

2021
Florida Diabetes Report

Presented to

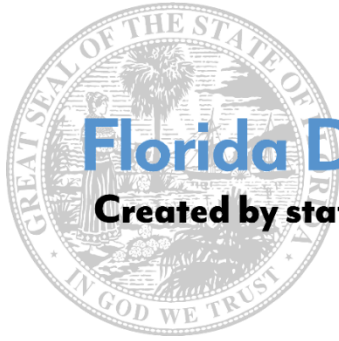
Honorable Ron DeSantis, Governor
Honorable Chris Sprowls, Speaker of the House of Representatives
Honorable Wilton Simpson, President of the Senate

January 10, 2021



Florida Diabetes Advisory Council - 2021 Legislative Report





Florida Diabetes Advisory Council

Created by statute & appointed by the Governor of Florida

2021

Florida Diabetes Report





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Florida Diabetes Advisory Council Members

Janet Silverstein, MD, Chair
Joseph Chebli, MD, DAC Chair-Elect
Anastasia Albanese-O'Neill, PhD, APRN, CDE
Betty Springer
Bonnie L. Masterson, RD
Bridget Jennings
Chet Evans, MS, DPM
Donna Ryan
Donald S. Grossman, MD, FACP
Jennifer B. Marks, MD, Immediate past DAC Chair
Leslene E. Gordon, PhD
Melvin B. Price, DPM
Nancy Murphy, RN

Florida Department of Health

Melissa Jordan, MS, MPH, Division Director, Community Health Promotion
Tara Hylton, MPH, Chief, Bureau of Chronic Disease Prevention
Jamie Forest, MS, Senior Public Health Services Manager, Office of Deputy Secretary for Health
Jennifer Sousa, MPH, Bureau of Chronic Disease Prevention
Jessica Clough, BS, CHES, Bureau of Chronic Disease Prevention
Kianga Tucker, MHA, Bureau of Chronic Disease Prevention
Rodrigue Pierre, DrPH, Bureau of Chronic Disease Prevention
Edward Clark, MSW, DrPH, Bureau of Chronic Disease Prevention
Shauna Houston, MPH, Bureau of Chronic Disease Prevention
Jan Godwin, BA, Communications Liaison, Bureau of Chronic Disease Prevention
Jerri Edwards, BSN, RN, Bureau of Family Health Services
Leslie Wurster, MSW, MPA, Bureau of Family Health Services

Agency for Health Care Administration

Daphnie Loriston, MPH, Bureau of Medicaid Quality
Sarah Sims, MSW, Bureau of Medicaid Quality

Florida Department of Management Services

Merrio Tornillo, PMP, FCCM, Division of State Group Insurance
Caroline Roth, Division of State Group Insurance
Michelle Riley, Division of State Group Insurance
Heather Pierson, Division of State Group Insurance

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

More than 40 years ago, the Florida Legislature created the Diabetes Advisory Council (DAC). The council is mandated 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 council 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 diabetes population health.

The report includes data on the scope and cost of diabetes in Florida: 1) how statewide partnership across public and private sectors are addressing diabetes prevention, control, and management for people living with prediabetes and diabetes, and 2) 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 report: 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.

Special Note on the COVID-19 impact on diabetes:

In November of 2019, the COVID-19 novel coronavirus became a global pandemic. COVID-19 is a flu like disease, and there are limited data on the impact underlying medical conditions may have or what role underlying conditions play in increasing the risk for severe illness from COVID-19. Early studies of COVID-19 have shown that people with diabetes are more likely to experience severe symptoms and complications when infected with the virus.¹ The DOH Diabetes Prevention Program anticipates additional research and data to be made available as the pandemic continues into 2021 and will report on these data in the next DAC report anticipated for 2023.

The Centers for Disease Control and Prevention (CDC) has provided recommended preventative measures to high risk populations, which include those living with diabetes. Some of these recommended practices include severely limiting interaction with other people (social distancing), wearing a protective face mask, staying up to date on medication adherence, and staying in communication with your primary care practitioner. Additional recommendations are available on the CDC website. The DOH also conducted an awareness campaign in partnership with Golin, a public relations firm. The campaign focused on bringing greater awareness of the risk factors of COVID-19 for individuals with chronic diseases and educational communications that emphasized the recommended CDC preventative measures.



The Scope of Diabetes in Florida

Over the past two decades, the prevalence of diagnosed diabetes among Florida adults more than doubled, increasing from 5.2 percent in 1995 to 12.6 percent in 2018. In Florida, it is estimated that over 2.4 million individuals have diabetes.²

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. Nationally in 2018-2019, approximately 260,000 children and adolescents younger than age 20 had been diagnosed with type 1 or type 2 diabetes.³

The Public Health Consequences of Diabetes in Florida

Complications of diabetes create significant individual, societal, and financial burdens. People with diabetes are twice as likely to have heart disease or a stroke as people without diabetes, and at an earlier age. Diabetes is the leading cause of kidney failure, lower-limb amputations, and adult-onset blindness.⁴ People with diabetes report lower health status, poorer physical health, and poorer mental health than people without diabetes.

Diabetes in Dollars

The costs associated with diabetes are overwhelming. More than 20 percent of national health care spending is for people with diagnosed diabetes.⁵ 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 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.⁷

In state fiscal year 2016-2017, the estimated cost of diabetes to Florida Medicaid was \$248 million. In 2017, the estimated cost of diabetes to the Division of State Group Insurance (DSGI, within DMS) was \$20.7 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

Although the gravity of the prevalence of diabetes is staggering, type 2 diabetes is a largely preventable chronic condition. Moreover, the disease presence and risk of development of type 2 can be reduced substantially through the application of modest lifestyle changes and support. The DAC, alongside the Diabetes Prevention Program and its partners, DSGI, within 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 are 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 2017, diabetes was the seventh leading cause of death in the United States (U.S.), killing more individuals than breast cancer.⁸ In 2019, the CDC estimated that 34.2 million people—or 10.5% of the U.S. population—had diabetes (diagnosed or undiagnosed) in 2018. This total included 34.1 million adults aged 18 years or older, or 13% of all U.S. adults. About 7.3 million of these adults had diabetes but were not aware that they had the disease or did not report that they had it.⁶ 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. In 2015, 88 million Americans age 18 and older had prediabetes and 210,000 youth under age 20 are estimated to have diagnosed diabetes, approximately 0.25% of that population.⁵ Among pregnant women it is estimated that between 2 and 10 percent have been diagnosed with gestational diabetes. 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.⁶ In Florida, it is estimated that over 2.4 million people have diabetes and over 5.8 million have prediabetes as of 2018.

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. In Florida, the estimated cost of diabetes was \$25 billion each year, with \$19.3 billion being spent in 2017 and \$5.5 billion in 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.⁷

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.⁸
- 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 who have type 2 diabetes have an A1C level above 6.4%.
- Prediabetes is a condition in which individuals have high blood glucose or hemoglobin A1C levels between 5.7% to 6.4%, but not high enough to be classified as diabetes.⁹
- Gestational diabetes develops during pregnancy and increases the risk of birth complications and increases the risk of an individual developing type 2 later in life.⁶

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.⁸



Type 1 diabetes can be well managed, and in type 2 diabetes prevention, 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.² 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.

Purpose of the Report

The Diabetes Advisory Council (DAC) was created by the Florida Legislature more than 40 years ago and is mandated by section 385.203, Florida Statutes. Members of the council 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.

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 DSGI, within DMS, 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 February 19, 2020, to discuss key factors and priority areas for the 2021 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 third 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 prevalence 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

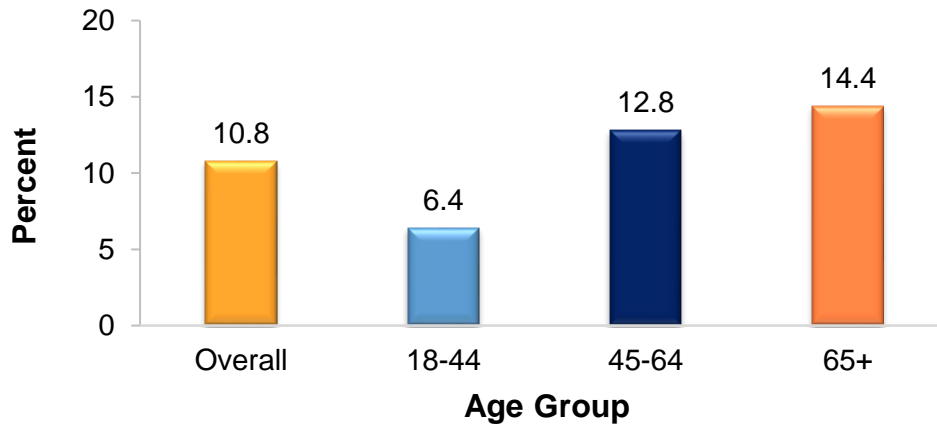
Prediabetes is a serious health condition that increases the risk of developing type 2 diabetes, heart disease, and stroke. People with prediabetes are 5 to 20 times more likely to develop type 2 diabetes than someone with normal blood glucose (blood sugar) levels.¹⁰ The CDC estimates that 1 in 3 adults nationally have prediabetes; however, 9 out of 10 people who have prediabetes are unaware.²

The following data from the 2018 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 2018, approximately 1 out of 10 Florida adults (10.8%) had ever been diagnosed with prediabetes. The prevalence of prediabetes was slightly higher among women (10.9%) compared to men (10.7%), 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 (6.4%) compared to Florida adults ages 45 to 64 (12.8%) and Florida adults ages 65 and older (14.4%) (Figure 1).

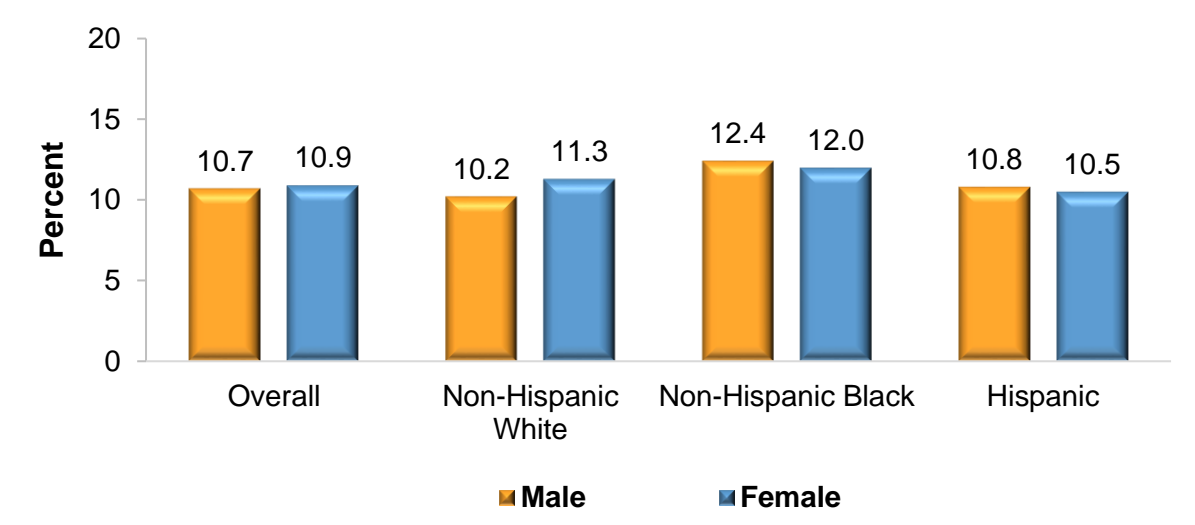


Figure 1. Florida Prevalence of Prediabetes by Age Group, BRFSS 2018



The prevalence of prediabetes among Florida adults differed by race/ethnicity in 2018. The prevalence of prediabetes was 10.8 percent among non-Hispanic Whites, 12.2 percent among non-Hispanic Blacks, and 10.6 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 men had the highest prevalence of prediabetes (12.4%) and Non-Hispanic White men had the lowest prevalence of prediabetes (10.2%) in 2018.

Figure 2. Florida Prevalence of Prediabetes by Gender by Race/Ethnicity, BRFSS 2018



The prevalence of prediabetes did not differ significantly by income or education, but estimates were slightly higher for those with lower household incomes. In 2018, the prevalence of prediabetes was 11.5 percent among Florida adults with an annual household income less than \$25,000, 11.7 percent for those with an annual household income between \$25,000 and \$49,999, and 11.0 percent among those with an annual household income of \$50,000 or greater.



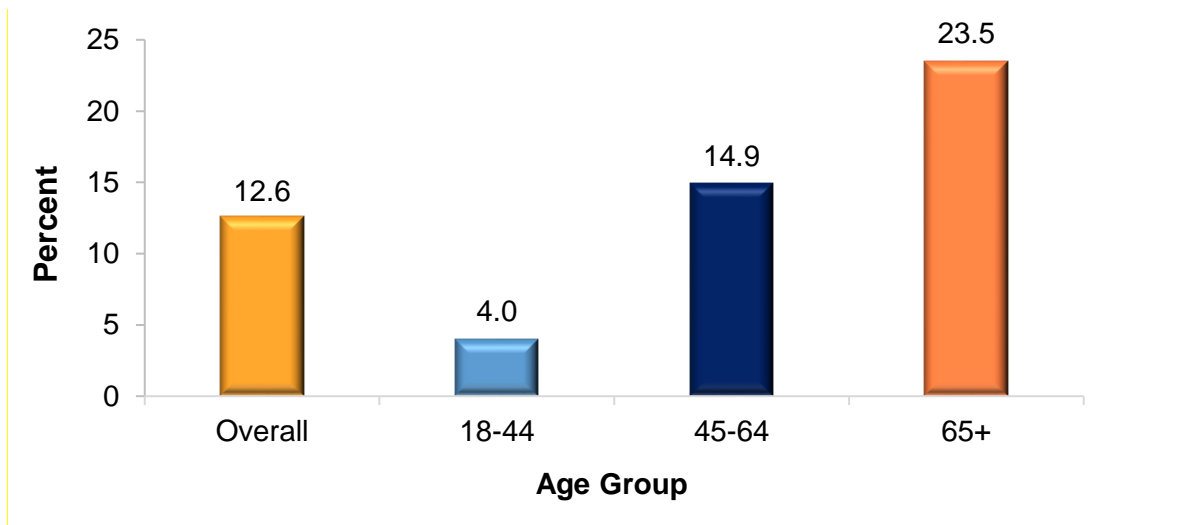
In 2016, more than half of Florida’s counties (36) had a prevalence of prediabetes higher than the state rate (9.4%), but the only county with a statistically significant difference was Leon County (13.1%). Two counties, Manatee and Miami-Dade, had a prediabetes prevalence statistically lower than the state rate (5.0% and 6.4%, respectively).

Diabetes

Diabetes is a lifelong disease that affects the way the body produces and/or uses insulin. People with diabetes do not make enough insulin (type 1 diabetes) or cannot use insulin properly (type 2 diabetes).⁸ Type 2 diabetes accounts for 90 to 95 percent of all diagnosed diabetes cases, and type 1 diabetes accounts for about 5 percent.⁵ 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 20 years, the prevalence of diabetes among Florida adults more than doubled, increasing from 5.2 percent in 1995 to 12.6 percent in 2018. Diabetes prevalence among Florida women was 11.7 percent compared to 13.6 percent among Florida men in 2018. Like prediabetes, the prevalence of diabetes also increases statistically with age. In 2018, 4.0 percent of Florida adults ages 18 to 44 reported having ever been diagnosed with diabetes compared to 14.9 percent of adults ages 45 to 64 and 23.5 percent of adults ages 65 and older (Figure 3).

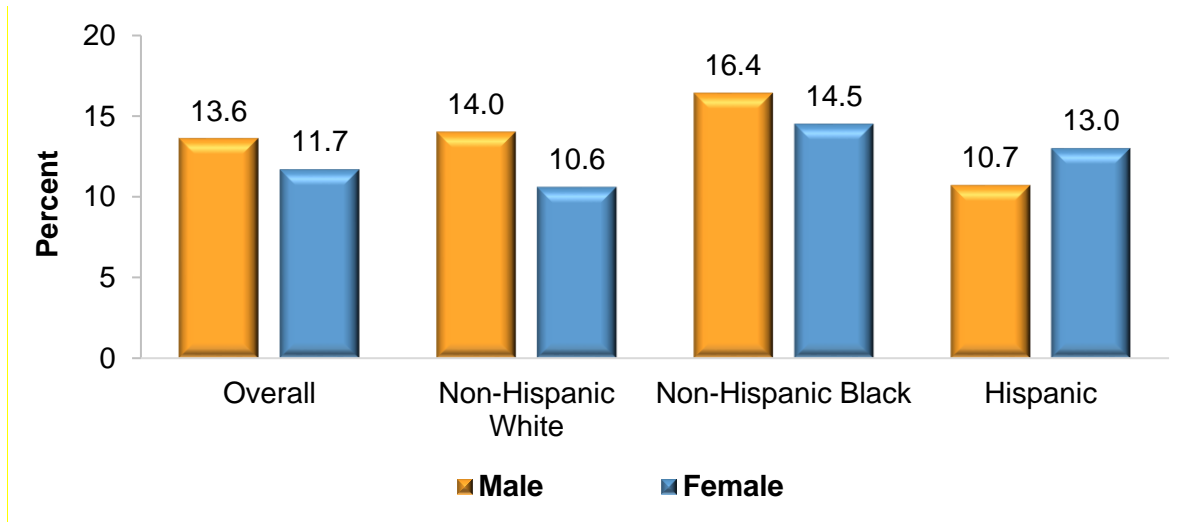
Figure 3: Florida Prevalence of Diabetes by Age Group, BRFSS 2018



In 2018, the prevalence of diabetes was highest among non-Hispanic Blacks (15.4%), compared to non-Hispanic Whites (12.2%) and Hispanics (11.8%). A similar pattern was observed for racial/ethnic groups among men. The prevalence of diabetes among non-Hispanic Black men (16.4%) was higher than non-Hispanic White men (14.0%) and Hispanic men (10.7%). A different pattern was observed among women. The prevalence of diabetes was higher among non-Hispanic Black women (14.5%) compared to the other race/ethnicity groups. However, diabetes prevalence was lower among non-Hispanic White women (10.6%) than Hispanic women (13.0%) (Figure 4).

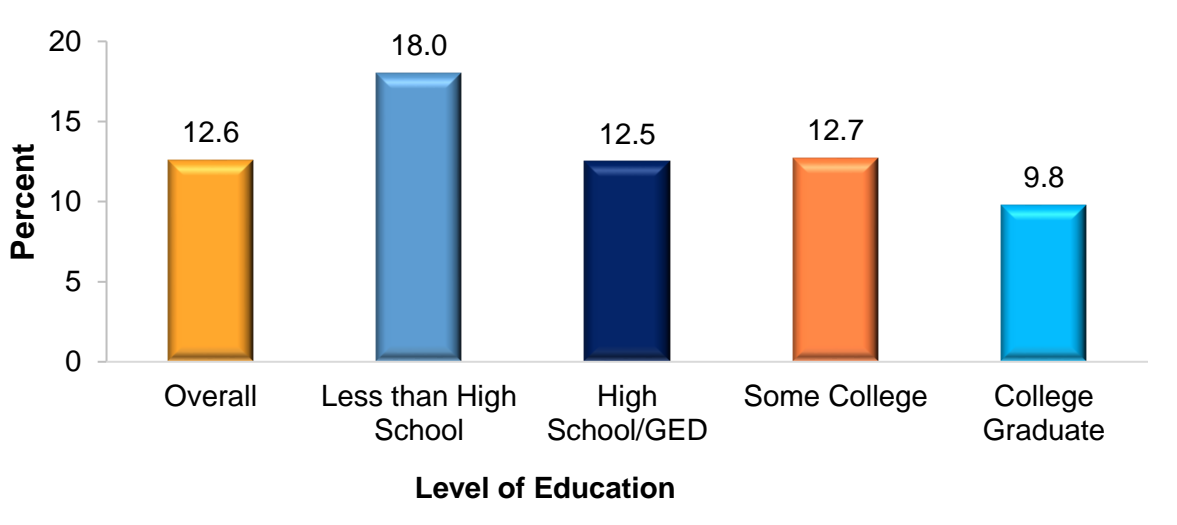


Figure 4: Florida Prevalence of Diabetes by Gender by Race/Ethnicity, BRFSS 2018



Differences in prevalence of diabetes were observed when considering socioeconomic factors such as education and income in 2018. Florida adults with less than a high school education had a statistically significantly higher prevalence of diabetes (18.0%) when compared to adults with a high school education or GED (12.5%), adults who attended some college (12.7%), and adults who graduated college (9.8%) (Figure 5).

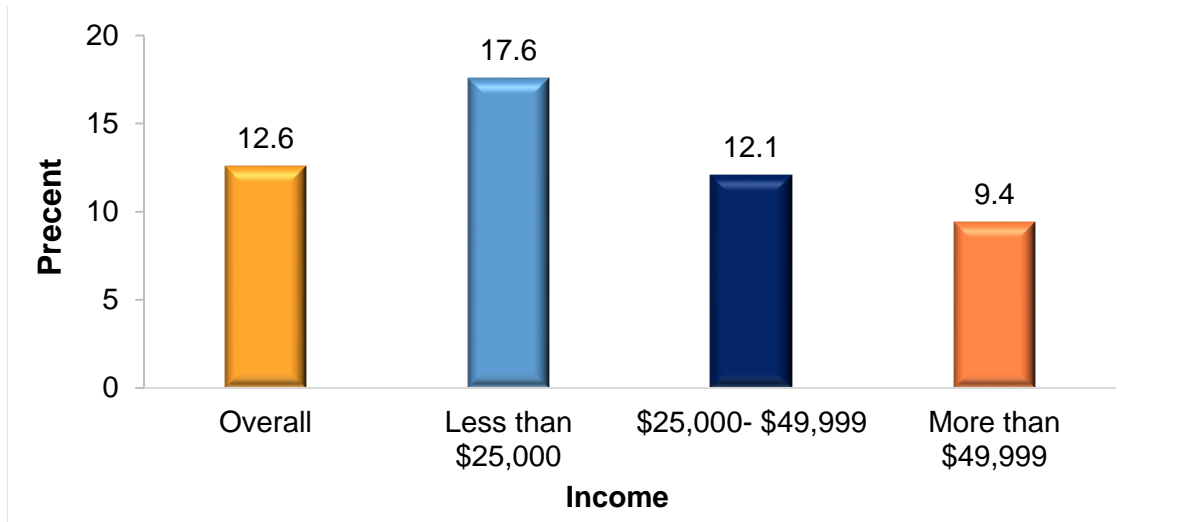
Figure 5. Florida Prevalence of Diabetes by Education Level, BRFSS 2018



In 2018, the prevalence of diabetes among Florida adults living in households with an annual income less than \$25,000 (17.6%) was significantly higher than those with an annual household income between \$25,000 and \$49,999 (12.1%) and those with an annual household income of \$50,000 or greater (9.4%) (Figure 6).

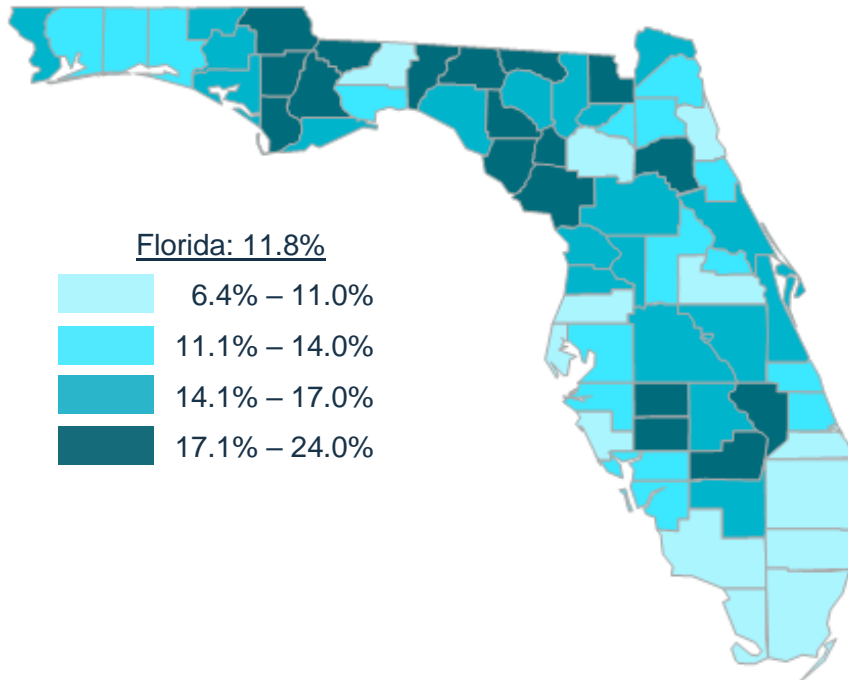


Figure 6. Florida Prevalence of Diabetes by Household Income Level, BRFSS 2018



The prevalence of diabetes varies geographically across the state. In 2016, two counties, Collier (7.8%) and St. Johns (6.4%) had a diabetes prevalence significantly lower than the state rate and twenty-five counties had a diabetes prevalence significantly higher than the state rate. The highest prevalence of diabetes was observed in Baker (22.3%), Gadsden (23.4%), and Hardee (23.6%) counties.

Map 1. Florida Prevalence of Diabetes by County, BRFSS 2016



Youth Diabetes

Data availability regarding diabetes among youth statewide is limited. It is reported about 18,300 cases of type 1 diabetes and more than 5,700 cases of type 2 diabetes are estimated to be newly diagnosed among



U.S. youth younger than age 20 each year.¹¹ The 2018 National Survey of Children's Health estimates that approximately 260,000 children ages 0 to 17 in the U.S. (0.4%) currently have diabetes.³

School Health Services

The Florida Department of Health, in collaboration with the Florida Department of Education, facilitates the provision of school health services by county health departments, local school districts, and public-private partnerships. Local school health services programs provide the services mandated in sections 381.0056, 1006.062, and 1002.20(3)(i), Florida Statutes and Florida Administrative Code Rule 6A-6.0253. School health services are intended to minimize health barriers to learning for public school students in pre-kindergarten through 12th grade. Annually, local school health programs report data on student health conditions and services provided.

In 2018–2019, there were a reported 8,153 students with type 1 diabetes and 1,291 students with type 2 diabetes in Florida schools for a total of 9,444 students with diabetes (a 19.7% increase from 2016–2017). School Health staff provided various services that included glucose monitoring, ketone testing, carbohydrate-counting, and insulin administration to students based on their medical needs. 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.

Registered professional school nurses (RNs) and unlicensed support staff work with students with diabetes to not only monitor their diabetes, but also educate them in diabetes self-management. During 2018–2019, the state average RN to student ratio in Florida was one RN to 2,449 students and the RN to school ratio was one RN to 3.24 schools. The position of the National Association of School Nurses regarding the RN ratios continues to be that a professional registered nurse should be present at every school all day, each school day. Due to the high caseloads in Florida schools, 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 supervised by a school district RN to assist with medications and medical procedures performed by the school RN when they are onsite.

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.¹² 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.¹³



Diabetes Among the Medicaid Population

Diabetes Among the Medicaid Population

For this report, a series of tables were prepared by the Agency for Health Care Administration’s (AHCA) Division of Medicaid, Bureau of Medicaid Data Analytics (MDA). These tables show the occurrence and trend of diabetes – type 1, type 2, or gestational – in the Florida Medicaid population for both children and adults.

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 that follow was derived from both FFS data and encounter data. Unlike FFS data, where payment is based on these data, encounter data do not drive payment to the managed care plans but reflect the services provided to Medicaid recipients through the managed care plans.

Medicaid Adult Diabetes

Table 1 shows the prevalence rate, number of diabetes cases, and total adult enrollment among Florida adult Medicaid members (ages 18 and older) over a five-year period from State Fiscal Year (SFY) 14/15 to SFY 18/19. A decrease in the prevalence rate took place from SFY 14/15 to SFY 15/16 but increased in SFYs 16/17 and 17/18 among both women and men. The prevalence rate decreased again in SFY 18/19 among both groups.

From SFY 14/15 to SFY 18/19, the number of diabetes cases in women increased from 93,276 to 108,660, and increased in men from 53,600 to 65,014. The total Medicaid enrollment decreased for both women and men during this time period.

Table 1. Prevalence of Diabetes Among Florida Medicaid Adult Members Ages 18 and Older, SFY 14/15 to SFY 18/19

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 14/15	6.1%	6.3%	93,276	53,600	1,521,874	857,167
SFY 15/16	5.9%	6.1%	92,484	54,461	1,579,415	899,200
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

Note: Data include region 99.

Source: MDA SQL claims and encounter tables as of July 2020.



Medicaid Youth Diabetes (0-17 years of age)

Table 2 shows the prevalence rate, number of diabetes cases, and total child enrollment among Florida child Medicaid members (ages 0 to 17) from SFY 14/15 to SFY 18/19. Since SFY 16/17, the prevalence rate of diabetes among girls has increased slightly from 0.2% to 0.3%, while diabetes prevalence among boys did not change.

From SFY 14/15 to SFY 15/16, the number of diabetes cases increased among both girls and boys but decreased in both groups in SFY 16/17. In SFY 17/18, there was an increase in diabetes cases for both groups, but then there was another decrease in SFY 18/19. Total child enrollment increased among both girls and boys from SFY 14/15 to SFY 17/18 and decreased in SFY 18/19.

Table 2. Prevalence of Diabetes Among Florida Medicaid Child Members Ages 17 and Younger, SFY 14/15 to SFY 18/19

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 14/15	0.3%	0.2%	3,090	2,783	1,135,070	1,189,056
SFY 15/16	0.3%	0.2%	3,122	2,817	1,173,997	1,230,010
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

Note: Data include region 99.

Source: MDA SQL claims and encounter tables as of July 2020.

Medicaid Diabetes and Pregnancy

Table 3 displays numbers of pregnant Medicaid women with gestational diabetes, preexisting diabetes, or neither from SFY 14/15 to 18/19. The numbers of women with gestational diabetes and preexisting diabetes decreased in SFYs 15/16 and 16/17. These numbers have increased again in SFYs 17/18 and 18/19.

Among pregnant women enrolled in Medicaid in SFY 18/19, 0.2 percent had pre-existing diabetes, and 3 percent had gestational diabetes.



Table 3. Diabetes and Pregnancy Among Florida Medicaid Women Members, SFY 14/15 to SFY 18/19

State Fiscal Year (SFY)	Pregnant Women with Gestational Diabetes	Pregnant Women with Pre-existing Diabetes	Pregnant Women with Neither Pre-existing nor Gestational Diabetes
SFY 14/15*	3,733	650	103,216
SFY 15/16	2,743	413	107,060
SFY 16/17	2,450	212	110,135
SFY 17/18	2,782	199	109,792
SFY 18/19	3,280	236	106,857

Source: MDA SQL claims and encounter tables as of July 2020

**Changes in distinct recipient counts are likely due to more complete reporting of encounter claims since the last data request.*



Diabetes Among Individuals Covered by the Division of State Group Insurance

The Department of Management Services (DMS), 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 2019, there were 2,076 adults with type 1 diabetes and 28,547 adults with type 2 diabetes whose health care visits were covered by the DSGI (Table 4).

Table 4. Number of Adults (Ages 18 and Older) Covered by DSGI with Diabetes During the Calendar Year, 2018-2019

Year	Number of Adults	
	Type 1	Type 2
2018	2,266	29,456
2019	2,076	28,547

DSGI Youth Diabetes (0-17 years of age)

In 2019, there were 170 children with type 1 diabetes and 61 children with type 2 diabetes whose health care visits were covered by the DSGI (Table 5).

Table 5. Number of Children (Ages 0 to 17) Covered by DSGI with Diabetes during the Calendar Year, 2018-2019

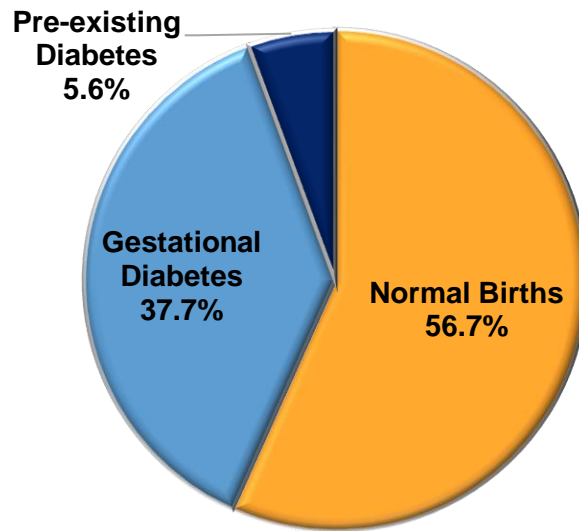
Year	Number of Children	
	Type 1	Type 2
2018	178	78
2019	170	61

DSGI Diabetes and Pregnancy

In 2019, there were a total of 1,870 births among individuals covered by DSGI. While the majority of new mothers (56.7%) did not experience any diabetes during pregnancy, approximately 6 percent had diabetes prior to becoming pregnant, and one out of three women (37.7%) experienced gestational diabetes (Figure 7).



Figure 7. Percentage of Births Covered by DSGI by Diabetes Status, 2019





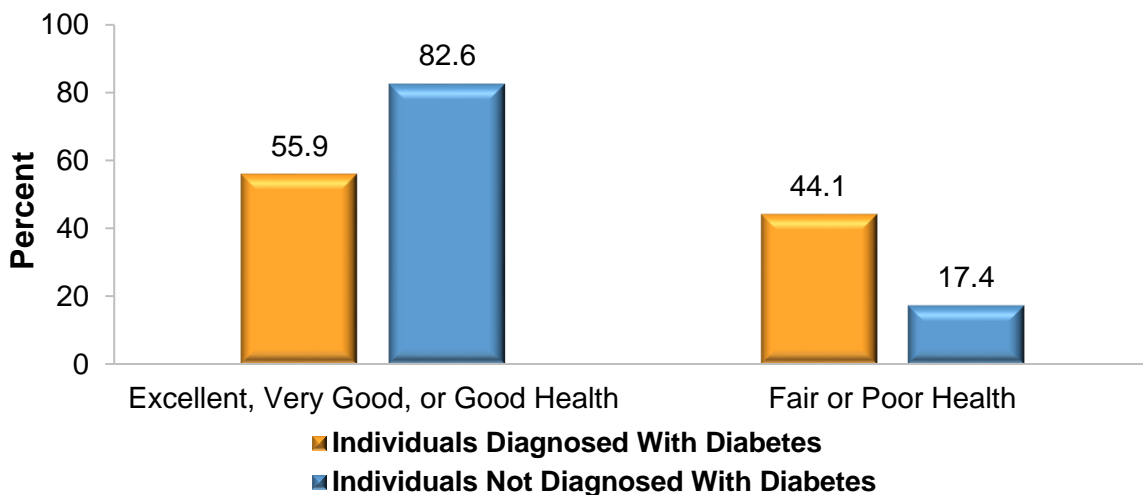
Public Health Consequences and Financial Impact of Diabetes

Diabetes and related complications create significant individual, societal, and financial burden.² People with diabetes are twice as likely to have heart disease or a stroke as people without diabetes, and at an earlier age.¹⁴ Diabetes is the leading cause of kidney failure, lower-limb amputations, and adult-onset blindness. More than 20 percent of national health care spending is for people with diagnosed diabetes.⁵ This section of the report highlights some of the ways diabetes impacts Florida’s residents, health systems, and economy. Additional financial consequences are be addressed in the latter portion of the report.

Health Status

Individuals with diabetes have a lower overall health status when compared to individuals who do not have diabetes. Among Florida adults with diabetes, 55.9 percent reported that their health is excellent, very good, or good, compared to 82.6 percent of adults without diabetes. Additionally, 44.1 percent of adults with diabetes reported that their health is fair or poor, compared to 17.4 percent of adults without diabetes in 2018 (Figure 8).

Figure 8. Self-Reported Health Status by Diabetes Status, Florida, BRFSS 2018

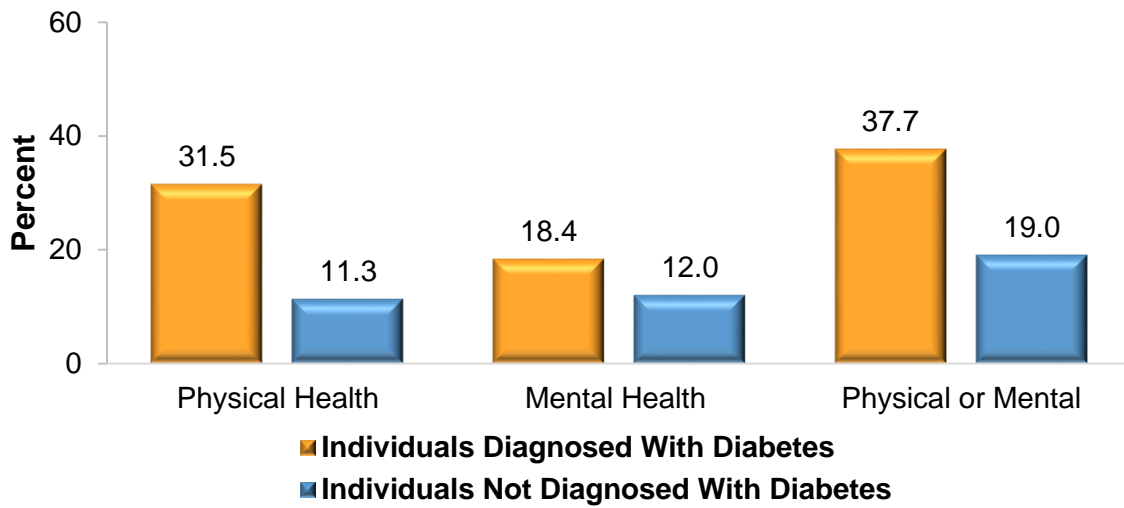


Physical and Mental Health

The following data demonstrate that diabetes influences both physical and mental health. Approximately one out of three adults with diabetes (31.5%) reported that their physical health was not good for two or more weeks during the past month, compared to one out of nine adults without diabetes (11.3%). Approximately one out of five of adults with diabetes (18.4%) reported that their mental health was not good for two or more weeks during the past month, compared to one out of eight (12.0%) adults without diabetes. When assessing physical and mental health combined, more than one out of three adults with diabetes (37.7%) reported that their physical or mental health was not good for two or more weeks during the past month, compared to nearly one out of five adults without diabetes (19.0%) (Figure 9).



Figure 9. Self-Reported Poor Physical or Mental Health on 14 or More Days in One Month by Diabetes Status, Florida, BRFSS 2018



Comorbidities

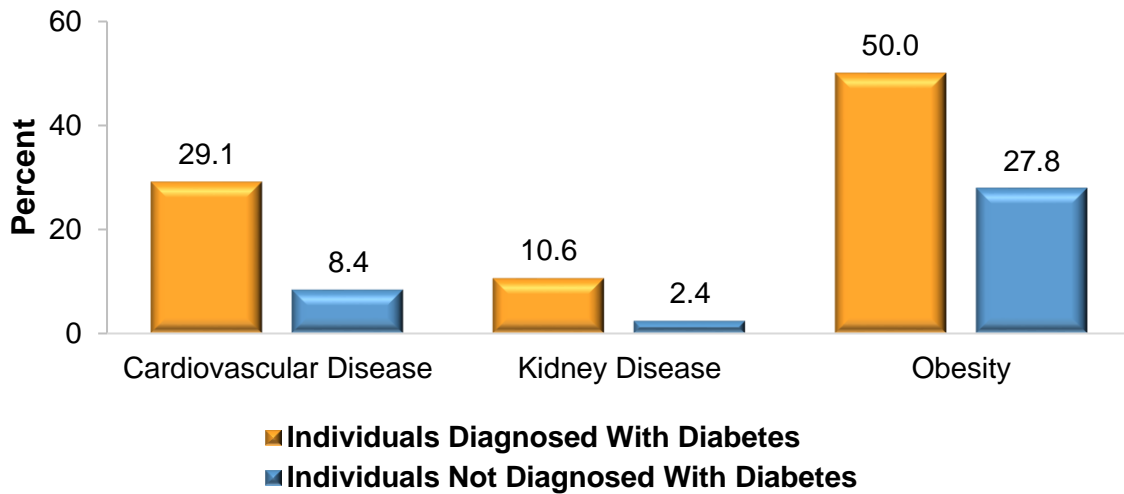
Several chronic conditions are commonly associated with diabetes. Some of these comorbidities include coronary heart disease, heart attack, stroke, cardiovascular diseases, kidney diseases, and obesity. Figure 10 depicts the prevalence of chronic conditions by diabetes status in Florida.

In 2018, Florida adults with diabetes had a significantly higher prevalence of cardiovascular diseases, kidney diseases, and obesity than Florida adults without diabetes (Figure 10).

- One out of three adults with diabetes (29.1%) had a history of cardiovascular diseases, including heart attack, stroke, or coronary heart disease, compared to one out of 12 adults without diabetes (8.4%).
- One out of nine adults with diabetes (10.6%) had kidney disease compared to one out of 42 adults without diabetes (2.4%).
- About half of adults with diabetes (50.0%) were obese compared to nearly one out of four adults without diabetes (27.8%).



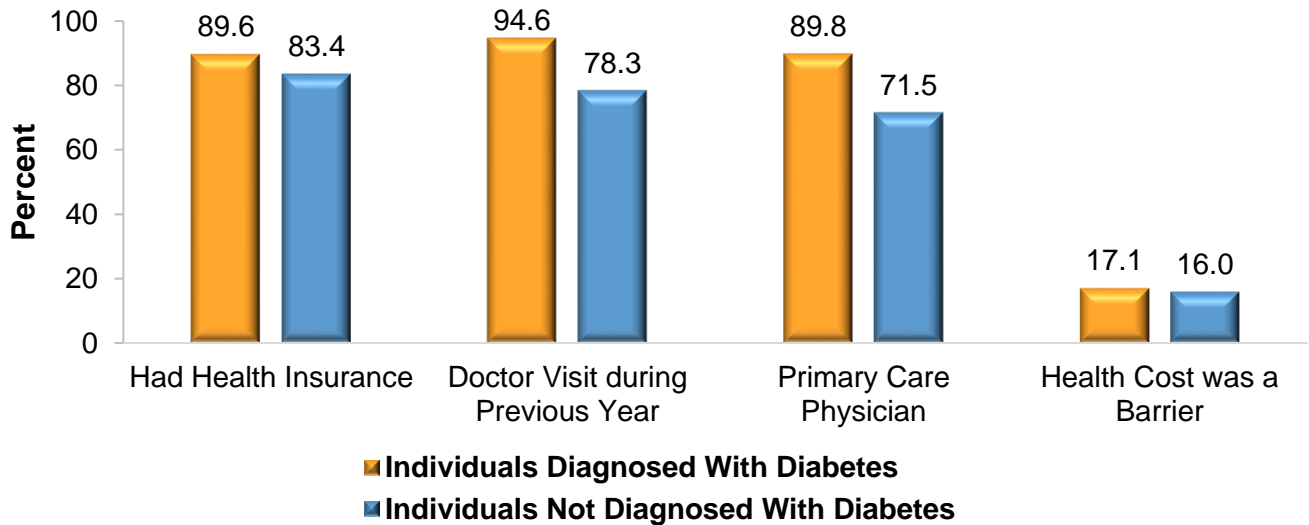
Figure 10. Chronic Conditions by Diabetes Status, Florida, BRFSS 2018



Health Care Access

In 2018, adults with diabetes had a higher prevalence of having health insurance (89.6%), having a doctor visit in the past year for a routine check-up (94.6%), and having one person they think of as their personal doctor or health care provider (89.8%) compared to adults without diabetes (83.4%, 78.3%, and 71.5%, respectively). Approximately one out of six adults reported that there was a time during the past year when they needed to see a doctor but could not because of cost, regardless of diabetes status (Figure 11).

Figure 11. Health Care Access by Diabetes Status, Florida, BRFSS 2018



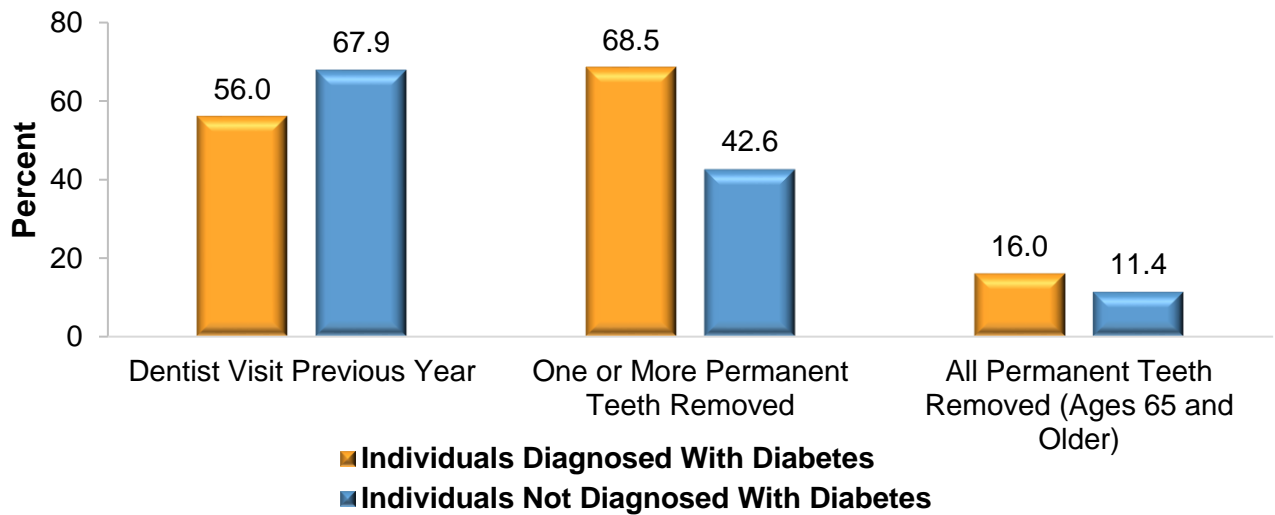


Oral Health and Diabetes

Persons 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 infection and have a decreased ability to fight bacteria that invade the gums. In addition, recent research shows periodontitis may have the potential to affect blood glucose control and contribute to the progression of diabetes.¹⁵

Oral diseases are significant issues among Florida’s residents, and especially those with diabetes (Figure 12). In 2018, adults with diagnosed diabetes had a lower prevalence of seeing a dentist in the past year (56.0%) compared to adults without diabetes (67.9%). The prevalence of having one or more permanent teeth removed was significantly higher among adults with diagnosed diabetes (68.5%) compared to adults without diabetes (42.6%). And among adults ages 65 and older, approximately one out of six with diabetes (16.0%) had all their permanent teeth removed compared to one out of nine without diabetes (11.4%).

Figure 12. Oral Health Indicators by Diabetes Status, Florida, BRFSS 2018





Emergency Department Visits and Hospitalizations

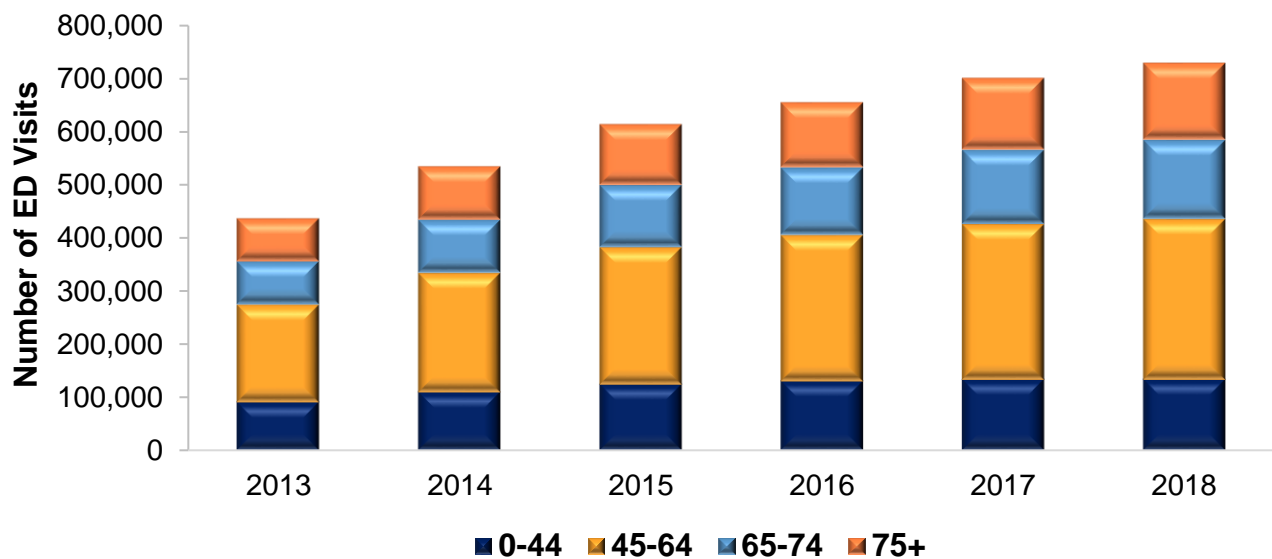
Diabetes-related emergency department (ED) visits and subsequent hospitalizations occur because of serious health complications that often accompany undetected or poorly controlled diabetes. This includes cardiovascular disease, dehydration, ulcers, kidney problems, nerve damage, blindness, and lower-limb 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 2016, there were 16 million ED visits nationally with diabetes as any-listed diagnosis among adults ages 18 years and older.⁸

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 the Agency for Health Care Administration (AHCA) were used for this analysis.

ED Visits over Time

From 2013 to 2018, the number of ED visits in Florida with diabetes as any-listed diagnosis increased by 66.8 percent from 436,304 to 727,813. 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 353.3 per 10,000 in 2013 to 544.2 per 10,000 in 2018), indicating that the difference is not simply due to an increase in population size.

Figure 13. Total Number of ED Visits with Diabetes as Any-Listed Diagnosis by Age Group, AHCA 2013-2018

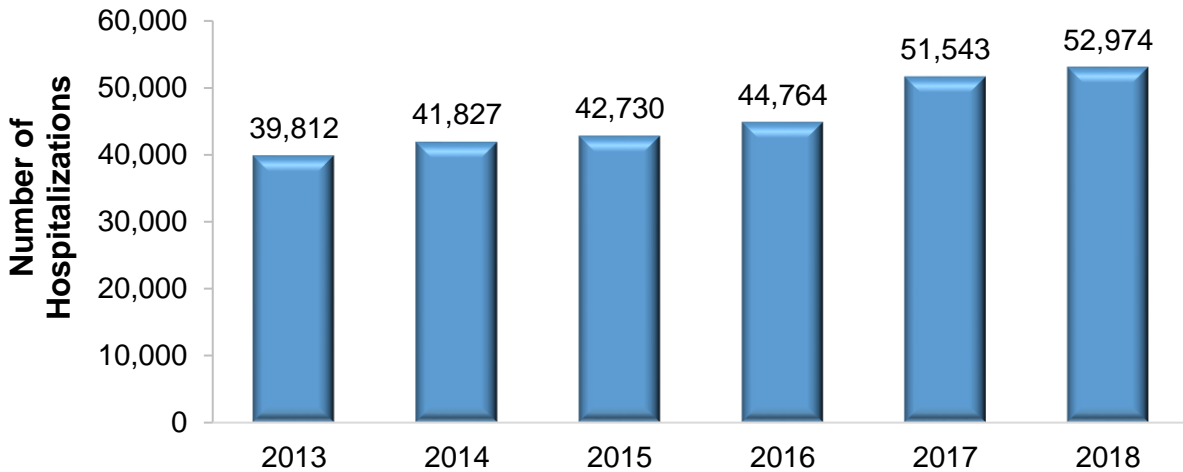




Hospitalizations Over Time

Over the last six years, the number of hospitalizations in Florida with diabetes as first-listed diagnosis increased by 33 percent from 39,812 in 2013 to 52,974 in 2018 (Figure 14). During this time, the age-adjusted rate increased by 19 percent, from 18.6 per 10,000 in 2013 to 22.2 per 10,000 in 2018. This means that the increase seen in the number of hospitalizations is not due solely to the growing population.

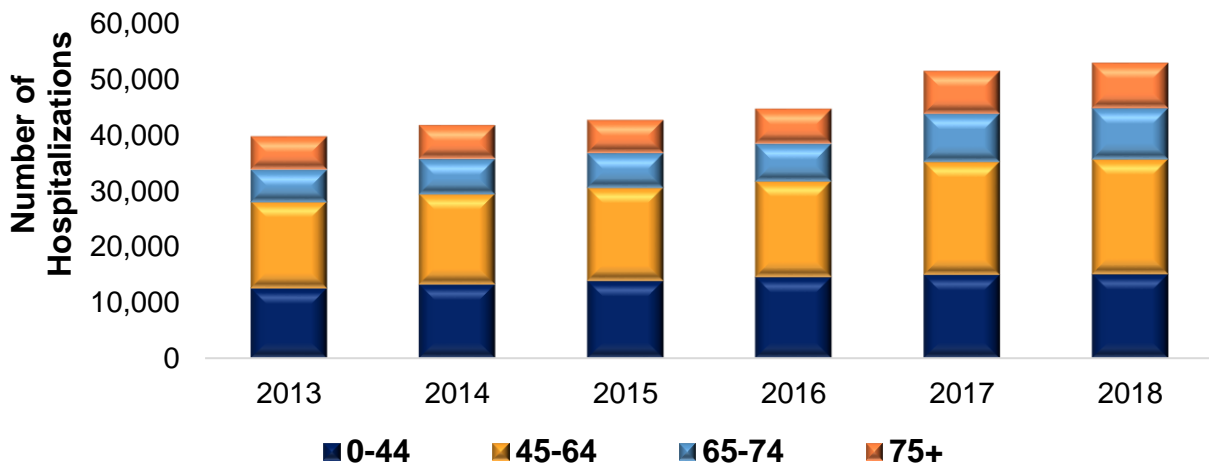
Figure 14. Total Number of Hospitalizations with Diabetes as First-Listed Diagnosis, AHCA 2013-2018



Hospitalizations by Age Group

From 2013 to 2018, the largest number of hospitalizations with diabetes as first-listed diagnosis occurred among Floridians ages 45-64 years (Figure 15). This number increased by 33 percent from 15,506 in 2013 to 20,603 in 2018. During this time, the number of hospitalizations among Floridians ages 0-44 years and 65-74 years also increased by 20 percent and 57 percent, respectively.

Figure 15. Total Number of Hospitalizations with Diabetes as First-Listed Diagnosis by Age Group, AHCA 2013-2018

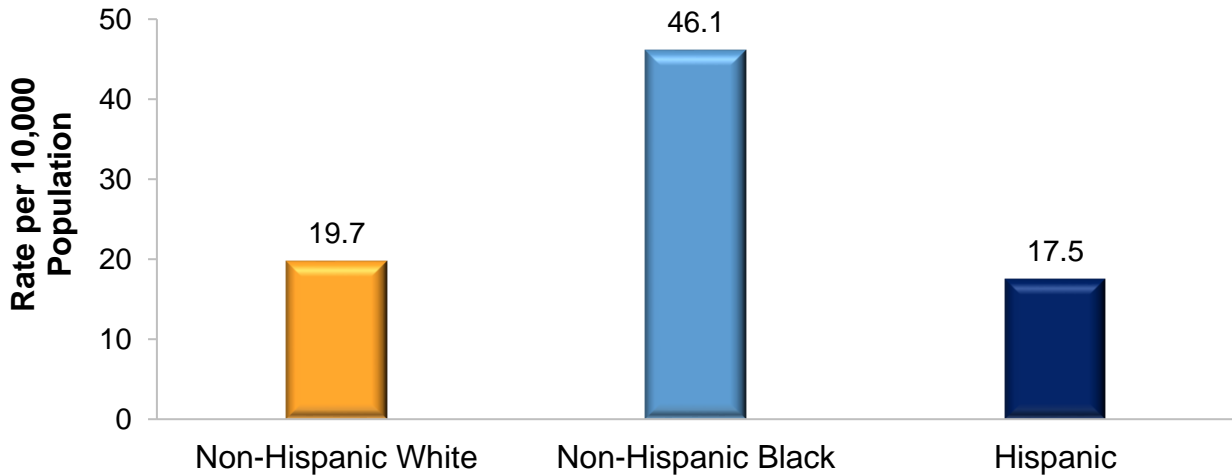




Hospitalizations by Race/Ethnicity

Large disparities exist in hospitalization rates by race/ethnicity. In 2018, the age-adjusted hospitalization rate with diabetes as first-listed diagnosis for non-Hispanic Blacks (46.1 per 10,000 population) was more than double that of non-Hispanic Whites (19.7 per 10,000 population) and Hispanics (17.5 per 10,000 population) (Figure 16).

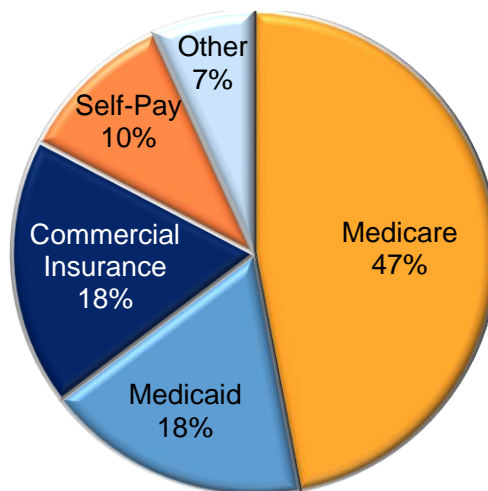
Figure 16. Age-adjusted Hospitalization Rate per 10,000 Population with Diabetes as First-Listed Diagnosis by Race/Ethnicity, AHCA 2018



Hospitalizations by Payer Type

In 2018, Medicare covered the largest number of hospitalizations with diabetes as first-listed diagnosis (47%), followed by Medicaid (18%), and commercial insurance (18%). The fewest number of hospitalizations were covered by self-pay and other funds (10% and 7%, respectively) (Figure 17).

Figure 17. Hospitalizations with Diabetes as First-Listed Diagnosis by Payer Type, AHCA 2018

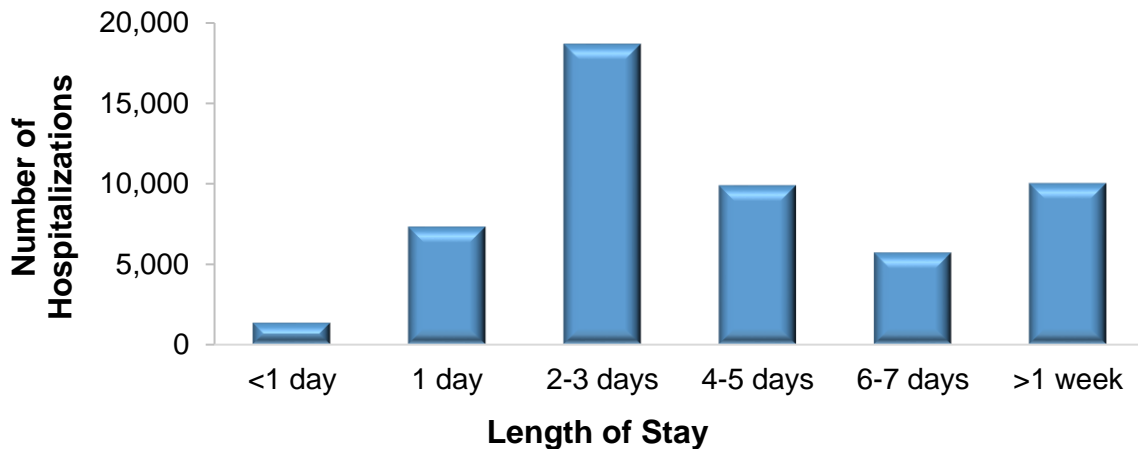




Hospitalizations by Length of Stay

The average length of stay for hospitalizations with diabetes as first-listed diagnosis was 5.3 days in 2018. Approximately one out of three (35%) Floridians admitted to the hospital with diabetes as the primary diagnosis were discharged within three days. Of the remaining patients admitted to the hospital for diabetes, 19 percent were discharged within four to five days, 11 percent were discharged within six to seven days, and 19 percent were discharged more than one week later (Figure 18).

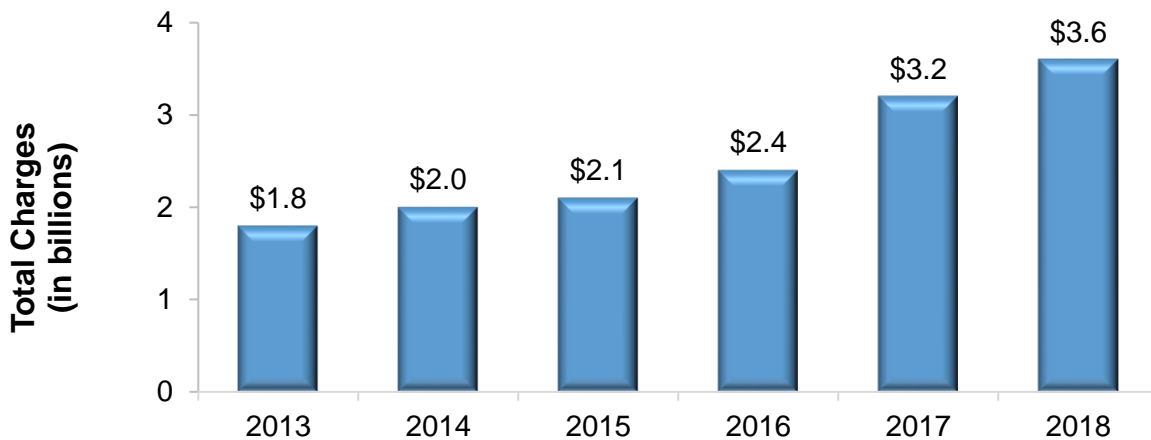
Figure 18. Total Number of Hospitalizations with Diabetes as First-Listed Diagnosis by Length of Stay, AHCA 2018



Hospitalization Charges

The median charge per hospitalization with diabetes as the first-listed diagnosis was \$40,718 in 2018. The total charges for hospitalizations with diabetes as the first-listed diagnosis doubled from \$1.8 billion in 2013 to \$3.6 billion in 2018 (Figure 19). As stated previously, the number of hospitalizations only increased by 33 percent during this same time frame, meaning that the total charges per hospitalization with diabetes as the first-listed diagnosis are increasing.

Figure 19. Total Charges for Hospitalizations with Diabetes as First-Listed Diagnosis, AHCA 2013-2018

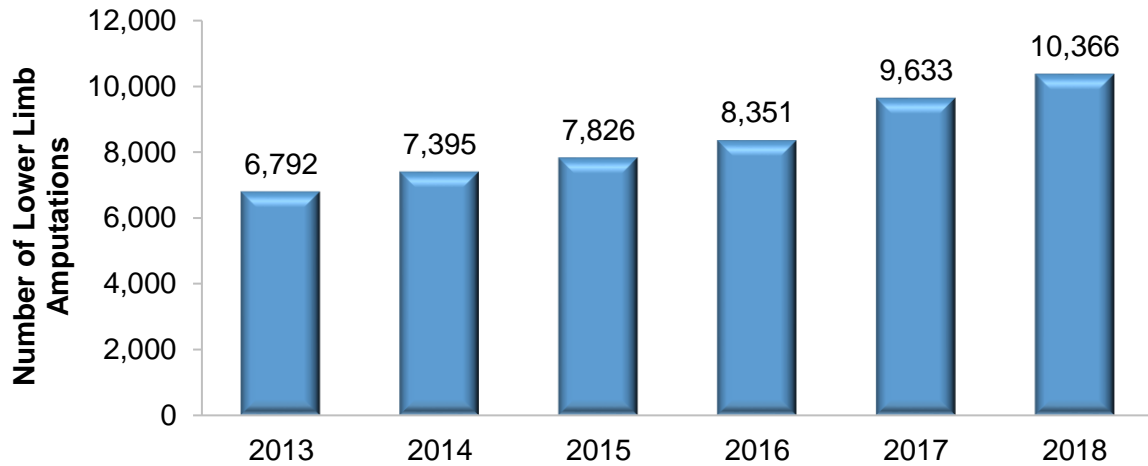




Lower Limb Amputation Hospitalizations

From 2013 to 2018 the number of lower limb amputation hospitalizations with diabetes as any-listed diagnosis increased by 52.6 percent, from 6,792 in 2013 to 10,366 in 2018 (Figure 20*).

Figure 20. Number of Lower Limb Amputation Hospitalizations with Diabetes as Any-Listed Diagnosis, AHCA 2013-2018

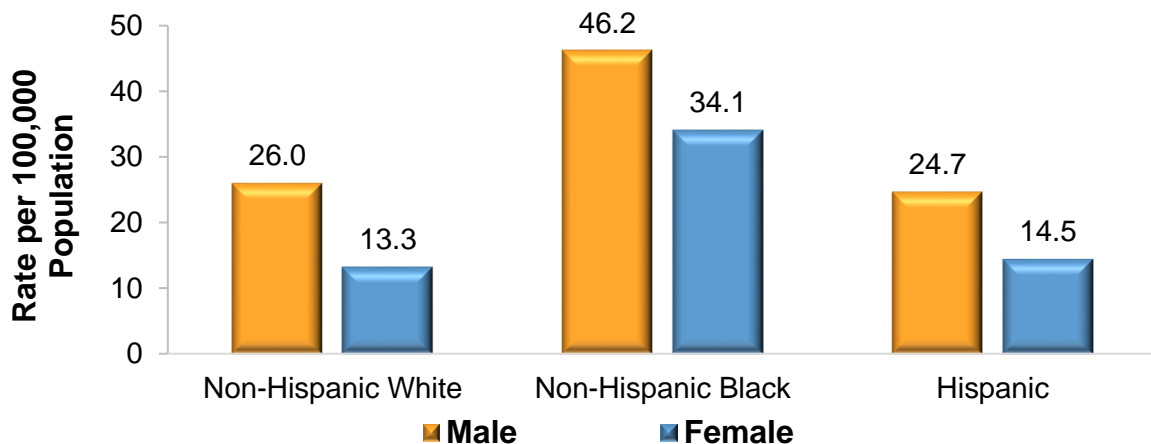


*Note: Numbers differ from the 2017 Diabetes Legislative Report due to a change in methodology.

Diabetes Mortality

Diabetes is the seventh leading cause of death in Florida. In 2018, there were 6,192 deaths with diabetes listed as the underlying cause. The diabetes mortality rate has remained consistent over the past several years. When looking at age-adjusted diabetes mortality rates by gender and race/ethnicity, large disparities are seen. Males have an age-adjusted diabetes mortality rate of 27.4 per 100,000 population, higher than the female rate of 15.6 per 100,000 population. Non-Hispanic Blacks have a higher age-adjusted diabetes mortality rate than both non-Hispanic Whites and Hispanics. Figure 21 shows the age-adjusted diabetes mortality rate by gender and by race/ethnicity.

Figure 21. Age-Adjusted Diabetes Mortality Rate per 100,000 by Gender by Race/Ethnicity, AHCA 2018





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 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.⁷ 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 2019, the total DSGI combined medical cost for adults and youth with a primary diagnosis of diabetes was \$23.8 million. The total DSGI costs for type 1 diabetes (adults and youth combined) increased by 1.8 percent, from \$6.5 million in 2018 to \$6.6 million in 2019. During this same time, the number of clients covered by DSGI with type 1 diabetes claims decreased by 8 percent from 2,444 to 2,246.

Similarly, the total DSGI medical costs for type 2 diabetes (adults and youth combined) increased by 12.3 percent, from \$15.4 million in 2018 to \$17.2 million in 2019. During this same time, the number of clients covered by DSGI with a primary diagnosis of type 2 diabetes decreased by 3 percent (29,534 in 2018 vs. 28,608 in 2019).

From 2018 to 2019, the average cost per client covered by DSGI with a primary diagnosis of type 1 diabetes increased by 10.8 percent, while the average cost per client covered by DSGI with a primary diagnosis of type 2 diabetes increased by 16.2 percent (Table 6).

In 2019, the total DSGI pharmacy cost for antidiabetic drugs increased by 4.2 percent from 2018 to \$108,826,348 million (Table 7).

Table 6. Total Medical Cost for Adults and Youth Covered by DSGI with Diabetes during the Calendar Year, 2018-2019

Year	Type 1		Type 2	
	Total	Average per Client	Total	Average per Client
2018	\$6,460,330	\$2,643	\$15,350,144	\$519
2019	\$6,577,023	\$2,928	\$17,237,260	\$603

Table 7. Total Pharmacy Cost for Adults and Youth Covered by DSGI with Diabetes during the Calendar Year, 2018-2019

Year	All Types	
	Total	Average per Client
2018	\$104,446,636	\$3,472
2019	\$108,826,348	\$3,549



Medicaid Costs

In SFY 18/19, the total Florida Medicaid cost of diabetes was \$230 million. Table 8 provides a comparison of total and average costs for select chronic conditions including hypertension, any diabetes, chronic obstructive pulmonary disease (COPD), coronary heart disease, congestive heart failure, asthma less than 20 years of age, and asthma 20 years of age and older. Hypertension is the costliest condition, totaling more than \$355 million in Medicaid spending in SFY 18/19. COPD and diabetes are the second and third most costly conditions, respectively. The Medicaid cost per member with diabetes was \$1,428. It is important to remember that diabetes is a risk factor for, and a common co-morbid condition of, coronary heart disease.

Table 8: Medicaid, Cost Comparison of Chronic Conditions, SFY 18/19

Chronic Condition	Total Medicaid Spending	Member Count	Cost Per Member
Diabetes – any	\$230,662,680	161,511	\$1,428
Congestive Heart Failure	\$133,216,491	30,384	\$4,384
Coronary Heart Disease	\$213,962,112	76,791	\$2,786
COPD and Allied Conditions	\$307,434,163	301,317	\$1,020
Hypertension	\$355,004,393	250,302	\$1,418
Asthma - 20 and Over	\$20,955,109	43,626	\$480
Asthma - Less than 20	\$58,008,601	157,254	\$369

Notes: Includes all dually eligible recipients, all MCO and fee-for-service populations

Source: MDA SQL claims and encounter tables as of July 2020

Table 9 shows the number of Florida Medicaid members with diabetes from SFY 14/15 to SFY 18/19, by age group and type of diabetes. The number of type 1 diabetes cases among adults decreased during this period from 21,860 to 16,360, while the number of type 1 diabetes cases among children increased slightly from 3,633 to 3,898. The number of type 2 diabetes cases among adults increased from 140,739 to 168,330 during this period, while type 2 diabetes cases among children decreased from 3,958 to 2,870. Also, the number of cases for any diabetes increased among adults and slightly decreased among children from SFY 14/15 to 18/19. Changes observed starting in SFY 14/15 should be interpreted with caution, as the transition to ICD-10 coding is likely to have impacted these numbers.



Table 9: Number of Florida Medicaid Members with Diabetes, SFY 14/15 to 18/19

State Fiscal Year (SFY)	Number of Type 1 Diabetes Cases			Number of Type 2 Diabetes Cases			Number of Cases - Any Diabetes		
	Adults 18 Years of Age or More	Children Less than 18 Years of Age	Total	Adults 18 Years of Age or More	Children Less than 18 Years of Age	Total	Adults 18 Years of Age or More	Children Less than 18 Years of Age	Total
SFY 14/15*	21,860	3,633	25,493	140,739	3,958	144,697	146,474	5,840	152,314
SFY 15/16	19,228	3,818	23,046	140,038	3,427	143,465	146,442	5,900	152,342
SFY 16/17	17,944	3,778	21,722	157,250	2,941	160,191	163,822	5,585	169,407
SFY 17/18	20,134	3,943	24,077	187,386	3,214	190,600	193,084	5,893	198,977
SFY 18/19	16,360	3,898	20,258	168,330	2,870	171,200	173,160	5,470	178,630

Notes: Utilizes both fee-for-service (FFS) claim data and managed care organization (MCO) encounter data. Does not include region 99. Care should be taken in drawing inferences based on the encounter data. Gestational diabetes not included in this analysis.

*** Changes in distinct recipient counts are likely due to more complete reporting of encounter claims since the last data request.**

Source: MDA SQL claims and encounter tables as of July 2020



State Agency Programs and Activities

The programs and activities implemented by each state agency help 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 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. From 2013-2018, the Bureau received funding from the CDC through the “State Public Health Actions to Prevent and Control Diabetes, Heart Disease, Obesity and Associated Risk Factors and Promote School Health (DP13-1305)” grant, referred to as 1305, to support diabetes prevention and diabetes self-management goals and objectives.

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” on September 30, 2018. Under this agreement, the Bureau now receives \$1,350,389 million annually to address diabetes, a slight increase of approximately \$287,000 per year from the previous cooperative agreement. This new 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 both the 1815 and 1705 funds, the Bureau’s Diabetes Prevention 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 the American Diabetes Association (ADA) or recognized by the Association of Diabetes Care and Education Specialists (ADCES). Through this approach, 30 plus organizations received financial and technical support from the Bureau. The Florida Diabetes Alliance also worked alongside three health councils (Health Planning Council of Southwest Florida, Big Bend Health Council, and Well Florida) to provide mentoring to the awarded partners. 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 FL, and North Florida Medical Centers have launched several satellite sites, many of which are already accredited or recognized nationally. The Bureau's Diabetes Prevention 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 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 DPP 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 projects 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 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.¹⁶

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, 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.¹⁷
- 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 \$13,761.¹⁷

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."¹⁸

Health insurance coverage for the National DPP continues to grow across the nation. With the 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 the Department.

In fall of 2020, the DOH Diabetes Prevention 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.

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.¹⁹ Programs can be added to the CDC 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 69 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, 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 2019-2020, \$245,682 from 1815 and \$164,377 from 1705 grants were awarded to 15 counties.



Diabetes Prevention in Underserved Areas

Through the 1705 partnership with the NACDD, the Bureau partnered with the Bay County Health Department (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), sixteen 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.

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.

National DPP State Engagement Meeting

In April 2018, with support from the NACDD, the Bureau hosted a Diabetes Prevention Statewide Engagement Meeting, bringing together more than 120 partners representing over 50 organizations including health systems, community organizations, non-profit organizations, universities, insurers, and businesses. The first day was dedicated to learning sessions to increase awareness of the national and state diabetes prevention landscapes and opportunities and the second day focused on developing a state action plan to address the four drivers of National DPPs:

- Increasing awareness of prediabetes and enrollment in National DPPs.
- Increasing screening and testing of people with prediabetes and referrals to National DPPs.
- Increasing public (Medicaid, state employees) and private coverage for National DPPs.
- Increasing support for and availability of National DPPs in the state.

NACDD is continuing to provide technical assistance and support as Florida finalizes and moves toward implementation of this state action plan in January 2021. More information on this effort and presentations from this meeting can be found at flhealth.gov/diabetes.

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.⁴ 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, 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 2019-2020, seven 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.
- Providing subawards to organizations in Florida to serve as a community-based provider for providing DSMES via telehealth.

Insulin Distribution Program

The Insulin Distribution Program is a safety-net program that provides insulin for individuals with diabetes who are eligible Florida residents and 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 Program facilitate the administration of the program. The BPHP, located within the Division of Emergency Preparedness and Community Support, partners with CHDs, Department program offices, and other health service entities by providing supplies for clinical provisions and pharmaceutical needs. The Diabetes Prevention 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 Department 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 SFY 2020-2021, 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: birthing facilities, 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 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.

Health Equity – Persons with Disabilities

Health equity is achieved when all individuals have the opportunity to attain their highest level of health. The Bureau strived 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 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.

The Bureau is making continuous efforts on fostering community empowerment for chronic disease management. The Diabetes Prevention Program has been working with the BPHP to increase use of pharmacists to promote medication adherence and enrollment into DSMES amongst individuals with type 2 diabetes. The BPHP has partnered with the pharmacy school at Florida Agricultural and Mechanical University to use the DSMES Diabetes Education and Empowerment program (DEEP) curriculum administered through clinician oversight to reach minority populations in the surrounding communities.

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 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 retired 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) and 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 2019, the report identified hypertension among the most common diagnoses for 2019 in both number of claims and members affected (Table 10).

Table 10. Common Diagnoses and Claims among DSGI Members, 2019

Diagnosis	Number of Members	Number of Claims
Hypertension	58,888	141,534

A snapshot of members covered by the program in 2019 indicates that many members who are affected by chronic health conditions are affected by more than one chronic condition (Table 11).



Table 11. Number of Chronic Conditions among DSGI Members, 2019

Number of Chronic Conditions	Equal to 0	Between 1 and 2	Between 3 and 4	Between 5 and 6	Greater than 6
PPO Members	63,343	43,001	23,669	13,610	17,810
HMO Members	91,445	61,366	28,045	12,874	10,103

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 2019 plan year. Members with co-morbidities may accrue claims in multiple diagnosis categories (Table 12).

Table 12. DSGI Member Claims, Hospital Admissions, and Costs, 2019

Diagnosis	Number of Members with Claims		Number of Admissions		Average Cost Per Patient		Cost* (in millions)		
	Health Plan	PPO	HMO	PPO	HMO	PPO	HMO	PPO	HMO
Cardiovascular		19,382	11,389	2,004	1,177	\$1,684	\$5,049	\$32.6	\$57.5
Diabetes		18,357	19,373	1,626	1,423	\$2,137	\$3,409	\$39.2	\$66.0
Weight-related conditions		34,291	43,731	1,338	1,753	\$1,291	\$1,985	\$44.3	\$86.8

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

DSGI began work 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 was 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 2018. In total, 883 applications were received and after a thorough review, 854 participants were approved. Beginning January 1, 2019, 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 National DPPs listed on the CDC’s website as having received CDC recognition or being in the process of applying for recognition. Through the year, 429 participants, or 50 percent of all participants, provided the required mid-year report and 302 participants, or 35 percent of all participants, submitted an end-of-year report.

Below are the results in the final report submitted to the legislature on December 15, 2019, showing data reported by participants at the end of 10 months:

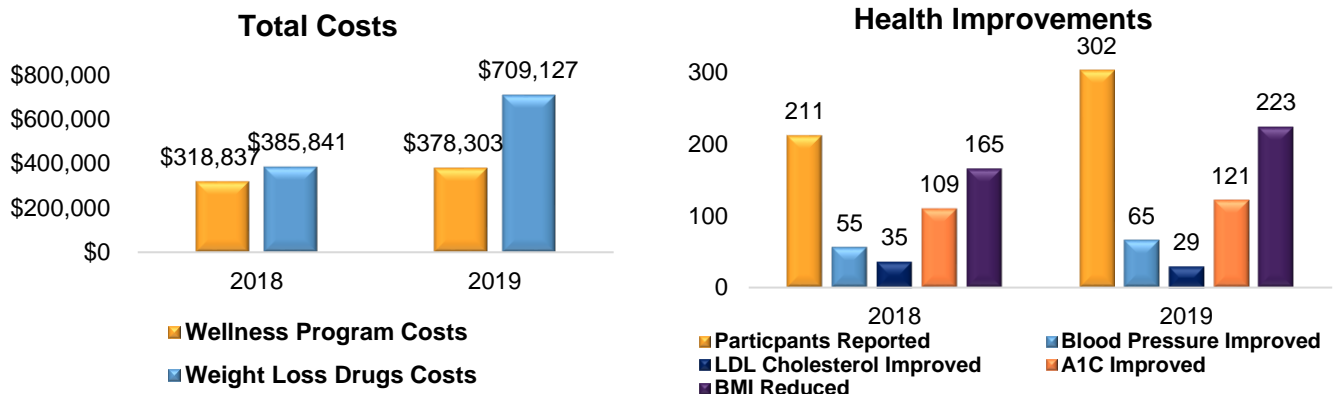
- Total cumulative weight loss of 3,757 pounds, or an average of 12.4 pounds per participant.
- One hundred forty-six (146) participants achieved a weight loss of five percent or more.
- Eighty-five (85) participants achieved a weight loss of ten percent or more.



- Two hundred twenty-three (223) participants achieved reductions in their Body Mass Index (BMI). A participant’s average BMI reduction was 3.4.
 - Forty-one (41) participants moved from an obese BMI to an overweight BMI.
 - One (1) participant moved from an obese BMI to a healthy BMI.
 - Three (3) participants moved from an overweight BMI to a healthy BMI.
- Sixty-Five (65) participants improved their blood pressure.
- Participants also improved their cholesterol levels.
 - Twenty-nine (29) participants improved their LDL cholesterol¹.
 - Eighteen (18) participants improved their HDL cholesterol.²
 - Forty-Three (43) participants improved their Triglycerides.³
- One hundred twenty-one (121) participants reported having improved their A1C.⁴
 - Of those, 37 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. The financial impact at the end of the 2019 program to the state group insurance program is \$1,087,430; an increase from \$704,678 in 2018. See Figures 22 and 23 for data in 2018 and 2019 showing the cost of the program and health improvements.

Figures 22 and 23. Total Cost of Weight Loss Program and Health Improvements



¹ “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#>.

² “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#>.

³ “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>.

⁴ “A1C” A1C is a blood test for type two (2) diabetes and prediabetes. The test measures your 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>.



Agency for Health Care Administration

Definitions

- **Disease Management (DM)** — A system of coordinated health care intervention and communication for populations with conditions in which patient self-care efforts are significant. Disease management supports the physician or practitioner/patient relationship and plan of care; emphasizes prevention of exacerbations and complications using evidence-based practice guidelines and patient empowerment strategies, and evaluates clinical, humanistic and economic outcomes on an ongoing basis with the goal of improving overall health.
- **Health Assessment** — A complete health evaluation combining health history, physical assessment, and the monitoring of physical and psychological growth and development.
- **Healthy Behaviors** — A program offered by Managed Care Plans in accordance with section 409.973(3), Florida Statutes, which encourages and rewards behaviors designed to improve the enrollee's overall health.
- **Incentive** — Related to an MMA Healthy Behaviors Program, something offered to an enrollee that encourages or motivates them to take action. For example, an incentive may be offered for enrolling in a series of educational classes focused on the target behavior. Incentives should be linked to effective engagement strategies. For example, providing a financial incentive to address a substance abuse problem must be supported by an effective, evidence-based approach/program.
- **Intervention** — Related to an MMA Healthy Behaviors Program, services rendered through a program designed to affect the actions that individuals take regarding their health.
- **Reward** — Related to an MMA Healthy Behaviors Program, if used in the program, something that may be offered to an enrollee after successful completion of a milestone (meaningful step toward meeting the goal) or goal attainment. A reward should be linked to positive behavior change. For example, a reward may be offered after successful completion of a series of educational classes focused on a target behavior.

In Florida, the AHCA is responsible for the oversight and administration of the Medicaid program. The AHCA successfully completed the implementation of the Statewide Medicaid Managed Care (SMMC) program in 2014. The AHCA procured new health plans, which are operating under the 2018-2023 SMMC contract and began operating in December of 2018. Under the SMMC program, most Medicaid recipients are enrolled in a health plan. Nationally accredited health plans were selected through a competitive procurement for participation in the program.

The AHCA is committed to collaborating with stakeholders to help reduce the burden of diabetes in the state of Florida. To support the legislative requirements, the AHCA is preparing to conduct a qualitative systematic review of the health plans' disease management (DM) programs and policies operating under the new 2018-2023 SMMC contract and analyze the utilization of diabetes self-management education.



Disease Management (DM) Program Overview

Medicaid health plans are required to implement disease management (DM) programs that address asthma, cancer, diabetes, hypertension, mental health, and substance abuse. The DM programs incorporate a system of care coordination to ensure a comprehensive assessment of identifying Medicaid enrollees with primary chronic diseases, comorbid conditions, and special health care needs.²¹

Plans have DM program policies and procedures that address the following:

- Enrollee identification process.
- Enrollee education on diagnosis and self-management.
- Evidence-based practice guidelines and informed decision making.
- Effective communication (feedback) with providers, enrollees, and health plan(s).
- Process evaluation and improvement of clinical outcomes.

Diabetes Management Program Cost and Evaluation

The Florida Medicaid program generates capitated payments to managed care plans, which, in turn, make payments to network providers for services rendered and allocate funding to programs.²² Health plans are required to evaluate their DM programs at least annually, and use findings to verify compliance, identify areas for improvement, and support quality initiatives. The AHCA is currently developing a streamlined process to determine program effectiveness by plan.

Diabetes Disease Management (DDM) Program

The DDM programs in Medicaid managed care provide secondary and tertiary prevention interventions using a multidisciplinary team-based and system-wide approach. Participation is optional and an enrollee may opt out at any time.

Agency for Health Care Administration (AHCA) Goals - Potentially Preventable Hospital Events (PPE)

The AHCA continually seeks to improve access to quality health care services for Medicaid recipients and to identify opportunities for health care efficiencies that do not compromise quality of care. One such opportunity lies in identifying and reducing potentially preventable hospital events (PPEs). PPEs are health care services including hospital admissions, readmissions, and ED visits that might have been prevented with better access to primary care, improved medication management, or better coordination of care. The AHCA is focused on three types of PPEs:

- Potentially Preventable Hospital Admissions (PPAs)
- Potentially Preventable Hospital Readmissions (PPRs)
- Potentially Preventable Emergency Department Visits (PPVs)

Diabetes is a contributing condition to hospital admissions, readmissions and ED visits among Medicaid members. The AHCA's Bureau of Medicaid Data Analytics generated PPE data related to diabetes for SFY 17/18. The following tables and charts below present PPE data related to diabetes based on gender, race and age.



Table 13 displays the rank of diabetes as a contributing condition to PPEs for SFY 17/18. This means that among the conditions contributing to PPEs in SFY 17/18 (i.e. COPD, heart failure, septicemia, mental health diagnoses, etc.), diabetes was ranked 16th for PPAs, 37th for PPVs and 8th for PPRs.

Table 13. Rank of Diabetes as a Contributing Condition to PPEs for SFY 17/18

	PPAs	PPVs	PPRs
Rank	16	37	8

Source: MDA Diabetes Report AHCA Data – June 2020

*Note: All values are for SFY 17/18. For PPA and PPR, diabetes is defined as DRG 420. For PPVs, diabetes is defined as EAPGs 710, 711, 712, 713, and 714. PPAs and PPVs are counted based on the weighted values of the preventable events. They have decimal values. PPRs are an unweighted count. They all have whole numbers.

Table 14 and Figure 24 display the number of PPE cases related to diabetes by gender for SFY 17/18. Females had more PPAs, PPRs and ED visits PPVs related to diabetes than males.

Table 14. PPE Cases Related to Diabetes by Gender for SFY 17/18

Gender	PPAs	PPVs	PPRs
Female	877.2	1,639.7	422.0
Male	633.3	1,052.6	283.0
Total	1,510.5	2,692.3	705.0

Source: MDA Diabetes Report AHCA Data – June 2020

*Note: All values are for SFY 17/18. For PPA and PPR, diabetes is defined as DRG 420. For PPVs, diabetes is defined as EAPGs 710, 711, 712, 713, and 714. PPAs and PPVs are counted based on the weighted values of the preventable events. They have decimal values. PPRs are an unweighted count. They all have whole numbers.

Figure 24. PPE Cases Related to Diabetes by Gender for SFY 17/18

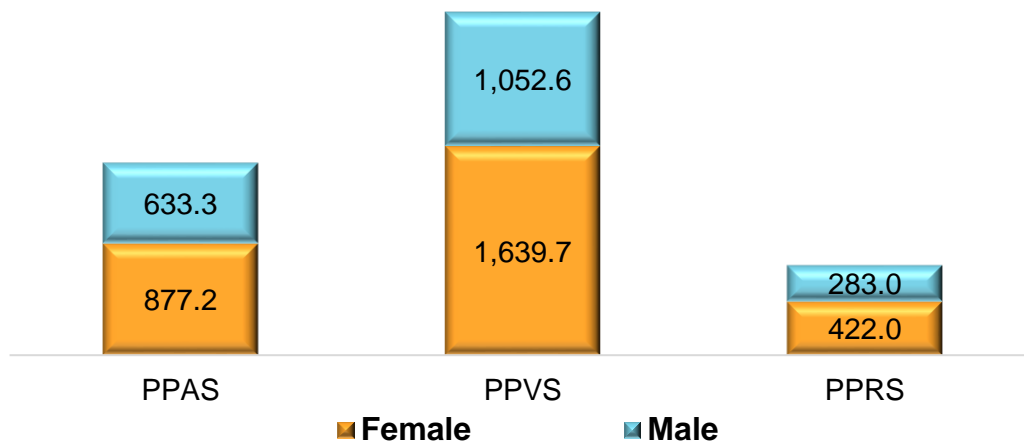




Table 15 and Figure 25 display the number of PPE cases related to diabetes by race for SYF 17/18. While White individuals had the highest number of PPAs and PPRs related to diabetes, Black or African American individuals had the highest number of PPVs related to diabetes, and the second highest number of PPAs and PPRs. Not specified and Hispanic individuals followed with the next highest. Individuals who identify as Native American had the lowest number of PPAs, PPVs and PPRs related to diabetes.

Table 15. PPE Cases Related to Diabetes by Race for SFY 17/18

Race	PPAs	PPVs	PPRs
White	495.8	747.9	241.0
Black, African American	438.3	873.1	210.0
Not Specified	264.3	545.4	150.0
Hispanic	262.6	444.5	77.0
Other	34.6	58.7	17.0
Asian	13.1	15.0	8.0
Native American	1.6	7.6	2.0
Total	1,510.5	2,692.3	705.0

Source: MDA Diabetes Report AHCA Data – June 2020

*Note: All values are for SFY 17/18. For PPA and PPR, diabetes is defined as DRG 420. For PPVs, diabetes is defined as EAPGs 710, 711, 712, 713, and 714. PPAs and PPVs are counted based on the weighted values of the preventable events. They have decimal values. PPRs are an unweighted count. They all have whole numbers.

Figure 25. PPE Cases Related to Diabetes by Race for SFY 17/18

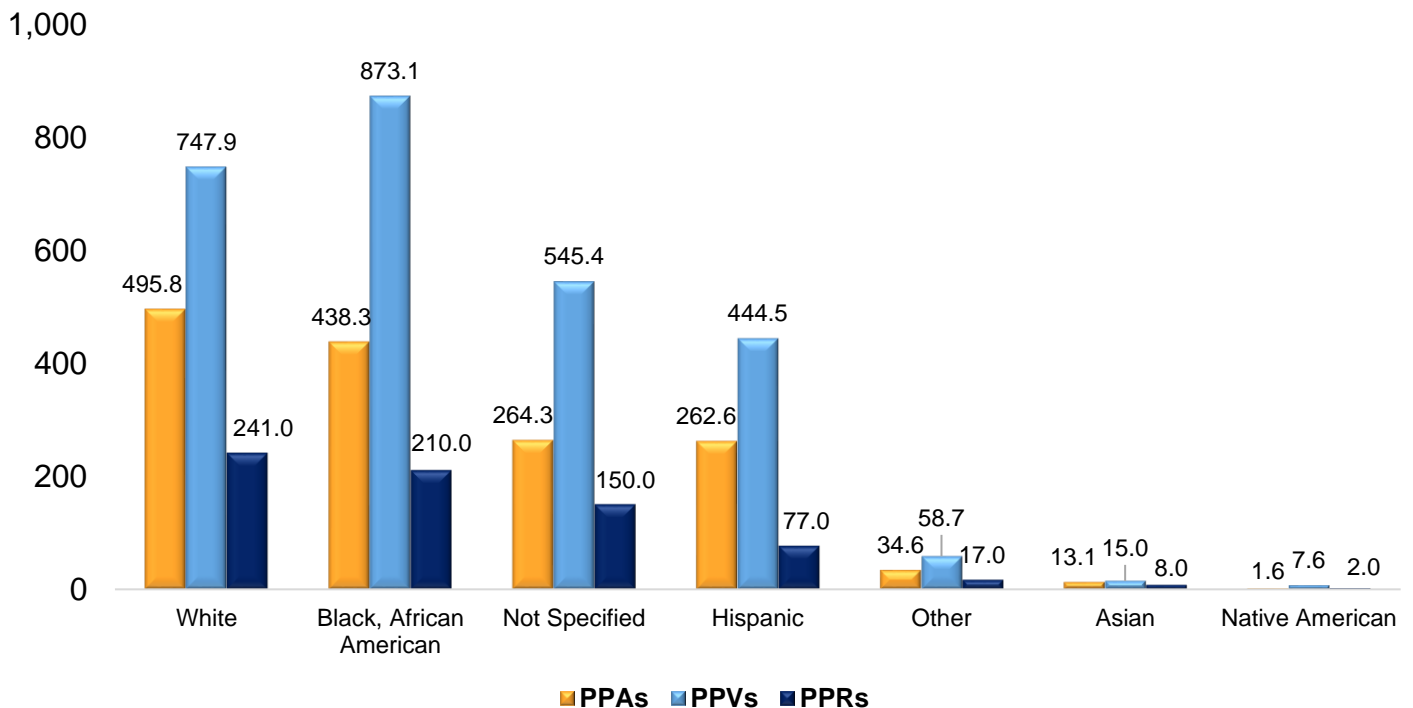




Table 16 displays the number of PPE cases related to diabetes by age for SFY 17/18. In Florida Medicaid, a child is defined as an individual under the age of 21 years. In the children category, children ages 6 to 13 years had the highest number of PPAs related to diabetes, while children ages 14 to 20 years had the highest number of PPVs related to diabetes. Children ages 1 to 5 years had the lowest number of both PPAs and PPVs related to diabetes.

In the adult category, adults ages 55 to 64 years had the highest number of both PPAs and PPVs related to diabetes. Adults ages 85 years and older had the lowest number of both PPAs and PPVs related to diabetes.

Table 16. PPE Cases Related to Diabetes by Age for SFY 17/18

Age	PPAs	PPVs	PPRs
1 to 5 Years Old	15.8	16.5	
6 to 13 Years Old	61.3	109.5	
14 to 20 Years Old	57.7	192.3	
Children	134.8	318.3	99.0
21 to 34 Years Old	124.4	400.9	
35 to 44 Years Old	150.2	419.0	
45 to 54 Years Old	253.9	545.8	
55 to 64 Years Old	368.6	634.0	
65 to 74 Years Old	228.1	203.7	
75 to 84 Years Old	174.2	128.5	
85 Years and Older	76.2	42.0	
Adults	1,375.7	2,374.0	606.0
Total	1,510.5	2,692.3	705.0

Source: MDA Diabetes Report AHCA Data – June 2020

**Note: All values are for SFY 17/18. For PPA and PPR, diabetes is defined as DRG 420. For PPVs, diabetes is defined as EAPGs 710, 711, 712, 713, and 714. PPAs and PPVs are counted based on the weighted values of the preventable events. They have decimal values and whole numbers. PPRs are an unweighted count.*

Medicaid Coverage – Diabetes Prevention and Management

Healthy Behaviors Programs

Pursuant to section 409.973(3), Florida Statutes, Florida MMA plans must establish and maintain programs to encourage and reward healthy behaviors. The AHCA must approve each program prior to implementation.

The Managed Care Plan may, through its Healthy Behaviors programs, deploy a number of interventions as part of the overall therapeutic process. Examples of interventions include:²³

- Series of diet and nutrition counseling services.
- Diabetes outpatient self-management education sessions.
- Series of behavior therapy or lifestyle change classes.
- Meal planning services (e.g., NutriSystem®).



- Provision of medication therapy management support services provided by a community health worker.
- Diabetes prevention programs with a status of recognized, pending recognition, or preliminary recognition on the CDC’s Diabetes Prevention Recognition Program registry.
- Gym or YMCA memberships.

Rewards and or incentives are provided to enrollees who complete milestones and the requirements of the Healthy Behaviors program(s). Plans must limit rewards or incentives to a value of twenty dollars. There are exceptions to this monetary limit based on program completion of a series of health education classes, activities, and participation in multiple healthy behavior programs.

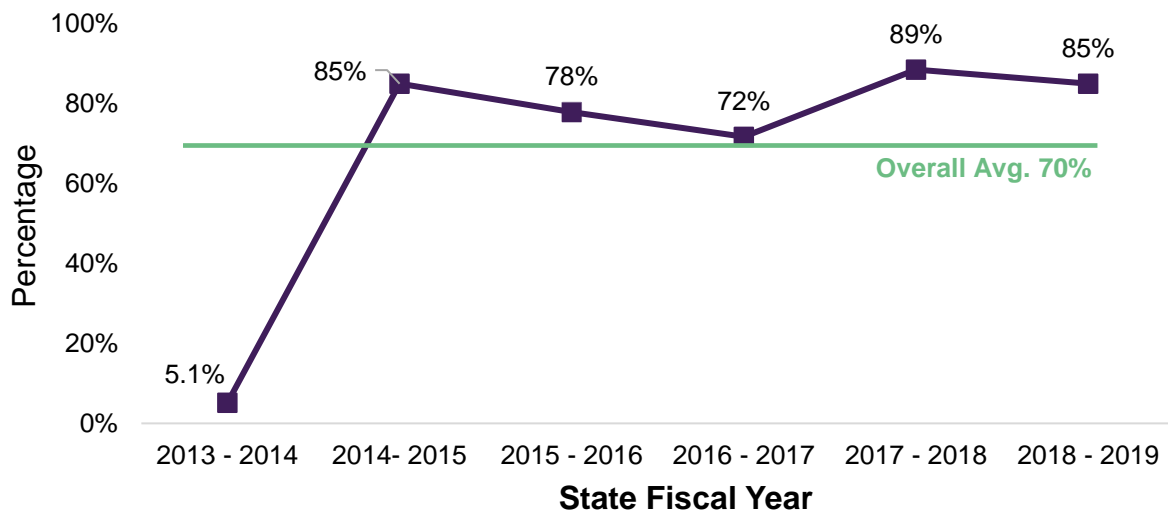
Diabetes Self-Management Education and Support (DSMES)

The AHCA is required by section 627.65745(3), Florida Statutes, to adopt standards for diabetes outpatient self-management training and education (DSMT/E) services, taking into consideration standards approved by the ADA necessary to treat diabetic enrollees. MMA plans have adopted and operate according to clinical practice guidelines recommended by the ADA.

Medicaid – DSMES Utilization

Medicaid managed care plan enrollees with diabetes may receive outpatient DSMT/E services as a covered benefit to help manage and control their chronic condition. Figure 26 shows the percentage of Medicaid encounters or claims for DSMT/E services (G0108 and G0109) from SFY 13/14 – 18/19. While there were year to year fluctuations, the six-year average was 70 percent.

Figure 26. Percentage of Medicaid Encounters or Claims for DSMES Services SFY 13/14 – 18/19



Source: Florida Medicaid Data Analytics, Data Solutions Unit, July 2020

♦ Encounter data are electronic records of Medicaid-covered services provided to enrollees of, and paid by, a capitated health plan

★ DSMES services include individual and group sessions using procedure codes G0108 and G0109, respectively.



HEDIS Measures

Florida Medicaid managed care plans showed improvements from calendar years (CY) 2015 through 2018 on all Healthcare Effectiveness Data and Information Set (HEDIS) measures related to diabetes care provided to adults, as shown in Table 17. Rates for CY 2018 were very similar to CY 2017.

Table 17. Florida Medicaid Managed Care HEDIS Diabetes Measures Calendar Years 2015-2018

Comprehensive Diabetes Care Measure Components	CY 2015	CY 2016	CY 2017	CY 2018
Hemoglobin A1C (HbA1C) Testing	81%	82%	86%	86%
HbA1C Poor Control (>9.0%)*	48%	45%	41%	42%
HbA1C Good Control (<8.0%)	43%	44%	49%	48%
Eye Exam (Retinal) Performed	51%	56%	55%	56%
Micro-albumin/Nephropathy Test	92%	91%	93%	92%

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.

Promising Interventions

Table 18 below provides a list of promising interventions by DDM program goal that plans are implementing to prevent and control diabetes. To improve health outcomes for enrollees with diabetes, interventions focus on common goals that include, but are not limited to:

- Access to services
- Care coordination
- Diabetes education/self-monitoring
- Patient compliance (medical visits and medication adherence)
- Referral to diabetes community programs

Table 18. Promising Interventions by DDM Program Goal

Promising Intervention	Program Goal	% of Plans that Implement
Physician Care Gap Reports	Patient compliance	100%
Family/Caregiver Support	Patient compliance	62%
Healthy Behaviors Program	Access to services; Referral to diabetes community programs	54%
Biometric Monitoring/Glucometers	Diabetes education/self-monitoring	31%
Home Visiting Initiatives	Access to services; Care coordination; Patient compliance	23%
Social Determinants of Health Initiatives	Access to services; Diabetes education/self-monitoring; Patient compliance	15%
Telehealth	Access to services; Diabetes education/self-monitoring; Patient compliance	8%

Source: Plan-reported through Disease Management Programs and Policies, 2018



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.²⁴ People with this condition should have access to the most up-to-date information and treatment options.

The Diabetes Advisory Council (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 mandates the DAC and the Florida Diabetes Strategic Plan 2015-2020.

Cost and no-cost strategies are recommended for implementation.



DAC Recommendation # 1:

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

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

We recommend using an Ad Council campaign to increase awareness of prediabetes and the signs and symptoms of diabetes. In partnership with the Centers for Disease Control and Prevention (CDC), the Ad Council developed radio, print, and television materials which states may 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 consequential 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 the 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: \$5,000,000 annually

Outcomes Achievable at this Amount: \$5,000,000 will be used to create 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 with maximum saturation in priority regions. Out of home ads such as billboards, bus stops, and health magazines and publications are also achievable within this budget. Social media campaigning by means of Twitter, Facebook, and Instagram will allow an effective reach of our target audience. Digital advertising is also possible through websites, online ads and online banners.



Outcomes Achievable with No Funding: A 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 awareness campaign.
2. DOH will contract with a marketing firm to develop, launch, and manage an awareness campaign incorporating available and new resources.
3. The marketing contractor will work with DOH, other agencies, and state providers to create an awareness campaign for all Floridians and visitors to be aware of prediabetes and the signs and symptoms of diabetes.
4. The marketing contractor will utilize Facebook, Twitter, and other social media platforms to promote the awareness campaign.
5. The marketing contractor will provide infographics, handouts, recordings, videos, and public service announcements to reach Floridians via print, radio, and television.
6. The marketing contractor will create poster materials to place in locations such as schools, grocery stores, county health departments, and public libraries to promote the campaign.
7. The county health departments will form partnerships with community centers and faith-based organizations to extend the campaign's reach to increase health equity among all Floridians.
8. DOH will develop and maintain a website that provides a central location for education, support, and resources for all types of diabetes.



DAC Recommendation # 2

Facilitate compliance with federal and state policies that prohibit discrimination in school or day care settings by allocating funding for registered nurses to coordinate diabetes care in all school districts in Florida.

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.²⁵ Collaboration among pediatricians, families, school staff, school physicians, and school nurses is increasingly critical to optimal health care in school settings. Although state and federal laws prohibit discrimination, shortage of school nurses can hinder the medical management of students with diabetes. School nurses play an important role in interpreting medical recommendations within the educational environment and participate in the development of action plans for diabetes management and safe transportation of a child with such health care needs.

Budget Request

Optimal Funding Level: \$4,522,705 per year

Outcomes Achievable at this Amount: At this amount, 67 registered nurses (RNs) can be hired as diabetes care coordinators to coordinate, facilitate, and if needed, provide diabetes care in all of Florida's school districts. These positions would coordinate individualized health care planning, training, delegation, and supervision and monitoring of staff involved in the care of students with diabetes.

Action Items:

1. Each county health department will receive funding to obtain the services of a registered nurse to serve as the diabetes care coordinator for the county/school district.
2. The diabetes care coordinators will ensure that all students with diabetes in all 67 Florida school districts are afforded the protections and school-based accommodations and care pursuant to:
 - a. Section 1002.20(3)(j), Florida Statutes
 - b. Florida Administrative Code Rule 6A-6.0253
 - c. Nursing Guidelines for the Care and Delegation of Care for Students with Diabetes-2015
 - d. [Section 504 of the Rehabilitation Act of 1973 \(Section 504\)](#)
 - e. Individuals with Disabilities Education Act (IDEA)
3. To facilitate compliance with the above statutes, rules, and guidelines, diabetes care coordinators will ensure the following for all district students with diabetes:
 - a. A current diabetes medical management plan (DMMP) from the student's physician on file at school.



- b. An individualized health care plan (IHP) consistent with the National Association for School Nurses position statement, Individualized Healthcare Plans: The Role of the School Nurse, 2015.
- c. An individualized emergency care plan (ECP).
- d. School clinic staff and additional school staff trained who have received the following training:
 - Level 1: Diabetes Overview and How to Recognize and Respond to an Emergency Situation
 - Level 2: Diabetes Basics and What to Do in an Emergency Situation
 - Level 3: General and Student-Specific Diabetes Care Tasks
4. A school clinic in compliance with State Requirements for Educational Facilities in which to perform safe diabetes care for students who do not yet self-manage.
5. Accommodations for students with parent and physician authorization to safely self-carry diabetes care supplies, perform glucose testing, and self-administer insulin, glucagon, or high carbohydrate food or drink in the least restrictive environment.
6. Accommodations for all students with diabetes to use restroom facilities, eat, or drink as necessary to manage their diabetes.
7. Provide a ½ day of training in diabetes management to all school health personnel, that will focus on the basics of diabetes care and the latest technology. This can be done during the week before school resumes after summer break.

Outcomes Achievable with No Funding: With no additional funding, school RN staffing levels cannot be increased, and no progress will be made toward meeting the standards recommended by NASN, AAP, and AAN. Moreover, not increasing RN staffing as the number of students with diabetes and other chronic health conditions requiring daily management at school continues to increase will likely decrease the level of safe and appropriate care to which students have access. This will also limit RN-directed self-management instruction and healthy lifestyle interventions consistent with reducing long-term burden on the state's health care systems.



DAC Recommendation # 3:

Fund a direct appropriation to the Diabetes Advisory Council (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 council, including strategic planning and collaboration with state and national partners in diabetes prevention and control.

Budget Request

Optimal Funding Level: \$52,000 per year

Outcomes Achievable at This Amount: This amount would allow four 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 Department of Health's Bureau of Chronic Disease Prevention and the School Health Services Program to increase alignment in diabetes efforts.

Outcomes Achievable with No Funding: Without funding, quarterly 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.



DAC Recommendation # 4

Increase access to metabolic bariatric surgery for extremely obese patients with type 2 diabetes.

Primary Focus: 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: 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.²⁶ 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. Clinical and mechanistic evidence supports inclusion of metabolic surgery among interventions for people with type 2 diabetes and obesity. Beyond weight-loss related mechanisms, some operations engage mechanisms that improve glucose homeostasis independent of weight loss. The mortality benefit of metabolic surgery among patients with type 2 diabetes and obesity is 92 percent compared to medical treatment. There has been a 41 percent increase in expenditures related to type 2 diabetes over the past five years, according to data compiled by the American Diabetes Association. The expenditure for type 2 diabetes is now \$1 out of every \$3 spent by Medicare and \$1 out of every \$5 spent in total health care expenditures.²⁷ According to the International Diabetes Federation (IDF) statement in 2010, the average cost per individual with type 2 diabetes is between \$172,000 and \$305,000. The IDF concluded that weight loss (metabolic) surgery is not just cost effective, but results in cost savings.²⁸ A study completed in South Carolina determined that metabolic surgery resulted in a \$2.7 million savings in direct costs per 1000 patients and \$5.4 million total savings per 1000 patients over 10 years.²⁹ Coverage of metabolic surgery does not significantly increase the cost of insurance premiums.³⁰ Other studies such as the Comprehensive Budget Analysis” published in 2018 by S. Palli, J. Rizzo and N. Heidrich show substantial evidence that providing bariatric surgery coverage may have a modest short-term budget impact increase but would lead to long-term net cost savings in a general population model. The cost savings found were much more pronounced in the T2DM model.³¹ The Maryland Commission report studied this issue and determined only a 0.6 percent increase in premium; a recent study of health care exchanges in Oklahoma, Oregon, and Virginia found that premiums either decreased or had a negligible increase.³² The Florida Medical Association supports legislation to promote access to metabolic bariatric surgery among severely obese (BMI>35) patients with type 2 diabetes.

Budget Request

This recommendation can be implemented with no additional budget.

Action Items:

1. 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.
2. Inform insurance carriers of the change.



DAC Recommendation # 5

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.³³ 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 # 6:

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 (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.

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.³⁴ 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.³⁵
- 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.³⁶ The risk of progression from prediabetes to diabetes is about 5-10 percent per year.³⁷ 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.³⁸

Budget Request

The specific budget amounts needed to implement these recommendations would need to be determined.

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. Provide reimbursement for metabolic surgery for extremely obese patients with diabetes.



Conclusions

Diabetes is a serious and costly condition that merits thoughtful consideration and attention by public health, 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.

Florida's 2017-2021 State Health Improvement Plan (SHIP) includes objectives around increasing participation in CDC-recognized Diabetes Prevention Programs and increasing the number of people with diabetes who have taken a course to help them manage their diabetes. It is anticipated that the next SHIP will incorporate similar objectives that will further expand the work that is happening now. Partnerships and collaborations are continuing to be leveraged in Florida to improve outcomes for people with or at risk for diabetes and will strengthen the state's economic outlook and its population's wellness. Implementation of the recommendations in this report will support and accelerate these efforts.



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 36,000 surveys were completed statewide in the 2016 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 Centers for Disease Control and Prevention (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. 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. Over 50,000 surveys were completed nationally in 2016. The NSCH data in this report are based on the 2016 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, the Agency for Health Care Administration (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 Shriners'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 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.

In the Medicaid tables, the types of diabetes are defined as follows:

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
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
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
Any Diabetes	250-250.xx	E10-E13.xx



Chronic Condition (SFY 16/17) Table 7	ICD-9 Codes Dates of service on or before September 30, 2015	ICD-10 Codes Dates of service on or after October 1, 2015
Diabetes - Any	n/a	E10-E13.xx
Congestive Heart Failure	n/a	I50.2-I50.4, I09.81, I11.0, I13.0, I13.2
Coronary Heart Disease	n/a	I20-I25.9
COPD and Allied Conditions	n/a	J40-J47.9
Hypertension & <i>hypertensive diseases</i>	n/a	I10-I16.9
Asthma – Age 20 and Over	n/a	J45-J45.999
Asthma – Less than age 20	n/a	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.

↓

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)			

Add up your score.

↓

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).

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

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.

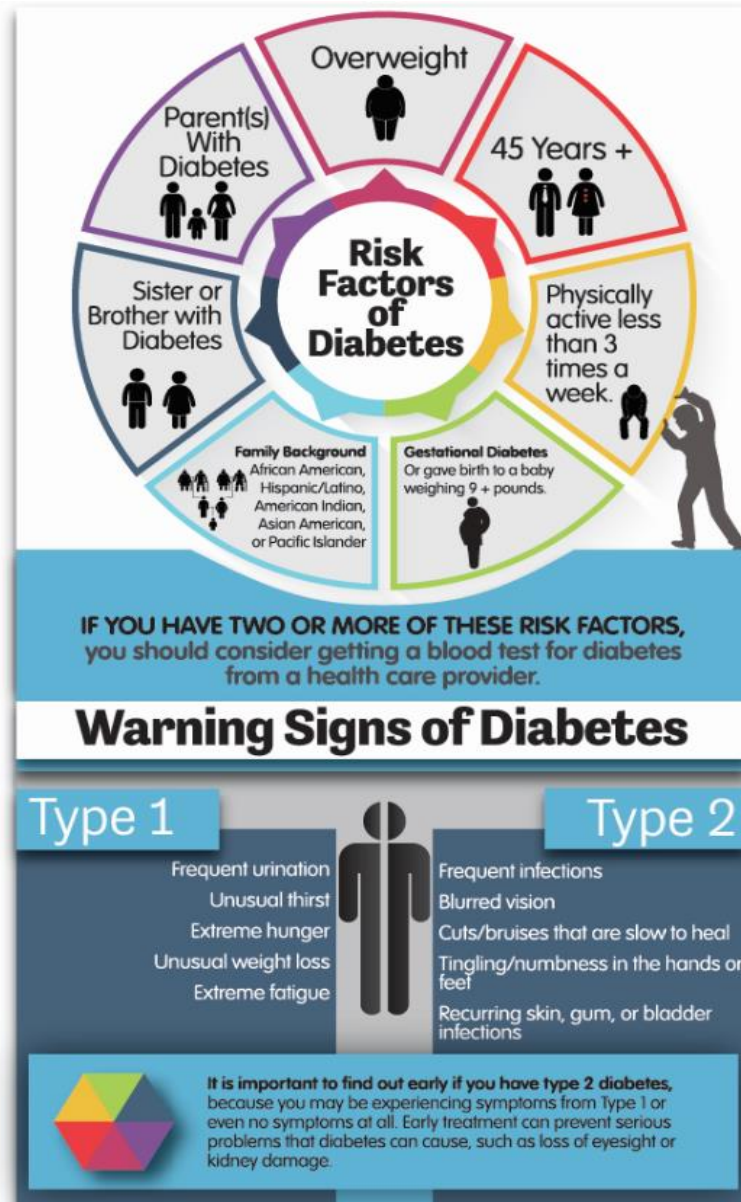
For more information, visit us at [DoIHavePrediabetes.org](https://doihaveprediabetes.org)



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



A CDC-APPROVED CURRICULUM



GROUP SUPPORT OVER THE COURSE OF A YEAR

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.

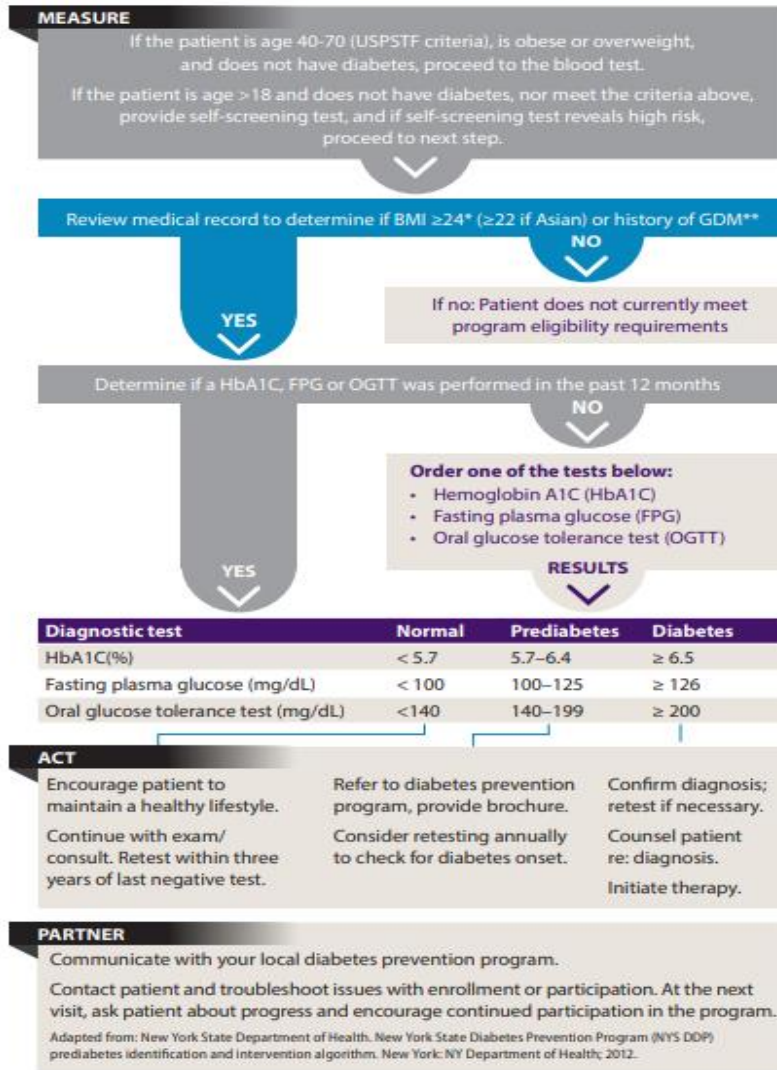
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Source: <https://www.cdc.gov/diabetes/prevention/lifestyle-program/t2/t2materials.html>



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>



References

1. American Diabetes Association. How COVID-19 Impacts People with Diabetes (2020). Retrieved from: <https://www.diabetes.org/coronavirus-covid-19/how-coronavirus-impacts-people-with-diabetes>
2. American Diabetes Association. The Burden of Diabetes in Florida. Retrieved from: <http://main.diabetes.org/dorg/PDFs/Advocacy/burden-of-diabetes/florida.pdf>
3. Data Resource Center for Child and Adolescent Health. (2018). Current Search Criteria. Retrieved September 2, 2020, from <https://www.childhealthdata.org/browse/survey/results?q=7404&r=1>
4. American Diabetes Association. (2018). Statistics about diabetes. Retrieved from: <http://www.diabetes.org/diabetes-basics/statistics/>
5. Centers for Disease Control and Prevention: Working to Reverse the U.S. Epidemic at a Glance 2016. <http://www.cdc.gov/chronicdisease/resources/publications/aag/diabetes.htm>
6. Centers for Disease Control and Prevention. (2020). Diabetes Report Card. Atlanta, GA: Centers for Disease Control and Prevention, U.S. Department of Health and Human Services; 2015. Retrieved from: <https://www.cdc.gov/diabetes/pdfs/data/statistics/national-diabetes-statistics-report.pdf>
7. Economic Costs of Diabetes in the U.S. in 2017. American Diabetes Association Diabetes Care. Mar 2018, dci180007; DOI: 10.2337/dci18-0007 <https://doi.org/10.2337/dci18-0007>
8. Centers for Disease Control and Prevention. About Diabetes. Retrieved from: <https://www.cdc.gov/diabetes/basics/diabetes.html>
9. Prediabetes-Your Chance to Prevent Type 2 Diabetes. Retrieved from CDC.gov
10. Zhang X, Gregg EW, Williamson DF, et al. A1C Level and Future Risk of Diabetes: A Systematic Review. Diabetes Care. 2010;33(7):1665-1673. doi:10.2337/dc09-1939. Retrieved from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2890379/>
11. Centers for Disease Control and Prevention. (2020). National diabetes statistics report, 2020. Atlanta, GA: Centers for Disease Control and Prevention, U.S. Department of Health and Human Services; 2020. Retrieved September 2, 2020, from: <https://www.cdc.gov/diabetes/pdfs/data/statistics/national-diabetes-statistics-report.pdf>
12. Centers for Disease Control and Prevention. (2015). Type 1 or Type 2 Diabetes and Pregnancy. Retrieved June 2016 from <http://www.cdc.gov/pregnancy/diabetes-types.html>
13. United States Preventive Services Task Force. Recommendation Statement-Behavioral Weight Loss Interventions to Prevent Obesity-Related Morbidity and Mortality in Adults. Retrieved from: <https://jamanetwork.com/journals/jama/fullarticle/2702878>
14. American Diabetes Association. (2015, December). Fast Facts - Data and Statistics About Diabetes. Retrieved November 16, 2016, from http://professional.diabetes.org/content/fast-facts-data-and-statistics-about-diabetes/?loc=dorg_statistics
15. American Diabetes Association. Diabetes and Oral Health Problems. Retrieved from: <http://www.diabetes.org/living-with-diabetes/treatment-and-care/oral-health-and-hygiene/diabetes-and-oral-health.html>



16. Diabetes Prevention Program Research Group, Knowler WC, Fowler SE, et al. 10-year follow-up of diabetes incidence and weight loss in the Diabetes Prevention Program Outcomes Study [published correction appears in Lancet. 2009 Dec 19;374(9707):2054]. Lancet. 2009;374(9702):1677-1686. doi:10.1016/S0140-6736(09)61457-4
17. United States Preventive Services Task Force. Recommendation Statement-Behavioral Weight Loss Interventions to Prevent Obesity-Related Morbidity and Mortality in Adults. Retrieved from: <https://jamanetwork.com/journals/jama/fullarticle/2702878>
18. Centers for Disease Control and Prevention. 6|18 Initiative: Accelerating Evidence into Action. Evidence Summary: Prevent Type 2 Diabetes. <https://www.cdc.gov/sixteeneighten/diabetes/index.htm>
19. Centers for Disease Control and Prevention. National Diabetes Prevention Program. Registry of All Recognized Organizations. Retrieved from: https://nccd.cdc.gov/DDT_DPRP/Registry.aspx
20. Li R, Qu S, Zhang P, Chattopadhyay S, Gregg EW, Albright A, Hopkins D, Pronk NP. Economic Evaluation of Combined Diet and Physical Activity Promotion Programs to Prevent Type 2 Diabetes Among Persons at Increased Risk: A Systematic Review for the Community Preventive Services Task Force. Ann Intern Med. 2015 Sep 15;163(6):452-60. doi: 10.7326/M15-0469. PMID: 26167962; PMCID: PMC4913890.
21. Agency for Health Care Administration. (2018). Statewide Medicaid Managed Care Contract Exhibit II, Attachment II-MMA Scope, Section VI. Retrieved from AHCA interNal WEB Portal.
22. Agency for Health Care Administration. (2017). Florida Medicaid: Managed Care Rate Setting. Retrieved from:https://ahca.myflorida.com/medicaid/recent_presentations/House_Health_Care_Appropriations_Subcommittee_Managed_Care_Rate_Setting_2017-01-11.pdf
23. Agency for Health Care Administration. (2018). Statewide Medicaid Managed Care Contract Attachment II-Scope of Service Core Provisions, Section VI. Retrieved from AHCA interNal WEB Portal
24. Zimmet PZ, Alberti KG. Diabetes Care 2016 Jun;39(6):878-83.
25. United States Department of Justice. (2011). Protecting the Rights of Students with Diabetes. Retrieved November 16, 2016, from <https://www.justice.gov/opa/blog/protecting-rights-students-diabetes>
26. Rubino F, Nathan DM, Schauer PR, et al. Diabetes Care 2016 Jun; 39(6): 861-877
27. Economic Costs of Diabetes in the U.S. in 2012. American Diabetes Association, 2012.
28. Dixon, JB., Zimmel,P.,Alberti,KG., et al. "Bariatric Surgery: An IDF statement for Obese Type 2 diabetes" Diabetes Medicine 2011
29. Warren, JA., Ewing,JA., Hale,AL., et al. Cost Effectiveness of Bariatric Surgery: Increasing the Economic Viability of the Most Effective Treatment for Type II Diabetes Mellitus. American Surgeon, 2015.
30. English,W., Williams,B., Scott,J. et al. Covering bariatric surgery has minimal effect on insurance premium costs within the Affordable Care Act. SOARD, 2016.
31. Palli SR, Rizzo JA, Heidrich N, "Bariatric Surgery Coverage: a Comprehensive Budget Impact Analysis from a Payer Perspective,"(2018) National Center for Biotechnology Information, U.S. National Library of Medicine, Retrieved from: <https://www.ncbi.nlm.nih.gov/pubmed/29468360>
32. Maryland Health Care Commission, Study of Mandated Health Insurances Services: A Comparative Evaluation, January 1, 2012.

Florida Diabetes Advisory Council - 2021 Legislative Report



33. Accreditation Council for Continuing Medical Education. (2016). For Physicians and Health Care Professionals. Retrieved November 16, 2016, from <http://www.accme.org/physicians-and-health-care-professionals>.
34. National Certification Board for diabetes Educators. (2016). What is a CDE? Retrieved November 16, 2016, from <http://www.ncbde.org/living-with-diabetes/whatisacde/>
35. Sepers CE, Fawcett SB, Lipman R, Schultz J, Colie-Akers V, Perez A. Diabetes Educator 2015 Mar, 41(3): 328-242.
36. National Institute of Diabetes and Digestive and Kidney Disease. (2008). Diabetes Prevention Program (DPP). Retrieved November 16, 2016, from <https://www.niddk.nih.gov/about-niddk/research-areas/diabetes/diabetes-prevention-program-dpp/Pages/default.aspx>
37. Medicare Program; Revisions to Payment Policies Under the Physician Fee Schedule and Other Revisions to Part B for CY 2017; Medicare Advantage Pricing Data Release; Medicare Advantage and Part D Medical Low Ratio Data Release; Medicare Advantage Provider Network Requirements; Expansion of Medicare Diabetes Prevention Program Model. (2016, July). Retrieved November 16, 2016, from <https://www.federalregister.gov/documents/2016/07/15/2016-16097/medicare-program-revisions-to-payment-policies-under-the-physician-fee-schedule-and-other-revisions#h-303>
38. Florida Diabetes Program. (2013). Diabetes Prevention is Good for Business. Retrieved November 16, 2016, from: <http://fldiabetesprevention.com/wp-content/uploads/2016/03/Business-Case-.pdf>