Preventing Diabetes in Your Workforce by Incorporating a Proven Value-Based Benefit Design Strategy, the National Diabetes Prevention Program

JULY 2022

This report is supported by the Centers for Disease Control and Prevention of the U.S. Department of Health and Human Services (HHS) as part of a financial assistance award totaling $27,500 with 100 percent funded by CDC/HHS. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by CDC/HHS, or the U.S. Government.

The Centers for Disease Control and Prevention (CDC) estimates that one in three adults has prediabetes. Prediabetes is a condition where blood glucose (also known as "blood sugar") levels are elevated but not high enough for a diagnosis of diabetes. An estimated 79 million U.S. adults had prediabetes in 2010. In 2019, that number increased to 96 million Americans, over one-third of the U.S. population. Further, more than eight in ten individuals do not know they are prediabetic (CDC Diabetes Fast Facts, 2021). **Without intervention, prediabetes progresses to diabetes at the rate of 10% per year. It is estimated that one in three adults in the United States will have diabetes by the year 2050.**

Many people with prediabetes may return to normal levels of blood glucose by weight loss through lifestyle changes including increased physical activity and healthy nutrition. Employers that offer coverage and encourage participation in a formally recognized National Diabetes Prevention Program (National DPP) have been found to reduce their healthcare expenses dramatically by preventing diabetes and its complications. The annual healthcare cost for an employee with diabetes is $16,750, which is 2.3 times the medical expenses paid for individuals without diabetes (CDC: How Type 2 Diabetes Affects Your Workforce).

The American Diabetes Association report, *Economic Costs of Diabetes in the U.S. in 2017,* estimates that in 2018 the total costs associated with diagnosed diabetes had risen from $245 billion in 2012 to $327 billion in 2017, a 26% increase. Employers studied for this report saw the effects of diabetes through direct healthcare expenses but also through indirect expenses including:

- Increased absenteeism ($3.3 billion)
- Reduced productivity while at work ($26.9 billion)
- Inability to work as a result of disease-related disability (37.5 billion)
- Lost productivity capacity due to early mortality ($19.9 billion)

The goal of our document is to increase the number of employers in Florida who offer the National DPP as a covered benefit in their health plans by providing evidence of its effectiveness in reducing the transition from prediabetes to Type 2 diabetes.

The objectives are to:

- Make the National DPP accessible to plan members who have or are at risk for prediabetes
- Increase the number of at-risk plan members who participate in a National DPP
- Lower diabetes-related healthcare costs for our employer members

This document explains the reasons why offering the National DPP as a covered health benefit aligns with a value-based benefit design strategy, provides additional support outside the traditional medical setting for those members who otherwise would not seek that support, and demonstrates to employees that their employer values and supports their health, which in turn improves their performance in their workplace and personal life.

MAGNITUDE OF THE PROBLEM OF DIABETES

According to the CDC, Type 2 diabetes accounts for 90-95% of diabetes cases and is directly associated with advancing age, obesity, physical inactivity, family history of diabetes, and/or a personal history of gestational diabetes. The problems associated with Type 2 diabetes can be severe. Complications and comorbidities of the illness can include heart disease, stroke, hypertension, blindness, kidney disease, nervous system complications, amputations, dental disease, pregnancy complications, and mental health problems.

Diabetes in the United States:

- An estimated 37.3 million people in the United States have diabetes, of which 28.7 million people have been diagnosed with diabetes and 8.5 million are undiagnosed
- In 2019, 1.4 million new cases of diabetes were diagnosed in people over the age of 18. The greatest increase was seen in those between the ages of 45-64 years, and in children and adolescents
- Among adults, diabetes is the leading cause of new cases of blindness, kidney failure, and amputations not related to injury
- Adults aged 50 years or older with diabetes die 4.6 years earlier, develop disability 6 to 7 years earlier, and spend about 1 to 2 more years in a disabled state than adults without diabetes. (CDC Diabetes Report Card 2019)
- American Indian or Alaska Native adults have the highest rates of diagnosed diabetes (14.7%) among all US racial and ethnic groups, followed by Hispanics (12.5%) and non-Hispanic Blacks (11.7%)
- People with diabetes tend to develop heart disease at a younger age than people without diabetes. Adults with diabetes are nearly twice as likely to have heart disease or stroke as adults without diabetes according to the National Institute of Diabetes and Digestive and Kidney Diseases.
- People with diabetes are 2 to 3 times more likely to suffer from depression than people without diabetes. Only 25% to 50% of people with diabetes who have depression get diagnosed and treated (CDC Diabetes Basics: Mental Health)
- Uncontrolled diabetes during pregnancy, or gestational diabetes, affects between 2-10% of pregnancies each year. Gestational diabetes can increase the chance of birth defects, large babies, and other complications that can be dangerous to the baby and the mother (CDC Diabetes Basics: Gestational Diabetes)

A SNAPSHOT DIABETES IN THE UNITED STATES

DIABETES

37.3 MILLION 37.3 million people have diabetes

That's about 1 in every 10 people

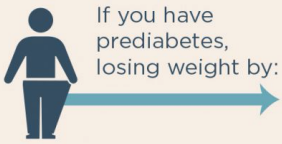
1 IN 5 don't know they have diabetes

PREDIABETES

96 MILLION

96 million adults — more than 1 in 3 — have prediabetes

MORE THAN 8 IN 10 adults don't know they have prediabetes



If you have prediabetes, losing weight by:

EATING HEALTHY & **BEING MORE ACTIVE**

can cut your risk of getting type 2 diabetes in HALF

COST

$327 BILLION Total medical costs and lost work and wages for people with diagnosed diabetes

Risk of early death for adults with diabetes is **60% HIGHER** than for adults without diabetes

Medical costs for people with diabetes are **more than twice as high**

as for people without diabetes

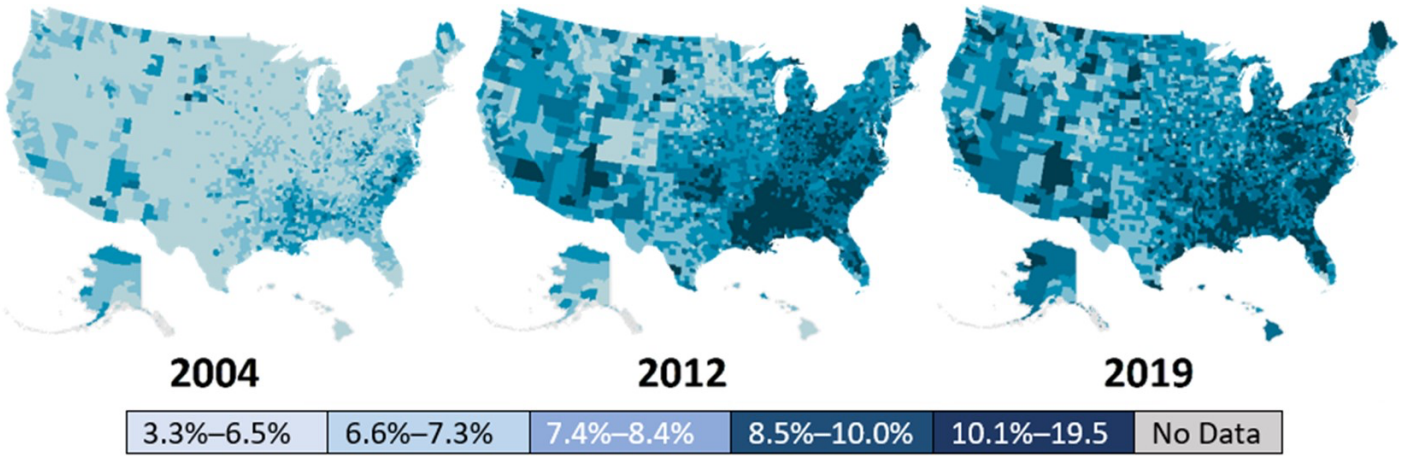
2X

People who have diabetes are at higher risk of serious health complications:

BLINDNESS **KIDNEY FAILURE** **HEART DISEASE** **STROKE** **LOSS OF TOES, FEET, OR LEGS**

Diabetes in Florida:

Floridians are no exception to the high prevalence of prediabetes and diabetes. We have a serious problem with Type 2 diabetes that adversely affects our state's economy and workforce, and it has significantly worsened over time in our state, as shown in this graphic from the CDC of diagnosed diabetes.



According to the Behavioral Risk Factor Surveillance System (BRFSS) most recent data (2020), there were approximately 2.1 million adults, or **9.9% of the population, diagnosed with prediabetes in Florida.** This data point breaks down to 6.3% of Floridians aged 18-44 years, 12.7% of Floridians aged 45-64 years, and 11.5% of Floridians age 65+ years. Since our first business case report was published in 2015, the largest uptick in the percentage of Floridians with prediabetes has been those individuals within the 45–64 year age range. These percentages only include individuals who reported that they have been told they have prediabetes; many more people have this serious condition without knowing about it.

FLHealthCHARTS, a community health assessment resource tool set, reports the following statistics regarding diabetes in Florida:

- In 2020, approximately 11.8% of adult Floridians (over 2.5 million adult) had been told they had diabetes
- Of the approximately 2.5 million adults, 2.3% (57,500 adults) were between the ages of 18-44 years; 14.1% (352,500 adults) were between the ages of 45-64 years; and 23.5% (587,500 adults) were aged 65 years and older. Looking at the core working ages of 18-64 years, this statistic translates to approximately 400,000 adult Floridians living with diabetes and likely in the workplace
- In 2020, there were 648,464 hospitalizations in Florida due to diabetes. Of those, for the population under age 65 years, 22,350 were preventable hospitalizations, meaning that hospitalization might have been avoided through access to high-quality outpatient care
- In 2020, there were 47,088 emergency room visits in Florida due to diabetes. This is an important measure because emergency room visits are likely a result of uncontrolled blood sugar levels which may lead to premature death, years of potential life lost, disability, lost productivity, and high medical costs
- In 2020, there were 7,516 deaths from diabetes, making diabetes the 7th leading cause of death for Floridians

- In addition to the emotional toll of diabetes, the cost of having diabetes is high. According to a 2021 American Diabetes Association fact sheet, *The Burden of Diabetes in Florida,* total direct medical expenses for those diagnosed with diabetes was estimated at $19.3 billion in 2017. Another $5.5 billion was estimated on indirect costs from lost productivity.

According to FLHealthCHARTS, approximately 9.9% (2.1 million) adult Floridians were aware that they had prediabetes in 2020, up from roughly 7% in 2015. Of the known prediabetic population, this includes 6.3% of the population age 18-44, 12.7% of Floridians aged 45-64, and 11.5% of Floridians age 65+., Following the CDC's estimate that one in three people are prediabetic, this estimate would translate to **7.1 million adult Floridians living with prediabetes, with the majority unknowingly living with the condition.**

Type 2 diabetes can often be prevented or delayed through behavioral changes. The most cost-effective prevention methods include lifestyle changes such as regular physical activity and eating a healthy diet. Early identification of prediabetes can provide opportunities for intervention. The American Diabetes AssociationStandard of Care Guidelines for prediabetes states that individuals with prediabetes should make these lifestyle changes as their first step to preventing Type 2 diabetes.

The National DPP lifestyle change program is an evidence-based program focused on helping participants make positive lifestyle changes such as eating healthier, reducing stress, and getting more physical activity. The program was developed as a result of a major clinical research study led by the CDC. The study proved that weight loss of 5-7% through dietary changes and increased physical activity could prevent or delay the onset of Type 2 diabetes in people with or at risk for prediabetes. Participants who lost a modest amount of weight through dietary changes and increased physical activity sharply reduced their chances of developing diabetes.

The National DPP is a year-long intervention that is delivered in person, online, through distance learning, or through a combination approach in group settings. Trained lifestyle coaches assist participants in reaching their goal of losing 5-7% of their weight.

The National DPP found that small steps produced big rewards. Moderate weight loss and increased physical activity reduced the incidence of Type 2 diabetes by 58% during a three-year period. Among older subjects (those aged60+), the reduction was 71%. In addition, overweight individuals who lose five to seven percent of their bodyweight through physical activity and healthy eating may effectively prevent or delay the onset of Type 2 diabetes.

The program has been proven to get positive results with over 25 years of research and study. The National DPP has been studied for over 25 years, beginning in 1996. The 1996 study, Reduction in the Incidence of Type 2 Diabetes with Lifestyle Intervention or Metformin, found that "a lifestyle change intervention focused on a 5–7% weight loss and a moderate increase in physical activity over one year achieved a 58% relative risk reduction in Type 2 diabetes, and that use of metformin achieved a 31% reduction, when compared to a placebo."

Follow up studies were conducted at 10 and 15-year intervals. The U.S. Diabetes Prevention Program Outcomes Study reported a 34% reduction in type 2 diabetes incidence 10 years after the completion of the National DPP trial for the lifestyle change intervention arm and a 27% reduction after 15 years (18% for the metformin arm), compared to the placebo group.

Most recently, an August 2019 article in Diabetes Epidemiology entitled Public Health Approaches to Type 2 Diabetes Prevention: the US National Diabetes Prevention Program and Beyond, confirmed the National DPP's effectiveness whether offered in on-line (for non-COVID-19 related purposes), in person, or a combination of both with over 31% achieving the minimum 5% weight loss goal and 45% meeting the physical activity goal of averaging 150+ minutes per week.

Employers that choose to offer a National Diabetes Prevention Program as a covered health plan benefit are taking a proactive approach to decreasing future healthcare costs and improving their financial bottom line. Additionally, offering the National DPP program provides a way to empower employees to take control of their health and wellbeing through an evidence-based sustainable lifestyle change program.

Program Costs

Adding the National DPP lifestyle change program as a covered benefit is a cost-effective use of resources as the cost to prevent the onset of Type 2 diabetes is typically much less than managing costs associated with diabetes treatments and complications. The cost per person for the program is approximately $500, depending on factors such as provider organization, promotion, recruitment, staffing, and logistics.

While the CDC has determined that intensive lifestyle interventions to prevent Type 2 diabetes among people with increased levels of blood glucose are "very cost-effective" and in many cases, cost saving, a third-party administrator or your solutions vendor can help you determine potential savings specific to your organization as well as help implement the program, process claims, recruit participants, and collect data.

Another way to see potential cost savings specific to each employer is to use the toolkits developed by the CDC and the American Medical Association.

- The CDC has developed a user-friendly, customizable **Diabetes Prevention Impact Toolkit** (click on the hyperlink above) to project the health and economic effects of the National DPP lifestyle change program to the specific employer workforce at risk of diabetes.

- Similarly, the American Medical Association has developed a **DPP Cost Saving Calculator** (click on the hyperlink above) which allows the employer to calculate potential medical cost savings from providing the National DPP as a covered benefit.

MOVING FORWARD IN PROVIDING THE NATIONAL DPP

When you have decided to move forward with implementing a National DPP lifestyle change program, you can contract with a third-party administrator to administer the program, or you can contract directly with a National DPP provider.

1) Check to see if your health plan/third party administrator has already partnered with a vendor who is on the National DPP list - Livongo, Virgin Pulse, Omada, Welldoc, Real Appeal, and Lark are national programs that offer this program. Check this registry CDC's registry of NDPP-recognized programs
2) If your health plan/TPA is not providing the program, check to see if one of your third-party solutions vendors is already providing the National DPP using the link above
3) If you have to select your own provider, ensure they are included on the CDC's registry of NDPP-recognized programs
4) Reduce barriers to accessing the program - e.g. eliminate out of pocket costs for plan members to participate in the program, consider hosting the National DPP at your workplace, go one step further and allow employees to attend while "on the clock" as an added incentive for participation
5) Work with your health plan/third-party administrator/solution provider to use data to identify high risk plan members then develop a proactive method to outreach and enroll them into the program
6) Promote the program to your plan members in all wellness communications
7) Consider providing an incentive to encourage participation and completion of the program
8) Leverage on-site, near-site health centers if you have a worksite health center to raise awareness of the program and make direct referrals into the National DPP

CONCLUSION

The statistics and information provided throughout this document provide compelling evidence as to why employers would benefit from offering and providing coverage for an evidence-based Type 2 diabetes prevention program to their healthcare benefits packages. It is possible to prevent the progression from prediabetes to diabetes through guidance and support towards changes in diet and exercise.

The National DPP lifestyle change program is a low cost, effective program, now available virtually, that can help employers reduce their healthcare expenditures, improve population health, and workforce productivity.

Please reach out to karen@flhealthvalue.org if you need additional information or have any questions.

References

Centers for Disease Control and Prevention. Diabetes Report Card 2012. Atlanta, GA: Centers for DiseaseControl and Prevention, US Department of Health and Human Services; 2012. Retrieved from http://www.cdc.gov/diabetes/pubs/pdf/diabetesreportcard

cdc.gov. (n.d.). Retrieved from http://www.cdc.gov/diabetes/prevention/recognition/states/Florida.htm.

Depression and Diabetes NIH Publication No. 11-5003. (2011). Retrieved January 2015, from National Institute ofMental Health: http://www.nimh.nih.gov/health/publications/depression-and-diabetes/index.shtml

Diabetes America. (n.d.). Retrieved from www.diabetesamerica.com/employershealth-plans/

Diabetes basics. (n.d.). Retrieved January 2015, from Diabetes.org: http://www.diabetes.org/diabetes-basics/statistics/

Diabetes.org. (n.d.). Retrieved from http://www.diabetes.org/newsroom/press-releases/2013/annual-costs-of- diabetes-2013.html

National Diabetes Information Clearinghouse. (n.d.). Retrieved from National Institute of Health: http://diabetes.niddk.nih.gov/dm/pubs/preventionprogram/

NIH. (n.d.). Retrieved from http://diabetes.niddk.nih.gov/dm/pubs/preventionprogram/

Rui Li, P. P. (2010, August). *National Institute of Health*. Retrieved January 15 2015 from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2909081/

Wang TJ, Vasan RS. Epidemiology of uncontrolled hypertension in the United States. Circulation. 2005 Sep 13;112(11):1651-62. doi: 10.1161/CIRCULATIONAHA.104.490599. PMID: 16157784.

World Health Organization. (2010, February). Retrieved January 2015, from Diabetes Fact Sheet: http://www.who.int/nmh/publications/fact_sheet_diabetes_en.pdf