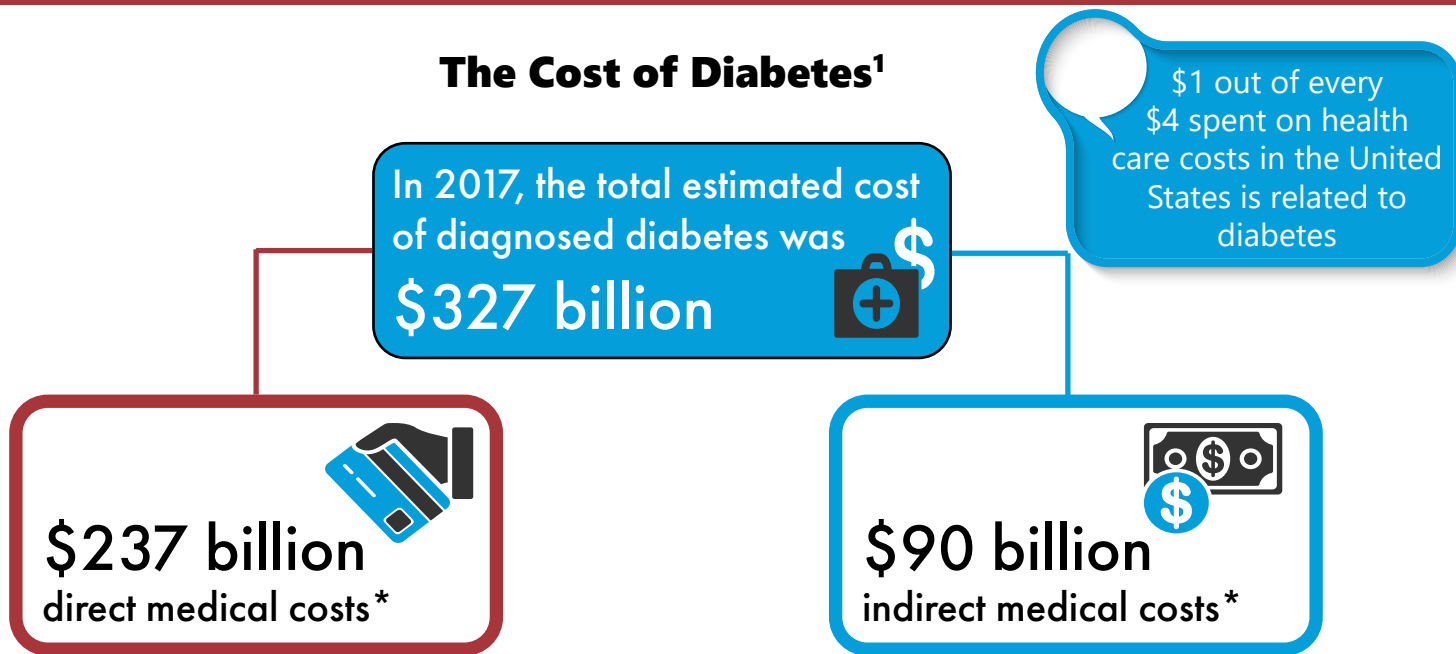
The NDDoH collaborated with the other three state agencies and additional partners by requesting data about diabetes in the populations each entity serves. The compiled data includes financial impacts and reach diabetes is having on the agencies, the state and localities. Many of the identified action items rely on policy, system and environment change approaches in partnership across sectors and stakeholders. The four state agencies and additional partners 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, NDPERS*
- *Gwen Davis, Fort Berthold Diabetes Program*
- *North Dakota Indian Affairs Commission*

# OVERVIEW OF DIABETES IN THE UNITED STATES

## The Cost of Diabetes<sup>1</sup>



\*Related to absenteeism, presenteeism, inability to work, reduced productivity for those not in the workforce and premature mortality<sup>1</sup>.

### 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

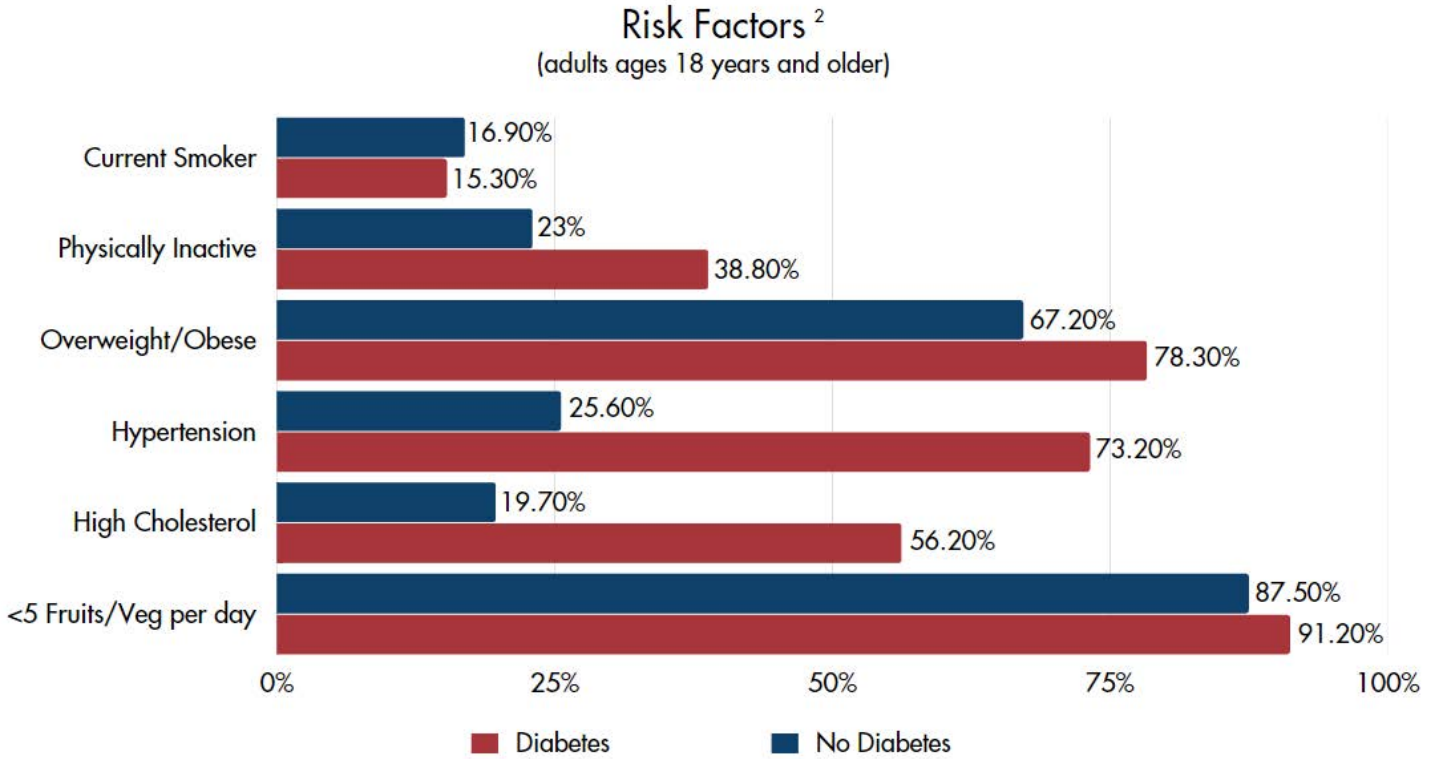
- Medical expenditures per year on average \$16,750
- Medical expenses roughly 2.3x higher than those without diabetes.

## Associated Complications

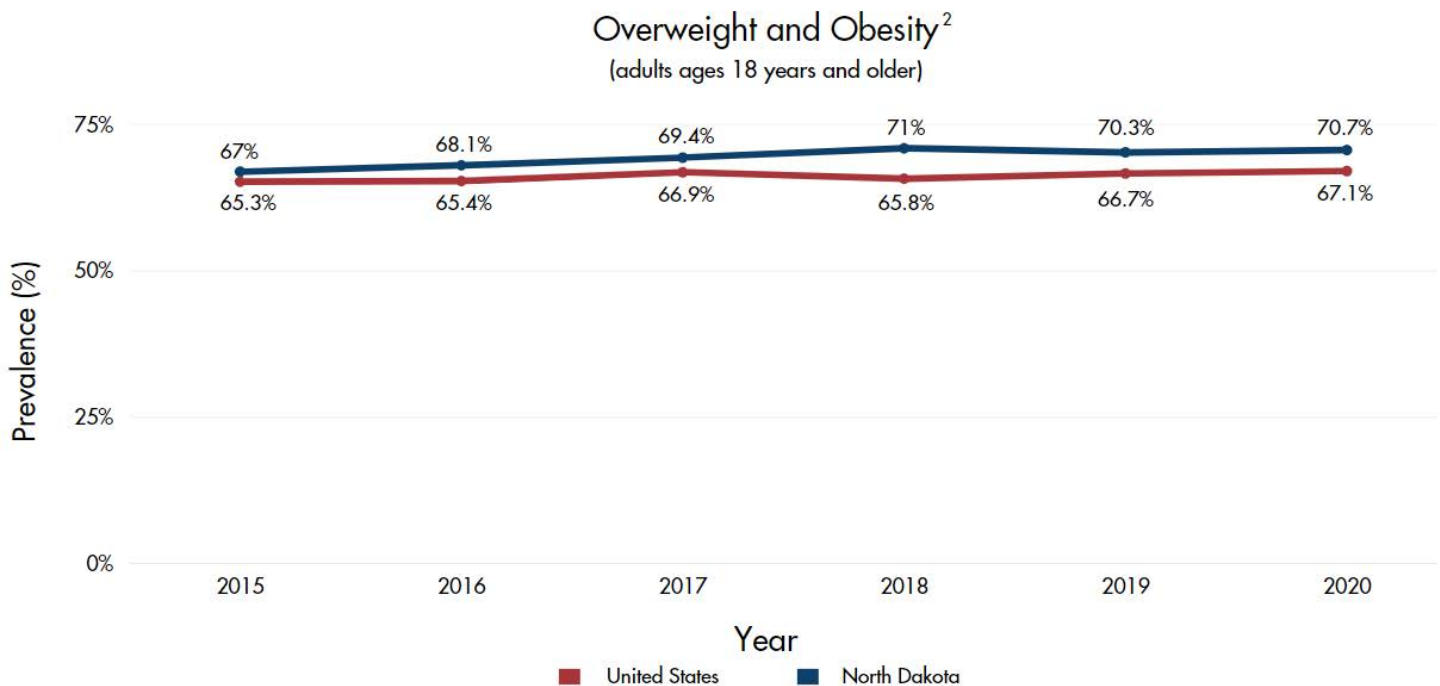
Diabetes increases the risk for many health conditions including heart disease, blindness, end stage kidney disease and amputations. Diabetes also reduces a person's ability to fight infections and increases risk for complications from communicable illnesses. By managing diabetes with routine testing 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 prediabetes so that individuals at risk for type 2 diabetes can modify lifestyle behaviors that can prevent or delay the onset of diabetes.

# OVERVIEW OF DIABETES IN NORTH DAKOTA



Obesity is a primary risk factor for type 2 diabetes, increasing the risk for disease by at least six times. Rates of obesity and type 2 diabetes have increased linearly in recent decades, with rate of diabetes increasing mostly among obese individuals. Research suggests that if current trends in obesity continue, 1 in 3 adults will be living with type 2 diabetes by 2050. Obesity and diabetes are both chronic, progressive diseases with shared etiology, risk factors, health outcomes and treatments<sup>3</sup>.

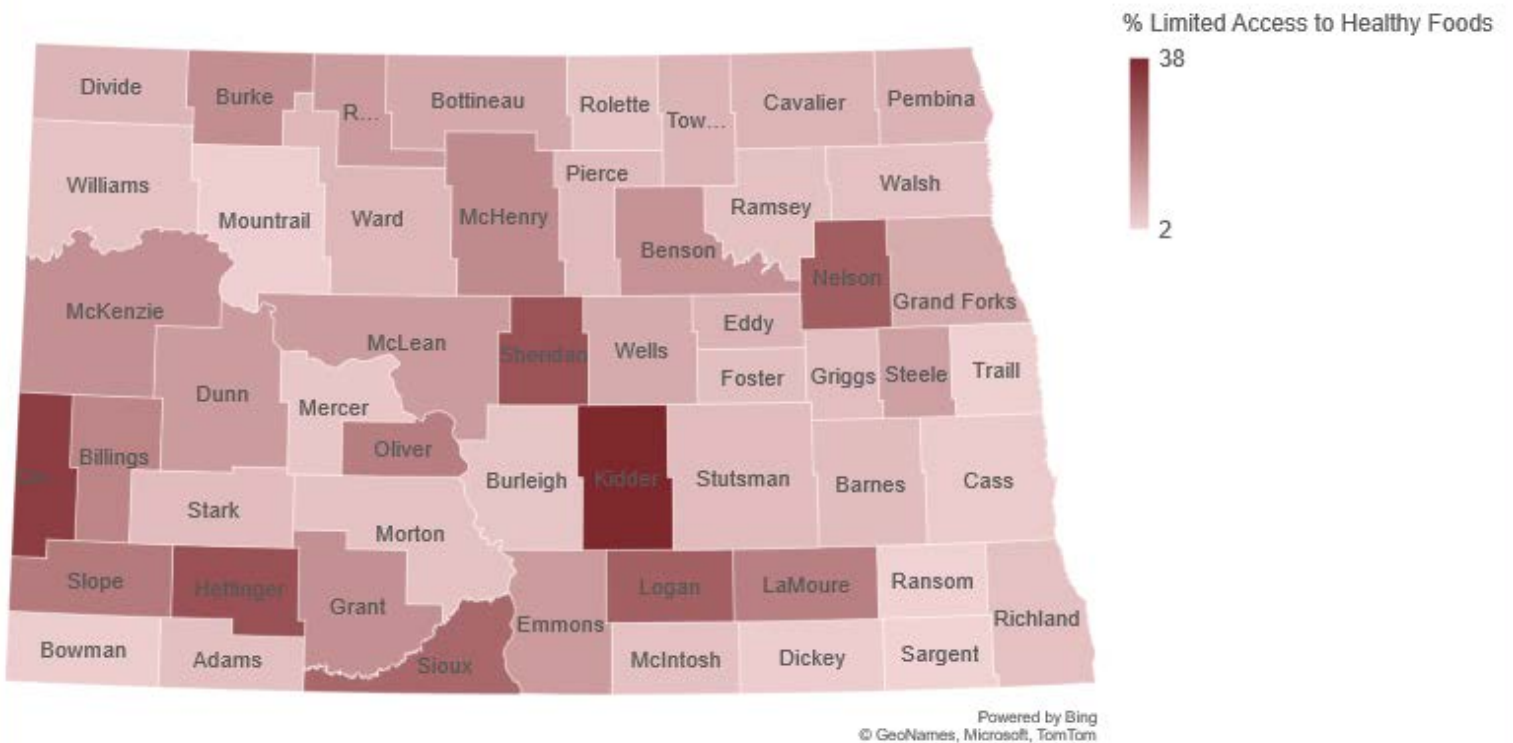


# OVERVIEW OF DIABETES IN NORTH DAKOTA *(continued)*

## Food Insecurity in North Dakota

For adults and children who already have type 1 or type 2 diabetes, food insecurity can also increase the risk of complications. Chronic disease rates are also higher among adults who are food insecure and low-income. Poor diet quality is associated with negative health outcomes<sup>4</sup>.

Percent of Population with Limited Access to Healthy Foods<sup>5</sup>



The Great Plains Food Bank has completed Hunger in North Dakota 2018<sup>6</sup>, a comprehensive study of more than 500 clients and 175 partner agencies (food pantries, shelters, soup kitchens) to assess issues impacting hunger.

**75%** of those surveyed report having at least one **chronic disease**, and **84%** report having multiple **comorbidities**.

Disease	Reported Rate
High blood pressure	36%
Mental health condition	32%
<b>Diabetes</b>	<b>29%</b>
Heart disease	9%

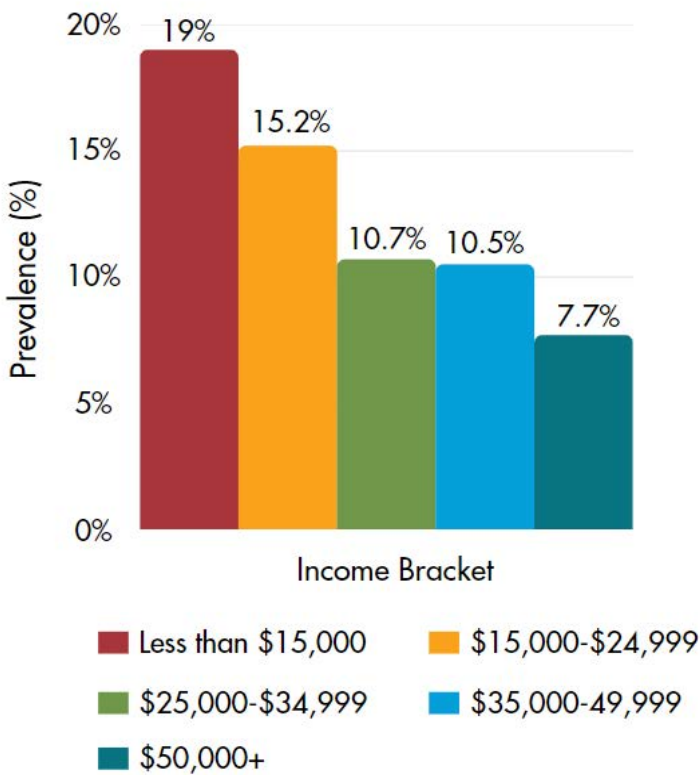
In a national survey on food insecurity, **34%** of individuals reported having to make the difficult choice between paying for food or paying medicine/medical care<sup>4</sup>.

# OVERVIEW OF DIABETES IN NORTH DAKOTA *(continued)*

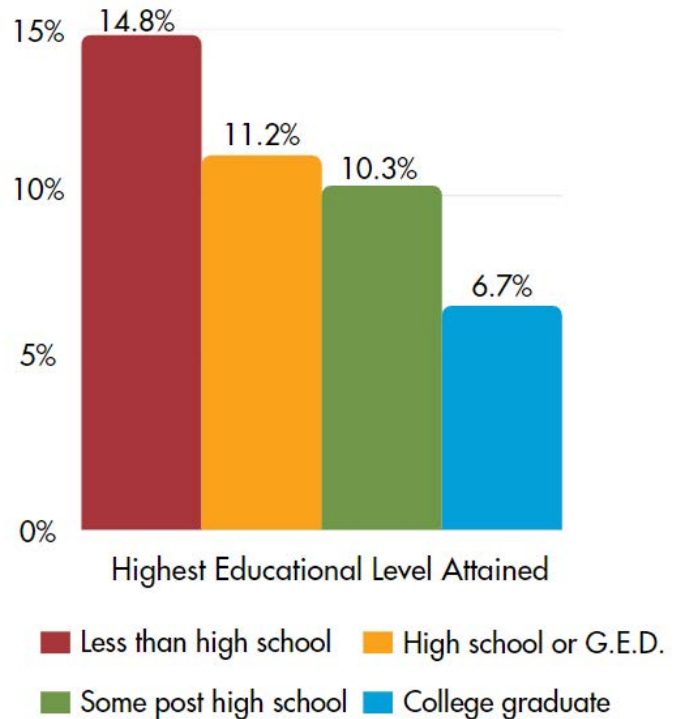
In North Dakota, the **most vulnerable and underserved** populations suffer from the highest rates of diabetes and have the **poorest health outcome**.

The below graphics illustrate the degree to which the overall rates of diabetes among adults 18 years and older in North Dakota varied by demographic and geography in 2020 based on BRFSS data<sup>2</sup>.

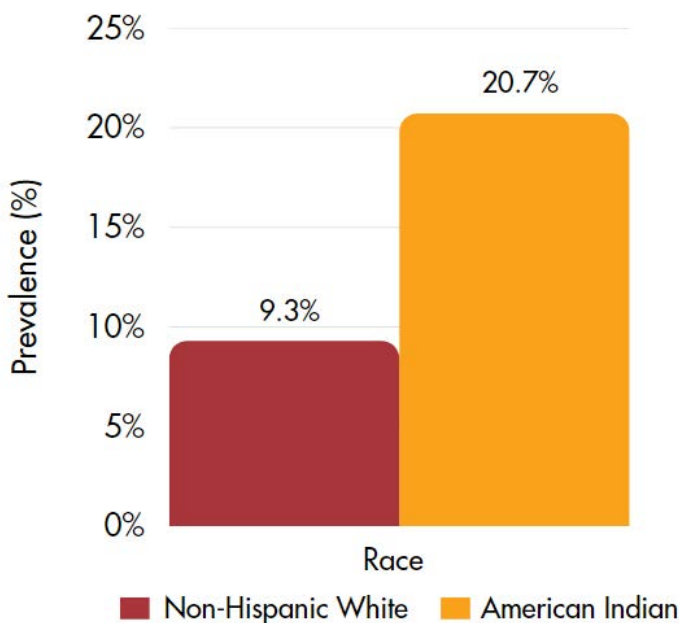
### Diabetes Rates by Income



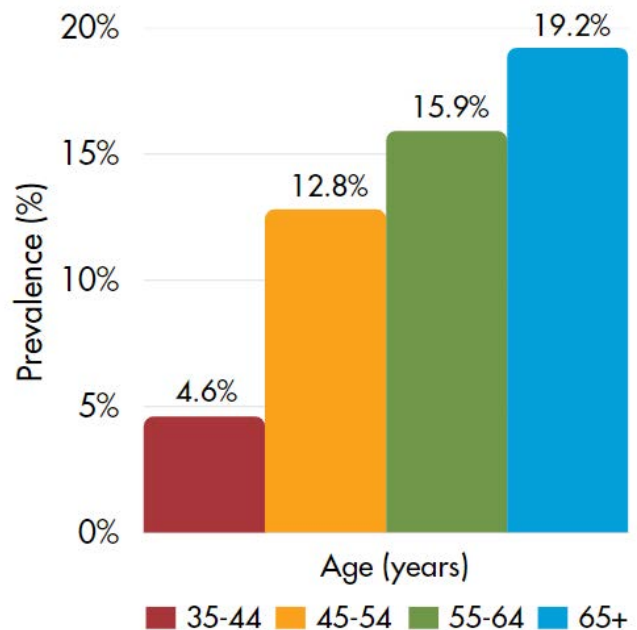
### Diabetes Rates by Education Level



### Diabetes Rates by Race



### Diabetes Rates by Age





# OVERVIEW OF DIABETES IN NORTH DAKOTA *(continued)*

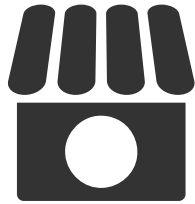
The overall rate of diabetes in North Dakota has consistently fallen below that of the United States average. However, rates vary by demographics and significant disparities exist in the state. Individuals of lower income and education levels experience higher rates of diabetes than those of higher income and education. The most significant disparity that exists is among American Indians. Not only is the prevalence of diabetes higher for American Indians, but they also experience the highest rates of diabetes-related amputations and mortality compared to any other race<sup>7</sup>.

National data also illustrates that American Indian children ages 10-19 are nine times more likely to be diagnosed with type 2 diabetes than their white counterparts<sup>8</sup>.

## These high rates of diabetes are primarily attributable to:



Increased prevalence of contributing risk factors such as obesity and tobacco use



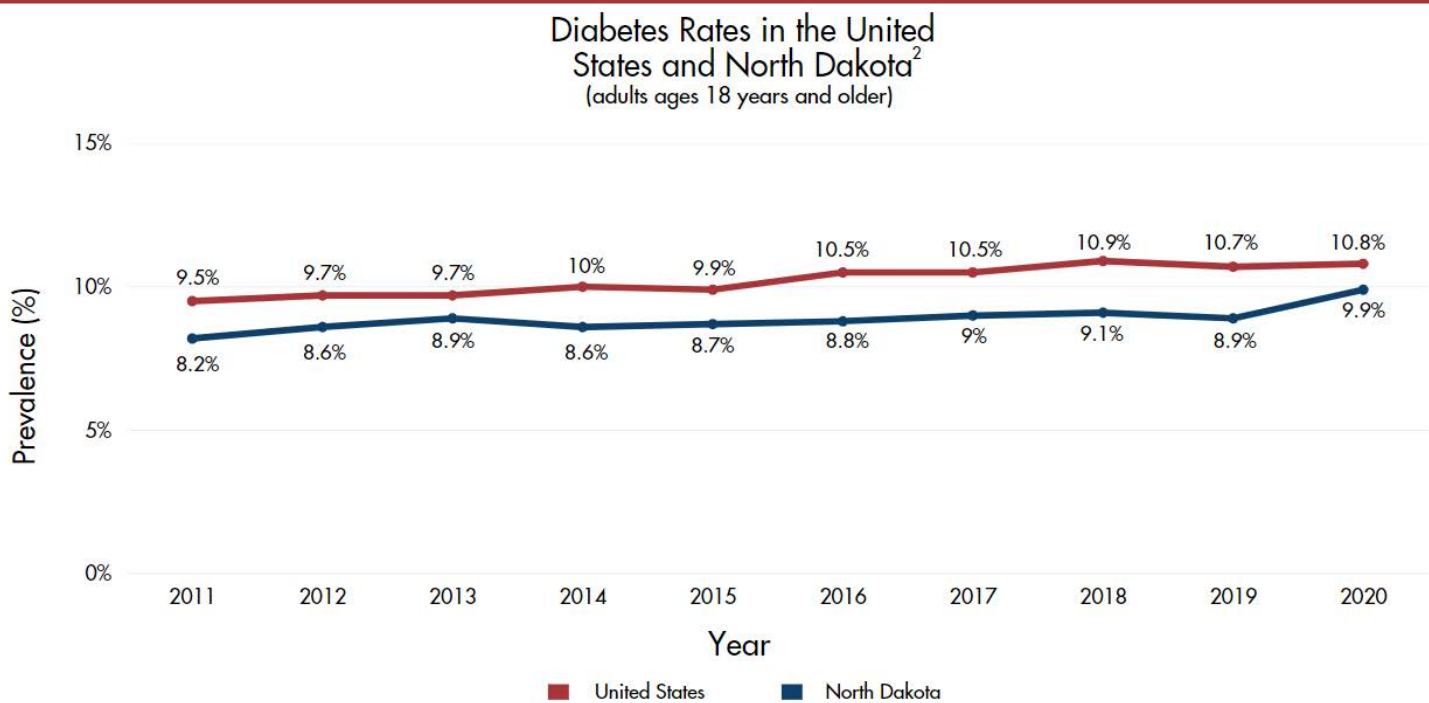
Limitations in food access and affordability



Economic instability

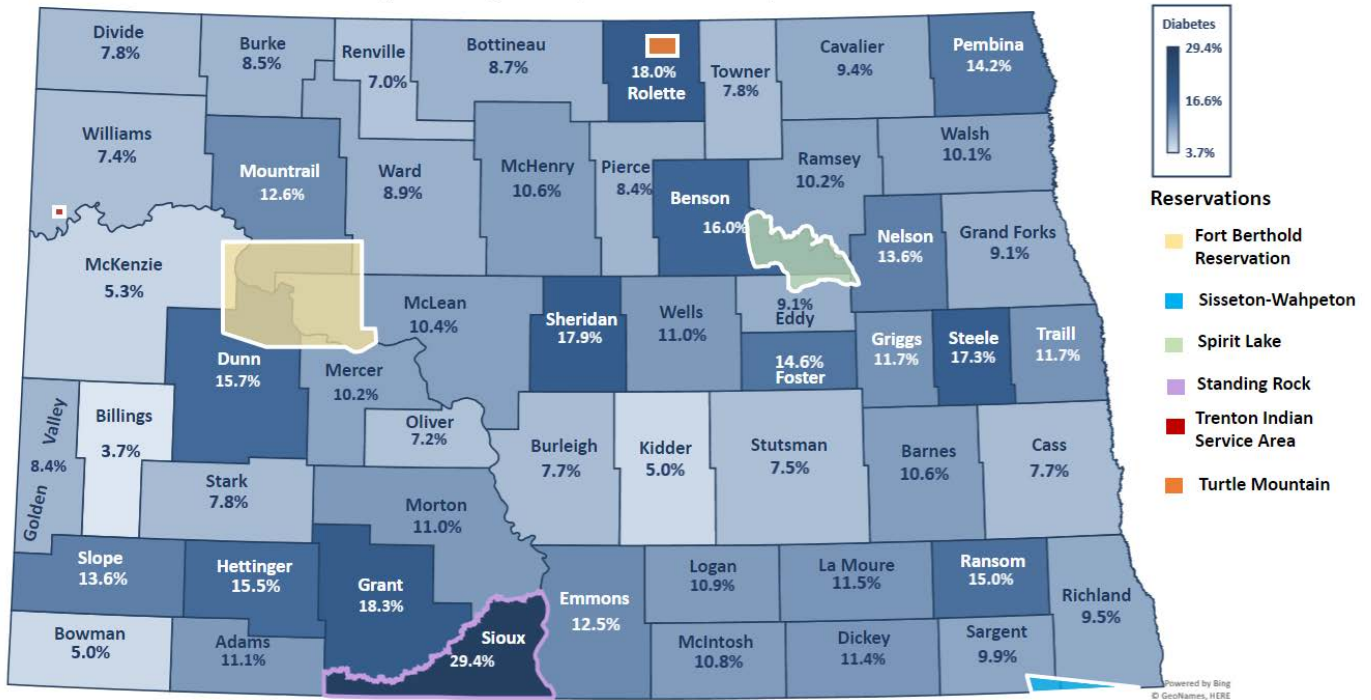


Low access to quality healthcare due to a lack of providers in rural areas, few American Indian providers across the state, implicit or overt racial bias in the health care system

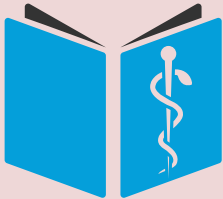


# OVERVIEW OF DIABETES IN NORTH DAKOTA *(continued)*

2016-2020 North Dakota Diabetes Prevalence<sup>2</sup>  
(adults ages 18 years and older)



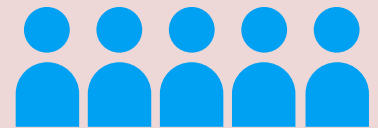
## In 2020...



**58,335 adults were living with diagnosed diabetes<sup>2</sup>**

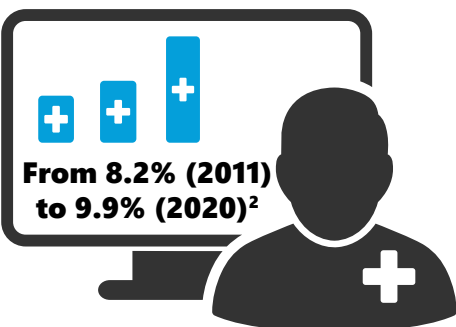


**16,281 adults had undiagnosed diabetes<sup>9,10</sup>**



**177,618 adults had prediabetes<sup>2</sup>**

## North Dakota's overall state diabetes rate increased



**Over the last 5 years, 45–50-year-old adults have seen the largest increase of diabetes in North Dakota<sup>2</sup>**

# NORTH DAKOTA DEPARTMENT OF HEALTH

The NDDoH receives federal funding for the North Dakota Diabetes Prevention and Control Program (NDDPCP) from the CDC in the amount of 1.8 million for the period of June 30, 2022 through June 29, 2024. The purpose of the funding is to coordinate diabetes prevention and control activities across the state through a variety of partners implementing 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) services. The NDDPCP partners with health systems to facilitate the implementation of system-wide approaches for improved identification and care of people with diabetes and prediabetes, as well as with community pharmacies to expand access to care for underserved populations. The NDDPCP partners with other NDDoH programs when possible, to leverage available funding for addressing the lifestyle risk-factors associated with diabetes. Recent opportunities include the Preventive Health and Health Services Block Grant, as well as the Office of Minority Health grant titled "State/Tribal/Territorial Partnership Initiative to Document and Sustain Disparity-Reducing Interventions."



# NORTH DAKOTA PUBLIC EMPLOYEES RETIREMENT SYSTEM, SANFORD HEALTH PLAN

## Costs Associated with Diabetes

The NDPERS members identified with diabetes incurred a total of \$52.9 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 ninth highest cost during this twelve-month period.*

Members with diabetes claims had the ninth highest cost during this twelve-month period. Based on December 2021 data, there are 16,670 NDPERS members under the age of 20. Of these members, 60 had a diabetes claim, representing 0.36% of the NDPERS population under the age of 20.

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, 2021 to December 31, 2021. Information provided by Sanford Health Plan.*

<b>Incurred Claims Related to Diabetes and Its Complications NDPERS Jan 2021 - Dec 2021 paid through 1/31/2022</b>				
<b>Diabetes</b>	<b>Inpatient</b>	<b>Outpatient</b>	<b>Professional</b>	<b>Total Allowed</b>
Without Complications	\$ 6,639.02	\$ 164,639.87	\$ 1,373,081.02	\$ 1,544,359.91
With Other Complications	\$ 31,794.34	\$ 66,332.47	\$ 915,387.78	\$ 1,013,514.59
Ketoacidosis	\$ 221,758.26	\$ 28,901.78	\$ 33,817.96	\$ 284,478.00

<b>Costs Associated by Type I or II: Annual Allowed Costs NDPERS Jan 2021 - Dec 2021</b>		
<b>Age (years)</b>	<b>Type I</b>	<b>Type II</b>
Under 18	\$ 802,528.15	\$ 129,813.48
18-44	\$ 4,208,535.33	\$ 3,823,604.54
45-64	\$ 16,678,931.94	\$ 21,359,095.85
65+	\$ 3,754,590.48	\$ 5,547,726.77
<b>Grand Total</b>	<b>\$ 25,444,585.90</b>	<b>\$ 30,860,240.64</b>

<b>Average Allowed Costs per Individual NDPERS Jan 2021 - Dec 2021</b>		
<b>Age (years)</b>	<b>Type I</b>	<b>Type II</b>
Under 18	\$ 17,446.26	\$ 129,813.48
18-44	\$ 18,062.38	\$ 11,082.91
45-64	\$ 30,886.91	\$ 15,234.73
65+	\$ 24,701.25	\$ 15,034.49

# NORTH DAKOTA PUBLIC EMPLOYEES RETIREMENT SYSTEM, SANFORD HEALTH PLAN *(continued)*

<b>Incurred Out-of-Pocket Costs for Individuals with Diabetes</b> <b>NDPERS Jan 2021 - Dec 2021</b> <i>*Only Endocrine Drugs (eg. insulin)</i> <b>Costs may not be directly related to treatment of diabetes diagnosis</b>			
Total Out of Pocket		Average Out of Pocket	
Medical	\$ 3,776,983.96	Medical	\$ 1,223.12
*Pharmacy	\$ 2,630,942.12	*Pharmacy	\$ 851.99
<b>Grand Total</b>	<b>\$ 6,407,926.08</b>	<b>Grand Total</b>	<b>\$ 2,075.11</b>

## CURRENT NDPERS and SHP PROGRAMS

### Case Management Program

SHP 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 health care provider’s treatment plan. Education on recommended care, assistance with social determinants of health and suggestions on healthy lifestyle changes are also provided.

Additional services include:

- National Diabetes Prevention Program
- Free Nutrition Consults
- Free Ongoing Wellness Coaching
- Free Fitness Consults

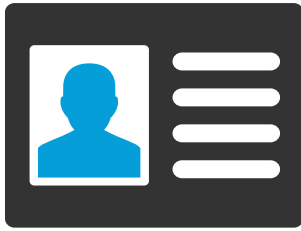
### Center for Lifestyle Medicine

SHP has a population health initiative targeting NDPERS members in Fargo and Bismarck with a diagnosis of obesity. Those members have free access to the SHP Center for Lifestyle Medicine.

### Exercise is Medicine

A fee-reduced “Exercise is Medicine” program is available for all qualifying SHP 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.

# NORTH DAKOTA PUBLIC EMPLOYEES RETIREMENT SYSTEM, SANFORD HEALTH PLAN *(continued)*



## **SHP Member Outreach**

SHP 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.



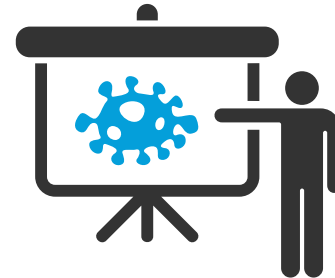
## **About the Patient**

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



## **Profile by Sanford Health**

SHP offers discounts to members for dietary products (Profile) and coaching services.



## **North Dakota Schools**

North Dakota schools have free access to [fit.sanfordhealth.org](http://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**

SHP 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.



## **Livongo Diabetes Solution**

SHP has partnered with Livongo to offer a digital diabetes management solution to empower our members with type 1 or type 2 diabetes live better and healthier lives.

# NORTH DAKOTA MEDICAID

North Dakota Medicaid provides coverage for about 110,000 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, 2020, and June 30, 2021, 10,227 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 \$18,770,025.03.

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
- Diabetic shoes and inserts
- Insulin pumps
- Medications and supplies including insulin, test strips, syringes, needles, etc.

<b>North Dakota Medicaid Payments by Age (years)</b> <i>July 1, 2020, and June 30, 2021</i>					
	<b>Under 18</b>	<b>18-44</b>	<b>45-64</b>	<b>65+</b>	<b>TOTAL</b>
<b>Diabetes Net Payments by Age</b>	\$891,333.28	\$6,171,546.59	\$10,838,174.15	\$868,971.01	<b>\$18,770,025.03</b>
<b>Prediabetes and Obesity Net Payments by Age</b>	\$246,458.70	\$ 905,234.80	\$ 585,577.44	\$133,128.68	<b>\$ 1,870,399.62</b>

<b>North Dakota Medicaid Condition Prevalence by Age (years)</b> <i>July 1, 2020, and June 30, 2021</i>					
	<b>Under 18</b>	<b>18-44</b>	<b>45-64</b>	<b>65+</b>	<b>TOTAL</b>
<b>Prediabetes</b>	120	534	596	389	<b>1,639</b>
<b>Obesity</b>	2,784	6,438	3,798	2,222	<b>15,242</b>
<b>Type 2 Diabetes</b>	247	1,969	3,465	3,160	<b>8,841</b>

# DIABETES PROGRAMS FOR AMERICAN INDIANS

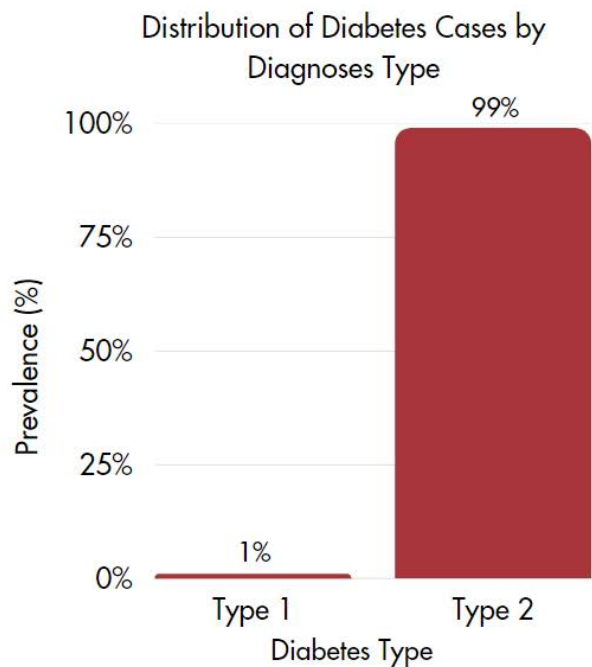
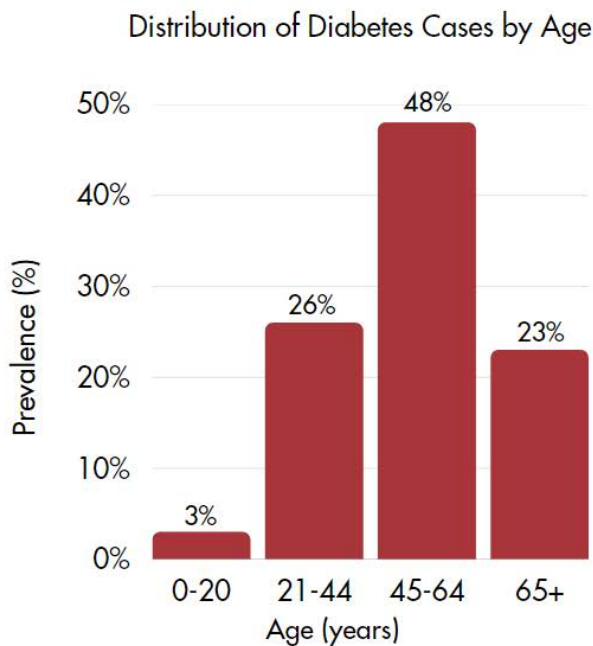
American Indian prevalence and mortality data is inclusive of all North Dakota residing American Indians and is included with the previous North Dakota data.

The Mandan, Hidatsa, Arikara (MHA) Nation-Three Affiliated Tribes, located on the Fort Berthold Indian Reservation, provided the below data.



## MHA Nation Prevalence and Summary

*In 2020, diabetes was the top condition in the MHA Nation health system.*



## The Fort Berthold Diabetes Program

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 one to two offerings per year of the National DPP which is run by six trained Lifestyle Coaches; a summer lifestyle camp; and cooking and exercise classes.

## MHA Nation also offers:

- Daily diabetes care and management
- Weekly diabetes specialty clinics
- Field clinics rotating among five facilities
- Onsite nephrologist and podiatrist twice monthly
- Monthly diabetic shoe clinics
- A continuous glucose monitor (CGM) program
- Elbowoods Memorial Health Center (EMHC) system offers a comprehensive formulary of over 40 different medications used to manage diabetes



# ACTION PLANS, COORDINATION AND EVALUATION OF ACTIVITIES

## 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 with goals to increase:

- Access to nutritious food options— addressing availability, affordability, food security and knowledge among communities
- Wellness programming for youth, including physical activity and cooking instruction
- Equitable access to quality medical care that is aligned with best practice guidelines
- Mental and behavioral health services for persons with diabetes or at risk for diabetes

### 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 employers 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.



Support a comprehensive transition towards value-based care and reimbursement models designed to increase utilization of preventive care, improve quality of services and reduce incurred costs related to the treatment of 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.

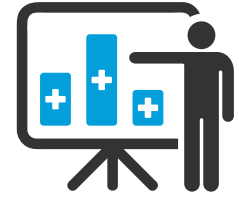


Incentivize retailers of all kinds to consider their environmental impacts and support mixed use communities/spaces that make patronizing retail establishments feasible by walking, biking or public transit.



# ACTION PLANS, COORDINATION AND EVALUATION OF ACTIVITIES *(continued)*

Support cities and counties implementing transformation projects that improve infrastructure and green space that encourages year-round, healthy living and physical recreation for residents of all ages and abilities.



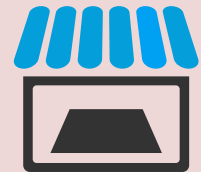
Ensure access to healthy foods at schools and childcare settings, including restricting sugar sweetened beverages and snacks, teaching health and wellness literacy and promoting healthy behaviors as part of practice and curriculum.



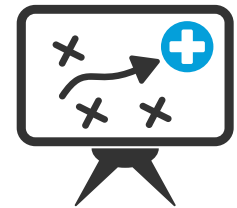
Increase access to nutritious food options across North Dakota, addressing availability, affordability, food security and knowledge among communities.



Develop sustainable food systems at the community level including greenhouses, food sovereignty initiatives, rural grocer/food distribution cost reductions and community gardens.



Implement policy and system changes at the state and local level that address socio-economic factors contributing to rising obesity rates. Examples include un/under employment, increasing reliance on commodity and food pantry services, low wages, high cost of living, access to greenspace and lack of active transportation-friendly community development.



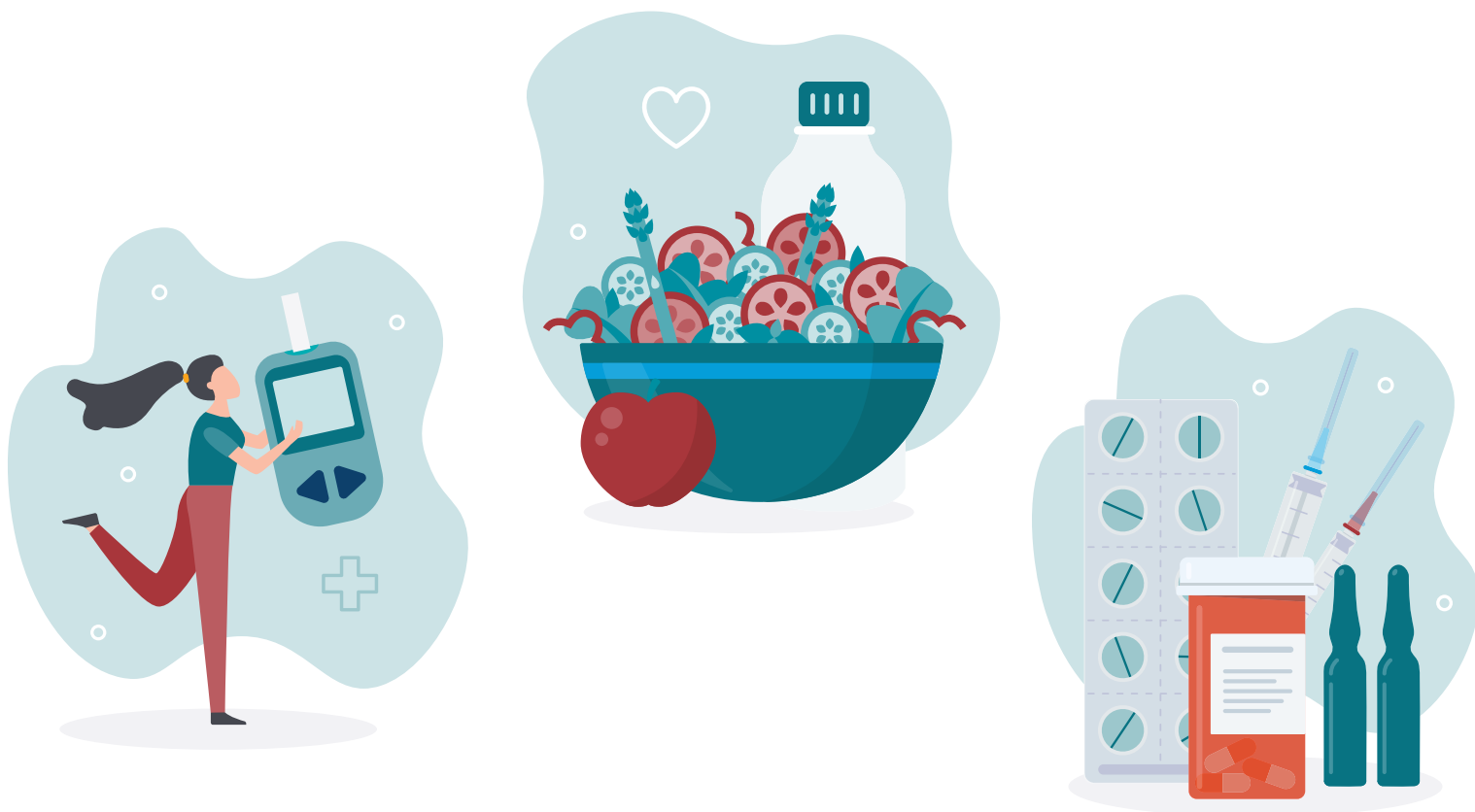
## Budget Considerations

Diabetes is a serious, common, and costly disease. The financial burden for individuals in North Dakota is related to the daily choices they 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 treatment. Access to affordable, fresh and nutritious food is not widely available but is the most effective prevention strategy for diabetes and many other chronic conditions and diseases.

To better manage and lower the burden of diabetes in North Dakota, there is consensus from the contributing agencies that an investment from the state of North Dakota to implement the actionable items, as described on pages 14-15, would be most successful being implemented at the local level.

To accomplish this, **the recommendation is to develop a community grant fund to support communities and organizations in efforts of diabetes and risk factor prevention efforts, including policy, system and environmental change strategies to address the root causes of diabetes.** Community Needs Assessments that have identified obesity and other associated risk factors for diabetes (e.g., food insecurity, lack of access to healthcare) as priorities could be used as a determination for funding. Interventions to address diabetes would also reduce prevalence of other chronic diseases including obesity, hypertension, cardiovascular disease and colorectal cancer.

The cost to implement community strategies would vary based on available resources and existing infrastructure. Development of a statewide, multi-agency committee could be formed to review and approve community transformation applications and provide technical assistance for implementation. **This investment and unified approach would support North Dakota becoming the healthiest state in the nation.**



# 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 — that 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 United States 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 an individual's risk of developing diabetes by up to 58%.

## **NDHIN**

North Dakota Health Information Network allows for the secure exchange of patient health information between healthcare institutions and across various practitioners. Appropriate, timely sharing of vital patient information can better inform decision making at the point of care and allow providers to avoid readmissions and medication errors, improve diagnoses and decrease duplicate testing.

## **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.

# GLOSSARY *(continued)*

## **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.



# APPENDIX

## 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.

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.

# REFERENCES

1. Bommer, C., Sagalova V., Heesemann, E., Manne-Goehler, J., Rifat, A., Bärnighausen, T., Davies, J., & Vollmer, S. (2018). Economic Costs of Diabetes in the U.S. in 2017. *Diabetes Care*, 41(5):917–928. <https://doi.org/10.2337/dci18-0007>
2. Centers for Disease Control and Prevention (CDC). (2017, September 13). BRFSS Prevalence & Trends Data. <https://www.cdc.gov/brfss/brfssprevalence/>
3. Bhupathiraju, S., & Hu, F. (2016). Epidemiology of Obesity and Diabetes and Their Cardiovascular Complications. *Circulation Research*. 118(11):1723-1735. <https://doi.org/10.1161/CIRCRESA-HA.115.306825>
4. Cooksey Stowers, K., Marfo, N., Gurganus, E. A., Gans, K. M., Kumanyika, S. K., & Schwartz, M. B. (2020). The hunger-obesity paradox: Exploring food banking system characteristics and obesity inequities among food-insecure pantry clients. *PloS one*, 15(10), e0239778. <https://doi.org/10.1371/journal.pone.0239778>
5. University of Wisconsin Population Health Institute (2019). County Health Rankings and Road Maps [2022 State Level Data and Ranks]. <https://www.countyhealthrankings.org/app/north-dakota/2022/overview>
6. Creating a Hunger Free North Dakota, (2018). Data. <http://www.hungerfreend.org/data/>.
7. Akinlotan, M.A., Primm, K., Bolin, J., Ferdinand Cheres, A.L., Lee, J., Callaghan, T., & Ferdinand, A.O. (2021). Racial, Rural, and Regional Disparities in Diabetes-Related Lower-Extremity Amputation Rates, 2009–2017. *Diabetes Care*, 44(9):2053–2060. <https://doi.org/10.2337/dc20-3135>
8. U.S. Department of Health and Human Services Office of Minority Health (2021, March 1). Diabetes and American Indians/Alaska Natives. *Minority Health Profiles*. <https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=4&lvlid=33>
9. United States Census Bureau (2021, July 1). Quick Facts: North Dakota. <https://www.census.gov/quickfacts/ND>
10. Centers for Disease Control and Prevention (2021, December 29). Prevalence of Both Diagnosed and Undiagnosed Diabetes. *National Diabetes Statistics Report*. <https://www.cdc.gov/diabetes/data/statistics-report/diagnosed-undiagnosed-diabetes.html>
11. National Conference of State Legislatures (2022, May 23). Diabetes State Mandates and Insulin Copayment Caps. <https://www.ncsl.org/research/health/diabetes-health-coverage-state-laws-and-programs.aspx>



NORTH  
**Dakota** | Health  
Be Legendary.™