

2023
Florida Diabetes Report

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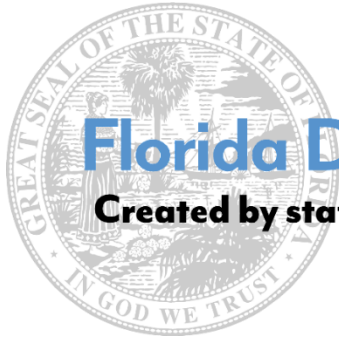
Honorable Ron DeSantis, Governor
Honorable Paul Renner, Speaker of the House of Representatives
Honorable Kathleen Passidomo, President of the Senate

January 10, 2023



Florida Diabetes Advisory Council - 2023 Legislative Report





Florida Diabetes Advisory Council

Created by statute & appointed by the Governor of Florida

2023

Florida Diabetes Report





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***Disclaimer:** This report was developed in partnership with the Florida Department of Health, Division of State Group Insurance and Agency for Health Care Administration. All recommendations were provided by the Diabetes Advisory Council (DAC) and do not necessarily represent the official views of the aforementioned agencies.*



Executive Summary

Over 40 years ago, the Florida Legislature created the Diabetes Advisory Council (DAC). The DAC is authorized by section 385.203, Florida Statutes, to “guide a statewide comprehensive approach to diabetes prevention, diagnosis, education, care, treatment, impact, and costs thereof.” Members of the DAC are appointed by the Governor to represent citizens of the state who have knowledge of, or work in, the area of diabetes mellitus. In 2015, the Florida Legislature updated this statute and charged the DAC with the biennial submission of a report describing the public health consequences and financial impact of all types of diabetes and its resulting complications. The legislation instructed the DAC to collaborate with the Department of Health (DOH), Department of Management Services (DMS) and the Agency for Health Care Administration (AHCA) to describe the burden of diabetes and state programs and activities being implemented to address the burden and to develop an action plan to reduce the impact of all types of diabetes. Through this report, the DAC is committed to recommending identified ways to simultaneously reduce overall expenditures and improve the delivery of evidence-based, cost-effective disease prevention and management health services that improve the health of those living with diabetes.

This report includes: 1) data on the scope and cost of diabetes in Florida; 2) how statewide partnership across public and private sectors are addressing diabetes prevention, control and management for people living with prediabetes and diabetes; and 3) how partners are coordinating efforts, recent successes and recommended actions to reduce the impact of diabetes. The information shared aligns with the three overarching goals of the DAC: 1) reducing the incidence of diabetes, 2) improving community and health care services for diabetes and 3) controlling complications resulting from diabetes to improve the health of Floridians. Recommendations are provided and anticipated outcomes are described for optimal and no funding scenarios.

The Florida Diabetes Report is updated biennially to include recommendations enacted, benchmarks set and outcomes subsequently achieved.

The Scope of Diabetes in Florida

Over the past 25 years, the prevalence of diagnosed diabetes among Florida adults has more than doubled, increasing from 5.2 percent in 1995 to 11.8 percent in 2020. In Florida, it is estimated that over 2.7 million individuals have diabetes.¹

While data for diabetes prevalence in youth are limited, studies have shown that the number of youths being diagnosed with both type 1 and type 2 diabetes is increasing. About 18,300 cases of type 1 diabetes and approximately 5,800 cases of type 2 diabetes are estimated to be newly diagnosed among American youth younger than age 20 each year.²

The Public Health Consequences of Diabetes in Florida

Diabetes and related complications create significant individual, societal and financial burden.^{1,3} People with diabetes are twice as likely to have heart disease or a stroke as people without diabetes, and at an earlier age.⁴ Diabetes is the leading cause of kidney failure, lower-limb amputations and adult-onset



blindness.³ It is estimated that 25 percent of national health care spending is for people with diagnosed diabetes.^{5,6} This section of the report highlights some of the ways diabetes impacts Florida's residents, health systems and economy.

Diabetes in Dollars

The costs associated with diabetes are overwhelming. In 2017, the total cost of diabetes in Florida was approximately \$25 billion, with \$19.3 billion attributed to direct medical expenses for diagnosed and undiagnosed diabetes, prediabetes and gestational diabetes and \$5.5 billion attributed to indirect costs. People with diabetes have medical expenditures approximately 2.3 times higher than those who do not have diabetes.¹

In state fiscal year 2020-2021, the aggregate cost for all health care services provided to Medicaid recipients with diabetes in Florida was approximately \$950 million. In 2021, the estimated cost of diabetes to the Division of State Group Insurance (DSGI, a part of DMS) was \$26.4 million. These cost estimates were calculated by examining expenses of individuals with one or more diabetes-related claims during the year and likely underestimate the true costs.

Diabetes Prevention and Management

Type 2 diabetes is a largely preventable chronic condition. The disease presence and risk of development of type 2 diabetes can be reduced substantially through the application of modest lifestyle changes and support. The DAC, alongside the Diabetes Prevention and Management Program and its partners, DSGI (DMS) and AHCA have identified and implemented effective strategies for reducing the prevalence of diabetes and improving health outcomes of Floridians affected by diabetes. If the recommendations described in this report are enacted, even more can be done to prevent and manage diabetes and its complications, resulting in a healthier population, more productive workforce and reduced burden on the health care system. Improvement in these areas of life is known to improve quality of life for our communities and promote better outcomes for the people of Florida who have or are at risk for diabetes.



Introduction

Problem Statement

Diabetes is a lifelong disease that affects the way the body produces and/or uses insulin and often leads to disability and death. In 2020, diabetes was the eighth leading cause of death in the U.S.⁷ The rate of individuals diagnosed with diabetes has increased over the past 20 years, and research suggests that the rate will continue to increase and may affect nearly one in three American adults in 2050.⁸ In 2022, the Centers for Disease Control and Prevention (CDC) estimated that about 37.3 million people—or 11.3 percent of the U.S. population—had diabetes (diagnosed or undiagnosed) in 2019. This total included 37.1 million adults aged 18 years or older, or 14.7 percent of all U.S. adults. About 8.5 million of these adults had diabetes but were not aware that they had the disease or did not report that they had it. In 2019, 96 million Americans aged 18 and older had prediabetes and 283,000 youth under age 20 were estimated to have diagnosed diabetes, approximately 0.35 percent of that population.^{9,10} Among pregnant women it is estimated that between 2 and 10 percent have been diagnosed with gestational diabetes.¹¹ Diabetes can affect anyone; however, some groups are disproportionately more affected than others. Diabetes is most prevalent among adults ages 65 years or older and diabetes affects a larger percentage of non-Hispanic Blacks and Hispanics than non-Hispanic Whites.¹⁰ In Florida, it is estimated that about 11.8 percent of the adult population have been diagnosed with diabetes and 10 percent with prediabetes in 2020.^{10,12}

The total national estimated cost of diagnosed diabetes in 2017 was \$327 billion, including \$237 billion in direct medical costs and \$90 billion in reduced productivity.⁹ In Florida, the estimated cost of diagnosed diabetes in 2017 was \$25 billion each year, with \$19.3 billion being spent as direct medical expenses and \$5.5 billion as indirect costs from lost productivity. The average annual medical expenditures among individuals with diabetes are 2.3 times higher than among individuals who have not been diagnosed with diabetes.¹

There are several types of diabetes, and while the risk factors and health outcomes vary based on the specific type, all types must be managed carefully.

- Type 1 diabetes is an incurable auto-immune disease, where the body attacks the insulin-producing beta cells in the pancreas. Insulin must be injected daily or infused continuously; without external insulin, an individual with type 1 diabetes will die.¹³
- Type 2 diabetes is a metabolic disease, where the body either does not produce enough insulin to meet daily needs or develops resistance to the insulin produced.¹³ Individuals that have type 2 diabetes have an A1c level above 6.4 percent.¹⁴
- Prediabetes is a condition in which individuals have high blood glucose or hemoglobin A1c levels between 5.7 percent to 6.4 percent, but not high enough to be classified as diabetes.^{14,15}
- Gestational diabetes develops during pregnancy and increases the risk of birth complications and increases the risk of an individual developing type 2 diabetes later in life.¹¹

Individuals with any type of poorly managed diabetes may develop serious complications that can lead to disability and work loss, which can potentially reduce their overall quality of life. Diabetes can also place an



individual at an increased risk of developing other chronic diseases or complications such as hypoglycemia, hypertension, dyslipidemia, cardiovascular disease, heart attack, stroke, blindness and kidney disease.^{1,3} Type 1 diabetes can be well managed, and in type 2 diabetes management is possible through changes in lifestyle behaviors. Increasing physical activity, maintaining an optimum weight, eating a balanced diet, stopping smoking, taking medications to lower blood glucose levels and managing stress are lifestyle changes for preventing or delaying the development of type 2 diabetes.¹³ Simultaneously, patient education and self-management with support have proven to be critical components to reduce poor health outcomes that can potentially occur among this population.¹⁶

Purpose of the Report

The DAC was created by the Florida Legislature over 40 years ago and is mandated by section 385.203, Florida Statutes. Members of the DAC are appointed by the Governor to represent citizens of the state who have knowledge of, or work in, the area of diabetes mellitus, which includes representatives from private sectors involved in diabetes prevention and care, as well as citizens with diabetes and other citizen advocates. The mission of the DAC is to provide statewide leadership to continuously improve the lives of all Floridians at risk for and with diabetes and reduce the burden of diabetes.

In 2015, the Florida Legislature passed Senate Bill 296 (Chapter 2015-45, Laws of Florida) which required the DAC, in conjunction with the Department of Health (DOH), the Department of Management Services (DMS) and the Agency for Health Care Administration (AHCA), to develop a report on diabetes and its impact in Florida. The report must be submitted to the Governor, the President of the Senate and the Speaker of the House of Representatives in odd-numbered years beginning in 2017. The statute specifies three populations: the general public, state employees and people with diabetes who are covered by Medicaid. These populations are served by DOH, DMS and AHCA, respectively. Specific requirements of the report include:

- The public health consequences and financial impact on the state of all types of diabetes and resulting health complications, including the number of persons with diabetes covered by Medicaid, the number of persons with diabetes who are insured by the Division of State Group Insurance and the number of persons with diabetes who are impacted by state agency diabetes programs and activities.
- A description and an assessment of the effectiveness of the diabetes programs and activities implemented by each state agency, the amount and source of funding for such programs and activities and the cost savings realized as a result of the implementation of such programs and activities.
- A description of the coordination among state agencies of their respective programs, activities and communications designed to manage, treat and prevent all types of diabetes.
- The development of and revisions to a detailed action plan for reducing and controlling the number of new cases of diabetes and identification of proposed action steps to reduce the impact of all types of diabetes, identification of expected outcomes if the plan is implemented and the establishment of benchmarks for preventing and controlling diabetes.



The action plan at the end of this report includes evidence-based recommendations to reduce the number of new cases of diabetes, improve education and care of people with diabetes and discusses the expected outcomes if the plan is implemented. Benchmarks for preventing and controlling diabetes will be established and tracked for implemented recommendations. The report also includes the cost savings realized as a result of the implementation of recommended initiatives, programs and activities.

Report Development

The DAC met in person on June 10, 2022, to discuss key factors and priority areas for the 2023 report. Throughout the following months, a team consisting of representatives from the three report-contributing agencies was convened to establish consensus on methods and approaches for collecting and updating data to describe the diabetes burden and programs that address diabetes in their respective agencies. The team worked with the DAC and continued to compile data and content for the report. The DAC met periodically to finalize data needs and revise recommendations. As this is the state's fourth iteration of this legislatively mandated report, many partners and system processes were previously established, allowing for smooth coordination and successful collaboration.

Diabetes in Florida

The following section discusses the scope and impact of diabetes in Florida. Data for this section were compiled from multiple sources, including national health surveys, state-based telephone surveys, vital statistics and administrative health care data. These data provide a comprehensive picture of the burden of diabetes, as well as its associated health complications, overall and within specific populations. More detailed information about each of the data sources is available in Appendix A.

Statewide Prevalence of Prediabetes and Diabetes

Prediabetes

Prediabetes is a serious health condition that increases the risk of developing type 2 diabetes, heart disease and stroke. People with prediabetes are 5 to 20 times more likely to develop type 2 diabetes than someone with normal blood glucose (blood sugar) levels.^{13,17} Up to 7 in 10 individuals with prediabetes will eventually develop diabetes.¹⁵ The CDC estimates that more than 1 in 3 adults nationally have prediabetes; however, more than 8 out of 10 people who have prediabetes are unaware they have the condition.¹³

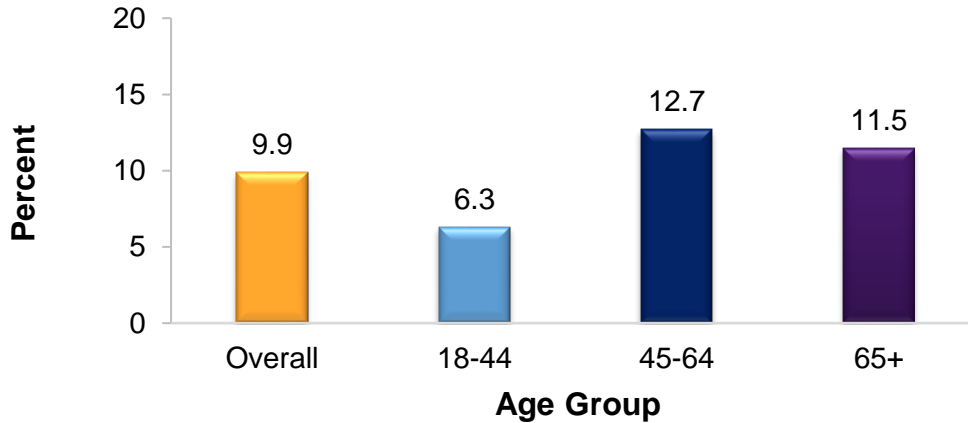
The following data from the 2020 Behavioral Risk Factor Surveillance System (BRFSS) include adults who report that they have ever been told by a doctor, nurse or other health professional that they have prediabetes. The BRFSS is a telephone-based survey, overseen by the CDC and conducted annually in Florida since 1986, that captures information about disease and behavioral risk factors. The true prevalence of chronic conditions on the BRFSS is often under-reported due to lack of awareness.

In 2020, approximately 1 out of 10 Florida adults (9.9%) had ever been diagnosed with prediabetes. The prevalence of prediabetes was slightly higher among men (10.5%) compared to women (9.4%), but this was not a statistically significant difference. The prevalence of prediabetes increases with age. Florida



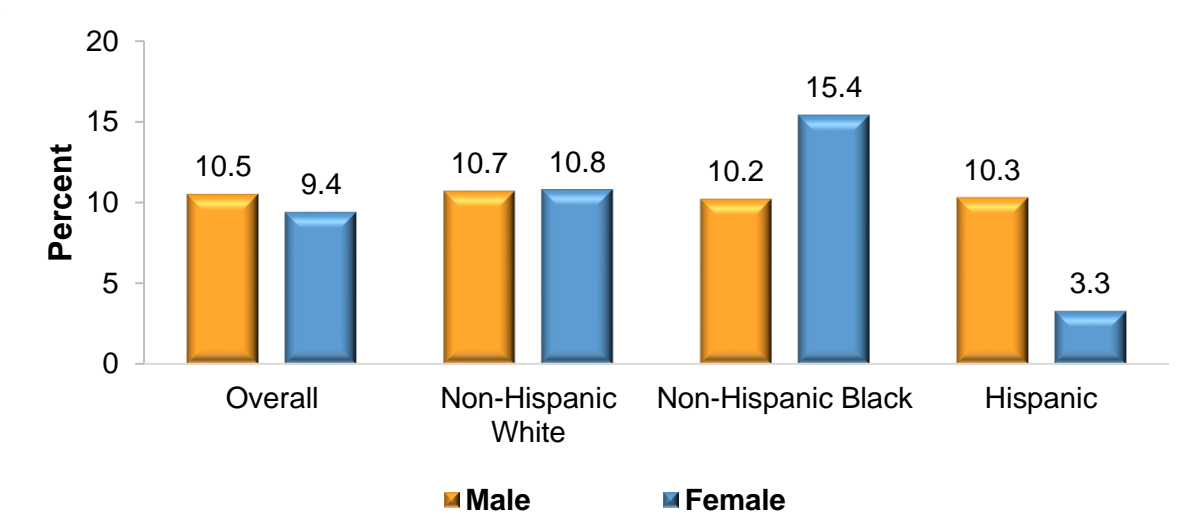
adults ages 18 to 44 had a statistically significant lower prevalence of prediabetes (6.3%) compared to Florida adults ages 45 to 64 (12.7%) and Florida adults ages 65 and older (11.5%) (Figure 1).

Figure 1. Florida Prevalence of Prediabetes by Age Group, BRFSS, 2020



The prevalence of prediabetes among Florida adults differed by race/ethnicity in 2020. The prevalence of prediabetes was 10.7 percent among non-Hispanic Whites, 12.8 percent among non-Hispanic Blacks, and 6.6 percent among Hispanics. However, the difference was not statistically significant. Figure 2 shows the difference in prevalence of prediabetes by gender and by race/ethnicity. Non-Hispanic Black women had the highest prevalence of prediabetes (15.4%) and Hispanic women had the lowest prevalence of prediabetes (3.3%) in 2020.

Figure 2. Florida Prevalence of Prediabetes by Gender by Race/Ethnicity, BRFSS, 2020



The prevalence of prediabetes did not differ significantly by income, but estimates were slightly higher for those with higher household incomes. In 2020, the prevalence of prediabetes was 8.5 percent among



Florida adults with an annual household income less than \$25,000, 10.2 percent for those with an annual household income between \$25,000 and \$49,999, and 12.6 percent among those with an annual household income of \$50,000 or greater.

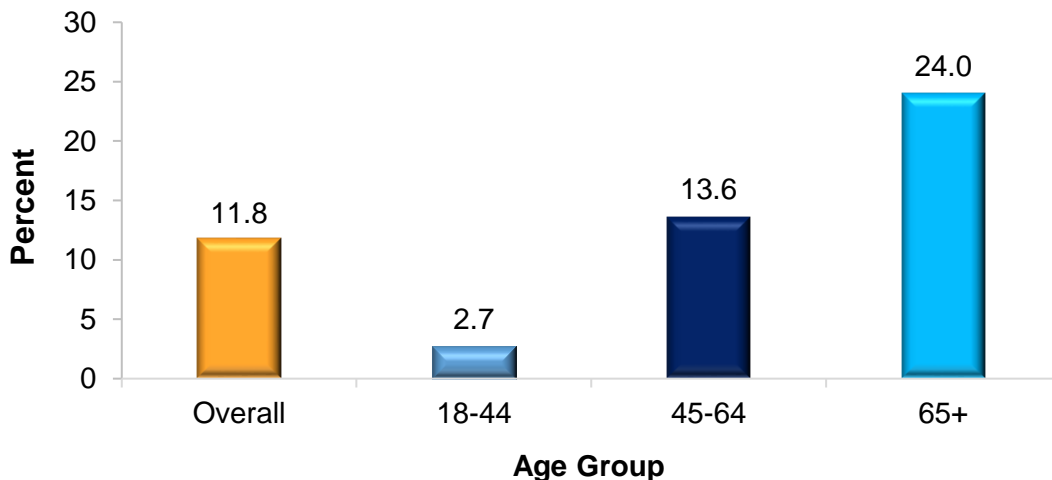
In 2019, more than half of Florida counties (38 out of 67) had a prevalence of prediabetes higher than the state rate (9.1%), but the only county with a statistically significant difference was Dixie County (15.5%). Less than half of the counties (28 out of 67) had a prediabetes prevalence lower than the state rate, however, the difference was not statistically significant. Escambia County was the only county with a prediabetes prevalence rate equal to the state rate of 9.1 percent.

Diabetes

Diabetes is a lifelong disease that affects the way the body produces and/or uses insulin. People with diabetes either don't make enough insulin (type 1 diabetes) or can't use insulin properly (type 2 diabetes).¹³ Type 2 diabetes accounts for approximately 90 to 95 percent of all diagnosed diabetes cases, and type 1 diabetes accounts for about 5 to 10 percent.^{13,18} The following data from the BRFSS include individuals who report that they have ever been told by a doctor, nurse or other health professional that they have diabetes, including both types 1 and 2.

Over the past 25 years, the prevalence of diabetes among Florida adults more than doubled, increasing from 5.2 percent in 1995 to 11.8 percent in 2020. Diabetes prevalence among Florida women was 11.9 percent compared to 11.7 percent among Florida men in 2020. Like prediabetes, the prevalence of diabetes also increases with age. In 2020, 2.7 percent of Florida adults ages 18 to 44 reported having ever been diagnosed with diabetes compared to 13.6 percent of adults ages 45 to 64 and 24.0 percent of adults ages 65 and older (Figure 3).

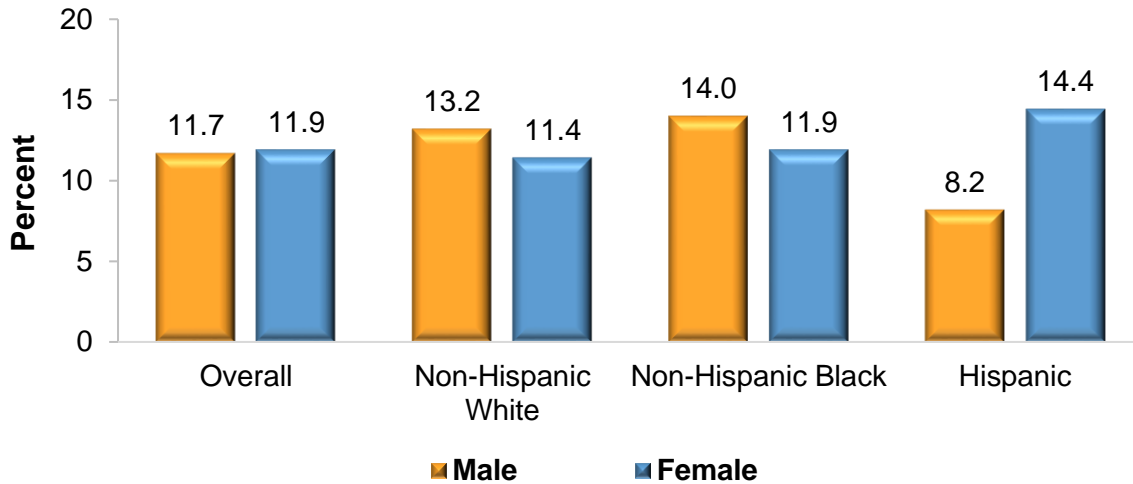
Figure 3: Florida Prevalence of Diabetes by Age Group, BRFSS, 2020





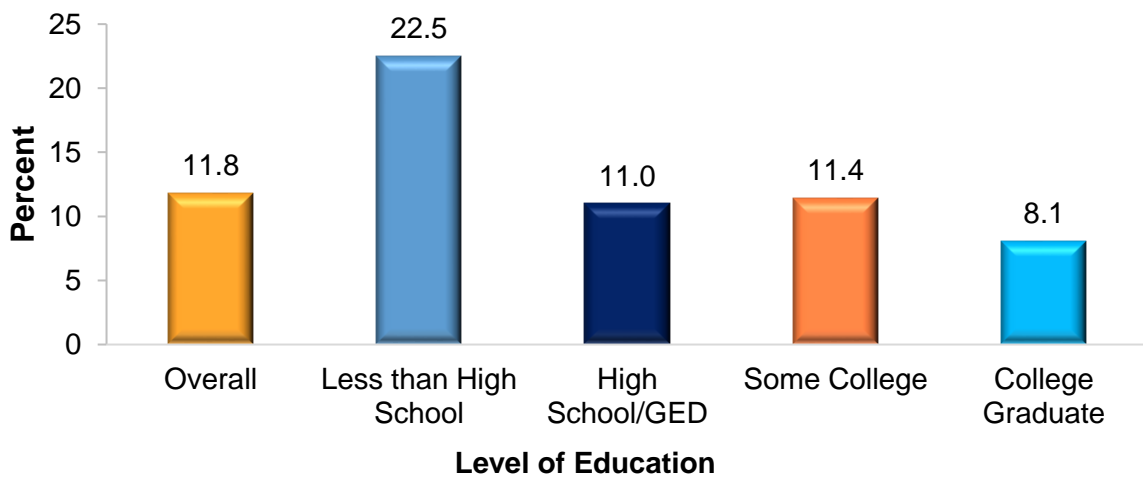
In 2020, the prevalence of diabetes was highest among non-Hispanic Blacks (12.9%) compared to non-Hispanic Whites (12.3%) and Hispanics (11.4%). A similar pattern was observed for racial/ethnic groups among men. The prevalence of diabetes among non-Hispanic Black men (14.0%) was higher than that of non-Hispanic White men (13.2%) and Hispanic men (8.2%). A different pattern was observed among women. The prevalence of diabetes was higher among Hispanic women (14.4%) compared to non-Hispanic Black women (11.9%) and non-Hispanic White women (11.4%) (Figure 4).

Figure 4: Florida Prevalence of Diabetes by Gender by Race/Ethnicity, BRFSS, 2020



Differences in prevalence of diabetes were observed when considering socioeconomic factors such as education and income in 2020. Florida adults with less than a high school education had a statistically significantly higher prevalence of diabetes (22.5%) when compared to adults with a high school education or GED (11.0%), adults who attended some college (11.4%) and adults who graduated college (8.1%) (Figure 5).

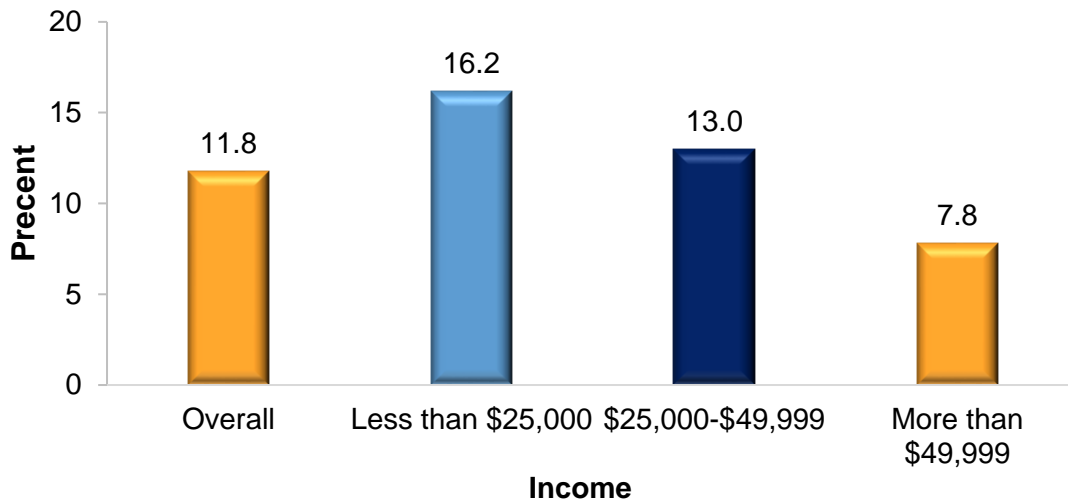
Figure 5. Florida Prevalence of Diabetes by Education Level, BRFSS, 2020





In 2020, the prevalence of diabetes among Florida adults living in households with an annual income less than \$25,000 (16.2%) was higher than that of those with an annual household income between \$25,000 and \$49,999 (13.0%) and those with an annual household income of \$50,000 or greater (7.8%) (Figure 6).

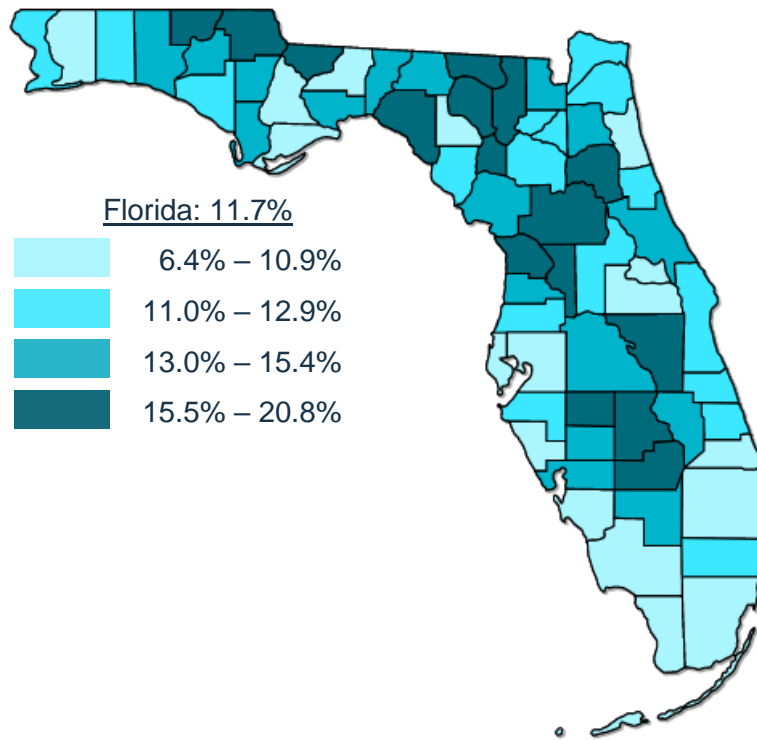
Figure 6. Florida Prevalence of Diabetes by Household Income Level, BRFSS, 2020



The prevalence of diabetes among Florida adults varies geographically across the state. In 2019, two counties, Leon (6.4%) and Monroe (7.3%) had a diabetes prevalence significantly lower than the state rate (11.7%) and ten counties had a diabetes prevalence significantly higher than the state rate. The highest prevalence of diabetes was observed in Glades (20.8%), Gadsden (19.9%), Jackson (18.8%), Sumter (18.5%) and Holmes (18.4%) counties (Map 1).



Map 1. Florida Diabetes Prevalence by County, BRFSS, 2019



Youth Diabetes

Data sources about diabetes among youth statewide are limited. Approximately 18,300 cases of type 1 diabetes and about 5,800 cases of type 2 diabetes are estimated to be newly diagnosed among U.S. youth younger than age 20 each year.² Analysis of data from the National Survey of Children’s Health revealed that the prevalence of current diabetes among U.S. children ages 0 to 17 in 2020 was 0.3 percent corresponding approximately to 246,340 children.¹⁹

School Health Services

The School Health Services Program of the Department of Health, in collaboration with the Florida Department of Education, is authorized to provide school-based health services by sections 381.0056, 381.0057, 402.3026, Florida Statutes, to all public-school children in grades pre-kindergarten through 12 in all 67 Florida counties. Florida Statute 1002.20(3)(j) and Florida Administrative Code Rule 6A-6.0253 provide additional provisions and requirements that school health programs provide to Florida public school students living with diabetes.

Registered professional school nurses (RNs) and unlicensed support staff work with students living with diabetes to monitor and manage their diabetes. Diabetes care for students is commonly provided by unlicensed assistive personnel (UAP), who may be certified nursing assistants, health aides/health technicians or school staff (such as office clerks, administrative staff, teachers, coaches, bus drivers and



others) who have been designated by the school's principal and trained and delegated to perform the tasks by a RN.

Florida Administrative Code Rule 6A-6.0253 provides students with diabetes the ability to self-carry diabetes care equipment and medications and self-manage their diabetes during the school day. These students must have an authorization that is signed by their health care provider and parent/guardian. RN staff work with primary care providers, parents and the students to educate and plan for diabetes self-management and the students long term success in managing their condition.

Annually, local school health programs report data on student health conditions and the services provided. In 2020–2021, there were a reported 7,006 students with type 1 diabetes and 917 students with type 2 diabetes in Florida schools for a total of 7,923 students living with diabetes attending Florida public schools statewide. Of these students, 3,588 required glucose monitoring, 3,060 required carbohydrate-counting and 3,304 required insulin administration at schools throughout the school year.

At its core, the School Health Services Program helps students mitigate health barriers to learning, allowing children to learn to the best of their ability. Health status as an adult is directly correlated to education attainment. The School Health Services Program is aimed at directly tackling health limitations to educational attainment. Managing diabetic students in schools and helping them successfully manage their condition overtime aligns with this core goal of the School Health Services Program statewide.

Diabetes and Pregnancy

Gestational diabetes is a form of diabetes that develops only during pregnancy. It is distinct from pre-existing diabetes, which includes type 1 and type 2 diabetes, that a woman had before becoming pregnant. Both gestational and pre-existing diabetes can lead to serious health complications for mother and baby, including preeclampsia, premature birth, cesarean delivery and higher risk of birth injury. Poorly managed pre-existing diabetes also increases the risk of birth defects, miscarriage or stillbirth, while gestational diabetes puts both mother and baby at a higher risk of developing type 2 diabetes later in life.¹¹ According to data from the 2015 Pregnancy Risk Assessment Monitoring System (PRAMS), 1.8 percent of recent mothers in Florida reported having pre-existing diabetes before their most recent pregnancy and 12.1 percent reported having gestational diabetes during their most recent pregnancy.²⁰

Diabetes Among the Medicaid Population

The Agency for Health Care Administration (AHCA) is responsible for the oversight and administration of the Florida Medicaid program, overseeing the delivery of health care for over 5 million low-income children, adults, seniors and individuals with disabilities. Due to the impacts of the COVID-19 pandemic, Medicaid enrollment in Florida has increased by roughly 43.5 percent since March 2020. As of state fiscal year (SFY) 20/21, a total of 178,482 people received health care for diabetes mellitus. The vast majority (97%) of this population were adults with type 2 diabetes.

For the purposes of this report, a series of data tables was prepared by the AHCA's Division of Medicaid, Bureau of Medicaid Data Analytics (MDA) and Bureau of Medicaid Quality. The provided data show the prevalence and trends of diabetes (type 1 diabetes, type 2 diabetes, or gestational diabetes) among the Florida Medicaid population for both adults and children (defined as under 18 years of age). The data include both fee-for-service (FFS) claims and managed care plan encounters.



Tables 1 and 2 show the number of Florida Medicaid recipients, including both children and adults, with diabetes from SFY 16/17 to SFY 20/21, by age group and type of diabetes. While the number of type 1 diabetes cases among adults decreased by 17.3 percent during this period, the number of type 1 diabetes cases among children increased by 13 percent. The number of type 2 diabetes cases among adults decreased slightly during this period; however, cases of type 2 diabetes among children increased by 3.5 percent.

**Table 1. Prevalence of Florida Medicaid Members
Ages 18 and Older with Type 1 and Type 2 Diabetes
SFY 2016-2017 to SFY 2020-2021**

State Fiscal Year (SFY)	Type 1 Diabetes Cases		Type 2 Diabetes Cases		Medicaid Enrollment	
	Number	Prevalence	Number	Prevalence	Adults 18 Years of Age or Older	Total Enrollment
SFY 16/17	17,944	0.73%	157,250	6.36%	2,472,824	4,912,142
SFY 17/18	20,134	0.82%	187,386	7.67%	2,444,470	4,906,268
SFY 18/19	16,360	0.69%	168,330	7.14%	2,358,067	4,720,680
SFY 19/20	14,824	0.62%	160,743	6.75%	2,380,153	4,722,228
SFY 20/21	14,837	0.58%	167,615	6.51%	2,574,499	4,977,059

Notes: Utilizes both fee-for-service (FFS) claim data and managed care plan encounter data. Care should be taken in drawing inferences based on the encounter data. Gestational diabetes is not included in this analysis.

Source: MDA SQL claims and encounter tables as of July 2022



**Table 2. Prevalence of Florida Medicaid Members
Less than 18 Years of Age with Type 1 and Type 2 Diabetes
SFY 2016-2017 to SFY 2020-2021**

State Fiscal Year (SFY)	Type 1 Diabetes Cases		Type 2 Diabetes Cases		Medicaid Enrollment	
	Number	Prevalence	Number	Prevalence	Children Less than 18 Years of Age	Total Enrollment
SFY 16/17	3,778	0.15%	2,941	0.12%	2,439,318	4,912,142
SFY 17/18	3,943	0.16%	3,214	0.13%	2,461,798	4,906,268
SFY 18/19	3,898	0.16%	2,870	0.12%	2,362,613	4,720,680
SFY 19/20	3,802	0.16%	2,502	0.11%	2,342,075	4,722,228
SFY 20/21	4,270	0.18%	3,043	0.13%	2,402,560	4,977,059

Notes: Utilizes both fee-for-service (FFS) claim data and managed care plan encounter data. Care should be taken in drawing inferences based on the encounter data. Gestational diabetes is not included in this analysis.

Source: MDA SQL claims and encounter tables as of July 2022

Prevalence of Diabetes in Adults

Table 3 shows the prevalence rate, number of diabetes cases and total enrollment among Florida adult Medicaid members (ages 18 and older) over a five-year period from SFY 16/17 to SFY 20/21. During this time, the prevalence rate of diabetes among Medicaid adults was 7.1 percent. Since SFY 16/17, the number of diabetes cases in women increased by approximately 2.6 percent, while the number of cases in men increased by 9.6 percent. Of note, the increased number of people covered by Medicaid because of the 2020 public health emergency may have skewed the prevalence rates of diabetes and other conditions.



**Table 3. Prevalence of Diabetes by Gender
Among Florida Medicaid Adult Members Ages 18 and Older
SFY 2016-2017 to SFY 2020-2021**

State Fiscal Year (SFY)	Prevalence Rate		Number of Diabetes Cases		Total Adult Enrollment	
	Women	Men	Women with Diabetes	Men with Diabetes	Total Women Enrolled	Total Men Enrolled
SFY 16/17	6.5%	6.8%	103,301	61,000	1,577,971	894,853
SFY 17/18	7.8%	8.2%	122,306	71,400	1,569,815	874,655
SFY 18/19	7.2%	7.7%	108,660	65,014	1,514,177	843,890
SFY 19/20	6.7%	7.4%	102,243	63,482	1,520,587	859,566
SFY 20/21	6.5%	7.2%	106,113	67,207	1,635,267	939,232

Source: MDA SQL claims and encounter tables as of July 2022.

Prevalence of Diabetes in Children (0-17 years of age)

Table 4 shows the prevalence rate, number of diabetes cases, and total enrollment among Florida child Medicaid recipients (ages 0 to 17) from SFY 16/17 to SFY 20/21. The prevalence of diabetes among child Medicaid recipients increased to 0.3 percent.

From SFY 18/19 to SFY 19/20, the number of diabetes cases decreased among both groups, by approximately 6.3 percent for girls and 4.1 percent for boys. However, from SFY 19/20 to SFY 20/21, there was an increase in diabetes cases for both groups, by approximately 14.1 percent for girls and 16.8 percent for boys. Total child enrollment decreased among both groups between SFY 18/19 to SFY 19/20; however, from SFY 19/20 to SFY 20/21, total child enrollment increased for both groups by approximately 2.6 percent due to the extension of coverage related to the public health emergency. Despite these changes in enrollment numbers, the prevalence of diabetes among children has ranged 0.2 percent to 0.3 percent.



**Table 4. Prevalence of Diabetes by Gender
Among Florida Medicaid Child Members Ages 17 and Younger
SFY 2016-2017 to SFY 2020-2021**

State Fiscal Year (SFY)	Prevalence Rate		Number of Diabetes Cases		Total Child Enrollment	
	Girls	Boys	Girls with Diabetes	Boys with Diabetes	Total Girls Enrolled	Total Boys Enrolled
SFY 16/17	0.2%	0.2%	2,978	2,638	1,191,215	1,248,103
SFY 17/18	0.3%	0.2%	3,127	2,802	1,202,046	1,259,752
SFY 18/19	0.3%	0.2%	2,912	2,596	1,153,004	1,209,609
SFY 19/20	0.2%	0.2%	2,728	2,489	1,142,829	1,199,246
SFY 20/21	0.3%	0.2%	3,133	2,908	1,172,450	1,230,110

Source: MDA SQL claims and encounter tables as of July 2022.

Diabetes and Pregnancy

Diabetes during pregnancy and poor management of the condition can negatively affect the health of women and their infants. Specifically, women with untreated diabetes during pregnancy are at an increased risk of having stillbirths, C-sections and developing diabetes later in life. Infants from diabetic mothers are often larger than other infants and make vaginal birthing more challenging. Moreover, these infants are more likely to be born premature and are at higher risk for developing diabetes later in their lives.

Table 5 displays the number of pregnant Medicaid women with gestational diabetes, preexisting diabetes or neither from SFY 16/17 to SFY 20/21. The absolute number of pregnant women with diabetes has steadily increased since SFY 16/17. As of SFY 20/21, the prevalence rate of pregnant Medicaid mothers who had a diagnosis of either gestational or preexisting diabetes was 3.73 percent.



**Table 5. Diabetes and Pregnancy Among Florida Medicaid Women Members
SFY 2016-2017 to SFY 2020-2021**

State Fiscal Year (SFY)	Pregnant Women with Gestational Diabetes	Pregnant Women with Pre-existing Diabetes	Pregnant Women with Neither Pre-existing nor Gestational Diabetes	Total Pregnant Women	Percentage of Pregnant Women with Gestational Diabetes or Pre-existing Diabetes
SFY 16/17	2,450	212	110,135	112,797	2.36%
SFY 17/18	2,782	199	109,792	112,773	2.64%
SFY 18/19	3,280	236	106,857	110,373	3.19%
SFY 19/20	3,551	214	104,134	107,899	3.49%
SFY 20/21	3,685	228	101,105	105,018	3.73%

Source: MDA SQL claims and encounter tables as of August 2022

Diabetes Among Individuals Covered by the Division of State Group Insurance

The Department of Management Services, Division of State Group Insurance (DSGI) offers and manages a comprehensive package of health and welfare insurance benefits for active and retired state employees and their families. Individuals with a primary diagnosis of diabetes during a calendar year were included in the counts presented in the following section.

DSGI Adult Diabetes

In 2021, there were 2,006 adults with type 1 diabetes and 28,220 adults with type 2 diabetes whose health care visits were covered by the DSGI (Table 6).

**Table 6. Number of Adults (Ages 18 and Older) with Diabetes and Covered by DSGI
During the Calendar Year 2020 and 2021**

Year	Number of Adults	
	Type 1	Type 2
2020	2,056	27,726
2021	2,006	28,220

DSGI Youth Diabetes (0-17 years of age)

In 2021, there were 171 children with type 1 diabetes and 44 children with type 2 diabetes whose health care visits were covered by the DSGI (Table 7).



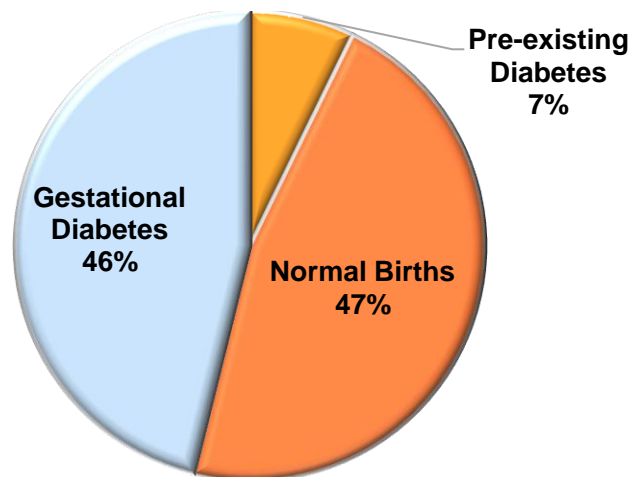
Table 7. Number of Children (Ages 0 to 17) with Diabetes and Covered by DSGI During the Calendar Year 2020 and 2021

Year	Number of Children	
	Type 1	Type 2
2020	177	59
2021	171	44

DSGI Diabetes and Pregnancy

In 2021, there were a total of 1,775 births among individuals covered by DSGI. While approximately 46.6 percent of new mothers did not experience any diabetes during pregnancy, around 7.2 percent had diabetes prior to becoming pregnant. The proportion of new mothers who experienced gestational diabetes increased from 38 percent in 2019 to 46.1 percent in 2021. (Figure 7).

Figure 7. Percentage of Births Covered by DSGI by Diabetes Status, 2021



Public Health Consequences and Financial Impact of Diabetes

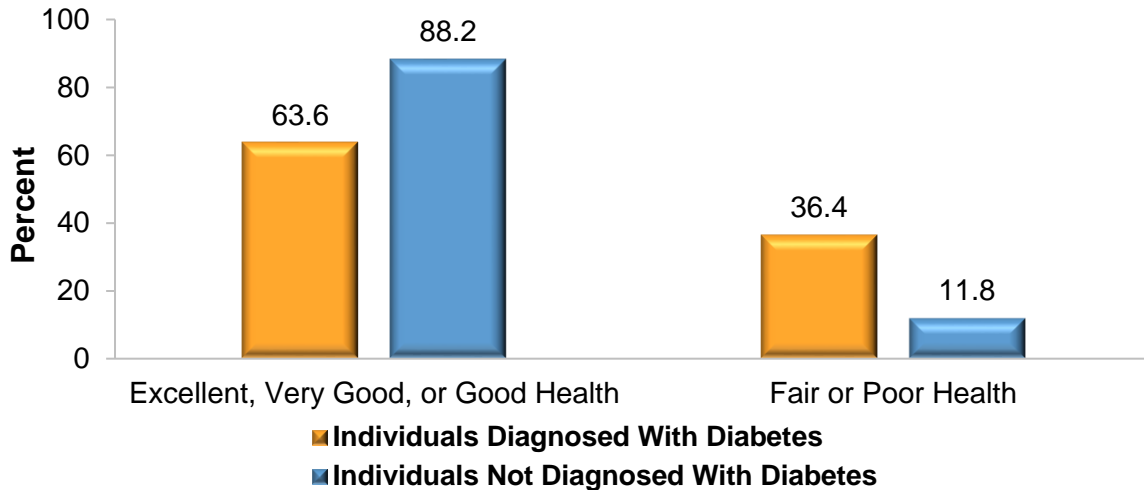
Diabetes and related complications create significant individual, societal and financial burden.^{1,3} People with diabetes are twice as likely to have heart disease or a stroke as people without diabetes, and at an earlier age.⁴ Diabetes is the leading cause of kidney failure, lower-limb amputations and adult-onset blindness. An estimated 25 percent of national health care spending is for people with diagnosed diabetes.^{5,6} This section of the report highlights some of the ways diabetes impacts Florida’s residents, health systems and economy.



Health Status

Individuals with diabetes have a lower overall health status when compared to individuals without diabetes. Among Florida adults with diabetes, 63.6 percent reported that their health is excellent, very good or good, compared to 88.2 percent of adults without diabetes. Additionally, 36.4 percent of adults with diabetes reported that their health is fair or poor, compared to 11.8 percent of adults without diabetes in 2020 (Figure 8).

Figure 8. Florida Self-Reported Health Status by Diabetes Status, BRFSS, 2020

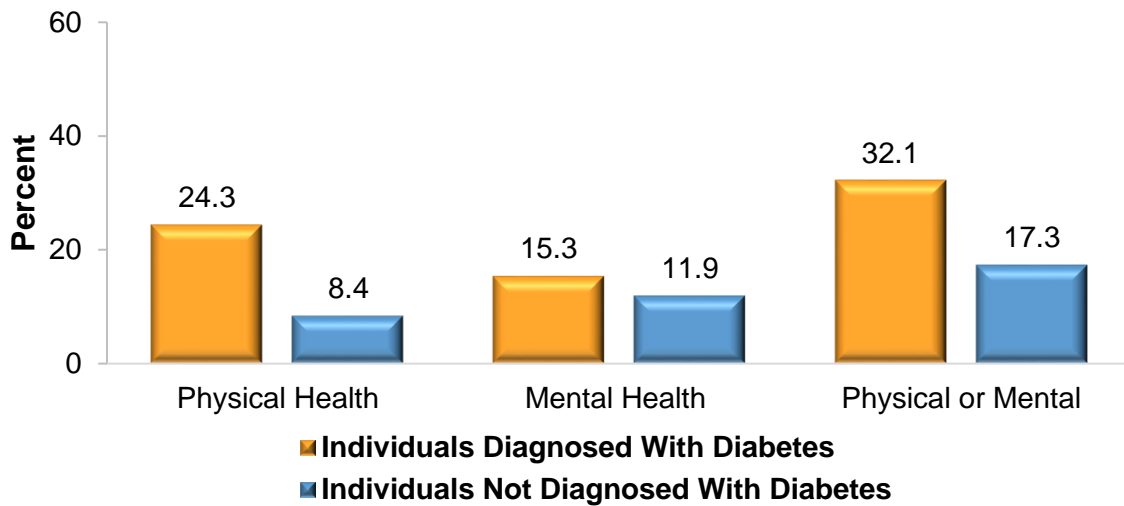


Physical and Mental Health

The following data demonstrate that diabetes influences both physical and mental health. Approximately one out of four adults with diabetes (24.3%) reported that their physical health was not good for two or more weeks during the past month, compared to one out of twelve adults without diabetes (8.4%). Approximately one out of six of adults with diabetes (15.3%) reported that their mental health was not good for two or more weeks during the past month, compared to one out of eight (11.9%) adults without diabetes. When assessing physical and mental health combined, nearly one out of three adults with diabetes (32.1%) reported that their physical or mental health was not good for two or more weeks during the past month, compared to one out of six adults without diabetes (17.3%) (Figure 9).



Figure 9. Florida Self-Reported Poor Physical or Mental Health on 14 or More Days in One Month by Diabetes Status, BRFSS, 2020



Comorbidities

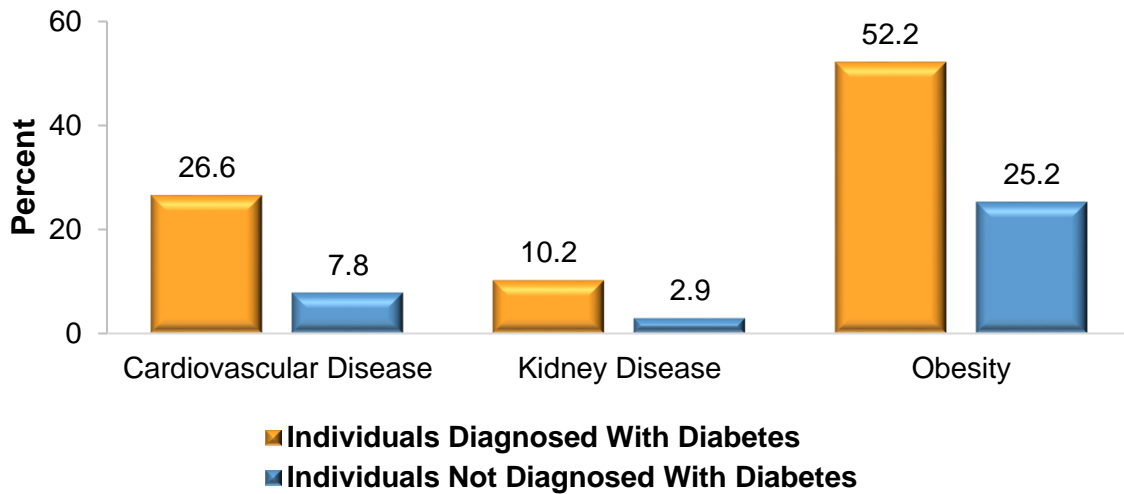
Several chronic conditions are commonly associated with diabetes. Some of these comorbidities include coronary heart disease, heart attack, stroke, cardiovascular diseases, kidney diseases and obesity. Figure 10 depicts the prevalence of chronic conditions by diabetes status in Florida.

In 2020, Florida adults with diabetes had a significantly higher prevalence of cardiovascular diseases, kidney diseases and obesity than those without diabetes (Figure 10).

- Approximately one out of four adults with diabetes (26.6%) had a history of cardiovascular diseases, including heart attack, stroke or coronary heart disease, compared to one out of 13 adults without diabetes (7.8%).
- One out of ten adults with diabetes (10.2%) had kidney disease compared to one out of 34 adults without diabetes (2.9%).
- About half of adults with diabetes (52.2%) were obese compared to nearly one out of four adults without diabetes (25.2%).



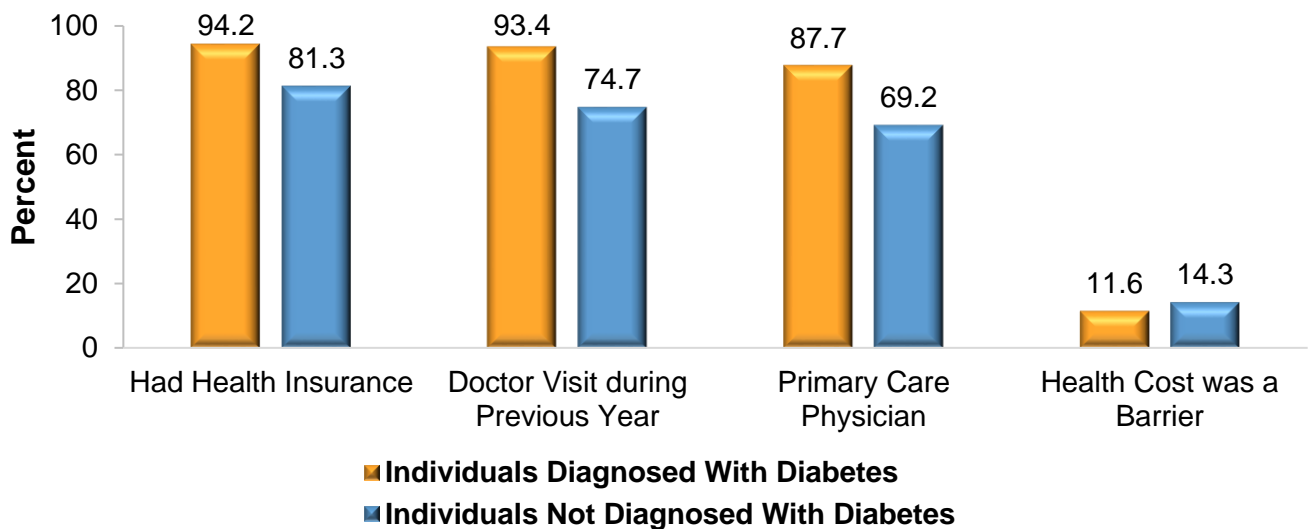
Figure 10. Florida Chronic Conditions by Diabetes Status, BRFSS, 2020



Health Care Access

In 2020, adults with diabetes had a higher prevalence of having health insurance (94.2%), having a doctor visit in the past year for a routine check-up (93.4%) and having one person they think of as their personal doctor or health care provider (87.7%) compared to adults without diabetes (81.3%, 74.7% and 69.2%, respectively). Approximately one out of nine adults with diabetes (11.6%) reported that there was a time during the past year when they needed to see a doctor but could not because of cost compared to one out of seven adults without diabetes (14.3%); however, that difference was not significant (Figure 11).

Figure 11. Health Care Access by Diabetes Status, Florida, BRFSS, 2020



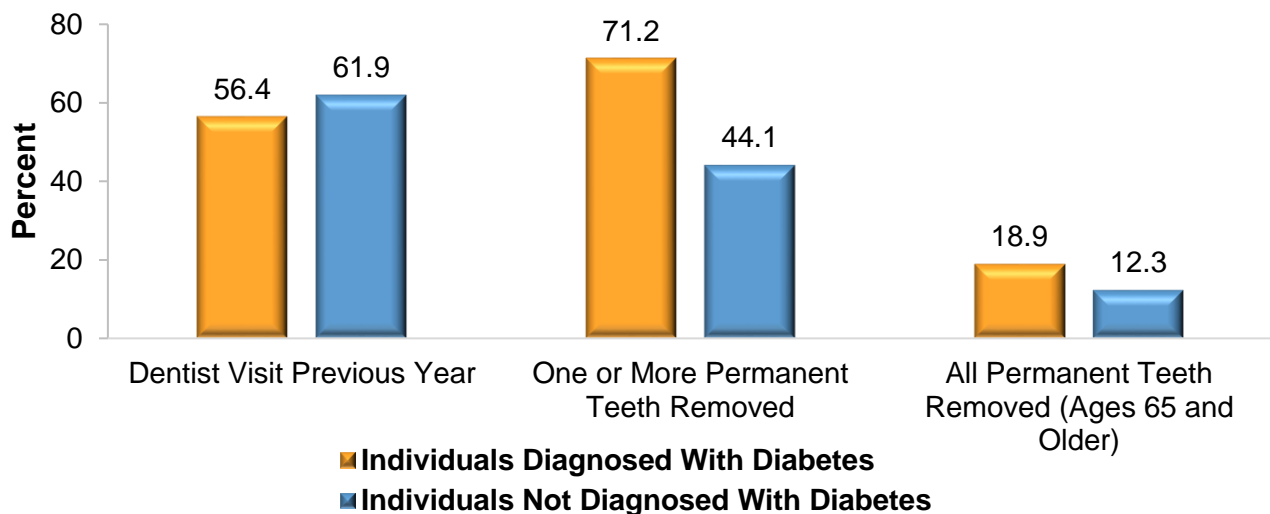


Oral Health and Diabetes

Individuals with diabetes are at higher risk for oral health problems, such as gingivitis (an early stage of gum disease) and periodontitis (serious gum disease). People with diabetes are at an increased risk for serious gum disease because they are generally more susceptible to bacterial infections and have a decreased ability to fight bacteria that invade the gums.²¹ In addition, recent research shows periodontitis may have the potential to affect blood glucose control and contribute to the progression of diabetes.²²

Oral diseases are significant issues among Florida’s residents, especially those with diabetes. In 2020, adults with diagnosed diabetes had a lower prevalence of seeing a dentist in the past year (56.4%) compared to adults without diabetes (61.9%). The prevalence of having one or more permanent teeth removed was significantly higher among adults with diagnosed diabetes (71.2%) compared to adults without diabetes (44.1%). Among adults ages 65 and older, approximately one out of five with diabetes (18.9%) had all their permanent teeth removed compared to one out of eight without diabetes (12.3%) (Figure 12).

Figure 12. Florida Oral Health Indicators by Diabetes Status, BRFSS, 2020



Emergency Department Visits and Hospitalizations

Diabetes-related emergency department (ED) visits and subsequent hospitalizations occur because of serious health complications that often accompany undetected or poorly controlled diabetes. This includes cardiovascular disease, dehydration, ulcers, kidney problems, nerve damage, blindness and lower-limb amputation. Many of these ED visits and hospitalizations could be avoided with improved access to care, appropriate diagnosis and monitoring of diabetes in the physician’s office, increased adherence to treatment regimens and diabetes self-management education (DSME). In the U.S., in 2018, there were 17 million ED visits with diabetes as any-listed diagnosis among adults ages 18 years and older.³

The following section presents Florida data on ED visits with diabetes as any-listed diagnosis and hospitalizations with diabetes as first-listed diagnosis using the International Classification of Diseases, Clinical Modification, 9th Revision (ICD-9-CM) diagnosis code 250 and 10th Revision (ICD-10-CM)

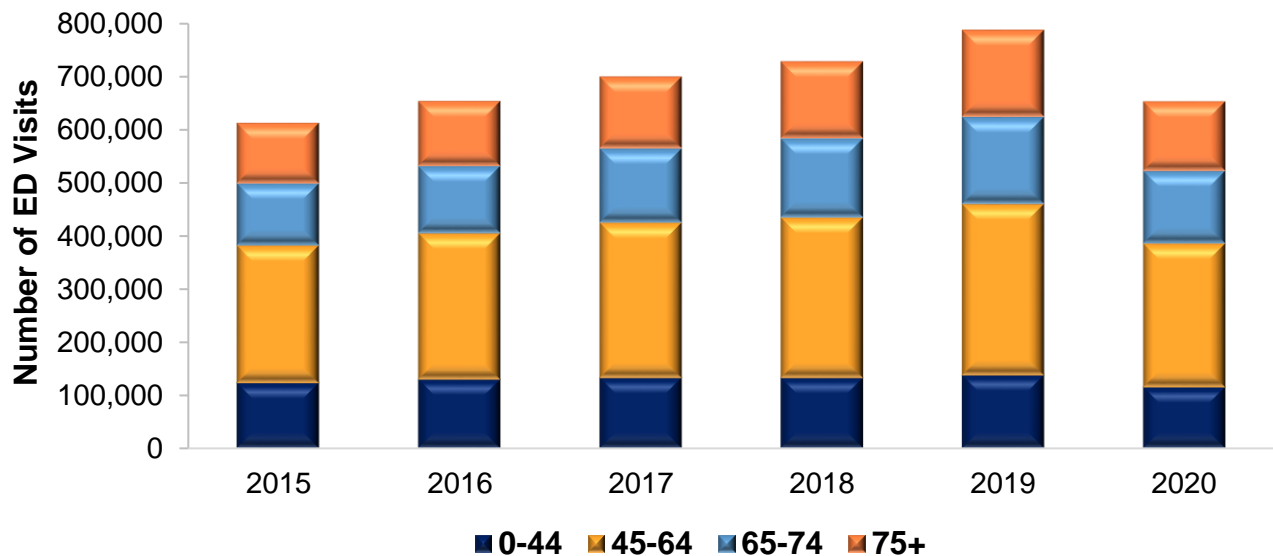


diagnosis codes E10, E11 and E13. The first-listed diagnosis code represents the diagnosis chiefly responsible for the admission. Although hospitalizations with diabetes as first-listed diagnosis are the focus of this section, it is important to note that the number of hospitalizations substantially increases when cases with diabetes as any-listed diagnosis are included. ED and inpatient hospitalization data sets from AHCA were used for this analysis.

ED Visits over Time

From 2015 to 2020, the number of ED visits in Florida with diabetes as any-listed diagnosis increased by 6.5 percent from 612,992 to 653,054. In 2019, the number of ED visits with diabetes as any-listed diagnosis reached 787,001 representing an increase of 28.4 percent compared to 2015. During this time, the largest number of ED visits occurred among Floridians ages 45-64 years (Figure 13). The age-specific rate for this group also increased during this time (from 487.4 per 10,000 in 2015 to 577.0 per 10,000 in 2019), indicating that the difference is not simply due to an increase in population size. Note that the contrasting 17.0 percent decrease from 787,001 in 2019 to 653,054 in 2020 compared to the increasing trends from 2015 to 2019 can be attributed to measures implemented during the coronavirus disease 2019 (COVID-19) pandemic to limit visitations in Florida health care facilities for individuals with chronic diseases in order to reduce exposure to the COVID-19 virus at the beginning of the pandemic.²³⁻²⁵

Figure 13. Florida Total Number of ED Visits with Diabetes as Any-Listed Diagnosis by Age Group, AHCA, 2015-2020



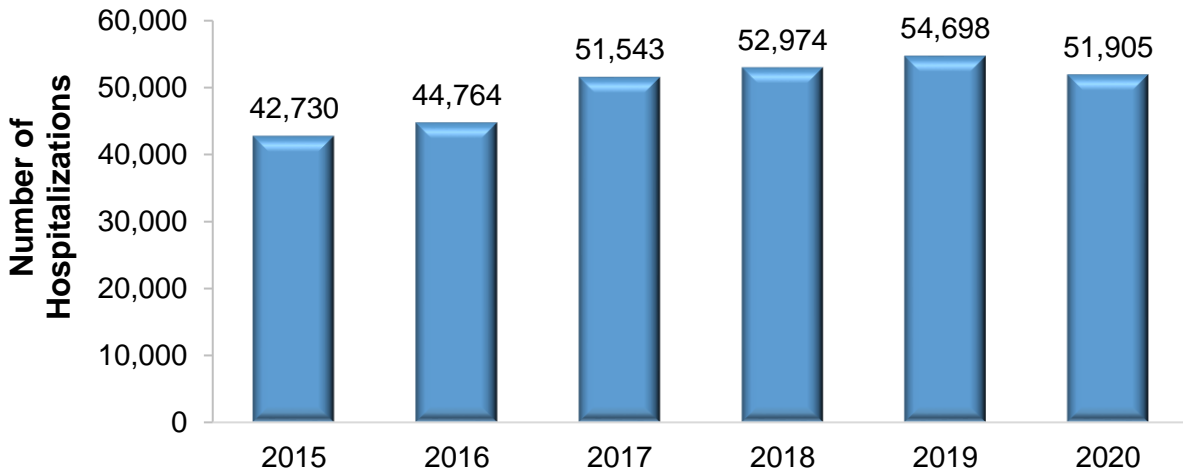
Hospitalizations Over Time

Over the last six years, the number of hospitalizations in Florida with diabetes as first-listed diagnosis increased by 21.5 percent from 42,730 in 2015 to 51,905 in 2020 (Figure 14). In 2019, the number of hospitalizations with diabetes as first-listed diagnosis reached 54,698 representing a 28.0 percent increase compared to 2015. During this time, the age-adjusted rate increased by 19 percent, from 19.3 per 10,000 in 2015 to 22.1 per 10,000 in 2019. This means that the increase seen in the number of hospitalizations is not due solely to the growing population. Note that the contrasting 5.1 percent decrease from 54,698 in 2019 to



51,905 in 2020 compared to the increasing trends from 2015 to 2019 can be attributed to measures implemented during the COVID-19 pandemic to limit visitations in Florida health care facilities for individuals with chronic diseases in order to reduce exposure to the COVID-19 virus at the beginning of the pandemic.²³⁻²⁵

Figure 14. Florida Total Number of Hospitalizations with Diabetes as First-Listed Diagnosis, AHCA, 2015-2020

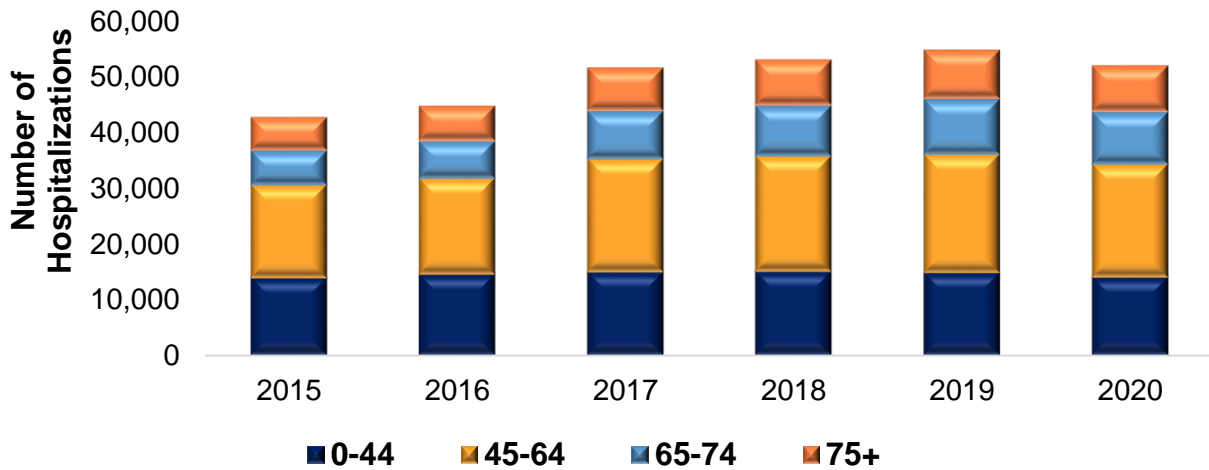


Hospitalizations by Age Group

From 2015 to 2020, the largest number of hospitalizations with diabetes as first-listed diagnosis occurred among Floridians ages 45-64 years (Figure 15). This number increased by 26.8 percent, from 16,670 in 2015 to 21,132 in 2019 and by 21.5 percent, from 16,670 in 2015 to 20,256 in 2020. During the period 2015-2019, the number of hospitalizations among Floridians ages 0-44 years and 65-74 years also increased by 6.9 percent and 59.6 percent, respectively. For the period 2015-2020, among the latter age groups, the increase was about 1.0 percent and 50.2 percent, respectively.



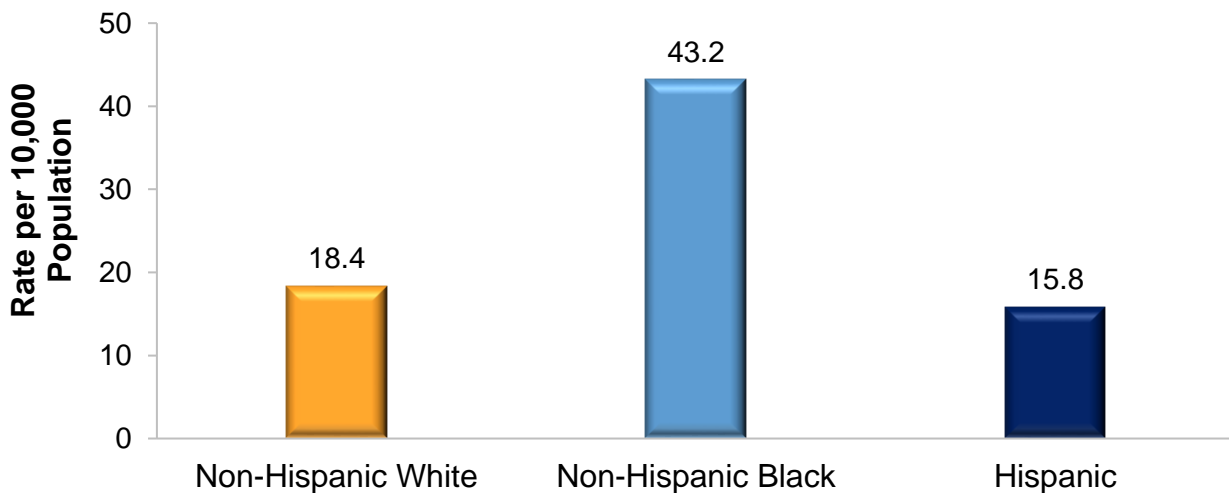
Figure 15. Florida Total Number of Hospitalizations with Diabetes as First-Listed Diagnosis by Age Group, AHCA, 2015-2020



Hospitalizations by Race/Ethnicity

Large disparities exist in hospitalization rates by race/ethnicity. In 2020, the age-adjusted hospitalization rate with diabetes as first-listed diagnosis for non-Hispanic Blacks (43.2 per 10,000 population) was more than double that of non-Hispanic Whites (18.4 per 10,000 population) and Hispanics (15.8 per 10,000 population) (Figure 16).

Figure 16. Florida Age-adjusted Hospitalization Rate per 10,000 Population with Diabetes as First-Listed Diagnosis by Race/Ethnicity, AHCA, 2020

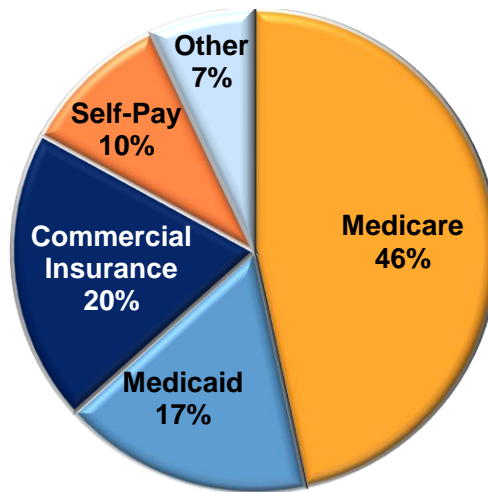


Hospitalizations by Payer Type

In 2020, Medicare covered the largest proportion of hospitalizations with diabetes as first-listed diagnosis (46%), followed by commercial insurance (20%) and Medicaid (17%). The fewest proportions of hospitalizations were covered by self-pay and other funds (10% and 7%, respectively) (Figure 17).



Figure 17. Florida Hospitalizations with Diabetes as First-Listed Diagnosis by Payer Type AHCA 2020



Hospitalizations by Length of Stay

The average length of stay for hospitalizations with diabetes as first-listed diagnosis was 5.3 days in 2020. Approximately one out of six (16%) Floridians admitted to the hospital were discharged in less than two days and one out of three (35%) after two to three days. About 19 percent of patients admitted to the hospital for diabetes were discharged after four to five days, 11 percent after six to seven days and 19 percent were discharged more than one week later (Figures 18 and 19).

Figure 18. Florida Total Number of Hospitalizations with Diabetes as First-Listed Diagnosis by Length of Stay, AHCA, 2020

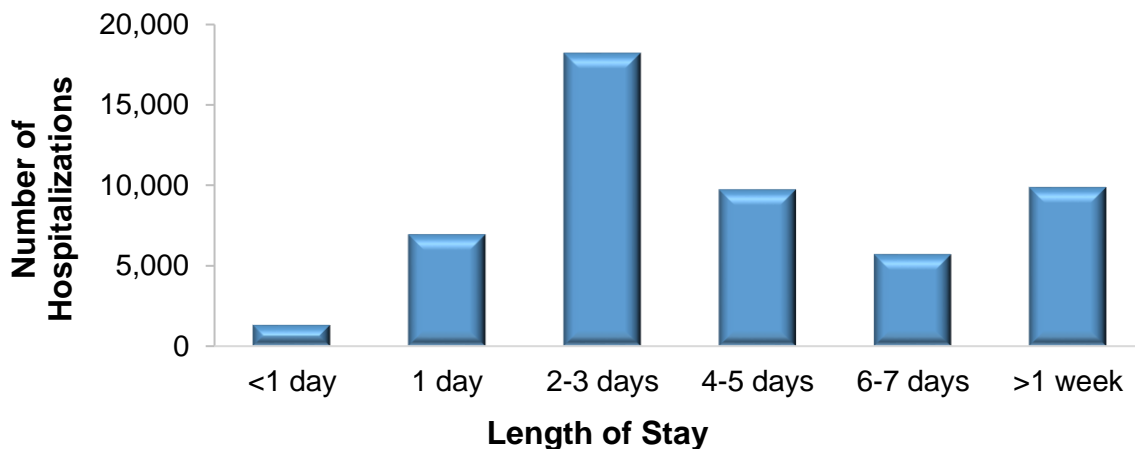
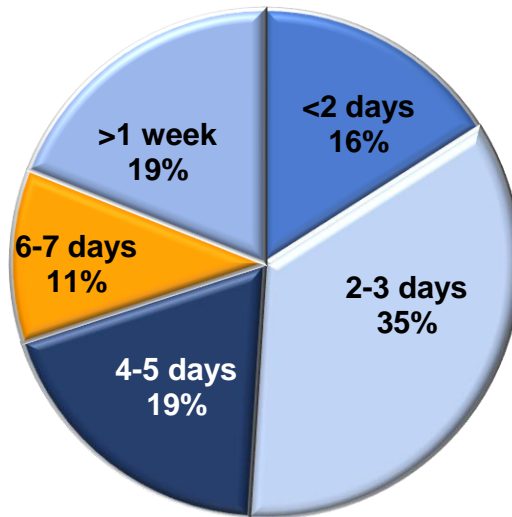




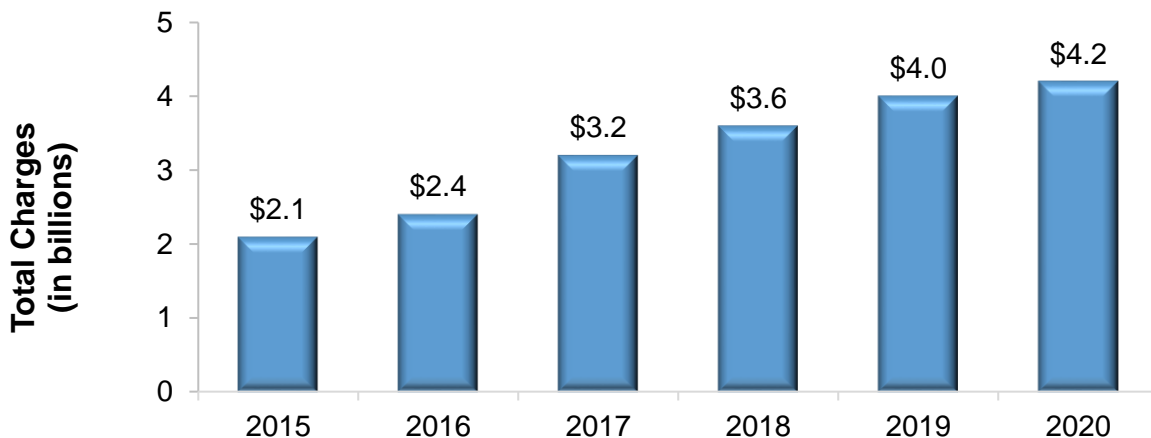
Figure 19. Florida Hospitalization Discharges with Diabetes as First-Listed Diagnosis by Length of Stay, AHCA, 2020



Hospitalization Charges

The median charge for hospitalization with diabetes as first-listed diagnosis was \$47,422 in 2020. The total charges for hospitalizations with diabetes as first-listed diagnosis increased by 100 percent, from \$2.1 billion in 2015 to \$4.2 billion in 2020 (Figure 20). As stated previously, the number of hospitalizations only increased by 21.5 percent during this same time period, meaning that the total charges per hospitalization with diabetes as first-listed diagnosis are increasing.

Figure 20. Florida Total Charges for Hospitalizations with Diabetes as First-Listed Diagnosis, AHCA, 2015-2020

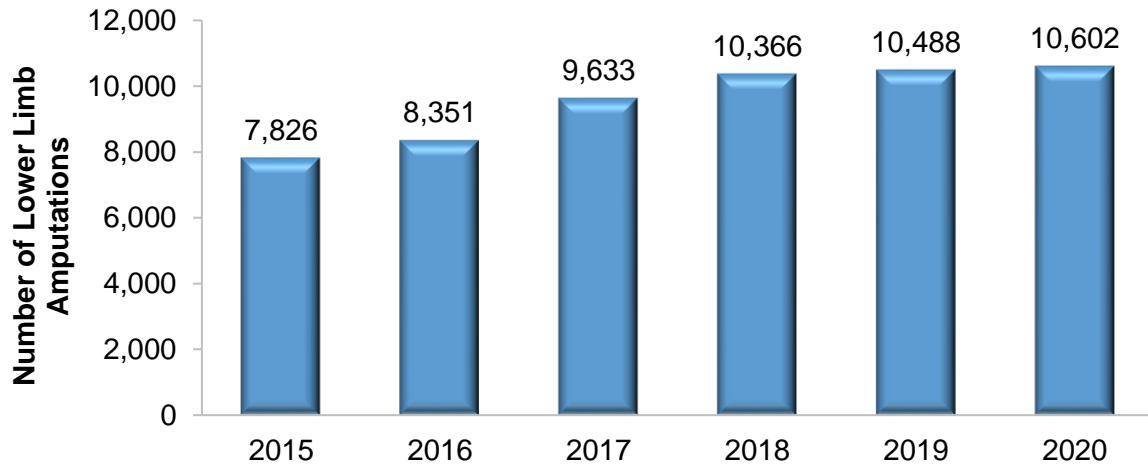




Lower Limb Amputation Hospitalizations

From 2015 to 2020 the number of lower limb amputation hospitalizations with diabetes as any-listed diagnosis increased by 35.5 percent, from 7,826 in 2015 to 10,602 in 2020 (Figure 21*).

Figure 21. Florida Number of Lower Limb Amputation Hospitalizations with Diabetes as Any-Listed Diagnosis, AHCA, 2015-2020



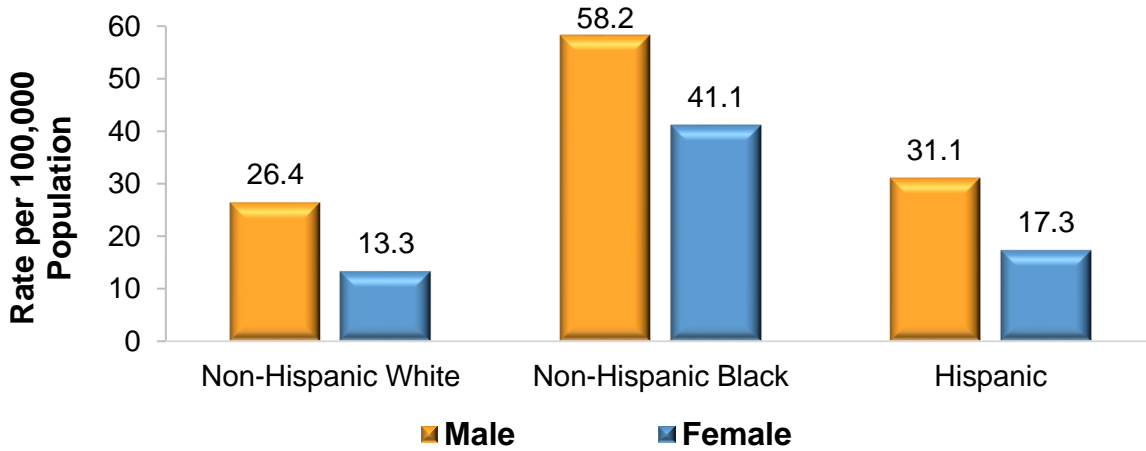
*Note: Numbers differ from the 2017 Diabetes Legislative Report due to a change in methodology.

Diabetes Mortality

Diabetes is the seventh leading cause of death in Florida. In 2020, there were 7,516 deaths with diabetes listed as the underlying cause. The diabetes mortality rate has remained consistent over the past ten years prior to 2020 averaging around 20 per 100,000 from 2010 to 2019. Death rate due to diabetes as the underlying cause increased 17.8 percent from 19.7 per 100,000 in 2019 to 23.2 per 100,000 in 2020. That increase may be attributable to the effect of COVID-19.²⁶ Also, when looking at the 2020 age-adjusted diabetes mortality rates by gender and race/ethnicity, large disparities are seen. Males have an age-adjusted diabetes mortality rate of 30.2 per 100,000 population, higher than the female rate of 17.2 per 100,000 population. Non-Hispanic Blacks have a higher age-adjusted diabetes mortality rate than both non-Hispanic Whites and Hispanics. Figure 22 shows the age-adjusted diabetes mortality rate by gender and by race/ethnicity.



Figure 22. Florida Age-Adjusted Diabetes Mortality Rate per 100,000 by Gender by Race/Ethnicity, Vital Statistics, 2020



Financial Consequences

It is estimated that in 2017 the total cost of diabetes in Florida was \$25 billion, with \$19.3 billion attributed to direct medical expenses for diagnosed diabetes and \$5.5 billion attributed to indirect costs from loss of productivity due to the condition. People with diabetes have medical expenditures approximately 2.3 times higher than those without diabetes.¹ This not only creates a significant problem for the health care system, but also generates health inequities and loss of quality life for people with diabetes.

DSGI Costs

In 2021, the total DSGI combined medical cost for adults and youth with a primary diagnosis of diabetes was \$26.4 million. The total DSGI costs for type 1 diabetes (adults and youth combined) decreased by 8.2 percent, from \$7.3 million in 2020 to \$6.7 million in 2021 (Table 8). During this same time, the number of clients covered by DSGI with type 1 diabetes claims decreased by 3 percent from 2,233 to 2,177.

Conversely, the total DSGI medical costs for type 2 diabetes (adults and youth combined) increased by 1.7 percent, from \$19.3 million in 2020 to \$19.6 million in 2021 (Table 8). During this same time, the number of clients covered by DSGI with a primary diagnosis of type 2 diabetes increased by 1.7 percent (27,785 in 2020 vs. 28,264 in 2021).

From 2020 to 2021, the average cost per client covered by DSGI with a primary diagnosis of type 1 diabetes decreased by 5.8 percent, while the average cost per client covered by DSGI with a primary diagnosis of type 2 diabetes essentially remained unchanged. (Table 8).

In 2021, the total DSGI pharmacy cost for antidiabetic drugs was \$128M, an increase of 8.3 percent from 2020 (Table 9).



Table 8. Total Medical Cost for Adults and Youth with Diabetes and Covered by DSGI During the Calendar Year 2020 and 2021

Year	Type 1		Type 2	
	Total	Average per Client	Total	Average per Client
2020	\$7,302,185	\$3,270	\$19,320,253	\$695.35
2021	\$6,703,536	\$3,079	\$19,654,289	\$695.38

Table 9. Total Pharmacy Cost for Adults and Youth with Diabetes and Covered by DSGI During the Calendar Year 2020 and 2021 Medicaid Costs

Year	All Types	
	Total	Average per Client
2020	\$118,605,097	\$3,637
2021	\$128,420,393	\$3,830

Medicaid Expenditures

In SFY 20/21, the aggregate cost for all health care services provided to Medicaid recipients diagnosed with diabetes in Florida was approximately \$950 million. Table 10 shows a comparison of total and average costs for diabetes and other chronic conditions. Hypertension was the costliest condition, totaling more than \$1 billion in Medicaid spending in SFY 20/21. Hypertension was the costliest chronic condition in Florida Medicaid. Diabetes and chronic obstructive pulmonary disease (COPD) were the second and third most costly conditions. Congestive heart failure and coronary artery disease were the two costliest diseases on a per-member spending basis. Diabetes was third most costly disease on a per-member spending basis. It is noted that diabetes is a significant risk factor for, and a common co-morbid condition of, heart disease.



Table 10. Medicaid, Cost Comparison of Chronic Conditions, SFY 20/21

Chronic Condition	Total Medicaid Spending – Only Diagnosis within first 5 Dx	Member Count	Cost Per Member for SFY 20/21	Total Medicaid Spending – Coexisting Diabetes diagnosis within first 5 Dx	Member Count*	Cost Per Member for SFY 20/21
Asthma – 20 and Over	\$114,568,772	88,716	\$1,291	\$32,692,108	17,231	\$1,897
Asthma – Less than 20	\$112,312,477	180,150	\$623	\$2,141,562	1,374	\$1,559
Congestive Heart Failure	\$416,161,527	46,103	\$9,027	\$219,926,271	23,136	\$9,506
COPD and Allied Conditions	\$777,910,518	357,906	\$2,174	\$273,612,020	45,644	\$5,994
Coronary Heart Disease	\$512,885,469	90,050	\$5,696	\$244,018,438	39,620	\$6,159
Diabetes – any	\$949,821,553	183,346	\$5,180	N/A	183,346	-
Hypertension	\$1,368,846,161	363,940	\$3,761	\$622,525,852	129,948	\$4,791

Note: Includes all dually eligible recipients, all MCO and fee-for-service populations. *Recipient with at least one diabetes Dx (1-5) within the fiscal year.

Source: MDA SQL claims and encounter tables as of August 2022.



State Agency Programs and Activities

The programs and activities implemented by each state agency aim to reduce the prevalence of diabetes, improve the lives of people in Florida who have diabetes and reduce the financial burden to the state and community. The programs, funding sources and cost savings realized as a result of state agency initiatives are described below. See Appendices B-F for more information on provider and community resource tools and materials that support the Diabetes Prevention Program statewide initiatives.

Florida Department of Health

The DOH Bureau of Chronic Disease Prevention (Bureau) works collaboratively with partners from multiple sectors to prevent chronic disease by promoting and supporting healthy behaviors and environments across the lifespan. The Bureau promotes evidence-based programs for diabetes prevention and education, increases provider awareness and referrals to evidence-based interventions and promotes resources for clinical best practices. Goals and objectives in the State Health Improvement Plan and the DOH Agency Strategic Plan aim to increase diabetes awareness and self-management and promote policy and systems change to health care providers to increase adherence to clinical best practices and national recommendations for chronic disease prevention.

The Bureau began a new five-year cooperative agreement with CDC, “Improving the Health of Americans Through Prevention and Management of Diabetes and Heart Disease and Stroke (DP18-1815)”, referred to as 1815, on September 30, 2018. Under this agreement, the Bureau receives \$1,350,389 annually to address diabetes, a slight increase of approximately \$287,000 per year from the previous cooperative agreement. This funding allows the Bureau to continue and expand efforts around implementing and evaluating evidence-based strategies to prevent and manage diabetes in high-burden populations/communities. Additionally, the Bureau has received approximately \$179,572 per year as a subrecipient of a CDC cooperative agreement granted to the National Association of Chronic Disease Directors (NACDD), titled “Scaling the National Diabetes Prevention Program in Underserved Areas (1705)” to increase access and service providers available that provide this program in high risk and rural communities.

Through these funding sources, the Bureau’s Diabetes Prevention and Management Program partners with several organizations through contracts, grants and cooperative agreements to expand awareness of diabetes, prevention and self-management strategies through community-based organizations, health care systems and universities. Through these partnerships Florida has taken an innovative approach at increasing diabetes self-management education and support (DSMES) in the state by offering subawards to entities seeking to become accredited through American Diabetes Association (ADA) or recognized by the Association of Diabetes Care and Education Specialists (ADCES). Through this approach, 30 plus organizations have received financial and technical support from the Bureau. Over the years, many organizations have achieved recognition as a result of this project, including Sarasota county health department (CHD), Alachua CHD, Palms Medical Group, and Azalea Health. Organizations such as Sacred Heart Health System, Tallahassee Memorial HealthCare, PanCare of Florida, and North Florida Medical Centers have launched several satellite sites, many of which are already accredited or recognized nationally. The Bureau’s Diabetes Prevention and Management Program has also built partnerships with the University of Florida to conduct physician and pharmacist trainings on medication therapy management



for diabetes and other chronic diseases. Additional partnerships that have been fostered include the University of Central Florida (UCF) HealthARCH to identify and disseminate evidence-based practices to increase use of clinical quality measures relating to patient care, physician quality, and diabetes management and prevention. UCF is working to implement standardized systems for screening and referring individuals to CDC-recognized Diabetes Prevention Program lifestyle change programs with health systems, large and small, throughout the state. This is being done through training, policy change and adaptation of electronic health records.

Health Systems Interventions and Community-Clinical Linkages

The Bureau's diabetes efforts largely focus on health systems interventions and community-clinical linkages that support capacity building and sustainability for diabetes awareness, outreach and prevention and management services. Initiatives are aligned with cardiovascular disease prevention efforts when possible to leverage partners and maximize staff, resources and funding as these two chronic diseases share risk factors, approaches for prevention and often occur concurrently among similar high-risk populations.

Health systems interventions focus on increasing awareness and use of evidence-based practices among health care professionals to prevent or enable early detection of disease, reduce risk factors and manage complications. This includes the implementation of quality improvement practices, maximizing the use of electronic health records, establishing referral systems to evidence-based programs and implementing a team-based approach to care that engages non-physicians, such as nurses, community health workers and pharmacists.

Community-clinical linkage interventions include strategies that establish and strengthen connections between community organizations and settings and clinical services to ensure that people with or at high risk of chronic diseases have access to the resources they need to prevent or manage these diseases. This approach recognizes that people need to be aware of and connected to the tools that can empower them to improve their quality of life, delay the onset or progression of disease, avoid complications and reduce the need for more health care with appropriate education and support systems. The Bureau focuses significant effort on increasing the awareness and availability of, participation in and referral to National Diabetes Prevention Programs and Diabetes Self-Management Education and Support Programs.

Diabetes Prevention

The National Diabetes Prevention Program (National DPP) is a year-long evidence-based program that emphasizes healthy eating and active living, based on a research study that proved type 2 diabetes can be prevented in people who are at high risk. Certain factors such as being diagnosed with prediabetes, having family history of diabetes, having ever had gestational diabetes, being of older age and being obese increase the risk of developing type 2 diabetes. The study demonstrated that participants losing 5 to 7 percent of their body weight reduced their risk of developing type 2 diabetes by 58 percent; among participants over age 60, their risk was reduced by 71 percent.²⁷

Additional research supports the use of lifestyle/behavior change programs, including the National DPP:

- The United States Preventive Services Task Force recommends referring adults who are overweight or obese and have additional cardiovascular risk factors (e.g., unhealthy



cholesterol levels, high blood pressure, cigarette smoking and lack of physical activity) to intensive behavioral counseling interventions that promote a healthful diet and physical activity. The National DPP is one of two programs mentioned in the guidelines that can be delivered in either primary care or community settings.²⁸

- The Community Preventive Services Task Force recommends combined diet and physical activity programs for people at increased risk of type 2 diabetes. The Community Guide's systematic review of 10 studies showed that National DPPs yielded a median quality-adjusted life year of \$13,761.²⁸

The CDC's 6|18 initiative focuses on connecting health care purchasers, payers and providers with CDC researchers, economists and policy analysts to find ways to improve health and control costs for six high-burden health conditions through implementation of effective interventions. Diabetes is one of those six conditions, and the goal is simple: "Expand access to the National Diabetes Prevention Program (the National DPP), a lifestyle change program for preventing type 2 diabetes."²⁹

Health insurance coverage for the National DPP continues to grow across the nation. With Medicare Diabetes Prevention Program (MDPP) launching in April 2018 and commercial coverage of National DPP making some headway, increasing sites for program participation will remain a focus of DOH.

In fall of 2020, the DOH Diabetes Prevention and Management Program team joined NACDD for a National DPP Employer Learning Collaborative. This learning collaborative is geared to help state health departments learn best practices and proven strategies to engage employers to offer the National DPP as a covered medical or wellness benefit for their employees. The Department will use knowledge gained through this learning collaborative to increase and foster new partnerships with employers across the state and motivate them to provide the National DPP as a covered benefit in the future. In 2022, DOH collaborated with the Florida Alliance for Healthcare Value to provide information on the National DPP to employers. Three educational sessions were held to encourage employers to provide the National DPP as a covered benefit for their employees.

To ensure fidelity to the evidence-based National DPP, the CDC recognizes diabetes prevention programs that use an approved curriculum that meets the duration, intensity and reporting requirements described in the Diabetes Prevention Recognition Program Standards.³⁰ Programs can be added to the registry as "pending recognition" while they collect two years' worth of data showing participants achieved the desired results of 5 to 7 percent reduction in body weight over the year-long course. Currently, there are 93 Florida DPPs listed on the CDC registry, a substantial increase from 37 in 2015.

The Bureau promotes the National DPP criteria by:

- Encouraging CHDs to establish or partner with community organizations to establish a National DPP and to develop referral policies with local health systems and physicians.
- Increasing awareness of prediabetes and the National DPP through marketing efforts (e.g., infographics, events, websites, and webinars).
- Offering funding to organizations to establish CDC-recognized National DPPs and/or to conduct health care provider outreach and establish referral systems into existing programs. During state fiscal year 2021-2022, \$254,164 from 1815 and \$139,786 from 1705 grants were awarded to nine counties.



Diabetes Prevention in Underserved Areas

Through the 1705 partnership with the NACDD, the Bureau partnered with the Bay CHD to provide training, support and technical assistance to five rural counties in north Florida on establishing and implementing a National DPP. During the first year of the grant (October 2017 – September 2018), 16 CHD staff were trained as lifestyle change coaches and all five CHDs (Baker, Gadsden, Putnam, Union and Washington) have received pending recognition status from the CDC Diabetes Prevention Recognition Program. With the diverse population within these counties, many are utilizing innovative and non-traditional methods to recruit, promote and sustain their programs.

In 2020, Hillsborough CHD became the master trainer to train staff as lifestyle change coaches. From 2020-2022, 38 CHD staff were trained as lifestyle change coaches. Four CHDs (Escambia, Santa Rosa, Flagler and Bay) have received full recognition status from the CDC Diabetes Prevention Recognition Program.

The Bureau plans to continue offering training and support to additional CHDs to establish National DPPs, building from the achieved successes and working toward the goal of having a National DPP available in every county.

Florida Chronic Disease Prevention Conference

In June 2022, with support from the NACDD and CDC, the Bureau hosted the 2022 Florida Chronic Disease Prevention Conference, bringing together more than 120 partners representing over 50 organizations including health systems, community organizations, non-profit organizations, universities, insurers and businesses. The meeting titled “Thrive Through Health: Promoting Wellness in Florida Communities Through Improving Whole Person Care with Health Policy, Access and Prevention Services” showcased evidence based chronic disease programs and projects that have been implemented through collaborative statewide efforts over the last several years between the Florida Department of Health and its partners. The conference aimed to strengthen the public health workforce, increase leveraging of resources and information on the latest research and information, promote best practices to address public health challenges, as well as encourage cross-sector partnerships, maximizing DOH’s prevention and disease management reach. The Diabetes Prevention and Management Program along with Holy Cross Hospital provided information on the National DPPs in Florida and a person-centered approach to diabetes care.

Diabetes Self-Management Education and Support (DSMES)

For people who have diabetes, taking a quality DSMES course can delay or prevent complications such as kidney failure, blindness and lower extremity amputations.¹⁶ DOH supports quality DSMES programs that meet the national standards by offering subawards to organizations that want to build infrastructure to obtain recognition by the ADA or accreditation by the ADCES. Recognition or accreditation signifies that the organization offers a quality DSMES course. Only organizations with recognition or accreditation are eligible for insurance reimbursement. The Bureau promotes DSMES by:

- Encouraging CHDs to establish or partner with community organizations to establish a DSMES program and to develop referral policies with local health systems and physicians.



- Increasing awareness of diabetes and the benefits of DSMES through marketing efforts (e.g., infographics, events, websites and webinars).
- Offering subawards to organizations to build their DSMES program's infrastructure toward accreditation or recognition, including establishment of satellite sites in counties with limited access to quality DSMES. A unique feature of the mini-grant program is provision of a mentor with auditing experience in partnership with the Florida Diabetes Alliance for either the ADA recognition process or the ADCES accreditation process. During state fiscal year 2021-2022, 12 organizations throughout the state were provided mentoring, in conjunction with funding totaling \$100,000 for DSMES. Several organizations were able to reach accreditation status and apply for recognition of alternative service delivery models, such as cloud based or telehealth services.
- Promoting awareness of DSMES via telehealth as a mechanism for increasing access to quality DSMES in rural communities.

Insulin Distribution Program

The Insulin Distribution Program is a safety-net program that provides insulin for eligible Florida residents with diabetes when there is no other resource available for insulin. Per section 385.204, Florida Statutes, the CHDs have authority to make the final determinations of eligibility for the Insulin Distribution Program. The Bureau of Public Health Pharmacy (BPHP) and the Diabetes Prevention and Management Program facilitate the administration of the program. The BPHP, located within the Division of Emergency Preparedness and Community Support, partners with CHDs, DOH program offices and other health service entities by providing supplies for clinical provisions and pharmaceutical needs. The Diabetes Prevention and Management Program serves as a liaison between the CHD and BPHP and brings awareness to and promotes the Insulin Distribution Program as a resource to community organizations and health care providers. Both offices work together to conduct administrative review of the program's policies and technical assistance guide every three years and submit changes for approval to DOH leadership. BPHP and CHDs with a licensed pharmacy are authorized to fill client-specific insulin prescriptions. CHDs without a licensed pharmacy must forward insulin prescriptions to the Central Pharmacy in Tallahassee.

County Health Departments

Healthiest Weight Florida (HWF) is a public-private collaboration bringing together state agencies, not-for-profit organizations, businesses and entire communities to help Florida's children and adults make informed choices about healthy eating and active living. HWF provides funding through the Preventive Health and Health Services Block Grant to Florida's 67 CHDs to implement policy, systems and environmental interventions to improve access to healthy foods, increase opportunities for physical activity and promote chronic disease prevention activities. During state fiscal year 2021-2022, each CHD received \$35,000 to complete activities promoting best practices related to physical activity, nutrition and chronic disease prevention in the following healthy places: early care and education centers, schools, worksites, health care settings and communities. In health care settings, CHDs strengthen collaboration efforts with health care providers by promoting and maintaining health and preventing and managing diabetes, heart disease and associated risk factors. CHDs that selected health care settings as a healthy place are required to complete the following activities specifically related to diabetes prevention and management:



- Create an awareness campaign around one or more of the following: Hypertension, Diabetes Prevention or Diabetes Self-Management, Lupus, Sickle Cell Anemia, Epilepsy, Lyme Disease or Multiple Sclerosis.
- Partner with a health care setting to address food insecurity by connecting patients to food banks or other food resource programs.
- Collaborate with Tobacco Free Florida grantees who are currently working with CHD staff on DPP/DSMES to promote tobacco prevention resources to target populations and increase tobacco referrals

Additionally, the Diabetes Prevention and Management Program provides CHD HWF partners with guidance documents, ongoing technical assistance, data, collateral materials and information on diabetes educational and grant opportunities throughout the year.

Persons with Disabilities

The Bureau strives to gain insight on strategies and best practices to be equipped to align interventions to meet the needs of different populations. The Florida Disability and Health Program, housed within the Bureau, has worked hand in hand with the Diabetes Prevention and Management Program to increase provider cultural competency to work with persons with disabilities and increase inclusivity of all chronic disease efforts. With the standard DPP curriculum not fully taking into consideration the needs for persons with mobility limitations, another curriculum has been concurrently implemented for participants with disabilities. With support and partnership from the National Center on Health, Physical Activity and Disability (NCHPAD) and the Lakeshore Foundation, the Florida Disability and Health Program continues to work to build state and local inclusive health coalitions and pilot testing NCHPAD's inclusive "Prevent T2 for All" DPP curriculum in several counties.

Diabetes Advisory Council (DAC)

The Bureau acts as an administrative liaison to the DAC as required by statute. Staff fulfill the following support functions:

- Facilitate conference calls, webinars and an annual in-person meeting (with available and allowable grant funding).
- Publicly notice all DAC meetings and subcommittee meetings.
- Document and disseminate meeting minutes/summary of actions and decisions.
- Assist with travel arrangements.
- Act as liaison with DOH Boards and Councils office and the Governor's appointments office.
- Assist in development of the DAC's annual recommendations to the State Surgeon General.
- Plan for the DAC chair's annual meeting with the State Surgeon General to discuss recommendations.
- Facilitate the development and coordination of the biennial report to the Florida Legislature.

Department of Management Services - Division of State Group Insurance

The Division of State Group Insurance (DSGI) procures and administers a \$2.5 billion package of tax-favored insurance benefits for members in the State Group Insurance Program, including health, life,



disability, dental, vision and other supplemental plans. DSGI covers active and former employees, their eligible dependents and surviving spouses. Fifty-six employers participate in the program, including the executive, legislative and judicial branches of government, the State University System and statutorily defined agencies.

Currently, DSGI contracts with and oversees five health plans, offering both preferred provider organization (PPO) or health maintenance organization (HMO) services, and a pharmacy benefits manager to provide health and pharmacy coverage to members. DSGI health plans offer a variety of disease management and wellness programs as well as online resources and health compliance reminders. The goals in providing these extensive services and resources are to encourage personal health management, empower plan members to be proactive about their health and provide those struggling with chronic conditions with tools to manage their diseases.

DSGI offers health plans with a minimum level of benefits, including age-based and gender-based wellness benefits. These benefits are statutorily defined as “aerobic exercise, education in alcohol and substance abuse prevention, blood cholesterol screening, health risk appraisals, blood pressure screening and education, nutrition education, program planning, safety belt education, smoking cessation, stress management, weight management, and women’s health education.”

The health status of members covered under the program is compiled annually in the Population Health Management Report, prepared for DSGI by a contracted vendor, to identify health risks affecting the state group population and to monitor year-over-year trends for the program.

Among members who sought care in 2021, the report identified four diagnoses in Table 11 being among the most common for 2021 in both number of claims and members affected.

Table 11. Common Diagnoses and Claims among DSGI Members, 2021

Diagnosis	Number of Members	Number of Claims
Contact with and (suspected) exposure to COVID-19	65,844	148,818
Contact with and (suspected) exposure to other viral communicable diseases	56,516	113,430
Hypertension	56,125	134,216
COVID-19	21,220	65,540

A snapshot of members covered by the program in 2021 indicates that many members who are affected by chronic health conditions are affected by more than one chronic condition.



Table 12. Number of Chronic Conditions among DSGI Members, 2021

Number of Chronic Conditions	Equal to 0	Between 1 and 2	Between 3 and 4	Between 5 and 6	Greater than 6
PPO Members	60,189	37,440	24,346	14,945	17,467
HMO Members	83,972	52,899	30,574	15,434	12,310

Additionally, the report highlighted the number of claims, hospital admissions and financial implications of weight-related conditions based on members who sought care during the 2021 plan year. Members with co-morbidities may accrue claims in multiple diagnosis categories.

Table 13. DSGI Member Claims, Hospital Admissions, and Costs, 2021

Diagnosis	Number of Members with Claims		Number of Admissions		Average Costs Per Patient		Costs* (in millions)	
	PPO	HMO	PPO	HMO	PPO	HMO	PPO	HMO
Health Plan								
Cardiovascular	18,720	11,866	1,827	1,064	\$2,321	\$4,783	\$43.5	\$56.8
Diabetes	17,670	19,772	1,314	1,151	\$2,387	\$3,243	\$42.2	\$64.1
Weight-related conditions	33,967	46,111	966	1,168	\$1,356	\$1,883	\$46.1	\$86.8

**The costs calculation from the Population Health Management Report includes fully insured and self-insured plans. This total does not reflect plan payment.*

DSGI began working in July 2017 following direction from the Florida Legislature to implement a weight management pilot program to provide coverage for the treatment and management of obesity and related conditions. Prior to this, DSGI launched a diabetes prevention pilot program on April 1, 2016, in the Tallahassee area. This program is in response to the 2015 Population Health Management Report, which showed results related to chronic disease in the state group insurance program population.

The Weight Management Pilot Program was initiated by DSGI with an application period in late 2020. In total, 454 completed applications were received, and after a thorough review, 430 participants were approved. Beginning January 1, 2021, participants had access to prescription drug coverage for FDA-approved drugs for chronic weight management and were able to enroll in a DMS-approved wellness program. All wellness programs were lifestyle change programs listed on the CDC’s website as having received CDC recognition or being in the process of applying for recognition. Through the year, 199 participants, or 46 percent of all participants, provided the required mid-year report and 121 participants, or 28 percent of all participants, submitted an end-of-year report.

Below are the results in the final report submitted to the legislature in December of 2021, showing data reported by participants at the end of 10 months:

- Total cumulative weight loss of 1,713 pounds, or an average of 14 pounds per participant.
- Fifty-five (55) participants achieved a weight loss of 5 percent or more.



- Thirty (30) participants achieved a weight loss of 10 percent or more.
- Seventy-six (76) participants achieved reductions in their body mass index (BMI). A participant's average BMI reduction was 3.6.
 - Eleven (11) participants moved from an obese BMI to an overweight BMI.
 - Three (3) participants moved from an obese BMI to a healthy BMI.
- Twenty-one (21) participants improved their blood pressure.
- Participants also improved their cholesterol levels.
 - Seventeen (17) participants improved their LDL cholesterol.^a
 - Nine (9) participants improved their HDL cholesterol.^b
 - Fourteen (14) participants improved their triglycerides.^c
- Sixty-four (64) participants reported having improved their A1c.^d
 - Of those, 12 participants reported having improved their A1c from either prediabetic (A1c between 5.7 and 6.4 percent) or type 2 diabetic level (A1C over 6.5 percent) to a normal A1c (A1c below 5.7).

Improvements in health status, such as weight loss and the prevention of type 2 diabetes, have the potential to lower future health care costs. To date, the cumulative financial impact of this program (2018, 2019, 2020 and 2021) is \$3,927,739.23; however, it is important to note that this Pilot runs on a calendar year (January 1 through December 31) and this report was completed before the completion of the year. As such, the data presented in this report are not final. The figures will be re-calculated based on claims information and reports collected through December 31, 2021, at the conclusion of the 2021 Pilot.

^a "LDL Cholesterol" stands for low-density lipoproteins and is also often referred to as the "bad cholesterol" number. A high LDL number represents a build-up of cholesterol in a person's arteries. See <https://medlineplus.gov/ldlthebadcholesterol.html#>.

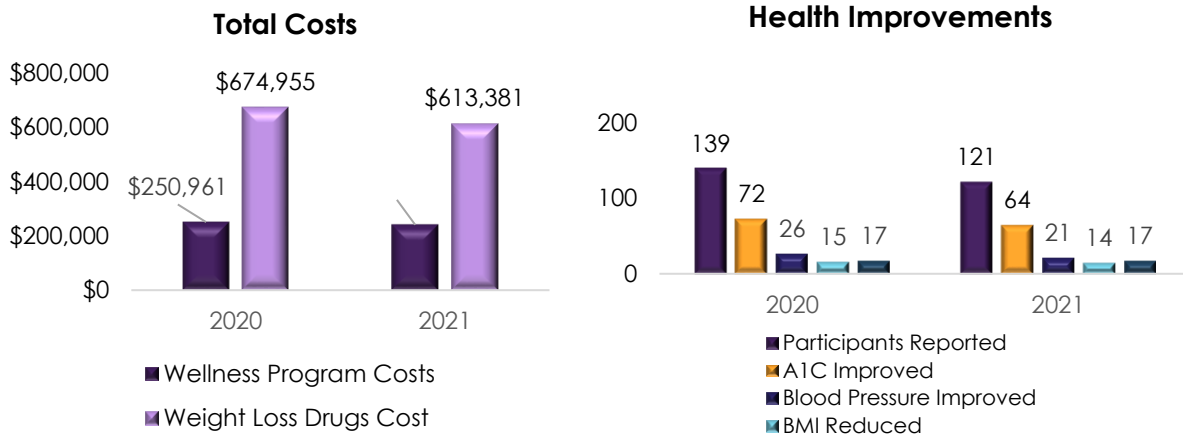
^b "HDL Cholesterol" stands for high-density lipoproteins and is often referred to as the "good cholesterol" number. These proteins carry cholesterol from other parts of an individual's body back to the liver. The liver then removes the cholesterol from the body. See <https://medlineplus.gov/ldlthebadcholesterol.html#>.

^c "Triglycerides" are the most common type of fat in an individual's body. Having a high level of triglycerides can raise an individual's risk of heart diseases. See <https://vsearch.nlm.nih.gov/vivisimo/cgi-bin/query-meta?v%3Aproject=medlineplus&v%3Asources=medlineplus-bundle&query=triglycerides>.

^d "A1C" is a blood test for type 2 diabetes and prediabetes. The test measures the average blood glucose, or blood sugar level over the past 3 months. See <https://vsearch.nlm.nih.gov/vivisimo/cgi-bin/query-meta?v%3Aproject=medlineplus&v%3Asources=medlineplus-bundle&query=A1C>.



Figures 23 and 24. Total Cost of Weight Loss Program and Health Improvements



AHCA

Medicaid Managed Care Plan Efforts Around Diabetes

Since 2014, AHCA has contracted with managed care plans to administer medical services as part of the Statewide Medicaid Managed Care (SMMC) program. The AHCA has prioritized the management of diabetes by building services, supports and surveillance of diabetes prevention, detection and treatment within the SMMC program. Table 14 provides an overview of some of the programs and activities that managed care plans are actively engaged in to reduce the burden of diabetes in Florida.

Table 14. Florida Statewide Medicaid Managed Care Quality Improvement Activities

Program	Description	Managed Care Plan Activities
Disease Management Programs	Managed care plans are required to implement disease management programs that address asthma, cancer, diabetes, hypertension and behavioral health. The disease management programs incorporate a system of care coordination to ensure a comprehensive assessment of identifying Medicaid members with primary chronic diseases, comorbid conditions and other special health care needs.	<ul style="list-style-type: none"> • Education based on the enrollee assessment of health risks and chronic conditions. • Symptom management, including addressing needs such as working with the member on health goals. • Communicating effectively with providers. • Medication management, including the review of medications that a member is currently taking to ensure that the member does not suffer adverse effects or interactions from contra-indicated medications.



<p>Healthy Behaviors</p>	<p>Managed care plans are required to establish programs that incorporate evidence-based practices to encourage and incentivize healthy behaviors designed to improve the enrollee’s overall health. Targeted behaviors include, but are not limited to, smoking, obesity and diabetes.</p>	<ul style="list-style-type: none"> • Series of diet and nutrition counseling services (furnished by a qualified health professional). • Phone-based sessions with a health coach or fitness specialist. • Behavior therapy or lifestyle change classes. • Achievement or progress made towards a personal health goal, such as weight reduction validated with a PCP or nutritionist. • Diabetes self-management activities, such as annual retinal eye examinations, HbA1c testing, and blood pressure measurement.
<p>Plan Specific Commitments to Improve Quality of Health Care</p>	<p>As part of AHCA’s current SMMC contracts, each managed care plan committed to several program enhancements that go beyond traditional covered services to improve the quality of care provided to their members at no additional cost AHCA.</p>	<ul style="list-style-type: none"> • Enhanced utilization of telemedicine. • Diabetes education regarding prevention and care. • Community outreach programs to empower members with knowledge and access to care. • Increased care coordination for members. • Support groups and community activities for members with diabetes.
<p>Performance Improvement Projects (PIPs)</p>	<p>Managed care plans are required to submit Performance Improvement Projects (PIPs) on an annual basis. These submissions provide AHCA and the contracted External Quality Review Organizations with insight as to how the managed care plans are performing and improving quality of care for members.</p>	<ul style="list-style-type: none"> • Medication adherence programs. • Remote patient monitoring of blood glucose. • Telemonitoring and health coaching. • Diabetes self-management education. • Utilization of doulas to address high-risk pregnancies. • Community outreach programs to address members’ unmet social needs.

From Calendar Years (CY) 2016-2019, Florida Medicaid managed care plans showed improvements or maintained high quality performance on all Healthcare Effectiveness Data and Information Set (HEDIS) measures related to diabetes care provided to adults ages 18-75, as shown in Table 15. Rates decreased in CY 2020, similar to the declines that were seen in these metrics nationally in CY 2020. While hemoglobin A1c testing rates are high, achieving long-standing glucose control is still an opportunity for improvement. Furthermore, increasing screening retinal examinations in people with diabetes is another opportunity for improvement. Technologies and changes to policies, systems and environments are needed to improve utilization of these diagnostic services for Medicaid recipients with diabetes.



Table 15. Florida Medicaid Managed Care HEDIS Diabetes Measures, Calendar Years 2018-2020

Comprehensive Diabetes Care Measure Components	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020
Hemoglobin A1c (HbA1c) Testing	82%	86%	86%	87%	82%
HbA1c Poor Control (>9.0%) [†]	45%	41%	42%	42%	48%
HbA1c Good Control (<8.0%)	44%	49%	48%	49%	46%
Eye Exam (Retinal) Performed	56%	55%	56%	56%	45%

Source: Plan-reported HEDIS data, certified by National Committee for Quality Assurance-certified HEDIS auditors.

[†]Comprehensive Diabetes Care Measure-HbA1c Poor Control is an inverse measure. Lower rates are better.

Medicaid Policy Methods for Improving Diabetes Management

In response to the COVID-19 pandemic, Florida Medicaid allowed extensive flexibilities for the coverage of telehealth to ensure continuity of care while reducing opportunities for community spread of the virus. Flexibilities included coverage of additional procedural codes using telemedicine, as well the removal of restrictions on place of service and limits on allowable telemedicine visits per recipient. The AHCA also expanded telehealth to include remote patient monitoring (RPM) modalities rendered by licensed physicians and physician extenders within their scopes of practice.

As a result, for the SFY 20/21, telehealth utilization for Florida Medicaid members with diabetes significantly increased with over 10,000 visits annually, compared to less than 100 telehealth visits annually pre-pandemic, as shown in Table 16. However, only a small fraction (7%) of all diabetes patients utilized telehealth to receive services. Proportionately, more children with diabetes (12%) used telehealth than adults (7%) with diabetes, possibly reflecting their familiarity with digital technology. These data show the feasibility of telemedicine coverage and that there are real opportunities to increase usage of telehealth for diabetes, especially for adults with type 2 disease.

Table 16. Florida Medicaid Diabetes Patients with at least One Telehealth Encounter SFY 2017-2018 to SFY 2020-2021

Service Year	Age Group	Diabetes Patients		
		Telehealth	All	Percentage
SFY 17/18	Adults	18	185,278	0.01%
	Children	11	6,068	0.18%
	All	29	191,346	0.02%
SFY 18/19	Adults	84	166,086	0.05%
	Children	11	5,581	0.20%
	All	95	171,667	0.06%
SFY 19/20	Adults	7,131	149,148	4.78%
	Children	1,039	5,259	19.76%
	All	8,170	154,407	5.29%



SFY 20/21	Adults	11,233	155,305	7.23%
	Children	740	6,108	12.12%
	All	11,973	161,413	7.42%

Note: Reflects children under the age of 18.

Source: MDA SQL claims and encounter tables as of July 2022

Telehealth and RPM have the potential to promote better health outcomes for Florida Medicaid recipients diagnosed with diabetes. These technologies enable real-time data, accurate information and synchronicity between patients and physicians, which enables continuity of care, shared decision making and disease self-management training. These technologies also reduce health care costs by reducing the number of emergency department (ED) visits, hospital admissions and disease complications. Table 17 shows the utilization of RPM for individuals with diabetes increased slightly during the pandemic to over 1,000 annually with at least one RPM encounter, compared to nearly 700 RPM encounters annually pre-pandemic. During the SFY 20/21, RPM is utilized by a greater proportion of children (6.5%) than adults (0.4%), indicating the same technology opportunities exist for RPM as telemedicine.

**Table 17. Florida Medicaid Diabetes Patients with at least One RPM Encounter
SFY 2017-2018 to SFY 2020-2021**

Service Year	Age Group	Diabetes Patients		
		Remote Patient Monitoring	All	Percentage
SFY 17/18	Adults	398	185,278	0.21%
	Children	227	6,068	3.74%
	All	625	191,346	0.33%
SFY 18/19	Adults	415	166,086	0.25%
	Children	273	5,581	4.89%
	All	688	171,667	0.40%
SFY 19/20	Adults	506	149,148	0.34%
	Children	307	5,259	5.84%
	All	813	154,407	0.53%
SFY 20/21	Adults	639	155,305	0.41%
	Children	398	6,108	6.52%
	All	1,037	161,413	0.64%

Note: Reflects children under the age of 18.

Source: MDA SQL claims and encounter tables as of July 2022



Recommendations and Action Items to Address Diabetes

Type 2 diabetes, along with obesity, may yet be the greatest chronic disease epidemic in the history of human existence.³¹ People with this condition should have access the most up-to-date information and treatment options.

The DAC has identified a broad range of recommendations to address preventing the development of new cases of diabetes and improving the management for Floridians of all ages living with diabetes. These recommendations will highlight specific actions to support prevention of type 2 diabetes and gestational diabetes, and awareness and control of all types of diabetes.

These recommendations and action items are supported by evidence-based research, national standards developed by the ADCES and ADA and other diabetes state legislative reports. These recommendations and action items are consistent with national and state efforts to prevent and control diabetes such as section 385.203, Florida Statutes, which authorizes the DAC.

Cost and no-cost strategies are recommended for implementation.



DAC Recommendation # 1

Increase awareness about the signs and symptoms of prediabetes and type 1 and type 2 diabetes to reduce the number of new cases of diabetes, to promote early identification and diagnosis of type 1 and type 2 diabetes and increase awareness of the Insulin Distribution Program.

Primary Focus: Implement an awareness campaign that will educate people about the signs and symptoms on the risk or presence of diabetes, steps to reduce risks and negative health outcomes and opportunities for accessing insulin.

The DAC recommends using a National Ad Council campaign to increase awareness of prediabetes and the signs and symptoms of diabetes. In partnership with the CDC, the National Ad Council developed radio, print and television materials are available for state use; however, placement of these materials must be non-paid. Budget can be used to produce materials for distribution to media outlets and for placement in other locations in which health care providers work, including closed-circuit television in doctor's offices waiting rooms. Another resource is the CDC's in-house toolkit, [Prevent T2 Diabetes](#), which can be tailored to Florida or to a specific region, county or community. A third resource that is being promoted in Florida is the [Prevent Diabetes STAT](#) campaign to increase awareness of prediabetes among patients, health care providers, employers and insurers.

Rationale: There is a need for more emphasis on Floridians' understanding of the signs and symptoms of diabetes resulting in earlier recognition of the symptoms and, thus, earlier diagnosis with consequent decrease in the development of comorbidities. The American Diabetes Association promotes awareness of the symptoms of diabetes, as early detection and treatment of diabetes can decrease (cost of hospitalization and) the risk of developing the complications of diabetes. Although type 1 diabetes cannot be prevented, knowing the signs and symptoms is especially important to be able to diagnose the disease, begin treatment as early as possible and reduce the risk of further complications. In addition, as nine out of ten individuals with prediabetes are unaware of their condition, there is a need to increase awareness of prediabetes and the opportunities to reduce the risk of developing type 2 diabetes.

Budget Request

Optimal Funding Level: \$1,300,000 annually

Outcomes Achievable at this Amount: \$1,300,000 will be used on a statewide awareness campaign that addresses all types of diabetes. This level of funding will allow diabetes awareness messages to be televised throughout the year across the state. The campaign will utilize existing educational messaging from the National Ad Council and the American Diabetes Association. Partnership with the National Association of Chronic Disease Directors (NACDD) will allow messaging to be provided in doctors' offices and in movie theaters.

Outcomes Achievable with No Funding: A comprehensive media campaign is not possible without funding. Existing no-cost opportunities and avenues will continue to be used.



Action Items:

1. The Legislature will provide funding to support creation of a comprehensive awareness campaign.
2. The DAC will work with an approved entity/provider for messaging in doctors' offices, movie theaters and other venues to reach the populations at risk for or with diabetes.



DAC Recommendation # 2:

Support policy changes to reduce the impact of all types of diabetes.

Primary Focus:

- A. Include passage of statewide changes to reimburse Credentialed Diabetes Educators (CDEs) and Board Certified-Advanced Diabetes Management (BC-ADM) educators for providing diabetes self-management education and support (DSMES); increase reimbursement for DSMES from Medicaid.
- B. Require that all health plans offered to state employees cover CDC-recognized (or pending recognition) diabetes prevention programs (DPP) for employees who are eligible.
- C. A legislative mandate that all insurance carriers admitted to the state of Florida cover metabolic bariatric surgery for severely obese (BMI>35) patients with type 2 diabetes mellitus.

Rationale:

- A. A CDE is a health care professional who specializes in teaching individuals with diabetes to develop the necessary skills and knowledge to manage their diabetes and are certified as a diabetes educator by a recognized certifying body.³² A CDE can greatly impact the life of a person with diabetes by providing self-management knowledge about nutrition, medication adherence, exercise and coping skills. This is very important because diabetes is a chronic disease that impacts all facets of a person's life including home, work, school, social and community involvement. People with diabetes who receive diabetes education have lower health care costs, decreased hospitalizations and readmissions as well as decreased lifetime health care costs related to lower risks for complications than those who do not receive diabetes education. Providing policy changes to allow CDEs to receive reimbursement for DSMES will reduce the harmful impact that diabetes has on people's lives. In addition to improved health outcomes, a return on investment has been shown.³³
- B. The National DPP is an evidence-based program that is proven to reduce the risk of developing type 2 diabetes by 58 percent among all participants and by 71 percent among those 60 years of age and older.³⁴ The risk of progression from prediabetes to diabetes is about 5-10 percent per year.¹⁵ The return on investment for providing the National DPP to its eligible employees is approximately \$55,000 over 10 years for each employee with prediabetes who does not develop diabetes.³⁵
- C. Type 2 diabetes, along with obesity, may yet be the greatest chronic disease epidemic in the history of human existence. Individuals who develop this disease should have access to all effective treatment options.³⁶ There have been 11 randomized controlled trials (RCTs) demonstrating that bariatric/metabolic surgery achieves superior glycemic control and reduction of cardiovascular disease risk factors compared with medical/lifestyle interventions.



Budget Request

This recommendation can be implemented with no additional budget. This recommendation requires a statutory change.

Action Items:

The Florida Legislature will pass legislation to increase reimbursement for diabetes prevention and education as follows:

1. Increase reimbursement for accredited or recognized diabetes education provided by CDEs.
2. Increase reimbursement for Diabetes Prevention Programs on the CDC registry of recognized programs and programs pending recognition.
3. Increase reimbursement for Diabetes Self-Management Education for all types of diabetes.
4. Include CDEs as providers who can receive reimbursement for Diabetes Self-Management Education.
5. Increase reimbursement for Diabetes Self-Management Education for telehealth services.
6. Increase Medicaid reimbursement for related co-morbidities and all types of diabetes.
7. Legislative mandates for inclusion of diabetes education that lead to incentives for the workplace.
8. Implement a statutory change that requires all insurance carriers admitted to the state of Florida cover metabolic bariatric surgery for severely obese (BMI>35) patients with type 2 diabetes.
9. Provide reimbursement for metabolic surgery for extremely obese patients with diabetes.



DAC Recommendation # 3:

Facilitate compliance with federal and state policies that prohibit discrimination in school or day care settings by allocating funding for educating registered nurses, school health technicians and school personnel on diabetes management and risk factors by adding mandatory education for all school nurses, medical technicians, teachers and school staff on managing children with diabetes and identifying risk factors in school settings.

Primary Focus: To ensure children with diabetes have access to safe and appropriate patient-centered care at public and private schools and day care facilities statewide.

Rationale: Individuals who attend school or day care can face discrimination based on their disability in decisions about where they may go to school, conditions of employment or admission or access to the goods, programs or benefits of state or local government or businesses offering public accommodations.³⁷ Collaboration among pediatricians, families, school staff, school physicians, school nurses and school medical technicians is increasingly critical to optimal health care in school settings. Although state and federal laws prohibit discrimination, shortage of school health staff education can hinder the medical management of students with diabetes. Education for school staff on how to manage a student who is diabetic plays an important role in reducing discrimination and developing action plans for diabetes management of children with such health care needs.

Budget Request

Optimal Funding Level: \$100,000 per year

Outcomes Achievable at this Amount: At this amount, 1 staff member can be hired at the state health office to coordinate and educate school staff on diabetes management and perform safe diabetes care for students who do not yet self-manage.

Action Items:

1. DAC members will identify educational curriculum to be used for continuing education.
2. DAC members will work with the DOH School Health Program to update Nursing Guidelines for the Care and Delegation of Care for Students with Diabetes-2015.
3. Legislature will adjust continuing education requirements for nurses and medical technicians to include diabetes management and monitoring as a 2-hour mandatory continuing education credit.
4. DOH will hire educational staff member to incorporate educational curriculum into TRAIN, an online learning platform.
5. DAC members will work with the DOH School Health Program to provide educational sessions for
 - a. Level 1: Diabetes Overview and How to Recognize and Respond to an Emergency Situation
 - b. Level 2: Diabetes Basics and What to Do in an Emergency Situation
 - c. Level 3: General and Student-Specific Diabetes Care Tasks



4. DAC with the assistance of DOH staff will provide a half day of training in diabetes management to school health personnel, that will focus on the basics of diabetes care and the latest technology.

Outcomes Achievable with No Funding: With no additional funding, there will be no staff to incorporate educational curriculum into TRAIN. The Legislature can move forward with adjusting continuing education requirements for nurses and medical technicians to include diabetes management and monitoring as a 2-hour mandatory continuing education credit.



DAC Recommendation # 4

Require health care professionals to take continuing education units/continuing medical education that focuses on all types of diabetes.

Primary Focus: Implement statutory changes that require at least 2 hours of mandatory continuing education units/continuing medical education (CEU/CME) in diabetes prevention, education and care for Florida licensure and re-licensure of all health care professionals. Educational modules will encompass symptoms, management and referral options for all types of diabetes.

Rationale: Certification renewal demonstrates that professionals previously certified have maintained a level of contemporary knowledge in diabetes education. It is the responsibility of each health care professional to stay abreast of changes in certification and/or renewal requirements and to recertify in a timely manner. CEUs and CMEs are important because they provide evidence-based, peer-reviewed instruction on quality diabetes management. Continuing education helps health professionals solve real world problems, advance team-based care and achieve their institutions' goals.³⁸ The establishment of this statutory change would be a benchmark for preventing and controlling diabetes.

Budget Request

This recommendation can be implemented with no additional budget. Health care professionals would bear the cost of obtaining CEUs/CMEs. This recommendation requires a statutory change.

Action Items:

1. The Florida Legislature will amend Florida Statutes to include a requirement for health care practitioners in professions regulated by the DOH to receive one semester instruction in diabetes prevention, education and care to obtain initial licensure and 2 hours of CEU/CME credits in diabetes prevention, education and care within each renewal period to renew their license.
2. The DOH will update its Continuing Education Tracking System (CEBroker) to reflect the new continuing education requirements.

The DOH Division of Medical Quality Assurance will disseminate information to boards, associations, post-secondary schools and colleges and health care licensees to notify them of the change in educational requirements.



DAC Recommendation # 5:

Fund a direct appropriation to the DAC to perform the functions mandated by statute.

Primary Focus: Direct appropriation to the DAC would enhance their productivity and effectiveness.

Rationale: Meeting face-to-face facilitates the DAC's ability to complete the following activities required by statute:

- Biennial legislative report on public health and financial consequences of diabetes and the cost and effectiveness of diabetes programs and activities implemented by state agencies in Florida.
- Annual recommendations to the State Surgeon General regarding the public health aspects of the prevention and control of diabetes.
- Conduct the business of the DAC, including strategic planning and collaboration with state and national partners in diabetes prevention and control.

Budget Request

Optimal Funding Level: \$45,000 per year

Outcomes Achievable at This Amount: This amount would allow two face-to-face meetings per year, including facility rental fees and travel reimbursement for DAC members, staff and a limited number of experts invited to make presentations on relevant diabetes issues. This funding would also facilitate collaboration with key state level partners such as the Bureau of Chronic Disease Prevention and the School Health Services Program to increase alignment in diabetes efforts.

Outcomes Achievable with No Funding: Without funding, biannual face-to-face meetings are not possible. The DAC will continue to meet via conference calls and/or webinars. This would greatly limit the effectiveness of the DAC in its statutorily mandated functions.

Action Items:

1. Provide funding appropriation to the DAC for face-to-face meetings.
2. Develop a calendar of face-to-face meetings.
3. Develop annual recommendations document to the State Surgeon General regarding the public health aspects of prevention and control of diabetes.
4. Perform strategic planning and collaboration with state and national partners in diabetes prevention and control.
5. Develop a biennial legislative report on public health and financial consequences of diabetes.
6. Include in the biennial legislative report the cost and effectiveness of diabetes prevention programs and activities implemented by state agencies in Florida.



Conclusions

Diabetes is a serious and costly condition that merits thoughtful consideration and attention by public health professionals, health systems and legislative stakeholders. Florida will face an increased burden across sectors of public health and society if efforts to address the burden it places on the economy, health care systems and on individuals and communities are not continued effectively and expanded upon with a sense of urgency.

The recommendations in this report address ways to prevent and manage diabetes and associated complications. If implemented, these actions can result in significant health care savings and improvement in quality of life. Changes must occur throughout state, local and national health care systems to reduce the diabetes burden.



Appendix A. Data Sources and Methods

Data Sources

Behavioral Risk Factor Surveillance System

The Behavioral Risk Factor Surveillance System (BRFSS) is a telephone-based survey that uses a random-digit dial sampling methodology to collect state data from respondents 18 years of age and older concerning their health and health behaviors. The BRFSS has been conducted annually in Florida since 1986 and gathers detailed information about chronic health conditions, health-related risk behaviors and the prevalence of preventive health care practices among Florida adults. The BRFSS is conducted at the county-level every third year. Over 25,000 surveys were completed statewide in the 2020 calendar year, with a target sample size of 500 completed surveys in each of Florida's 67 counties. The BRFSS data were analyzed by age group, gender, combined race and ethnicity, household income level and geographic locality.

The BRFSS data included in this report have been weighted to be representative of the state population. Weighting is a procedure that adjusts for the chance of being selected to participate in the survey and for discrepancies between those who complete the survey and the overall population of Florida. The data were weighted to the respondent's probability of selection by county, as well as age and gender.

Pregnancy Risk Assessment Monitoring System

The Pregnancy Risk Assessment Monitoring System (PRAMS) is an ongoing population-based surveillance project sponsored by the CDC. PRAMS was designed to establish and maintain state-specific data on maternal attitudes and experiences before, during and shortly after pregnancy. The information collected by PRAMS is used to supplement vital records and inform state and local efforts to reduce infant morbidity and mortality. Currently, 47 states and several territories and tribes participate in PRAMS, representing about 83 percent of all U.S. births.

Florida PRAMS began data collection in 1993. Each year, a sample of approximately 2,500 women who have recently had a live birth are randomly selected from the state's birth certificate file. Women from high-risk groups are oversampled to ensure adequate data are available for these populations. Sampled women are contacted by mail or telephone and asked to complete the Florida PRAMS questionnaire. Topics typically addressed include attitudes and feeling about pregnancy, source and content of prenatal care, maternal use of alcohol and cigarettes, contraception and pregnancy-related morbidity; however, the questionnaire is revised every four years to address current and important issues for mothers and infants. Florida PRAMS data included in this report are weighted to be representative of the state's entire population of live births.



The National Survey of Children’s Health

The National Survey of Children’s Health (NSCH), sponsored by the Maternal and Child Health Bureau of the Health Resources and Services Administration, is a cross-sectional telephone-based survey designed to provide national and state-level data on the health and well-being of children 0-17 years of age. The NSCH places special emphasis on physical and developmental health, access to quality health care, family interactions, activities in and outside of school and neighborhood safety. The resulting data are used to support policies and programs aimed at improving the health of children, families and communities.

The NSCH was conducted four times between 2003 and 2016 (2003, 2007, 2011/2012, and 2016) and yearly from 2016 to 2020. In each round of data collection, a random-digit dial sampling methodology is used to identify households with one or more children under 18 years of age. In each household, one child is randomly selected to be the subject of the interview. A parent or guardian with the most knowledge of the selected child’s health completes the survey. Starting from 2016, a revised version of the survey was conducted as a mail and web-based survey by the U.S. Census Bureau. Over 42,770 surveys were completed nationally in 2020. The NSCH data in this report are based on the 2020 national survey and have been weighted to be representative of the population of children in the US.

School Health Services Reports

The School Health Services report draws from a compilation of data sources. The sources include services entered into DOH’s health management system (HMS), local county health department’s annual school health reports and Department of Education’s annual school and student population data.

Emergency Department Visits and Hospitalizations

In Florida, AHCA is tasked with collecting patient discharge data from all Florida hospitals for emergency department visits and hospitalizations. However, there are some hospitals in Florida, such as state operated, federally funded or Shriner’s hospitals, that are not required to report to AHCA.

AHCA’s Emergency Department (ED) Visit dataset and Hospital Inpatient (HI) dataset have a detailed record for each visit or admission including discharge date, demographics of the patient, primary and additional diagnoses, procedures, charges and payer information. The ED and HI datasets are mutually exclusive. If a patient enters into the ED and is then admitted to the hospital, their record for that visit is removed from the ED dataset and included in the HI dataset. The data were collected by hospitals primarily for the purpose of medical billing and therefore clinical accuracy may vary.

Cases with diabetes listed as the primary diagnosis (determined by ICD-9-CM code 250 or ICD-10-CM codes E10-E13), and cases with diabetes listed as any diagnosis (primary and other diagnoses) are the main focus of this report. These data were analyzed by year, age group, race/ethnicity and payer.

Hospitalizations for lower limb amputation included those with a diabetes diagnosis code (ICD-9-CM 250/ICD-10-CM E10-E13) and one of the following amputation procedure codes: ICD-9-CM 84.1/ICD-10-CM: 0Y620ZZ, 0Y630ZZ, 0Y640ZZ, 0Y670ZZ, 0Y680ZZ, 0Y6C0Z1, 0Y6C0Z2, 0Y6C0Z3, 0Y6D0Z1, 0Y6D0Z2, 0Y6D0Z3, 0Y6F0ZZ, 0Y6G0Z, 0Y6H0Z1, 0Y6H0Z2, 0Y6H0Z3, 0Y6J0Z1, 0Y6J0Z2, 0Y6J0Z3, 0Y6M0Z0, 0Y6M0Z4, 0Y6M0Z5, 0Y6M0Z6, 0Y6M0Z7, 0Y6M0Z8, 0Y6M0Z9, 0Y6M0ZB, 0Y6M0ZC,



0Y6M0ZD, 0Y6M0ZF, 0Y6N0Z0, 0Y6N0Z4, 0Y6N0Z5, 0Y6N0Z6, 0Y6N0Z7, 0Y6N0Z8, 0Y6N0Z9, 0Y6N0ZB, 0Y6N0ZC, 0Y6N0ZD, 0Y6N0ZF, 0Y6P0Z0, 0Y6P0Z1, 0Y6P0Z2, 0Y6P0Z3, 0Y6Q0Z0, 0Y6Q0Z1, 0Y6Q0Z2, 0Y6Q0Z3, 0Y6R0Z0, 0Y6R0Z1, 0Y6R0Z2, 0Y6R0Z3, 0Y6S0Z0, 0Y6S0Z1, 0Y6S0Z2, 0Y6S0Z3, 0Y6T0Z0, 0Y6T0Z1, 0Y6T0Z2, 0Y6T0Z3, 0Y6U0Z0, 0Y6U0Z1, 0Y6U0Z2, 0Y6U0Z3, 0Y6V0Z0, 0Y6V0Z1, 0Y6V0Z2, 0Y6V0Z3, 0Y6W0Z0, 0Y6W0Z1, 0Y6W0Z2, 0Y6W0Z3, 0Y6X0Z0, 0Y6X0Z1, 0Y6X0Z2, 0Y6X0Z3, 0Y6Y0Z0, 0Y6Y0Z1, 0Y6Y0Z2, 0Y6Y0Z3.

Mortality Data

The mortality data in this report are derived from the Florida Department of Health, Bureau of Vital Statistics and only include cases with diabetes listed as the underlying cause of death (determined by ICD-10 codes E10-E14). Mortality counts and rates were pulled from Florida CHARTS (www.FLCHARTS.com).

Medicaid Data

For this report, a series of tables was prepared by AHCA’s Bureau of Medicaid Data Analytics (MDA). These tables relate to the occurrence and trend of diabetes – type 1, type 2, any type or gestational – in the state of Florida Medicaid population, both children and adults. All data for those tables reside in either AHCA’s Decision Support System (DSS) and/or internal databases maintained by MDA. Data residing in the DSS were extracted using SAP Business Objects, version 12.5.0, build 1190. Data residing in MDA’s internal databases were pulled using either Microsoft SQL Server 2014 or SAS (aka, Statistical Analysis Suite), version 9.4. All data fall into one of two categories: fee-for-service (FFS) data and managed care plan encounter data or simply encounter data. Where possible, the information in the tables was derived from both FFS data and encounter data. Unlike FFS data where payment is based on these data, encounter data does not drive payment to the managed care plans. As such, care should be taken in the interpretation of any results which are dependent on the encounter data.

Below are the diagnosis codes and dates of service identified for the Medicaid data provided in this report.

Diabetes Tables 1-3	ICD-9 Codes Dates of service on or before September 30, 2015	ICD-10 Codes Dates of service on or after October 1, 2015	ICD-10 Codes Dates of service on or after July 1, 2017
Type 1 Diabetes	250.01, 250.03, 250.11, 250.13, 250.21, 250.23, 250.31, 250.33, 250.41, 250.43, 250.51, 250.53, 250.61, 250.63, 250.71, 250.73, 250.81, 250.83, 250.91, 250.93	E10-E10.xx	E10-E10.xx
Type 2 Diabetes	250.00, 250.02, 250.10, 250.12, 250.20, 250.22, 250.30, 250.32, 250.40, 250.42, 250.50, 250.52, 250.60, 250.62, 250.70, 250.72, 250.80, 250.82, 250.90, 250.92	E11-E11.xx	E11-E11.xx
Any Diabetes	250-250.xx	E10-E13.xx	E10-E13.xx

Note: xx indicates all diagnoses within ICD 10 E10-E13 (e.g., E10.51)

Pregnancy and Diabetes Table 4	ICD-9 Codes Dates of service on or before	ICD-10 Codes Dates of service on or after	ICD-10 Codes Dates of service on or after
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	September 30, 2015	October 1, 2015	October 1, 2015
Delivery	650, V27.0-V27.9	O80, Z37.0-Z37.9	O80-O82, Z370-Z37.9
Gestational Diabetes Mellitus	648.8	O24.415, O24.419, O24.425, O24.429, O24.435, O24.439, O99.810, O99.814, O99.815	O24.415, O24.419, O24.425, O24.429, O24.435, O24.439, O99.810, O99.814, O99.815
Pre-existing Diabetes Mellitus in Pregnancy	648.00-648.04	O24.319, O24.32, O24.911, O24.912, O24.913, O24.92, O24.93	O24.319, O24.32, O24.911, O24.912, O24.913, O24.92, O24.93

Chronic Condition (SFY 16-17) Table 5	ICD-9 Codes Dates of service on or before September 30, 2015	ICD-10 Codes Dates of service on or after October 1, 2015	ICD-10 Codes Dates of service on or after October 1, 2015
Diabetes - Any	n/a	E10-E13.xx	E10-E13
Congestive Heart Failure	n/a	I50.2-I50.4, I09.81, I11.0, I13.0, I13.2	I50.2-I50.4, I09.81, I11.0, I13.0, I13.2
Coronary Heart Disease	n/a	I20-I25.9	I20-I25.9
COPD and Allied Conditions	n/a	J40-J47.9	J40-J47.9
Hypertension & hypertensive diseases	n/a	I10-I16.9	I10-I16.9
Asthma - 20 and Over	n/a	J45-J45.999	J45-J45.999
Asthma - Less than 20	n/a	J45-J45.999	J45-J45.999

Pregnancy and Diabetes	ICD-9 Codes Dates of service on or before September 30, 2015	ICD-10 Codes Dates of service on or after October 1, 2015
Delivery	650, V27.0-V27.9	O80, Z37.0-Z37.9
Gestational Diabetes Mellitus	648.8	O24.415, O24.419, O24.425, O24.429, O24.435, O24.439, O99.810, O99.814, O99.815
Pre-existing Diabetes Mellitus in Pregnancy	648.00-648.04	O24.319, O24.32, O24.911, O24.912, O24.913, O24.92, O24.93

Division of State Group Insurance Data

For this report, records from the Division of State Group Insurance’s Health Insurance Management Information System were analyzed. Records were analyzed to identify claims with diabetes ICD-9 and ICD-



10 codes as outlined in the Medicaid section above. Tables include claims with a 'Service From' date, excluding pharmacy claims.

Methods

Race and Ethnicity

Race and ethnicity are presented as a combined measure in this report. In most cases, race and ethnicity were captured as two separate measures. Race and ethnicity measures were combined to create the following groups when possible: non-Hispanic White, non-Hispanic Black and Hispanic. Any individual coded as Hispanic was considered Hispanic, regardless of race.



Appendix B. Prediabetes Risk Quiz

DO YOU HAVE PREDIABETES?

Prediabetes Risk Test

- 1** How old are you?
 Less than 40 years (0 points)
 40—49 years (1 point)
 50—59 years (2 points)
 60 years or older (3 points)
- 2** Are you a man or a woman?
 Man (1 point) Woman (0 points)
- 3** If you are a woman, have you ever been diagnosed with gestational diabetes?
 Yes (1 point) No (0 points)
- 4** Do you have a mother, father, sister, or brother with diabetes?
 Yes (1 point) No (0 points)
- 5** Have you ever been diagnosed with high blood pressure?
 Yes (1 point) No (0 points)
- 6** Are you physically active?
 Yes (0 points) No (1 point)
- 7** What is your weight status?
 (see chart at right)

Write your score in the box.



Add up your score.



Height	Weight (lbs.)		
	119-142	143-190	191+
4' 10"	119-142	143-190	191+
4' 11"	124-147	148-197	198+
5' 0"	128-152	153-203	204+
5' 1"	132-157	158-210	211+
5' 2"	136-163	164-217	218+
5' 3"	141-168	169-224	225+
5' 4"	145-173	174-231	232+
5' 5"	150-179	180-239	240+
5' 6"	155-185	186-246	247+
5' 7"	159-190	191-254	255+
5' 8"	164-196	197-261	262+
5' 9"	169-202	203-269	270+
5' 10"	174-208	209-277	278+
5' 11"	179-214	215-285	286+
6' 0"	184-220	221-293	294+
6' 1"	189-226	227-301	302+
6' 2"	194-232	233-310	311+
6' 3"	200-239	240-318	319+
6' 4"	205-245	246-327	328+
	(1 Point)	(2 Points)	(3 Points)
You weigh less than the amount in the left column (0 points)			

Adapted from Bang et al., Ann Intern Med 151:775-783, 2009. Original algorithm was validated without gestational diabetes as part of the model.

If you scored 5 or higher:

You're likely to have prediabetes and are at high risk for type 2 diabetes. However, only your doctor can tell for sure if you do have type 2 diabetes or prediabetes (a condition that precedes type 2 diabetes in which blood glucose levels are higher than normal). Talk to your doctor to see if additional testing is needed.

Type 2 diabetes is more common in African Americans, Hispanic/Latinos, American Indians, Asian Americans and Pacific Islanders.

Higher body weights increase diabetes risk for everyone. Asian Americans are at increased diabetes risk at lower body weights than the rest of the general public (about 15 pounds lower).

LOWER YOUR RISK

Here's the good news: it is possible with small steps to reverse prediabetes - and these measures can help you live a longer and healthier life.

If you are at high risk, the best thing to do is contact your doctor to see if additional testing is needed.

Visit [DoIHavePrediabetes.org](https://doihaveprediabetes.org) for more information on how to make small lifestyle changes to help lower your risk.

For more information, visit us at

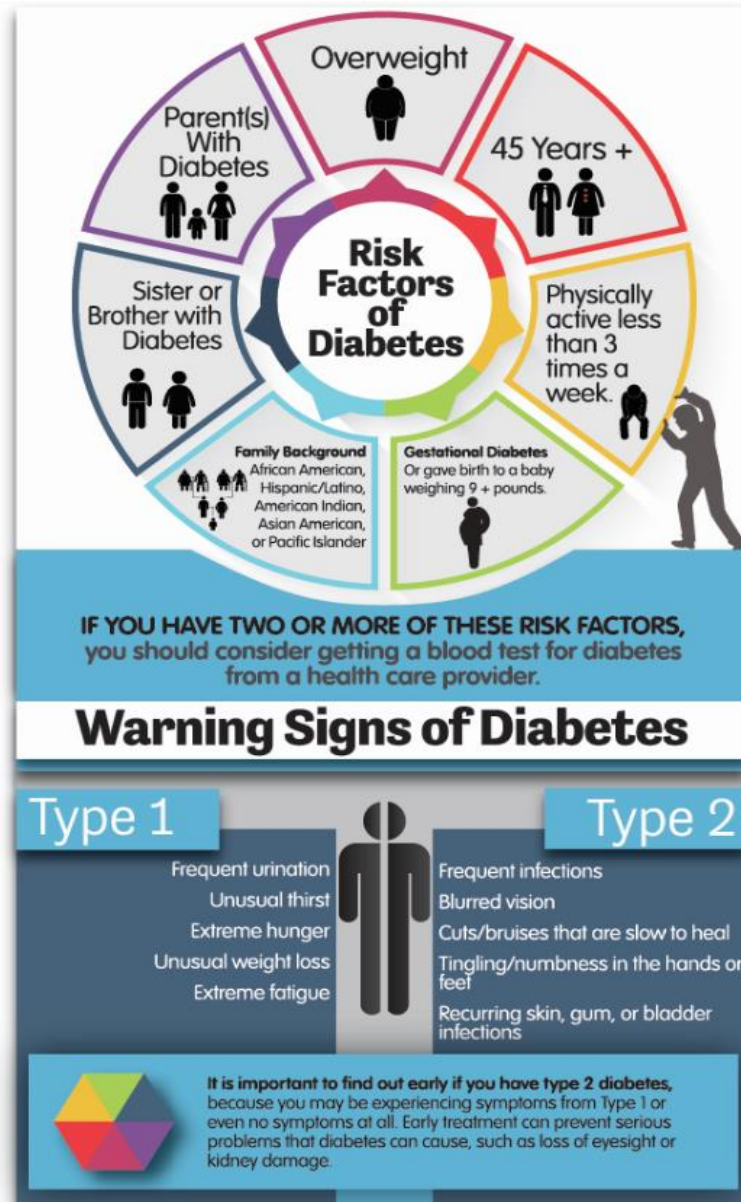
[DoIHavePrediabetes.org](https://doihaveprediabetes.org)



Source: <https://doihaveprediabetes.org/prediabetes-risk-test.html>



Appendix C. Risk Factors of Diabetes



Source: <http://www.floridahealth.gov/diseases-and-conditions/diabetes/warning-signs.html>



Appendix D. National Diabetes Prevention Program

NATIONAL DIABETES PREVENTION PROGRAM

WORKING TOGETHER TO PREVENT TYPE 2 DIABETES

THE GROWING THREAT OF PREDIABETES

88
MILLION

88 million American adults have prediabetes

MORE THAN

8 IN 10

adults with prediabetes don't know they have it

REDUCING THE IMPACT OF TYPE 2 DIABETES

Congress authorized CDC to establish the **NATIONAL DIABETES PREVENTION PROGRAM** (National DPP) — a public-private partnership working to build a nationwide delivery system for a lifestyle change program proven to prevent or delay type 2 diabetes in adults with prediabetes.

It brings together:

to achieve a greater impact on reducing type 2 diabetes

Research shows a structured lifestyle intervention can cut the risk of type 2 diabetes in

HALF

A key part of the National DPP is a **lifestyle change program** that provides:

A TRAINED LIFESTYLE COACH

GROUP SUPPORT OVER THE COURSE OF A YEAR

A CDC-APPROVED CURRICULUM

Through the National DPP, CDC is working to:

Build a workforce that can implement the lifestyle change program effectively

Ensure quality and standardized reporting

Deliver the lifestyle change program through organizations nationwide and sustain it through public/private payer coverage

Increase referrals to and participation in the lifestyle change program

JOIN IN THIS NATIONAL EFFORT

Everyone can play a part in **preventing** type 2 diabetes

RAISE AWARENESS of prediabetes

SHARE INFORMATION about the National DPP

ENCOURAGE PARTICIPATION in the lifestyle change program

PROMOTE the National DPP as a covered health benefit

Find out how to get involved in the National DPP

www.cdc.gov/diabetes/prevention

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

CDC'S DIVISION OF DIABETES TRANSLATION WORKS TOWARD A
WORLD FREE OF THE DEVASTATION OF DIABETES.

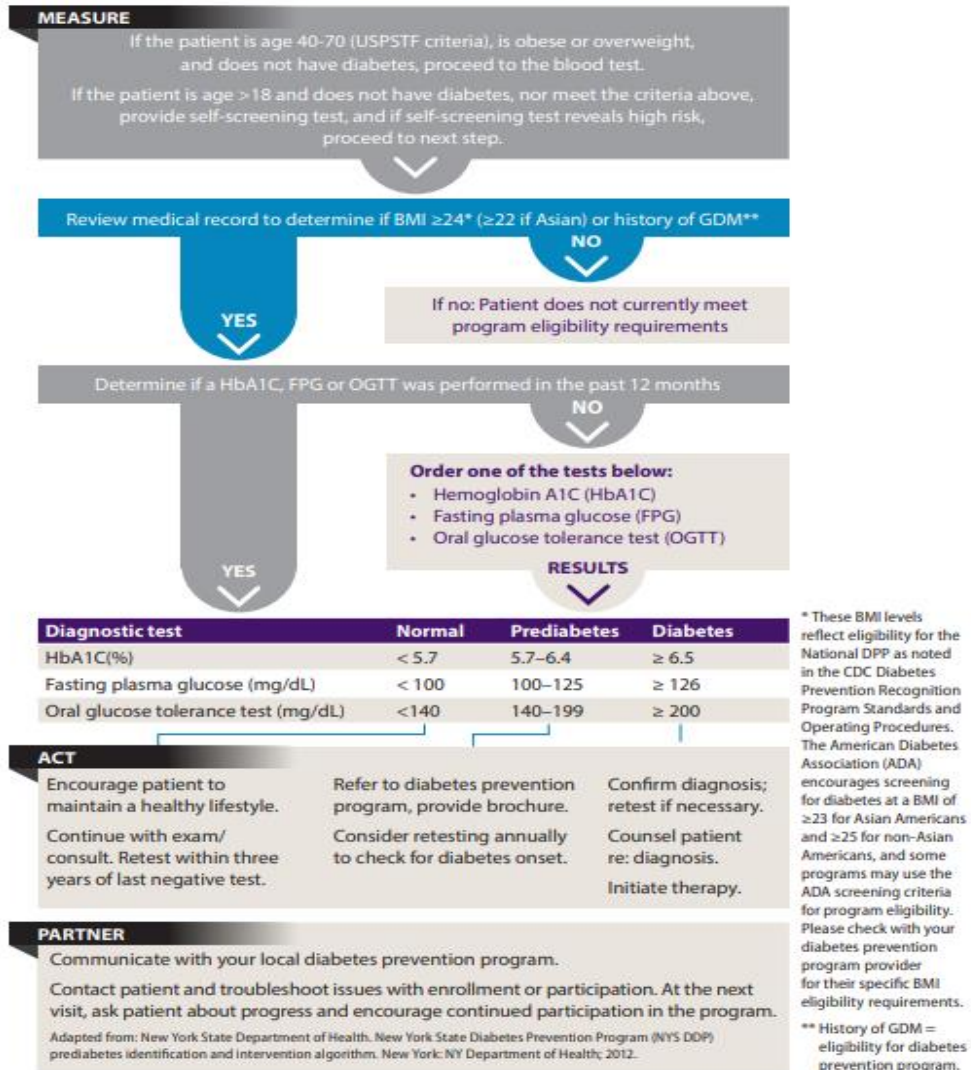
CS17626A

Source: <https://www.cdc.gov/diabetes/images/library/socialmedia/NDPP-Infographic.jpg>



Appendix E. Point of Care Prediabetes Identification

Point-of-care prediabetes identification



Prevent Diabetes **STAT** | Screen / Test / Act Today™



The American Medical Association and the Centers for Disease Control are supporting physicians, care teams, and patients to prevent diabetes.

Source: <https://assets.ama-assn.org/sub/prevent-diabetes-stat/downloads/point-of-care-prediabetes-identification-algorithm.pdf>



Appendix F. M.A.P (Measure, Act, Partner)

M.A.P. (Measure, Act, Partner)

THE M.A.P. (Measure, Act, Partner) to prevent type 2 diabetes—physicians and care teams can use this document to determine roles and responsibilities for identifying adult patients with prediabetes and referring to community-based diabetes prevention programs. “Point-of-Care” and “Retrospective” methods may be used together or alone.

Choose and check what works best for your practice

Step 1: Measure	When	Who	How (draw from AMA-CDC tools)
Point-of-care method <ul style="list-style-type: none"> Assess risk for prediabetes during routine office visit Test and evaluate blood glucose level based on risk status 	<ul style="list-style-type: none"> During vital signs 	<ul style="list-style-type: none"> Medical assistant Nurse Physician Other _____ 	<ul style="list-style-type: none"> Provide “Are you at risk for prediabetes?” patient education handout in waiting area Use/adapt “Patient flow process” tool Use CDC or ADA risk assessment questionnaire at check-in Display 8 x 11” patient-facing poster promoting prediabetes awareness to your patients Use/adapt “Point-of-care algorithm”
Retrospective method <ul style="list-style-type: none"> Query EHR to identify patients with BMI ≥24; ≥22 if Asian* and blood glucose level in the prediabetes range 	<ul style="list-style-type: none"> Every 6–12 months 	<ul style="list-style-type: none"> Health IT staff Other _____ 	<ul style="list-style-type: none"> Use/adapt “Retrospective algorithm”
Step 2: Act			
Point-of-care method <ul style="list-style-type: none"> Counsel patient re: prediabetes and treatment options during office visit Refer patient to diabetes prevention program Share patient contact info with program provider** 	<ul style="list-style-type: none"> During the visit 	<ul style="list-style-type: none"> Medical assistant Nurse Physician Other _____ 	<ul style="list-style-type: none"> Advise patient using “So you have prediabetes ... now what?” handout Use/adapt “Health care practitioner referral form” Refer to “Commonly used CPT and ICD codes”
Retrospective method <ul style="list-style-type: none"> Inform patient of prediabetes status via mail, email or phone call Make patient aware of referral and info sharing with program provider Refer patient to diabetes prevention program Share patient contact info with program provider** 	<ul style="list-style-type: none"> Contact patient soon after EHR query 	<ul style="list-style-type: none"> Health IT staff Medical assistant (for phone calls) Other _____ 	<ul style="list-style-type: none"> Use/adapt “Patient letter/phone call” template Use/adapt “Health care practitioner referral form” for making individual referrals Use/adapt “Business Associate Agreement” template on AMA’s website if needed
Step 3: Partner			
With diabetes prevention programs <ul style="list-style-type: none"> Engage and communicate with your local diabetes prevention program Establish process to receive feedback from program about your patients’ participation 	<ul style="list-style-type: none"> Establish contact before making 1st referral 	<ul style="list-style-type: none"> Office manager Other _____ 	<ul style="list-style-type: none"> Use/adapt “Business Associate Agreement” template on AMA’s website if needed Refer to “Commonly used CPT and ICD codes”
With patients <ul style="list-style-type: none"> Explore motivating factors important to the patient At follow-up visit, order/review blood tests to determine impact of program and reinforce continued program participation Discuss program feedback with patient and integrate into care plan 	<ul style="list-style-type: none"> During office visit Other _____ 	<ul style="list-style-type: none"> Medical assistant Nurse Physician Other _____ 	<ul style="list-style-type: none"> Advise patient using “So you have prediabetes ... now what?” handout and provide CDC physical activity fact sheet www.cdc.gov/physicalactivity

* These BMI levels reflect eligibility for the National DPP as noted in the CDC Diabetes Prevention Recognition Program Standards and Operating Procedures. The American Diabetes Association (ADA) encourages screening for diabetes at a BMI of ≥23 for Asian Americans and ≥25 for non-Asian Americans, and some programs may use the ADA screening criteria for program eligibility. Please check with your diabetes prevention program provider for their specific BMI eligibility requirements.

** To share patient contact information with a diabetes prevention program, you may need a Business Associate Agreement (BAA).



Source: <https://assets.ama-assn.org/sub/prevent-diabetes-stat/downloads/map-to-diabetes-prevention-for-your-practice.pdf>



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