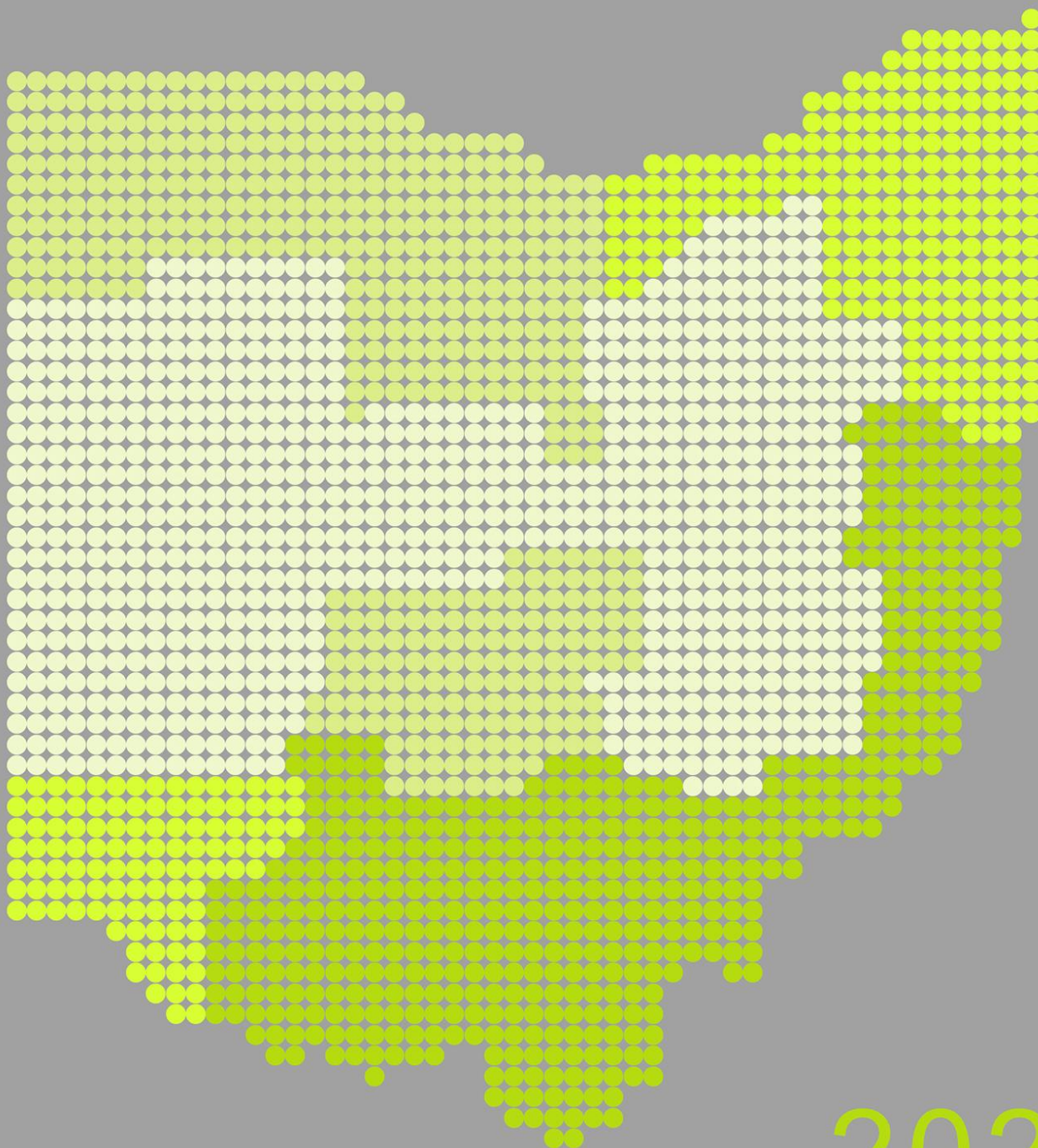


Ohio

Diabetes Action Plan



2021

NOTE: Darker shades of green represent higher rates of diabetes.



Department of Health
Department of Medicaid
Department of Administrative Services
Commission on Minority Health

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May 12, 2023

Dear Members of the 135th General Assembly:

I am pleased to submit to you the 2021 Ohio Diabetes Action Plan. This report was jointly developed by the Ohio Department of Health, Ohio Department of Medicaid, Ohio Department of Administrative Services, and the Ohio Commission on Minority Health as required by House Bill 216 passed by the 131st General Assembly and which took effect April 2017.

The 2021 Ohio Diabetes Action Plan includes current diabetes data (prevalence, mortality, trends, hospitalizations, costs, comorbidities, care, social determinants of health, and disparities). In addition, this report also contains: (1) state agency goals to reduce the burden of diabetes across all populations, (2) an assessment of the health and financial impact that diabetes has on state and local jurisdictions, (3) a description of efforts that the four state agencies have taken to address the diabetes spectrum, (4) progress on recommendations from the 2018 Ohio Diabetes Action Plan, (5) proposed recommendations to reduce the impact of diabetes, and (5) estimated cost to implement the new recommendations.

Diabetes represents a significant burden in the state of Ohio. In 1996, 1 in 20 Ohio adults had diabetes; today 1 in 8 do. There are significant racial, ethnic, and socioeconomic disparities in the prevalence of diabetes in Ohio, and the financial burden is costly. In addition, the COVID-19 pandemic has had a direct effect on people with diabetes. People with diabetes are more likely to have severe symptoms and complications when infected with COVID-19. In fact, diabetes is among one of the leading underlying chronic diseases linked to death from COVID-19. However, there is some good news. Ohio is holding steady in reducing diabetes-related mortality, with the diabetes death rate remaining stable from 2009-2018, and the disparity between Black and white Ohioans narrowing slightly during this time period.

The Ohio Department of Health, Ohio Department of Medicaid, Ohio Department of Administrative Services, and the Ohio Commission on Minority Health are all working together to address chronic disease in the state, including diabetes. Also, chronic disease (including diabetes) is one of the three health priorities in the Ohio 2020-2022 State Health Improvement Plan.

Should you have any questions or need additional information, please contact Lisa Griffin, Director of Government Affairs for the Ohio Department of Health, at (614) 644-9164.

Sincerely,



Bruce Vanderhoff, MD, MBA
Director

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Executive Summary

The 2021 Ohio Diabetes Action Plan was developed per legislation (House Bill 216) passed by the 131st General Assembly which directed the Ohio Department of Health (ODH), Ohio Department of Medicaid (ODM), Ohio Department of Administrative Services (DAS), and Ohio Commission on Minority Health (OCMH) to jointly develop a report on diabetes. The report addresses current data (prevalence, mortality, trends, hospitalizations, costs, comorbidities, care, and disparities), agency goals and efforts to address the diabetes spectrum across all populations, an assessment of the health and financial impact on state and local jurisdictions, and proposed recommendations to reduce the burden and impact of diabetes in Ohio.

Key Findings:

Diabetes is an Epidemic

- Diabetes represents a significant burden in the state of Ohio. More than **one million Ohio adults (12.2%) have diabetes**, and **an additional 250,000 have diabetes but do not know it**. The percentage of people in Ohio with diabetes exceeds the national average (10.9%).
- In 1996, 1 in 20 Ohio adults had diabetes; today **1 in 8 Ohio adults have diabetes**.
- In addition to diabetes, approximately **882,000 Ohio adults (9.7%) have been diagnosed with prediabetes**, and **2.3 million have prediabetes but do not know it**.

3.5 MILLION ADULTS IN OHIO ARE ESTIMATED TO HAVE DIABETES OR PREDIABETES.

- **Gestational diabetes impacts about 8% of pregnant women** and has been rising. Gestational diabetes pregnancies are associated with longer hospital stays and more birth complications. Without lifestyle change interventions, about 50-70% of women with a history of gestational diabetes may develop type 2 diabetes.
- According to the Centers for Disease Control and Prevention (CDC), diabetes is often associated with, and may be complicated by, other diseases and conditions. **3 in 4 Ohio adults with diabetes also have hypertension, and more than half have high cholesterol, obesity, and arthritis**.

Diabetes Disparities are Significant

- There are **significant disparities** in the prevalence of diabetes in Ohio. **Older adults, those with the lowest household income and education, and those living in southern and Appalachian regions of the state** have the highest diabetes prevalence.
- There are significant racial and ethnic disparities among women with gestational diabetes, with Asian/Pacific Islander, American Indian/Alaskan Native, and Hispanic

adults having the highest prevalence. There is also a higher prevalence among women who are 35 and older, those with lower education, and those that were obese pre-pregnancy.

- Diabetes disproportionately impacts the adult Medicaid population, among which 18.1% (approximately 350,000 beneficiaries) have diabetes.
- **Black Ohioans have the highest death rate from diabetes (44.4 deaths per 100,000 people)** compared with both whites and Hispanics (23.5 and 19.1 deaths per 100,000 people, respectively).

THE DIABETES DEATH RATE AMONG BLACK OHIOANS IS 89% HIGHER THAN WHITE OHIOANS.

- Ohio is making progress in reducing diabetes-related mortality. The **diabetes death rate remained stable from 2009-2018**, and the disparity between Black and white Ohioans narrowed slightly during this time period.

Diabetes is Costly

- The financial burden of diabetes in Ohio is costly. According to the American Diabetes Association, **people with diabetes have medical expenses approximately 2.3 times higher than those who do not have diabetes.**

THE CENTERS FOR DISEASE CONTROL AND PREVENTION ESTIMATES THAT DIABETES COSTS \$15.8 BILLION IN OHIO EACH YEAR, AND THESE COSTS ARE PROJECTED TO INCREASE.

- Diabetes also has a significant financial impact on the Ohio Medicaid program. Nearly \$88 million was spent on diabetes-related hospital admissions and emergency department visits for Medicaid beneficiaries in 2018.

Current State Initiatives Addressing Diabetes in Ohio

ODH, ODM, DAS, and OCMH are all working together to address chronic disease in the state, including diabetes. Details of these initiatives are outlined later in this report. In addition, chronic disease (including diabetes) is one of the key health priorities in the *Ohio 2020-2022 State Health Improvement Plan (SHIP)*. The plan is a comprehensive framework to improve the health of Ohioans by implementing a strategic set of evidence-based population health initiatives at the scale needed to measurably improve health outcomes and reduce health disparities.

Recommendations

The following recommendations were agreed upon by ODH, ODM, DAS and OCMH. Select recommendations also align with strategies to reduce diabetes and improve health outcomes outlined in the *Ohio 2020-2022 State Health Improvement Plan*. The recommendations focus on the prevention and management of diabetes and its complications, with a particular focus on populations that are disproportionately affected by the disease. Reducing the burden of diabetes in Ohio will take a collective and focused effort by many state and local public and private stakeholders and partners from a variety of sectors (e.g., healthcare systems and providers, health insurance payers, local public health, community-based and faith-based organizations, and employers).

Recommendation 1

Reduce health disparities in Ohio to decrease diabetes morbidity and mortality.

Recommendation 2

Increase the number of Ohioans meeting national nutrition and physical activity guidelines.

Recommendation 3

Support the implementation of systemic approaches in healthcare systems or practices to screen, test, and refer patients across the diabetes spectrum as part of standard care practices.

Recommendation 4

Increase access to and enrollment in evidence-based lifestyle change programs among Ohioans.

Recommendation 5

Increase coverage and utilization of evidence-based lifestyle change programs among Ohio-based employers and health plans.

Recommendation 6

Improve diabetes-related population health outcomes by supporting and expanding the Comprehensive Primary Care (CPC) and other Patient-Centered Medical Home (PCMH) models.

Recommendation 7

Promote National Diabetes Awareness Month in Ohio during the month of November.

Purpose of The Report

In December 2016, the 131st Ohio General Assembly passed House Bill 216 which took effect in April 2017 and required the Ohio Department of Health (ODH), Ohio Department of Medicaid (ODM), Ohio Department of Administrative Services (DAS), and Ohio Commission on Minority Health (OCMH) to jointly develop a report on diabetes. To comply with House Bill 216, the first report was made available to the public in May 2018 and provided to the Ohio General Assembly in accordance with Ohio Revised Code 101.68. This report includes information about diabetes prevalence, mortality, trends, hospitalizations, costs, comorbidities, care, and disparities. In addition, this report contains:

- Agency goals to reduce the burden of diabetes across all populations.
- An assessment of the health and financial impact that diabetes has on state and local jurisdictions.
- A description of efforts that the four state agencies have taken to address the diabetes spectrum.
- Progress on recommendations from the 2018 Ohio Diabetes Action Plan.
- Proposed recommendations to reduce the impact of diabetes.
- Proposed costs to implement recommendations.

Report Development

In accordance with House Bill 216, ODH convened representatives from the ODM, DAS, and OCMH known as the Diabetes Action Plan (DAP) Committee to develop this report. (A list of the DAP Committee members is included in Appendix B.) To begin development of the 2021 report, the DAP Committee reconvened in-person in November 2019. Throughout the next several months, the DAP Committee met virtually (due to COVID-19) to review the 2018 DAP Report, track progress on the 2021 DAP development, discuss revisions to the 2021 DAP recommendations, and review data analysis. To gather feedback from partners and stakeholders on the 2018 DAP recommendations and how they used the report, the DAP Committee distributed a survey. The survey was distributed to more than 300 partners and stakeholders of DAP state agencies, and 94 responses were received. A list of the partners and stakeholders who responded can be found in Appendix C. Stakeholder and partner survey responses were then used to drive the 2021 DAP Report Recommendations as well as inform the DAP Committee of any new or relevant data and/or information that should be included in the upcoming report. In addition to the partner and stakeholder survey, a survey was also created to capture DAP Committee progress on the 2018 DAP recommendations. All agencies responded and those results can be found within Section 5. Further development of the 2021 Ohio DAP Report was led by ODH as the agency responsible for convening the DAP Committee.

Alignment with the State Health Improvement Plan

The 2020-2022 State Health Improvement Plan (SHIP) is a tool to strengthen state and local efforts to improve health, well-being, and economic vitality in Ohio. The SHIP's long-term goal is to ensure all Ohioans achieve their full health potential by taking a comprehensive approach to achieving health equity and addressing the many factors that shape health and well-being, including housing, income, education, health behaviors, and health care access. The reduction of diabetes is addressed within the SHIP through identified priority populations (Black adults, adults aged 55+, low-income, and people with a disability), measurable objectives, and a menu of evidence-informed strategies. The SHIP objectives address primary prevention (e.g., nutrition, physical activity), secondary prevention (screening and early intervention), and access to care (innovative settings or methods), and the strategies include policies, programs, and services:

1. Nutrition

- Objective
 1. Decrease the number of high school students who did not eat fruit or drink 100% fruit juice or who did not eat vegetables during the past 7 days.
- Strategies include:
 - Healthy meals served at schools.
 - Fruit and vegetable access and education.
 - Outreach and advocacy to maintain or increase enrollment in federal food assistance programs (Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) and Supplemental Nutrition Assistance Program (SNAP)).

2. Physical Activity

- Objectives:
 1. Increase the percent of children, ages 6 through 11, who are physically active at least 60 minutes per day.
 2. Decrease the percent of adults, age 18 and older, reporting no leisure time physical activity.
- Strategies include:
 - School-based programs to increase physical activity.
 - Safe Routes to School.
 - Transportation and land use policies.
 - Community fitness programs.
 - Exercise prescriptions.

3. Diabetes

- Objective:
 1. Decrease the percent of adults, ages 18 and older, ever diagnosed with diabetes.
- Strategies include:
 - Prediabetes screening, testing, and referral to Diabetes Prevention Programs (DPP).
 - DPP health insurance coverage and accessibility.

4. Access to Care

- Objectives:
 1. Decrease the percent of adults, ages 19-64, who are uninsured.
 2. Decrease the percent of children, ages 0-18, who are uninsured.
 3. Ensuring local access to healthcare providers.
 4. Decrease the percent of youth (ages 12-17) and adults (ages 18 and older) with mental illness who did not receive any mental health treatment/counseling.
- Strategies include:
 - Outreach and advocacy to maintain Ohio Medicaid eligibility levels and enrollment assistance.
 - Insurance enrollment assistance for adults and children.
 - Comprehensive and coordinated primary care.
 - Culturally competent workforce in underserved communities.
 - Comparable insurance coverage for behavioral health (parity).
 - Telehealth for mental health.

Many of the recommendations and associated action steps in the 2021 Ohio DAP align with the nutrition, physical activity, and diabetes strategies in the SHIP. This helps to create a shared focus and roadmap in Ohio for the cross-sector state and local partnerships that are needed to address diabetes.

Understanding Diabetes in Ohio

Diabetes is a group of diseases characterized by high blood sugar (glucose). When a person has diabetes, the body either does not make enough insulin (a hormone that helps lower blood sugar) or is unable to use its own insulin well. If blood sugar builds up in the body and its levels are not controlled, it can lead to serious health complications, such as heart disease, stroke, kidney disease, blindness, amputations of the legs and feet, gum disease, and early death.

Type 1 Diabetes

Type 1 diabetes (also called juvenile diabetes or insulin-dependent diabetes) occurs when the body's immune system attacks and destroys certain cells in the pancreas which produce insulin. People with type 1 diabetes use insulin constantly to stay alive, via multiple daily injections or an insulin pump, and must carefully balance their food intake and exercise to regulate their blood sugar levels. Hypoglycemia, or dangerously low blood sugar, is a common and potentially life-threatening complication with which people who rely on insulin must manage. Tight control of blood glucose levels, which prevents the long-term complications associated with diabetes, can lead to more frequent hypoglycemia.

Type 1 diabetes is usually diagnosed in children, teenagers, or young adults and accounts for about 5% of all diagnosed cases of diabetes in U.S. adults. It is not known exactly why some people develop type 1 diabetes, although there appears to be genetic factors. There are no modifiable risk factors, such as obesity or high blood pressure, known to contribute to type 1 diabetes. Research is taking place to develop new treatments, tests for detecting high-risk individuals, and hopefully a cure for type 1 diabetes.

Prediabetes

Prediabetes is a condition where blood sugar levels are higher than normal, but not high enough to be considered type 2 diabetes. If not diagnosed and managed, individuals with prediabetes are at 15-20% higher risk of developing type 2 diabetes within five years. (Note: Prediabetes is not associated with type 1 diabetes.) Based on national surveys, more than one-third of all adults in Ohio have prediabetes, but most of them don't know it because prediabetes is largely asymptomatic. To identify individuals with prediabetes and type 2 diabetes, guidelines released by the U.S. Preventive Services Task Force in 2021 recommend screening for prediabetes and type 2 diabetes in adults aged 35 to 70 years who have overweight or obesity. Those with prediabetes are also at higher risk of developing gestational diabetes (GDM) and cardiovascular disease, whether they later develop diabetes or not. Prediabetes indicates that abnormalities in glucose levels have begun but may be reversed. After type 2 diabetes is diagnosed, few individuals are able to return to blood glucose levels within the prediabetes or normal ranges.

Type 2 Diabetes

Type 2 diabetes is the most common form of diabetes, accounting for about 90-95% of diagnosed diabetes in U.S. adults. In type 2 diabetes, the pancreas makes some insulin but not enough, or the body is unable to use insulin correctly, or both. This type does not always require the use of insulin. The risk of developing type 2 diabetes is associated with non-modifiable and modifiable risk factors. Non-modifiable risk factors include older age, family history of diabetes, personal history of gestational diabetes, and race and ethnicity. Modifiable risk factors for type 2 diabetes that can be changed include excess weight/obesity, lack of physical activity, high blood pressure, high cholesterol, and smoking. With the addition of each risk factor, non-modifiable or modifiable, the risk for developing type 2 diabetes increases. Once someone has diabetes (of any type), these factors can worsen the impact.

Gestational Diabetes

Gestational diabetes (GDM) is a form of diabetes in women during pregnancy, typically developing during the second or third trimester. It increases blood sugar levels and raises the risk of complications for both mother and baby. The risk factors are similar to those for type 2 diabetes, and treatment may include changes in diet or lifestyle, or the use of insulin. Complications from GDM include pre-eclampsia, high birth weight, birth-related trauma, jaundice, low blood sugar (hypoglycemia), and birth defects.

GDM affects about 7% of pregnant women. Women who are older than 25, or who have pre-pregnancy hypertension or high cholesterol, a prior pregnancy, a family history of diabetes, or a higher body mass index (BMI) are more likely to develop it. There is no known way to prevent GDM, but it can be managed through diet, exercise, and, if necessary, insulin. Usually, a woman's blood glucose returns to normal after the birth; if not, she may be diagnosed with type 2 diabetes or prediabetes. Women with GDM have a higher risk of developing the disease again during future pregnancies. GDM also puts both mother and child at a higher risk of developing type 2 diabetes later in life.

Treatments for GDM may include healthy eating and regular physical activity alone, or in combination with insulin or other medications. When prenatal care is not accessed, GDM has the potential to go undiagnosed and pose serious risks for both mother and baby. The U.S. Preventive Services Task Force recommends screening for GDM in asymptomatic pregnant women on or after 24 weeks of gestation. Women with symptoms of GDM, or who are at high risk, may be tested for the condition earlier in pregnancy. Also, women who have delivered a baby weighing more than nine pounds are at higher risk of developing diabetes, both immediately following delivery and in subsequent years.

Diabetes Comorbidities

Comorbidities, also known as comorbid conditions, are two or more diseases or conditions that occur simultaneously in an individual. Comorbidities are extremely common among people with diabetes and can complicate disease progression and treatment, as well as increase healthcare costs. Hypertension is the most common comorbidity among people with diabetes; 70% of people with diabetes also have hypertension.

Diabetes Care

Proper diabetes care and management is essential for controlling blood glucose and decreasing complications associated with diabetes (e.g., heart disease, stroke, hypertension, blindness, kidney disease, diseases of the nervous system, amputations, premature death). Common care practices among people with diabetes include professional care such as Hemoglobin A1c (A1c) testing, and screening for early complications through annual eye and foot exams, as well as self-care such as daily glucose monitoring, adherence to medications, and self-foot exams.

Diabetes and COVID-19

People with diabetes are more likely to have serious complications from COVID-19. This is because the organ systems that the COVID-19 virus targets are the same organ systems that are compromised in patients with diabetes, thus causing a synergistic effect that pushes down a patient's immune response and allows for a more severe disease trajectory. In addition, people with diabetes tend to have chronic inflammation which causes a more severe inflammatory response with the introduction of COVID-19, which can cause an overreaction of immune response placing more damage on internal organs. Because of these reasons, individuals with diabetes are encouraged to follow all of the standard COVID-19 precautions to avoid infection with the virus.

Economic Burden

Diabetes is costly and presents a huge financial burden in the United States and the State of Ohio. According to the American Diabetes Association (ADA), people with diabetes have medical expenses approximately 2.3 times higher than those who do not have diabetes. The total direct and indirect estimated cost of diagnosed diabetes in the United States in 2017 was \$327 billion, which includes \$237 billion in direct medical costs and \$90 billion in indirect costs, such as lost productivity. This estimate reflects an increase of \$82 billion (33%) since 2012 due to the increase in diabetes prevalence, changing demographics of people with diabetes, increased utilization of healthcare services, rising prices of medical goods, and refinements in methodology for calculating costs.

The Centers for Disease Control and Prevention (CDC), using an alternate statistical methodology, estimates that diabetes costs \$12.4 billion in Ohio each year. Total direct medical costs for diabetes in Ohio are approximately \$9 billion per year, and indirect costs due to absenteeism, presenteeism, household productivity, inability to work, and death are an additional \$3.3 billion each year.

Lifestyle change interventions are both cost effective as well as cost saving through reductions in healthcare spending. The CDC estimates that the annual medical costs of a person with diabetes in Ohio are \$15,800, whereas lifestyle change programs that reduce a person's risk for developing type 2 diabetes are about \$500. Therefore, healthcare coverage for evidence-based diabetes prevention and management programs can substantially reduce the financial burden of diabetes in Ohio.

The Scope of Diabetes in Ohio

Methods and Data Sources

This section of the report provides data on the scope of diabetes in Ohio, including type 1, type 2, prediabetes, and gestational diabetes (GDM) among adults, youth, Medicaid beneficiaries, and members of the Ohio Med Preferred Provider Organization (PPO), the State of Ohio employee health plan. Measures include prevalence (existing cases), mortality (deaths), trends, hospitalizations, healthcare costs, comorbid conditions (other health conditions among individuals with diabetes), and provider- and self-care indices. Preventable health conditions and behaviors associated with diabetes (overweight/obesity, sugar-sweetened beverage consumption, and lack of exercise) are also presented. To identify health disparities and populations at high risk, data were analyzed by sex, race/ethnicity, age group, annual household income, level of education, and geographic area, where possible. Data presented are primarily for calendar year 2018 and State Fiscal Year (SFY) 2019 (July 1, 2018–June 30, 2019), depending on the source.

To assess progress made in the three years following publication of *Ohio Diabetes Action Plan 2018*, diabetes metrics for 2015/SFY 2016 and 2018/SFY 2019 were compared. Benchmark tables with indicators of change (significant increase/increase, no change, significant decrease/decrease) are presented on pages 49-52.

The sources of data presented in this report include the Ohio Behavioral Risk Factor Surveillance System (BRFSS), Ohio Department of Health (ODH) Bureau of Vital Statistics, Medicaid claims, Healthcare Effectiveness Data and Information Set (HEDIS) and Ohio Med PPO claims. A description of each source is provided below:

Ohio BRFSS data were collected by the Chronic Disease Epidemiology and Evaluation Section at ODH. The Ohio BRFSS is an annual landline and cell phone survey designed to collect data on diseases, health behaviors, clinical risk factors, and other health-related measures among Ohio adults ages 18 and older. ODH conducts the Ohio BRFSS in conjunction with the Centers for Disease Control and Prevention (CDC). For this report, data were collected among randomly selected, non-institutionalized adults and were weighted to 14 regions to ensure that estimates are representative of Ohio's population. Data from 2011–present were weighted by age, sex, race/ethnicity, geography, marital status, education, home ownership, and telephone source using an iterative proportional fitting (raking) method. Respondents who answered that they do not know or refused to answer a question were excluded from the calculations related to that question. Data estimates for fewer than 50 respondents are considered statistically unreliable by the CDC and were not presented. Estimates with a relative standard error greater than 30% were also excluded. Statistical significance between populations was determined by comparing 95% confidence intervals

(CIs) for each estimate; if the CIs did not overlap, the difference was determined to be statistically significant. However, it is important to note that it is often difficult to identify statistically significant differences among smaller populations (e.g., certain racial/ethnic groups) due to greater variability in the estimates.

Death data were collected by the ODH Bureau of Vital Statistics. Data represent the underlying cause of death of Ohio residents regardless of place of death. Diabetes deaths were coded using the International Statistical Classification of Diseases and Related Health Problems (ICD) version 9 (ICD-9 code 250) and 10 (ICD-10 codes E10 – E14). Death rates were age-adjusted to the 2000 U.S. Standard Population using 11 age groups and are presented per 100,000 population.

GDM prevalence data were collected by the ODH Bureau of Vital Statistics. Prevalence is derived from birth certificate (registration) data on live births to Ohio residents in 2018. GDM during pregnancy is noted if there is a diagnosis in the mother's medical record. Note that birth certificates are known to have high specificity for GDM (meaning that when it is recorded, GDM is almost always present), however, they tend not to be as sensitive (meaning that the estimates presented are likely an underestimate of the true prevalence).

Medicaid beneficiary data were derived primarily from Medicaid claims. Claims were included for services rendered in calendar year 2018 and comprised both Fee for Service claims and Managed Care encounters. Diabetes was classified using the following criteria (see Appendix F for detailed codes and descriptions):

- Claims with either a primary or any secondary diagnosis related to diabetes were included.
- Both ICD-9 and ICD-10 code sets were used in the analysis.
- Therapeutic Drug Class Codes related to the treatment of diabetes were used in classifying diabetic patients to account for individuals currently being treated for diabetes, but for various reasons may not have had a diagnosis code related to diabetes on a claim.

For the analyses of Medicaid claims data by demographics, youth was classified as ages 0-18, and adult was classified as ages 19 and older. It should also be noted that race/ethnicity is not a required field when applying for Medicaid benefits. As a result, approximately 9% of race/ethnicity data are classified as missing/not provided. Therefore, drawing conclusions based on Ohio Medicaid race/ethnicity data is heavily cautioned and not advised. In addition to Medicaid claims data, National Center for Quality Assurance (NCQA) HEDIS quality measures are self-reported to the Ohio Department of Medicaid (ODM) by Medicaid managed care plans (MCPs). HEDIS is a tool used by more than 90% of America's health plans to measure performance on important dimensions of care and service. In this report, HEDIS measures were used to assess diabetes care among Medicaid managed care plan beneficiaries.

Ohio Med PPO member data were acquired from IBM Watson and include all health plan claims aggregated from medical, prescription, and behavioral health third-party administrators.

The State of Ohio medical plan is administered to approximately 112,000 eligible employees, their spouses and dependents, as well as eligible Ohio Police & Fire death benefit fund recipients. Data were de-identified by IBM Watson prior to access by the Ohio Department of Administrative Services (DAS). A diabetes-specific dataset was created that included any patient who met the qualifications for IBM Watson's summary episode of care for diabetes. Data for prediabetes, gestational diabetes and comorbidities were identified by ICD diagnosis codes as well as episodes of care within IBM Watson's claims database. Prevalence estimates were calculated using patient counts for SFY 2019. For analyses by demographics, youth was classified as ages 0-18, and adult was classified as ages 19 and older. Counts of less than 25 were not reported due to privacy concerns.

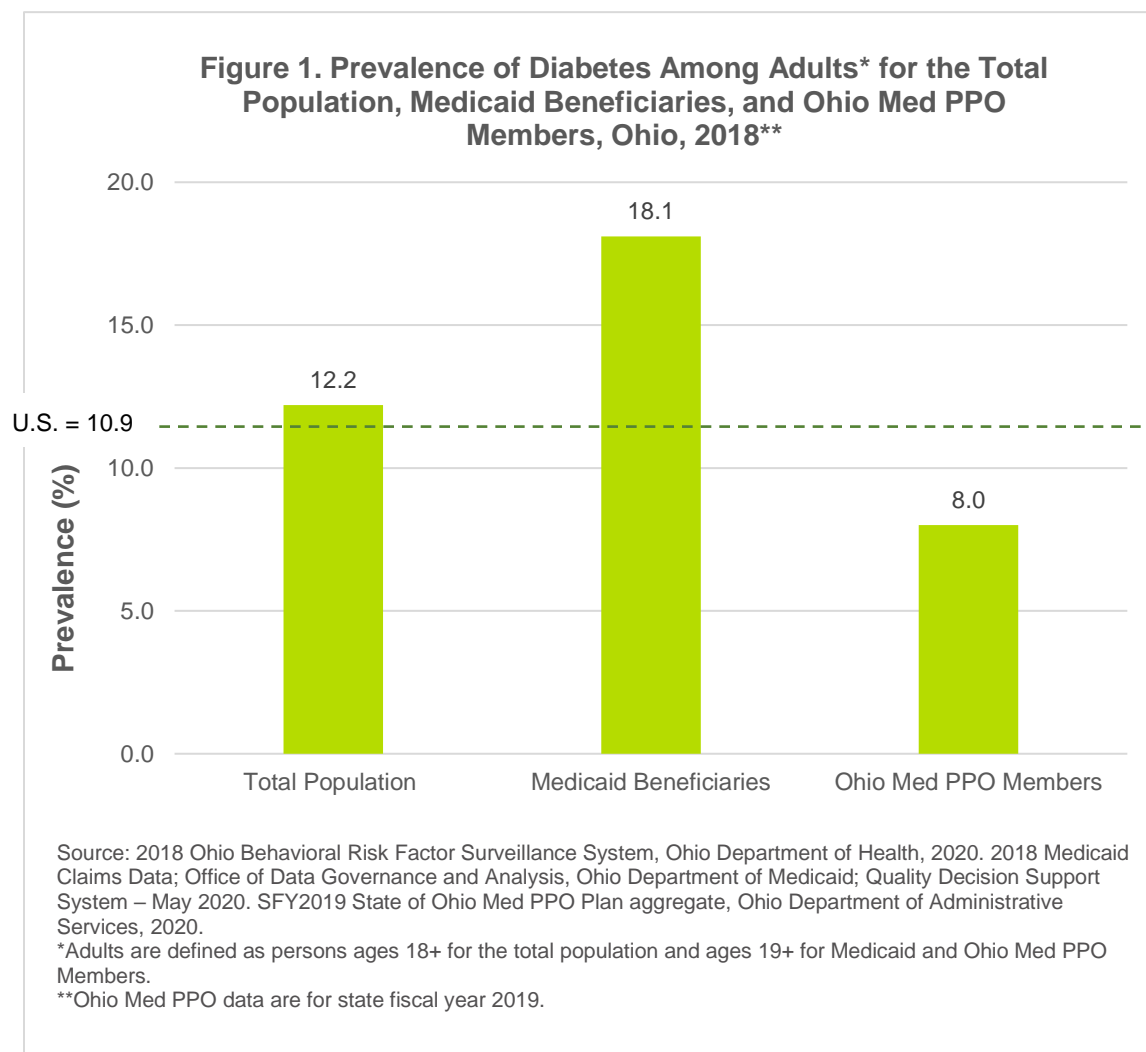
Prevalence data from surveys is estimated because it is based on a sample of the population; whereas, prevalence data from population-based sources is not estimated. In this report, prevalence for the total population is derived from BRFSS and is therefore estimated. Prevalence for Medicaid Beneficiaries, Ohio Med PPO Members, and people who died from diabetes are based on all beneficiaries/members/deaths and is therefore not estimated.

Data and key findings to describe the scope of diabetes in Ohio are subdivided into the following sections:

- Diabetes (type 1 and type 2 combined).
- Type 1 Diabetes.
- Type 2 Diabetes.
- Prediabetes.
- Gestational Diabetes (GDM).
- Mortality.
- Trends.
- Hospitalizations/Financial Impact.
- Comorbid Conditions.
- Care/Quality Measures.
- Overweight/Obesity.
- Exercise.
- Sugar-Sweetened Beverage Consumption.
- Progress in Diabetes Metrics.

Figures, Tables, and Key Findings

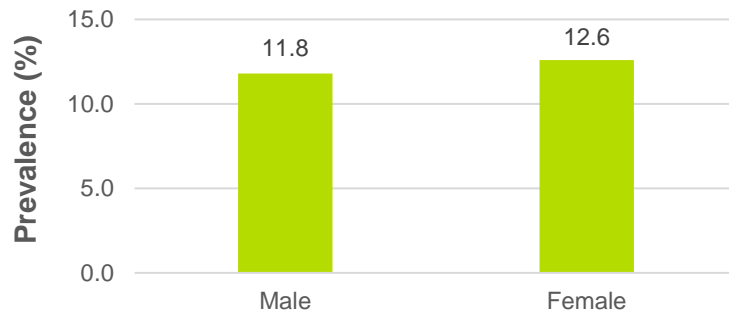
Diabetes (type 1 and type 2 combined)



- The estimated prevalence of diabetes among adults in Ohio is 12.2%. This equates to more than one million (1,109,726) adults in Ohio that have been diagnosed with diabetes. In addition, it is estimated that an additional 254,691 adults have diabetes but do not know it.
- The prevalence of diabetes is highest among adult Medicaid beneficiaries (18.1%), followed by all adults (12.2%), and adult Ohio Med PPO members (8.0%).

Diabetes (type 1 and type 2 combined)

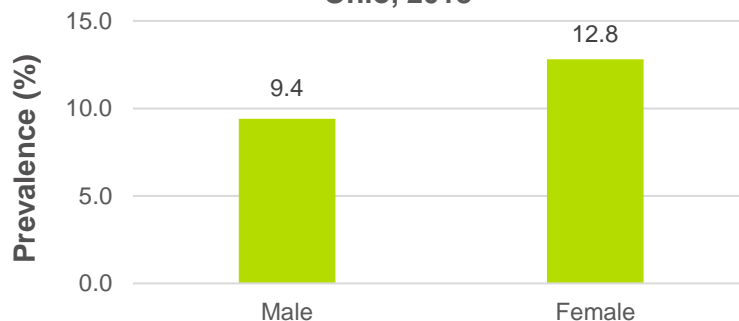
Figure 2. Estimated Prevalence of Diabetes Among Adults (Age 18+) by Sex, Ohio, 2018



Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

- The estimated prevalence of diabetes among adults does not significantly differ by sex.

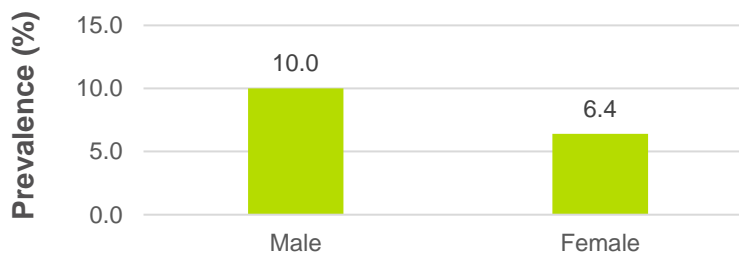
Figure 3. Prevalence of Diabetes Among Medicaid Beneficiaries (All Ages) by Sex, Ohio, 2018



Source: 2018 Medicaid Claims Data; Office of Data Governance and Analysis, Ohio Department of Medicaid; Quality Decision Support System – May 2020.

- Female Medicaid beneficiaries have a higher prevalence of diabetes (12.8%), compared with males (9.4%).

Figure 4. Prevalence of Diabetes Among Ohio Med PPO Members (All Ages) by Sex, Ohio, Fiscal Year 2019

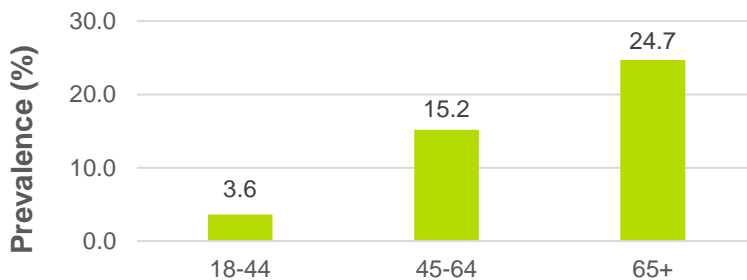


Source: SFY2019 State of Ohio Med PPO Plan aggregate, Ohio Department of Administrative Services, 2020.

- Male Ohio Med PPO members have a higher prevalence of diabetes (10.0%), compared with females (6.4%).

Diabetes (type 1 and type 2 combined)

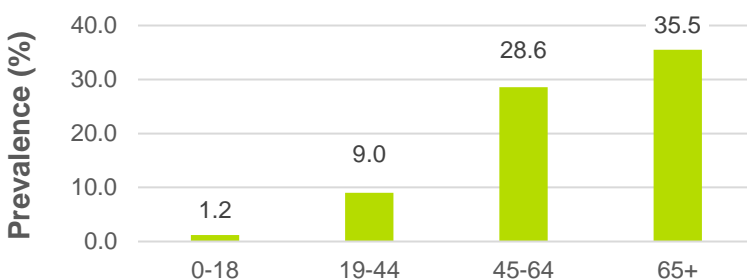
Figure 5. Estimated Prevalence of Diabetes Among Adults (Age 18+) by Age Group, Ohio, 2018



Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

- The estimated prevalence of diabetes is significantly higher among adults ages 65 and older (24.7%), compared with adults ages 18-44 (3.6%) and 45-64 (15.2%).

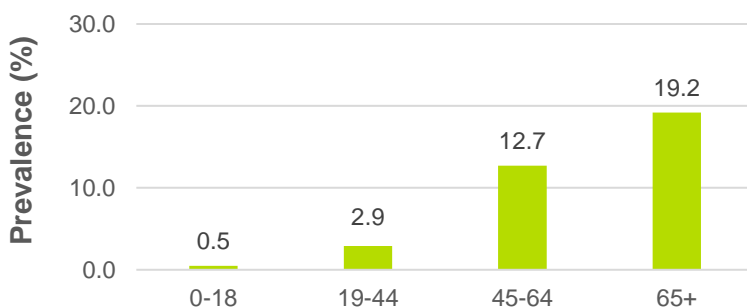
Figure 6: Prevalence of Diabetes Among Medicaid Beneficiaries by Age Group, Ohio, 2018



Source: 2018 Medicaid Claims Data; Office of Data Governance and Analysis, Ohio Department of Medicaid; Quality Decision Support System – May 2020.

- The prevalence of diabetes among Medicaid beneficiaries increases with age.
- More than one-third of Medicaid beneficiaries ages 65 and older (35.5%) have diabetes.

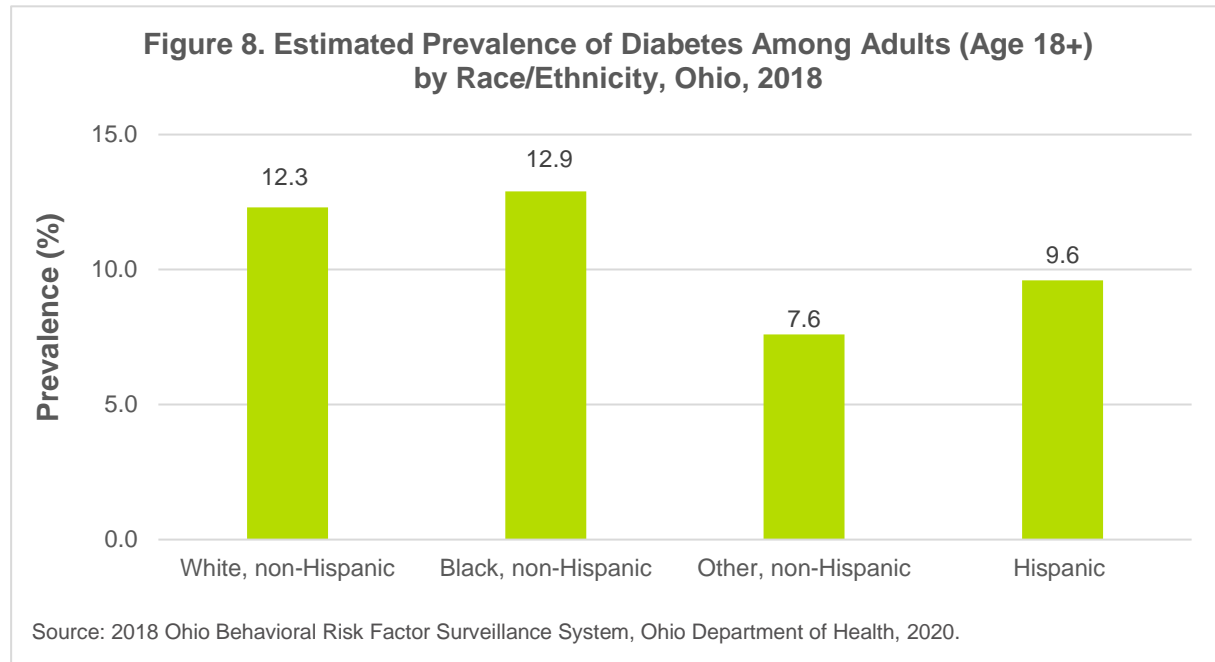
Figure 7. Prevalence of Diabetes Among Ohio Med PPO Members by Age Group, Ohio, Fiscal Year 2019



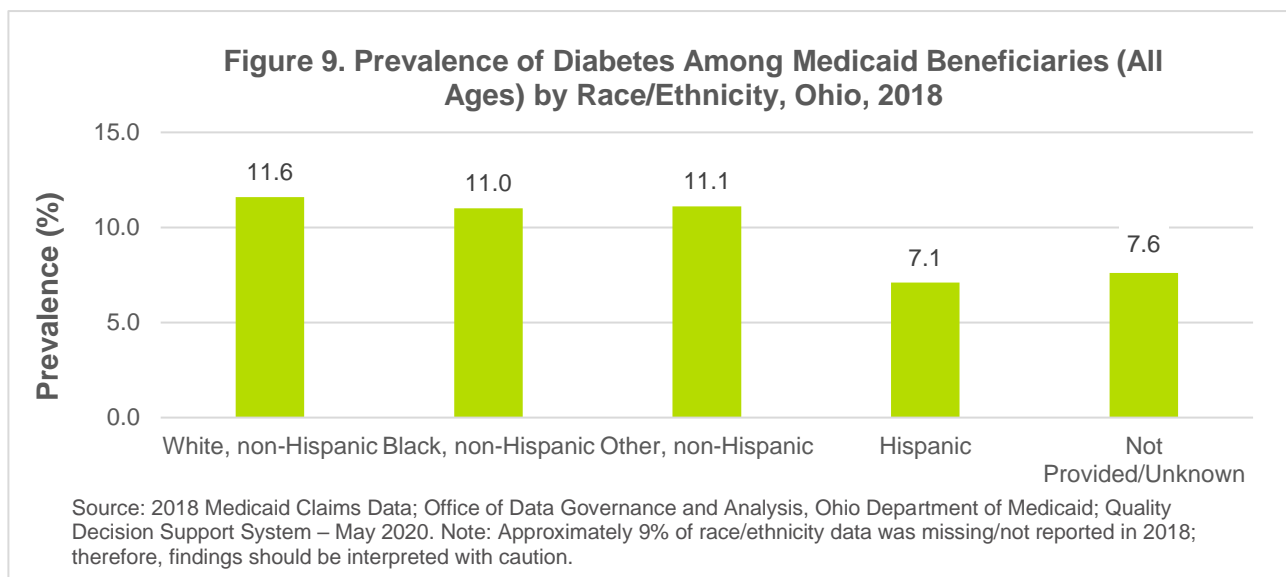
Source: SFY2019 State of Ohio Med PPO Plan aggregate, Ohio Department of Administrative Services, 2020.

- The prevalence of diabetes among Ohio Med PPO members increases with age, with those ages 65 and older having the highest prevalence (19.2%).

Diabetes (type 1 and type 2 combined)



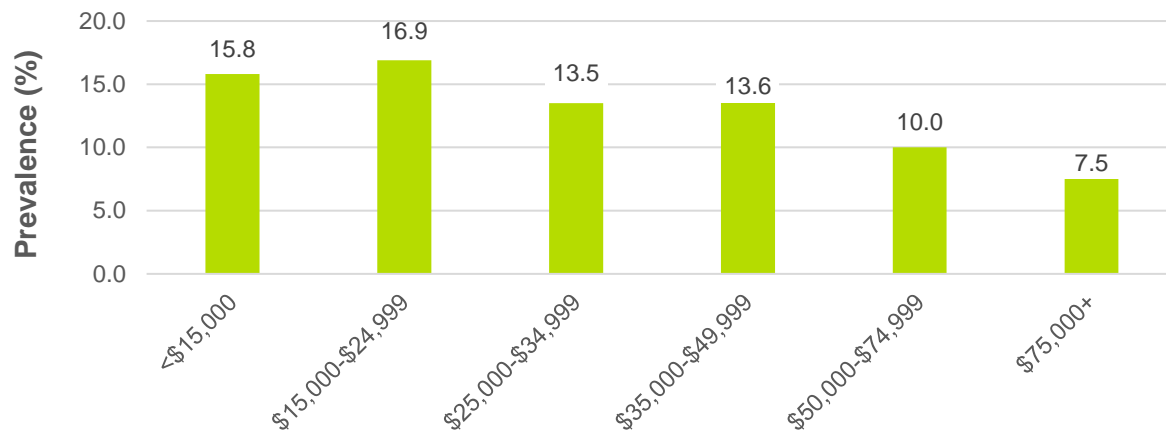
- The estimated prevalence of diabetes among Black adults was 12.9% in 2018; however, this estimate is not significantly higher than the other race/ethnicity categories.
- The estimated prevalence of diabetes is significantly higher among white, non-Hispanic adults (12.3%), compared with other, non-Hispanic adults (7.6%) categories.



- The highest prevalence of diabetes among Medicaid beneficiaries is among white, non-Hispanic Ohioans (11.6%), followed by other, non-Hispanic (11.1%), and Black, non-Hispanic Ohioans (11.0%).

Diabetes (type 1 and type 2 combined)

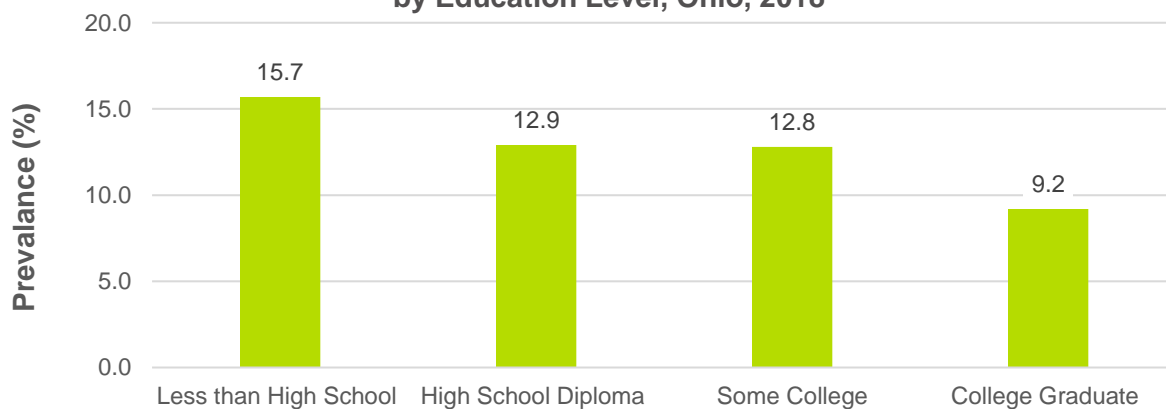
Figure 10. Estimated Prevalence of Diabetes Among Adults (Age 18+) by Income, Ohio, 2018



Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

- The estimated prevalence of diabetes among adults generally decreases as annual household income increases.
- Adults from households with an annual income of less than \$25,000 are significantly more likely to have diabetes than adults from households with annual incomes of \$50,000 or more.

Figure 11. Estimated Prevalence of Diabetes Among Adults (Age 18+) by Education Level, Ohio, 2018

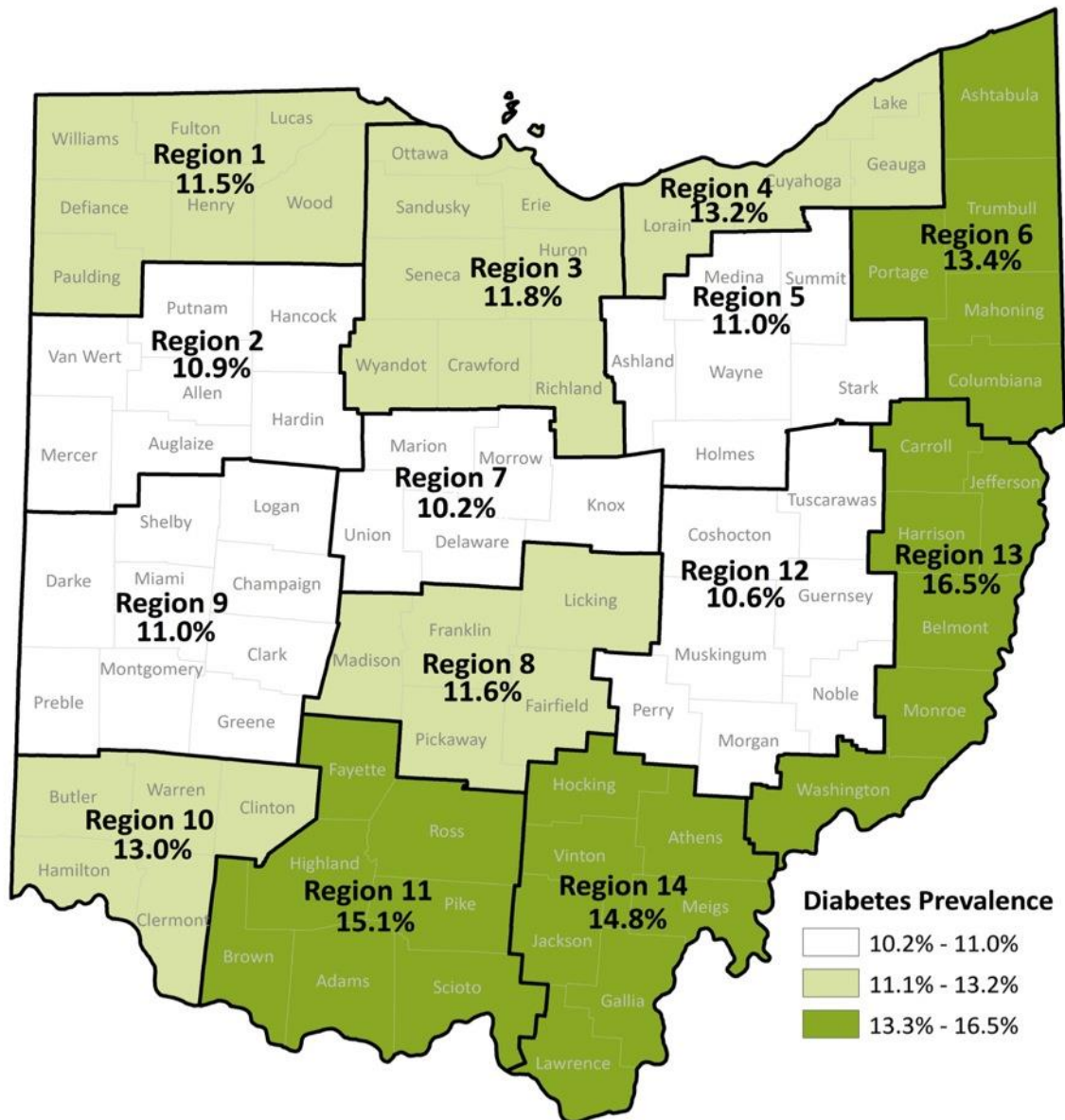


Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

- The estimated prevalence of diabetes decreases as education level increases; 15.7% of adults with less than a high school education have diabetes, compared with 9.2% of college graduates.

Diabetes (type 1 and type 2 combined)

Figure 12. Estimated Prevalence of Diabetes by Region,* Ohio, 2018

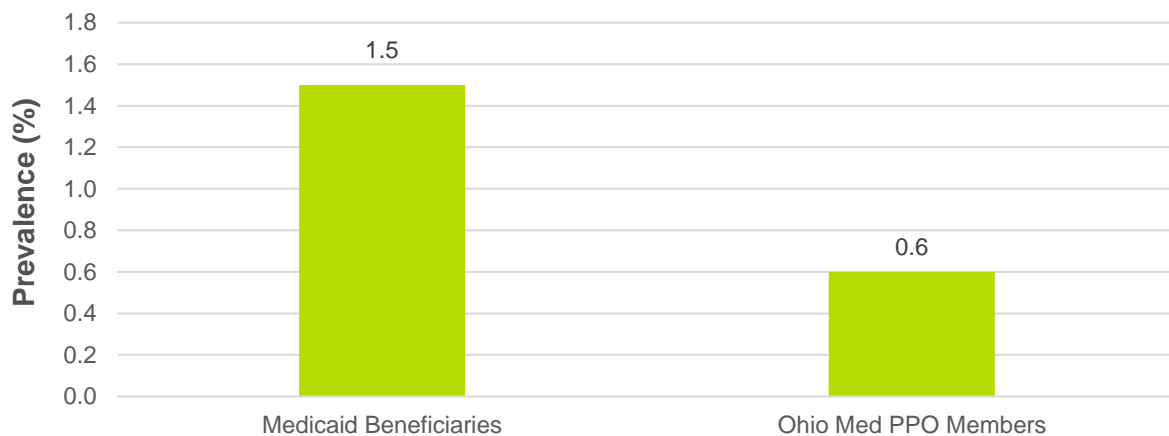


Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

*Prevalence estimates are weighted to the 14 regions defined by the Ohio Behavioral Risk Factor Surveillance System.

Type 1 Diabetes

Figure 13. Prevalence of Type 1 Diabetes Among Adults (Age 19+) Medicaid Beneficiaries and Ohio Med PPO Members, Ohio, 2018*

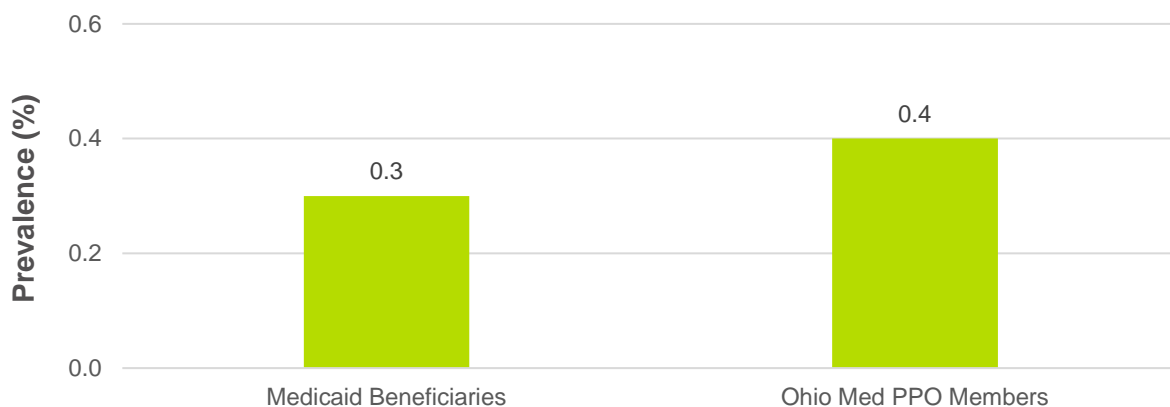


Source: 2018 Medicaid Claims Data; Office of Data Governance and Analysis, Ohio Department of Medicaid; Quality Decision Support System – May 2020. SFY2019 State of Ohio Med PPO Plan aggregate, Ohio Department of Administrative Services, 2020.

*Ohio Med PPO Plan data are for state fiscal year 2019.

- 1.5% of adult Medicaid beneficiaries have type 1 diabetes, compared with 0.6% of adults in the Ohio Med PPO.
- The prevalence of youth with type 1 diabetes is similar among Medicaid beneficiaries (0.3%) and Ohio Med PPO members (0.4%).

Figure 14. Prevalence of Type 1 Diabetes Among Youth (Age 0-18) for Medicaid Beneficiaries and Ohio Med PPO Members, Ohio, 2018*

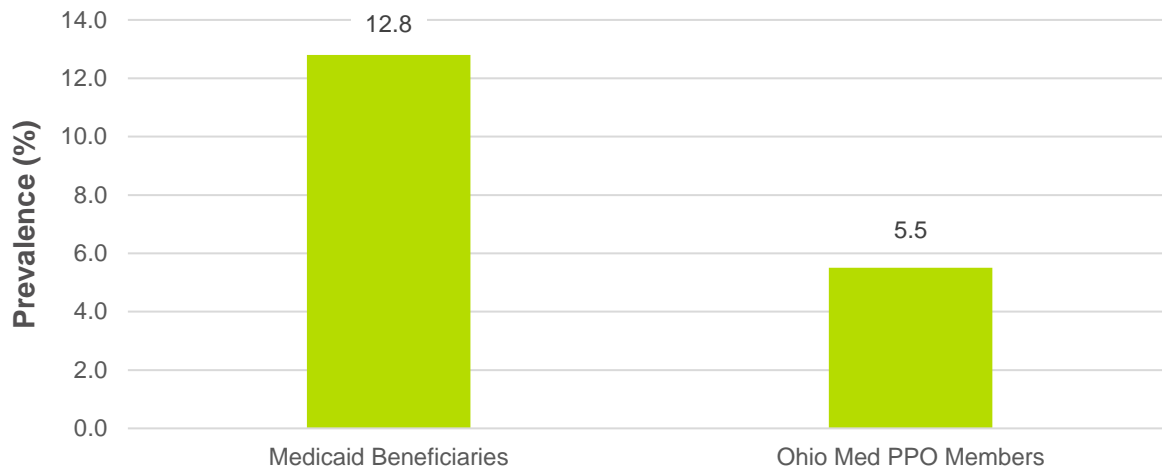


Source: 2018 Medicaid Claims Data; Office of Data Governance and Analysis, Ohio Department of Medicaid; Quality Decision Support System – May 2020. SFY2019 State of Ohio Med PPO Plan aggregate, Ohio Department of Administrative Services, 2020.

*Ohio Med PPO Plan data are for state fiscal year 2019.

Type 2 Diabetes

Figure 15. Prevalence of Type 2 Diabetes Among Adult (Age 19+) Medicaid Beneficiaries and Ohio Med PPO Members, Ohio, 2018*

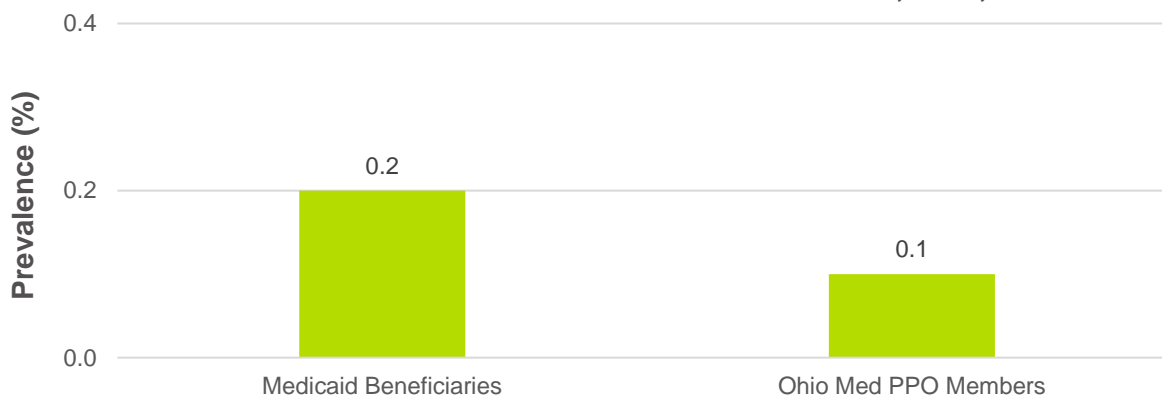


Source: 2018 Medicaid Claims Data; Office of Data Governance and Analysis, Ohio Department of Medicaid; Quality Decision Support System – May 2020. SFY2019 State of Ohio Med PPO Plan aggregate, Ohio Department of Administrative Services, 2020.

*Ohio Med PPO Plan data are for state fiscal year 2019.

- 12.8% of adult Medicaid beneficiaries have type 2 diabetes, compared with 5.5% of adult members of the Ohio Med PPO.
- The prevalence of youth with type 2 diabetes is only 0.2% among Medicaid beneficiaries and 0.1% among Ohio Med PPO members.

Figure 16. Prevalence of Type 2 Diabetes Among Youth (Age 0-18) for Medicaid Beneficiaries and Ohio Med PPO Members, Ohio, 2018*

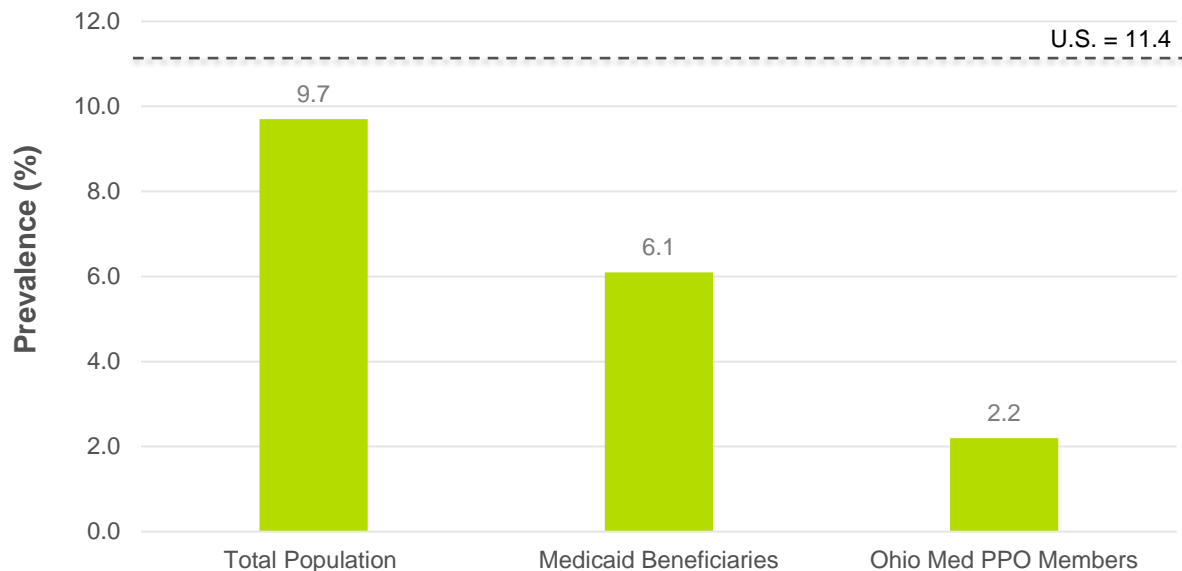


Source: 2018 Medicaid Claims Data; Office of Data Governance and Analysis, Ohio Department of Medicaid; Quality Decision Support System – May 2020. SFY2019 State of Ohio Med PPO Plan aggregate, Ohio Department of Administrative Services, 2020.

*Ohio Med PPO Plan data are for SFY 2019.

Prediabetes

Figure 17. Prevalence of Prediabetes Among Adults* for the Total Population, Medicaid Beneficiaries and Ohio Med PPO Members, Ohio, 2018**



Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020. 2018 Medicaid Claims Data; Office of Data Governance and Analysis, Ohio Department of Medicaid; Quality Decision Support System (QDSS) – May 2020. FY2019 State of Ohio Med PPO Plan aggregate, Ohio Department of Administrative Services, 2020.

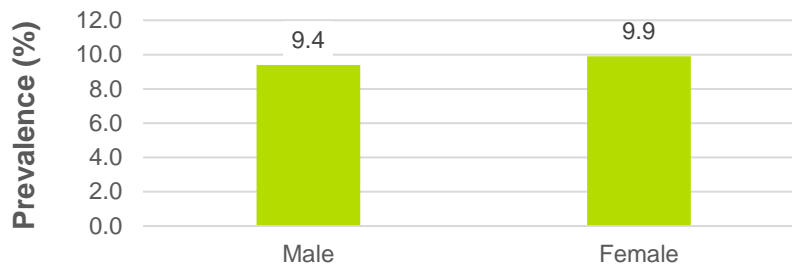
*Adults are defined as persons ages 18+ for the total population and ages 19+ for Medicaid and Ohio Med PPO Members.

**Ohio Med PPO data are for state fiscal year 2019.

- In Ohio, 9.7% of adults (approximately 882,000) reported they have been told by a doctor that they have prediabetes. In addition, it is estimated that 84.7% of U.S. adults with prediabetes do not know they have it. Therefore, prevalence estimates for prediabetes are highly underestimated.
- The prevalence of prediabetes was 6.1% among adult Medicaid beneficiaries and 2.2% among adult Ohio Med PPO members; however, these percentages are likely to be highly underestimated.

Prediabetes

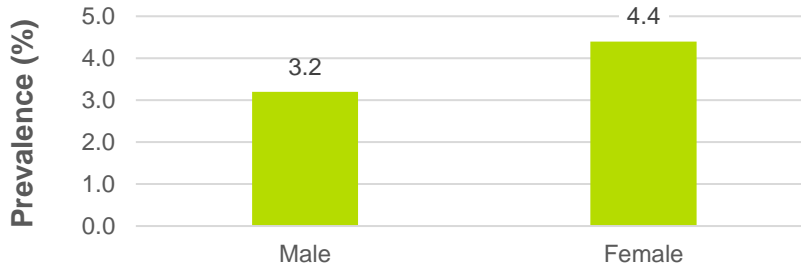
Figure 18. Estimated Prevalence of Prediabetes Among Adults (Age 18+) by Sex, Ohio, 2018



Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

- The estimated prevalence of prediabetes among adults does not significantly differ by sex.

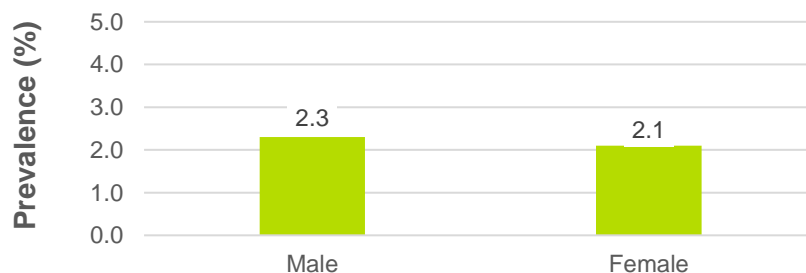
Figure 19. Prevalence of Prediabetes Among Medicaid Beneficiaries (All Ages) by Sex, Ohio, 2018



Source: 2018 Medicaid Claims Data; Office of Data Governance and Analysis, Ohio Department of Medicaid; Quality Decision Support System – May 2020.

- The prevalence of prediabetes among Medicaid beneficiaries is slightly higher for females (4.4%) compared with males (3.2%).

Figure 20. Prevalence of Prediabetes Among Ohio Med PPO Members (All Ages) by Sex, Ohio, Fiscal Year 2019

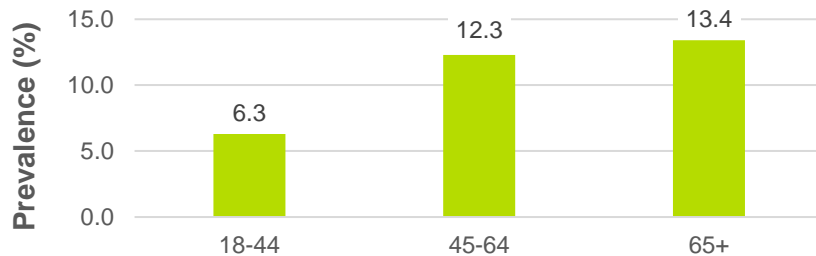


Source: SFY2019 State of Ohio Med PPO Plan aggregate, Ohio Department of Administrative Services, 2020.

- The prevalence of prediabetes among Ohio Med PPO members is similar among males and females.

Prediabetes

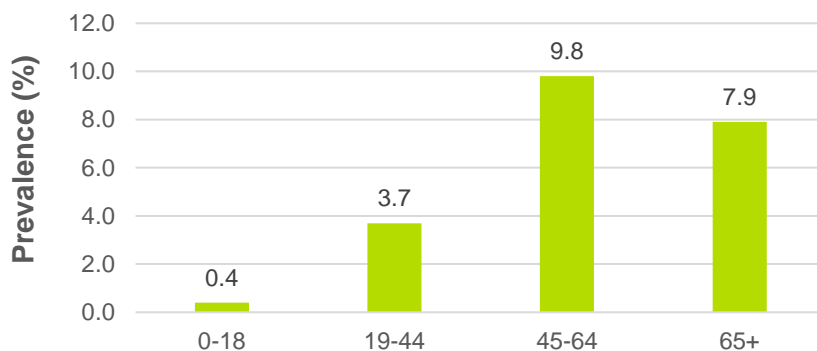
Figure 21. Estimated Prevalence of Prediabetes Among Adults (Age 18+) by Age Group, Ohio, 2018



Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

- The prevalence of prediabetes is significantly higher among adults ages 45 and older, compared with adults ages 18-44.

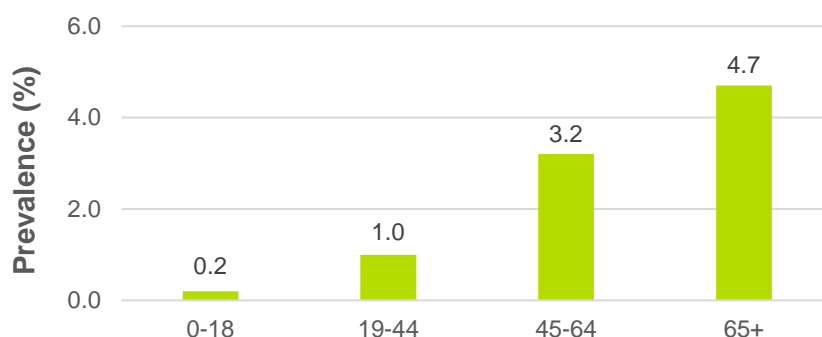
Figure 22. Prevalence of Prediabetes Among Medicaid Beneficiaries by Age Group, Ohio, 2018



Source: 2018 Medicaid Claims Data; Office of Data Governance and Analysis, Ohio Department of Medicaid; Quality Decision Support System – May 2020.

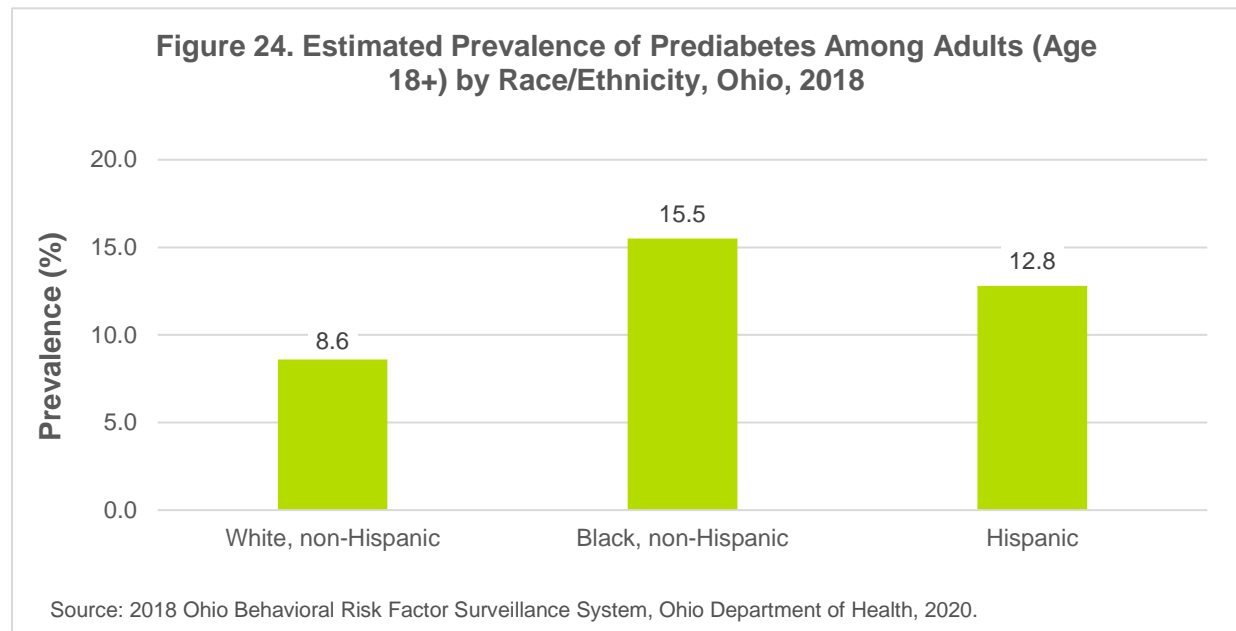
- The prevalence of prediabetes among Medicaid beneficiaries increases from ages 0-18 to ages 45-64.
- 9.8% of Medicaid beneficiaries ages 45-64 have prediabetes, compared with 3.7% of those ages 19-44.

Figure 23. Prevalence of Prediabetes Among Ohio Med PPO Members by Age Group, Ohio, Fiscal Year 2019

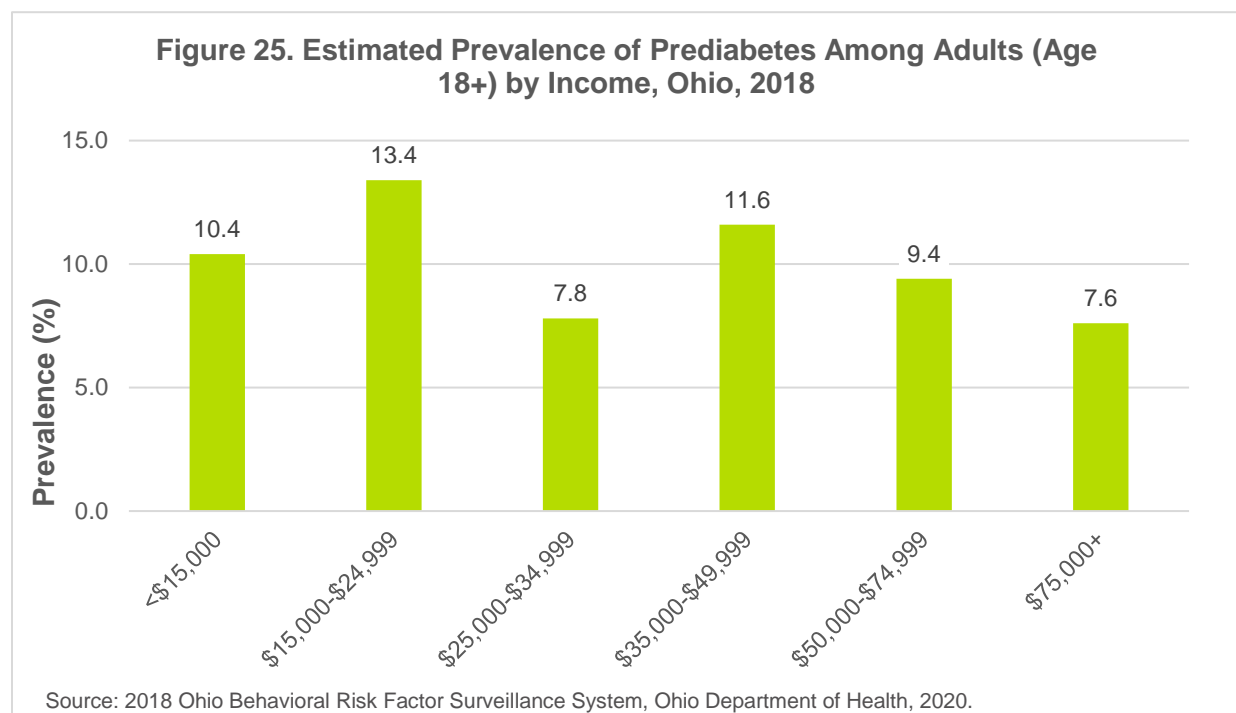


- The prevalence of prediabetes among Ohio Med PPO members increases with age; 4.7% of Ohio Med PPO members ages 65 and older have prediabetes, compared with 1.0% among those ages 19-44.

Prediabetes

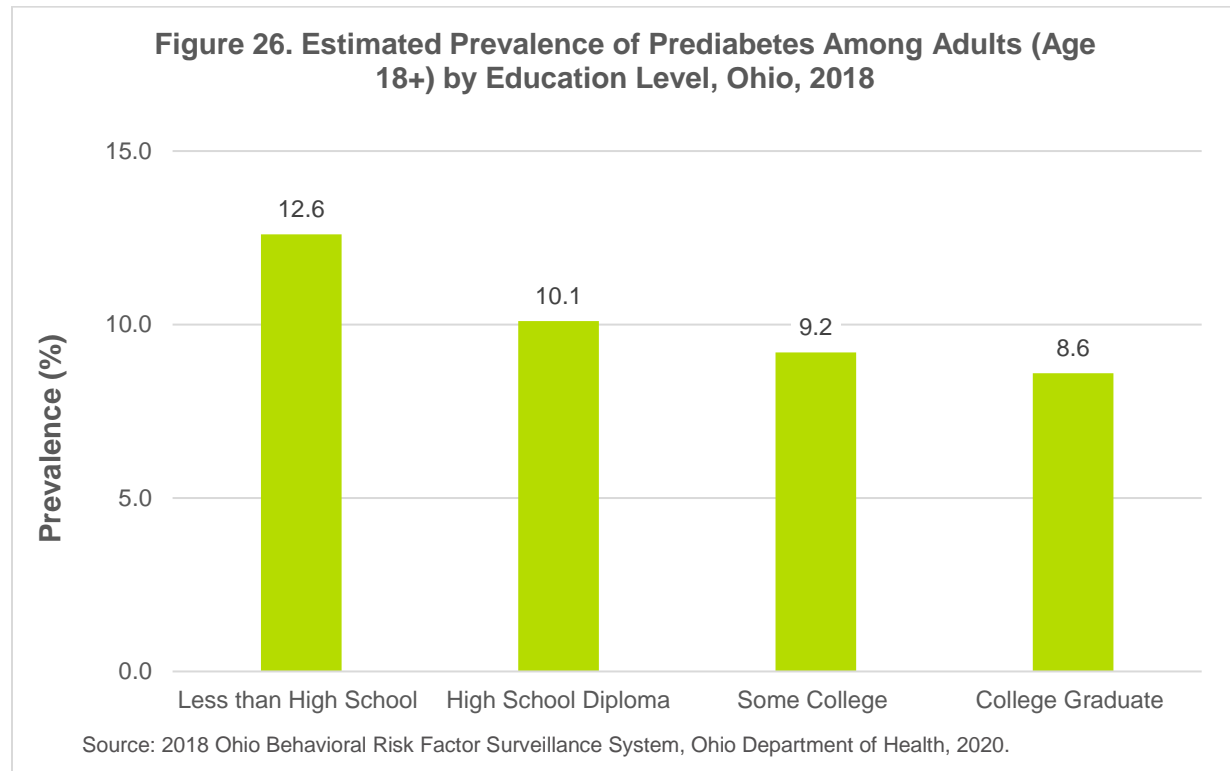


- The estimated prevalence of prediabetes among adults is significantly higher among Black, non-Hispanic adults (15.5%), compared with white, non-Hispanic adults (8.6%).



- The estimated prevalence of prediabetes among adults does not significantly differ by annual household income.

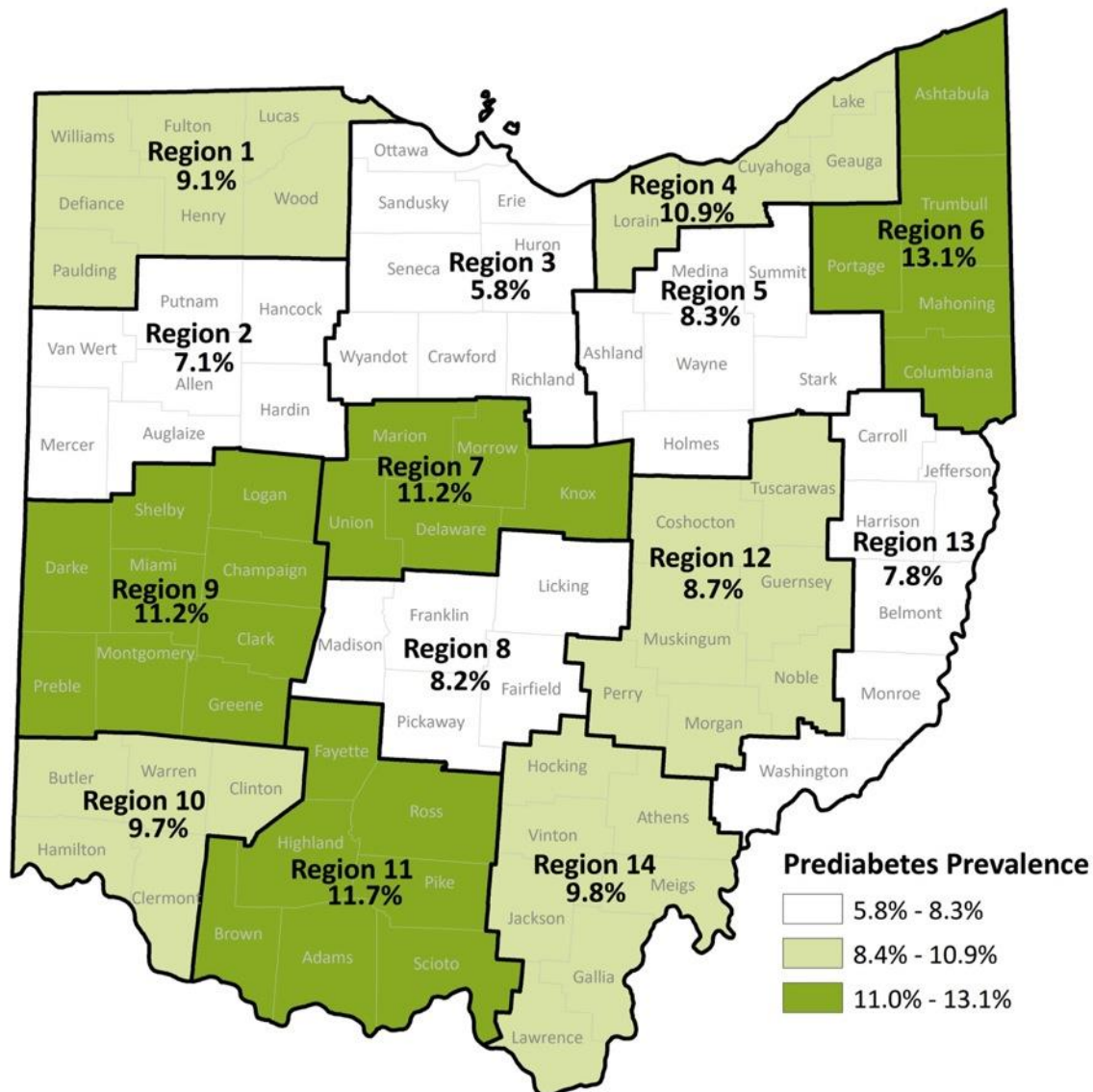
Prediabetes



- The estimated prevalence of prediabetes among adults decreases with increasing levels of education; however, this difference is not statistically significant.

Prediabetes

Figure 27. Estimated Prevalence of Prediabetes by Region,* Ohio, 2018



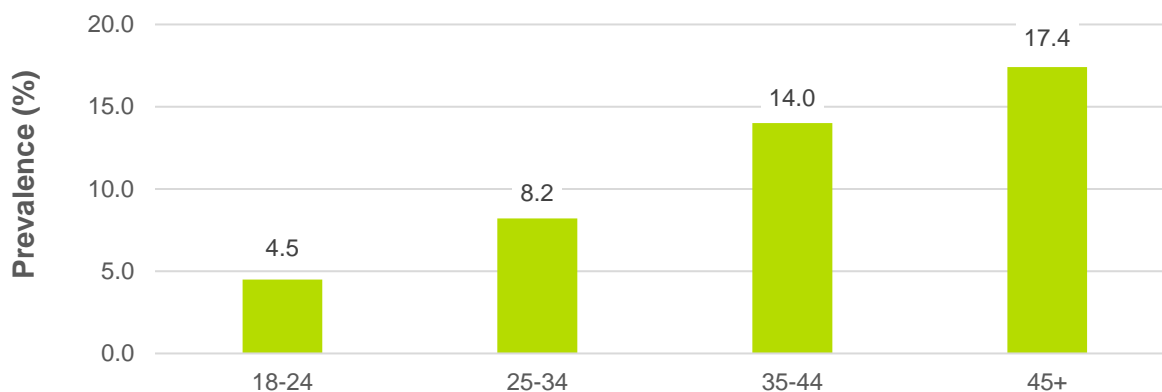
Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2021.

*Prevalence estimates are weighted to the 14 regions defined by the Ohio Behavioral Risk Factor Surveillance System.

Regions with the highest prevalence of prediabetes in Ohio are regions 6, 7, 9, and 11. This could be attributed to differences in actual prevalence of prediabetes or differences in testing and identification of those with prediabetes.

Gestational Diabetes

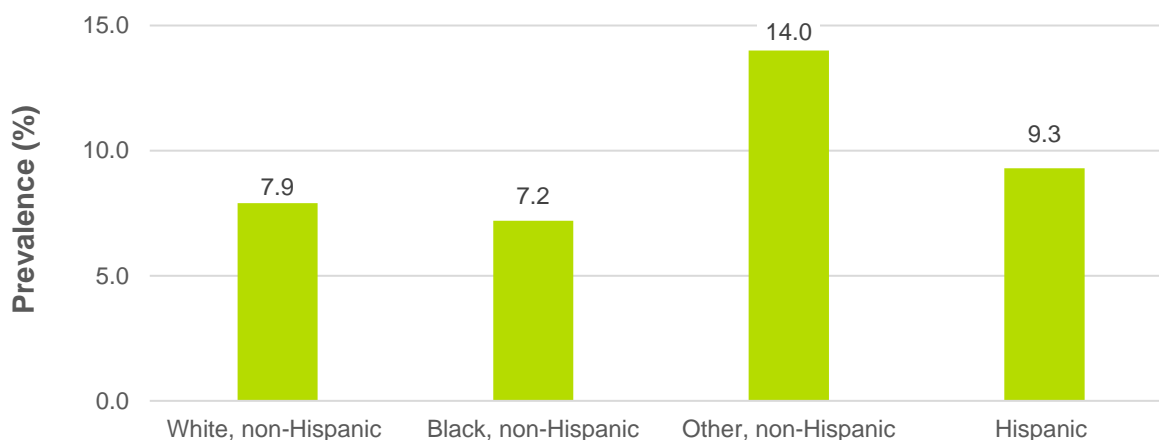
Figure 28. Prevalence of Gestational Diabetes Among Women with a Live Birth by Maternal Age Group, Ohio, 2018



Source: Bureau of Vital Statistics, Ohio Department of Health, 2020.

- In 2018, 8.1% of births were to women who had GDM diagnosed during that pregnancy (data not shown).
- The prevalence of GDM increases with age; 4.5% of pregnant women ages 18-24 have the condition, compared with 14% of pregnant women ages 35-44.

Figure 29. Prevalence of Gestational Diabetes Among Women with a Live Birth by Race/Ethnicity, Ohio, 2018

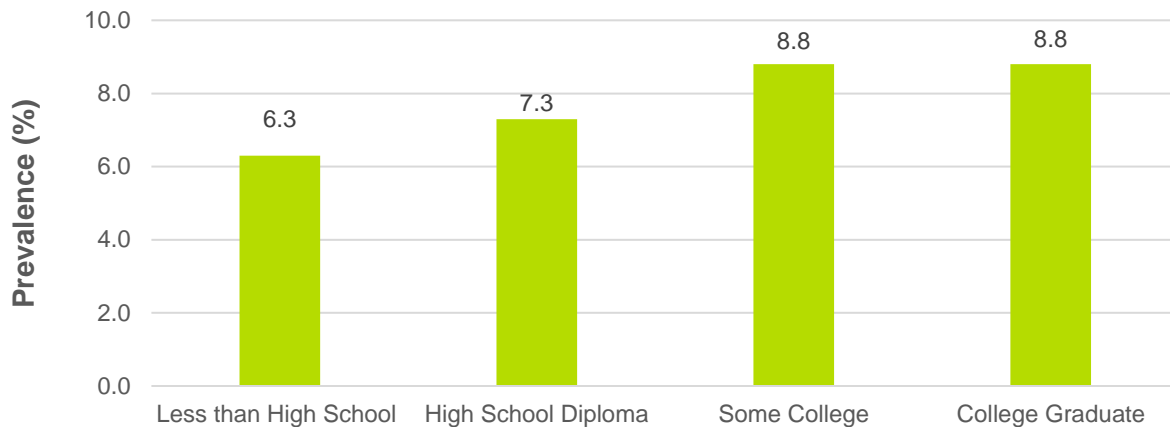


Source: Bureau of Vital Statistics, Ohio Department of Health, 2020.

- Hispanic women (9.3%) and women of other, non-Hispanic races (14%) have a higher prevalence of GDM, compared with non-Hispanic white (7.9%) and Black (7.2%) women.

Gestational Diabetes

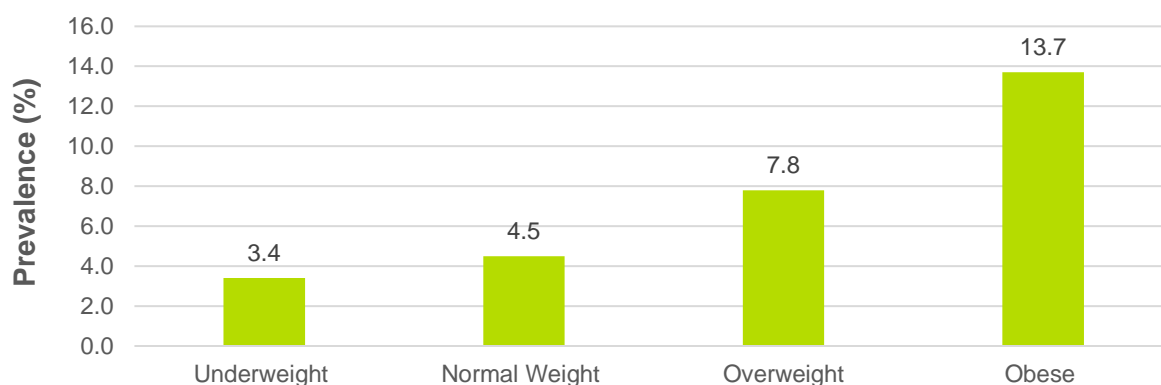
Figure 30. Prevalence of Gestational Diabetes Among Women with a Live Birth by Education Level, Ohio, 2018



Source: Bureau of Vital Statistics, Ohio Department of Health, 2020.

- Pregnant women with less than a high school degree (6.3%) and high school graduates (7.3%) have a significantly lower prevalence of GDM, compared with women with some college or more education. However, the relationship between education and GDM is likely affected by the relationship between education and age.

Figure 31. Prevalence of Gestational Diabetes Among Women with a Live Birth by Pre-Pregnancy Body Mass Index, Ohio, 2018

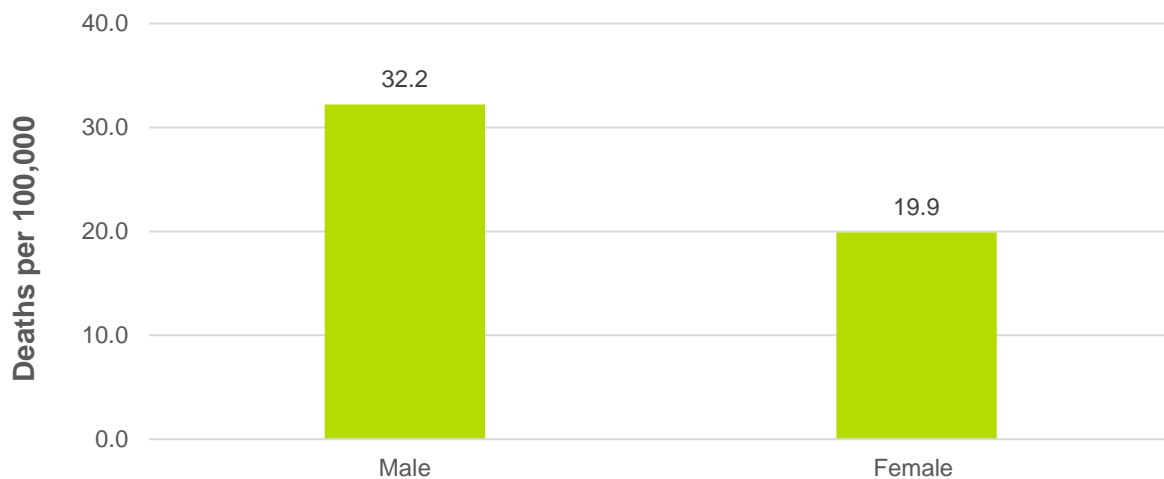


Source: Bureau of Vital Statistics, Ohio Department of Health, 2020.

- Pregnant women who are overweight or obese have a significantly higher prevalence of GDM (7.8% and 13.7%, respectively), compared with women who are normal weight (4.5%) or underweight (3.4%).

Mortality

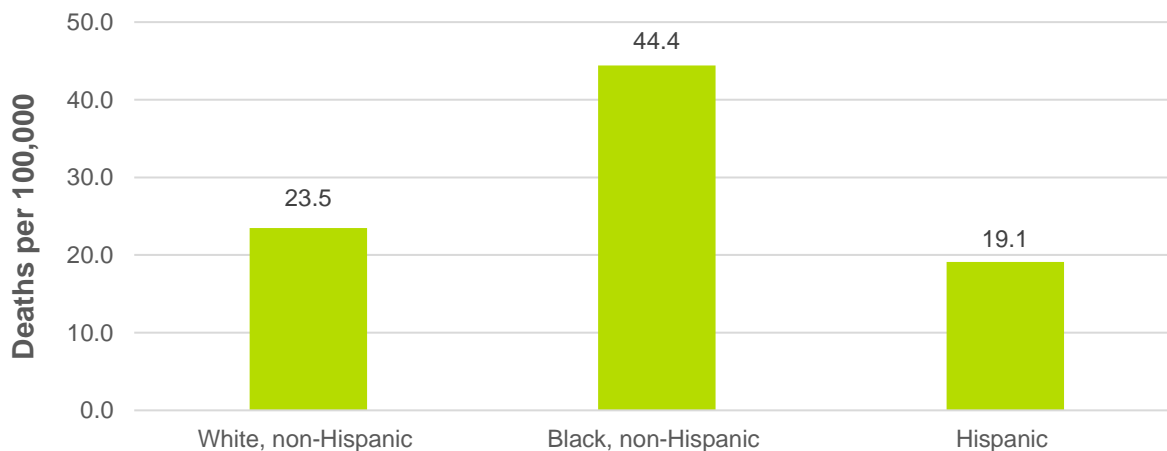
Figure 32. Diabetes Death Rate per 100,000 by Sex, Ohio, 2018



Source: Bureau of Vital Statistics, Ohio Department of Health, 2020.

- The diabetes death rate among males (32.2 per 100,000) is 62% higher, compared with females (19.9 per 100,000).

Figure 33. Diabetes Death Rate per 100,000 by Race/Ethnicity, Ohio, 2018

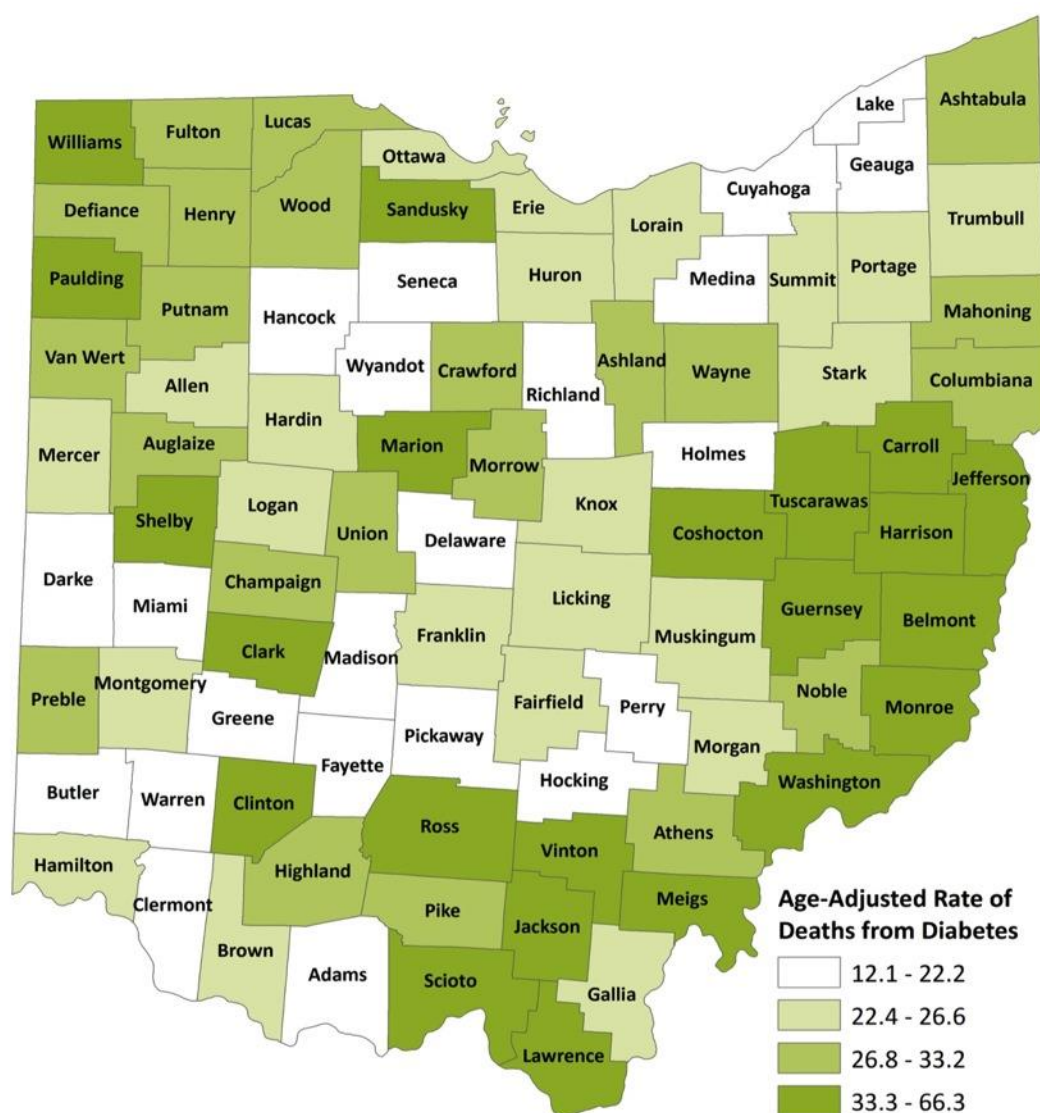


Source: Bureau of Vital Statistics, Ohio Department of Health, 2020

- Black, non-Hispanic Ohioans have the highest death rate from diabetes (44.4 per 100,000), compared with other racial/ethnic groups. The diabetes death rate for Black, non-Hispanic Ohioans is 1.9 times higher than white, non-Hispanic Ohioans (23.5 per 100,000), and 2.3 times higher than Hispanic Ohioans (19.1 per 100,000).

Mortality

Figure 34. Diabetes Death Rate per 100,000 by County, Ohio, 2018-2019

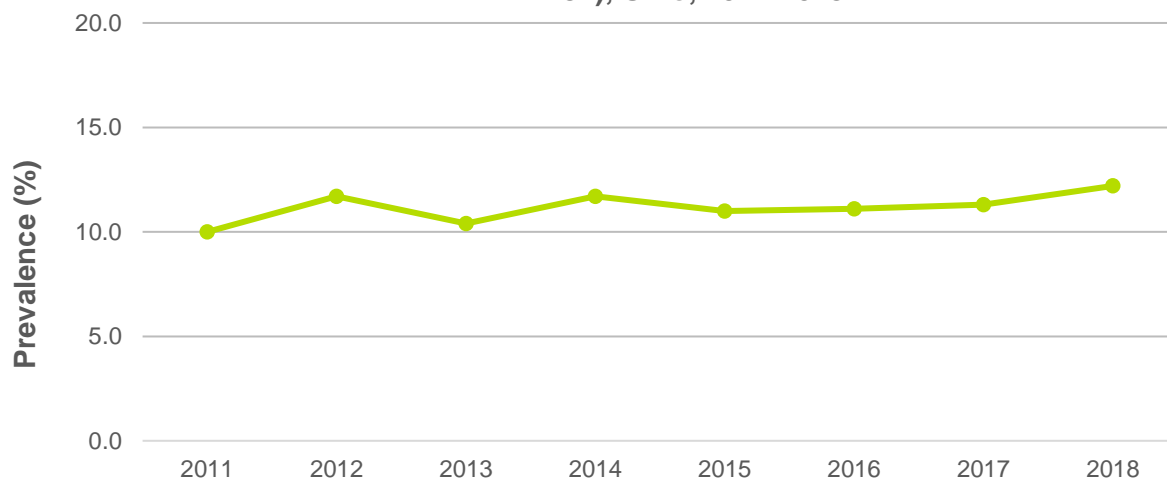


Source: Bureau of Vital Statistics, Ohio Department of Health, 2020.

- County-level diabetes death rates ranged from 12.1 per 100,000 (Delaware County) to 66.3 per 100,000 (Tuscarawas County) across Ohio's 88 counties in 2018-2019. (Note: Two years of data were used to produce this map to ensure stable county-level age-adjusted death rates.)
- Appalachian and rural counties tend to have the highest diabetes death rates.

Trends

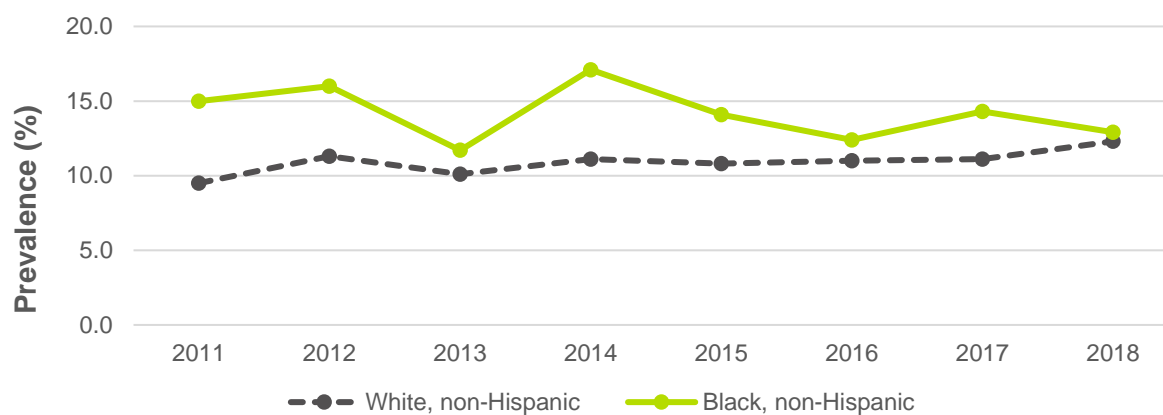
Figure 35. Estimated Prevalence of Diabetes Among Adults (Age 18+), Ohio, 2011-2018



Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

- The estimated prevalence of diabetes among adults increased 22% from 2011 (10.0%) to 2018 (12.2%).

Figure 36. Estimated Prevalence of Diabetes Among Adults (Age 18+) by Race/Ethnicity*, Ohio, 2011-2018



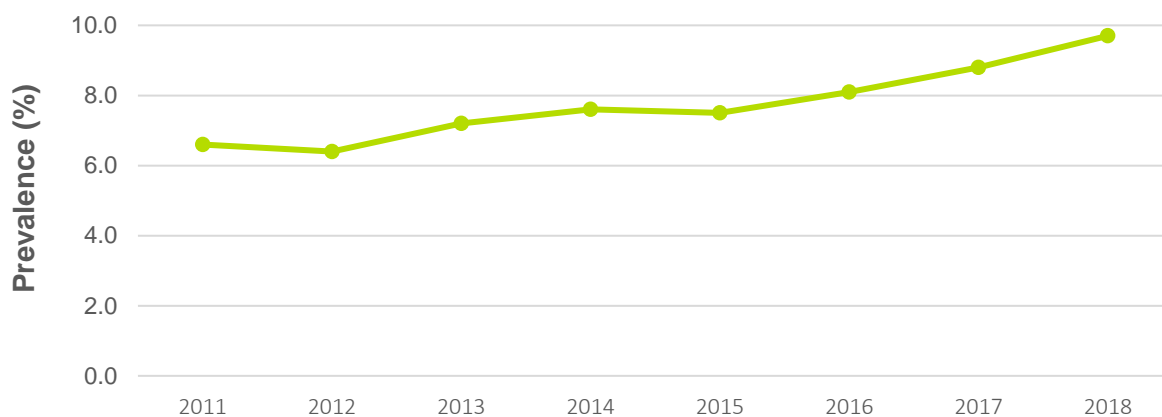
Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

*Estimates for Hispanic and Other, non-Hispanic races do not meet reliability criteria for reporting set by the CDC.

- The estimated prevalence of diabetes increased 29% among white, non-Hispanic adults but was variable among Black, non-Hispanic adults from 2011 to 2018.

Trends

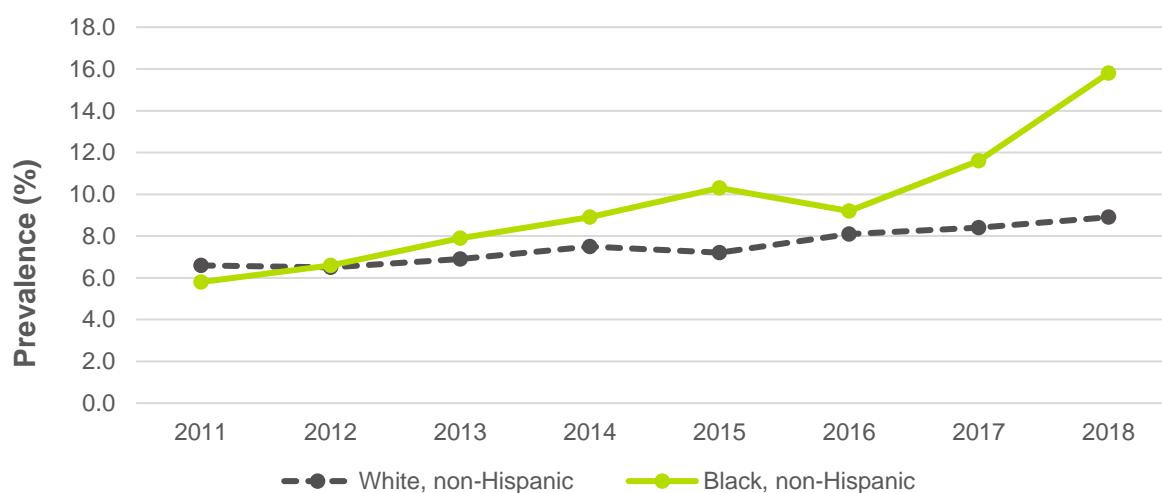
Figure 37. Estimated Prevalence of Prediabetes Among Adults (Age 18+), Ohio, 2011-2018



Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

- The estimated prevalence of prediabetes increased 47% from 2011 (6.6%) to 2018 (9.7%).

Figure 38. Estimated Prevalence of Prediabetes Among Adults (Age 18+) by Race/Ethnicity*, Ohio, 2011-2018*



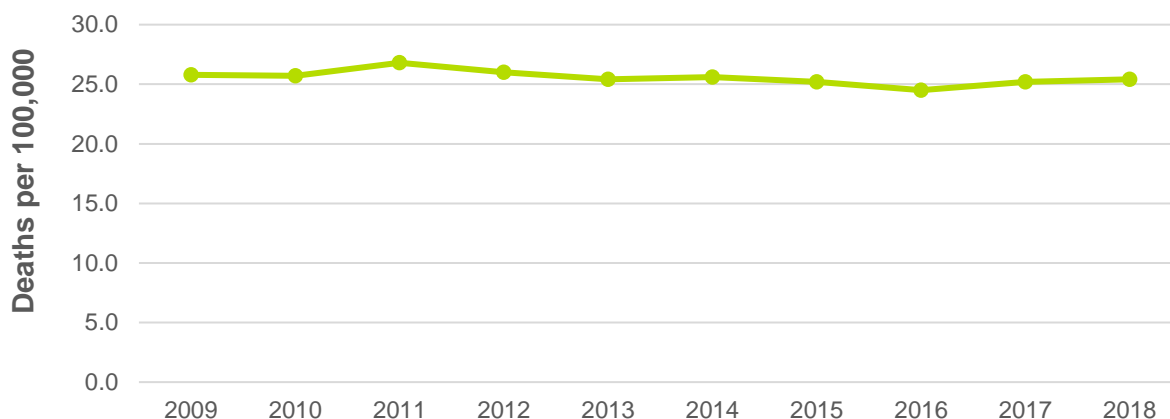
Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

*Estimates for Hispanic and Other, non-Hispanic races do not meet reliability criteria for reporting set by the CDC.

- The estimated prevalence of prediabetes among white, non-Hispanic adults was significantly higher in 2018 (8.9%), compared with 2011 (6.6%).
- The estimated prevalence of prediabetes among Black, non-Hispanic adults was 2.7 times higher in 2018 (15.8%), compared with 2011 (5.8%).

Trends

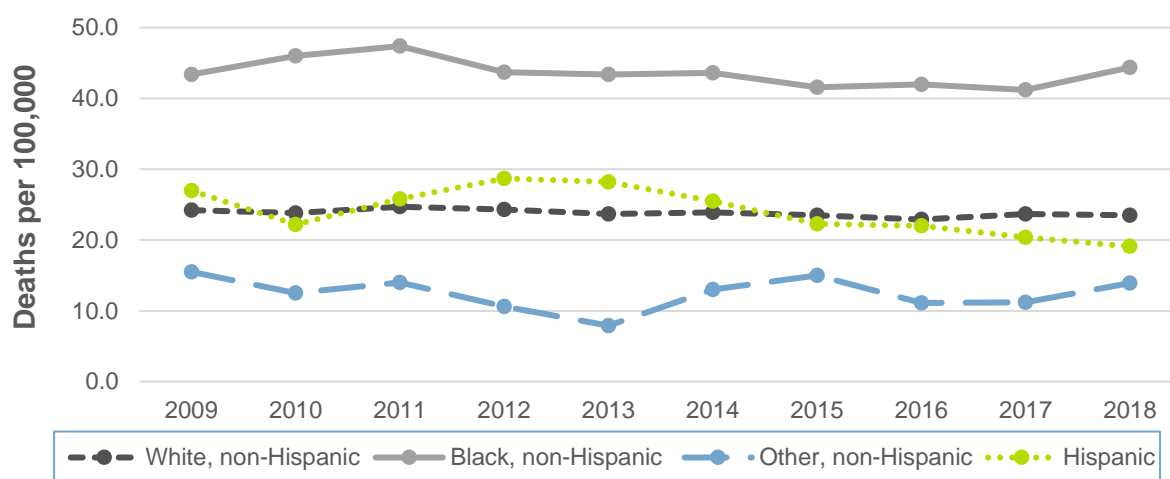
Figure 39. Diabetes Death Rate per 100,000, Ohio, 2009-2018



Source: Bureau of Vital Statistics, Ohio Department of Health, 2020.

- The diabetes death rate was relatively stable from 2009 to 2018.

Figure 40. Diabetes Death Rate per 100,000 by Race/Ethnicity, Ohio, 2009-2018



Source: Bureau of Vital Statistics, Ohio Department of Health, 2020.

- The diabetes death rate for white, non-Hispanic and Black, non-Hispanic Ohioans was relatively stable from 2009 to 2018.
- From 2009 to 2018, the diabetes death rate among Hispanic Ohioans decreased 41.3%.

Hospitalizations/Financial Impact

Table 1. Diabetes-Related Hospital Admissions and Emergency Department Visits Among Medicaid Beneficiaries and Ohio Med PPO Members, Ohio, 2018*

	Medicaid Beneficiaries	Ohio Med PPO Members
Diabetes Admissions		
Number	13,924	172
Average Length of Stay (days)	4.13	4.4
Total Charges (\$)	\$87,793,536	\$4,691,858
Diabetes Emergency Department Visits		
Number	201,665	320
Total Charges (\$)	\$100,809,393	\$1,056,264

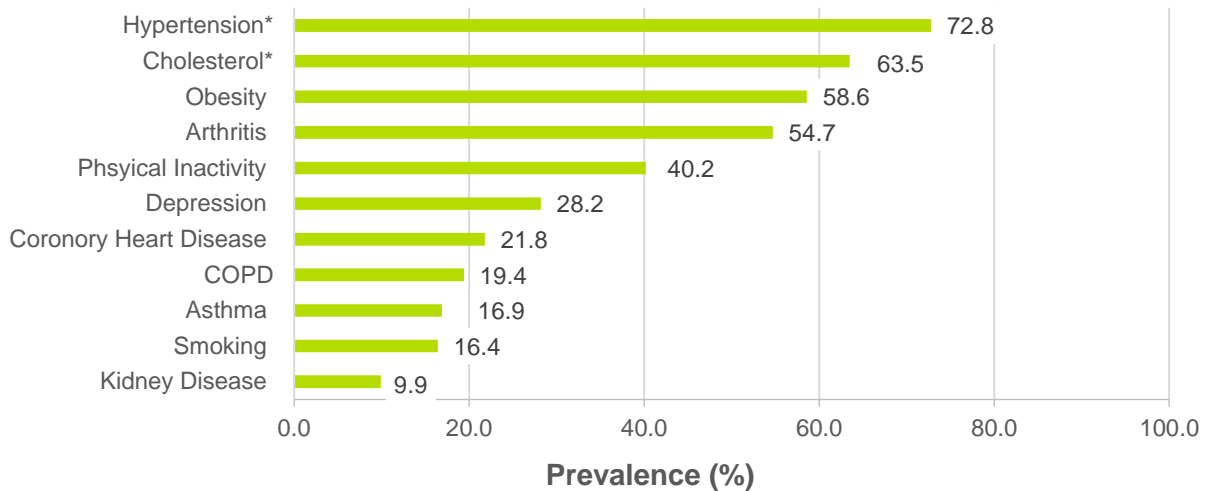
Source: 2018 Medicaid Claims Data; Office of Data Governance and Analysis, Ohio Department of Medicaid; Quality Decision Support System – May 2020. SFY2019 State of Ohio Med PPO Plan aggregate, Ohio Department of Administrative Services, 2020.

*Ohio Med PPO Plan data are for state fiscal year 2019.

- In 2018, there were 13,924 diabetes-related hospital admissions among Medicaid beneficiaries.
- Diabetes-related hospital admissions among Medicaid beneficiaries cost nearly \$88 million in 2018 and nearly \$5 million among Ohio Med PPO members in SFY 2019.
- Diabetes-related emergency department visits cost an additional \$3 billion among Medicaid beneficiaries in 2018 and \$1 million among Ohio Med PPO members in SFY 2019.

Comorbid Conditions

Figure 41. Estimated Prevalence of Comorbid Conditions Among Adults (Age 18+) with Diabetes, Ohio, 2018

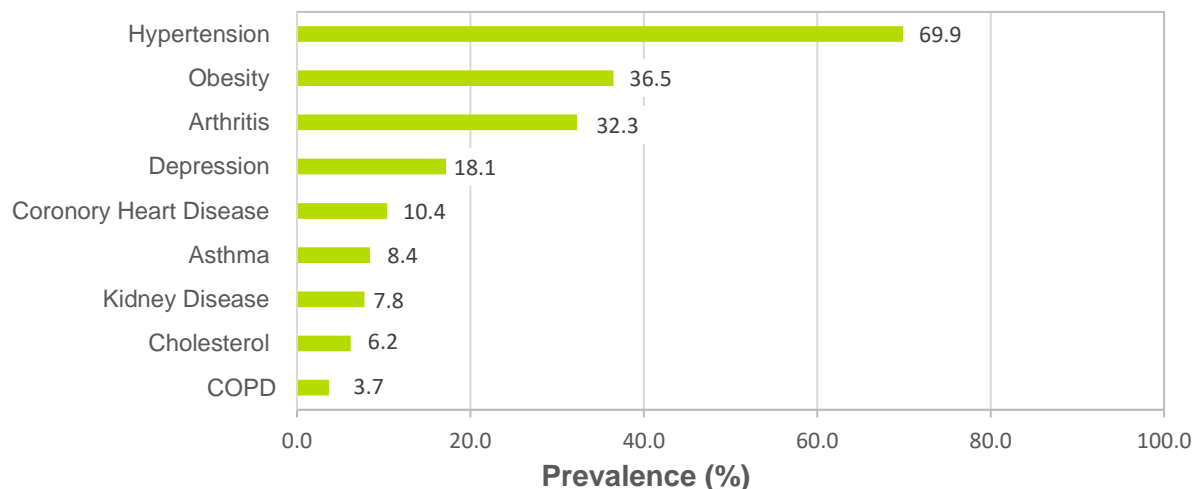


Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

*Hypertension and high blood cholesterol data were most recently collected in 2017.

- The most common comorbid conditions among adults with diabetes are hypertension (72.8%), high blood cholesterol (63.5%), obesity (58.6%), and arthritis (54.7%).

Figure 42. Prevalence of Comorbid Conditions Among Ohio Med PPO Members, Ohio, Fiscal Year 2019

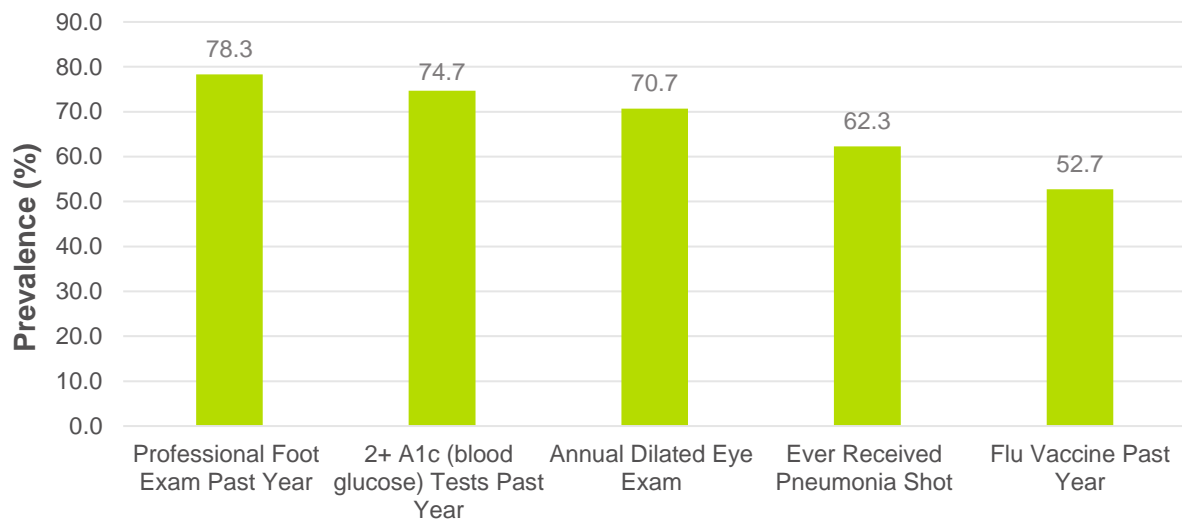


Source: FY2019 State of Ohio Med PPO Plan aggregate, Ohio Department of Administrative Services, 2020.

- The most common comorbid conditions among Ohio Med PPO members with diabetes are hypertension (69.9%), obesity (36.5%), and arthritis (32.3%).

Care/Quality Measures

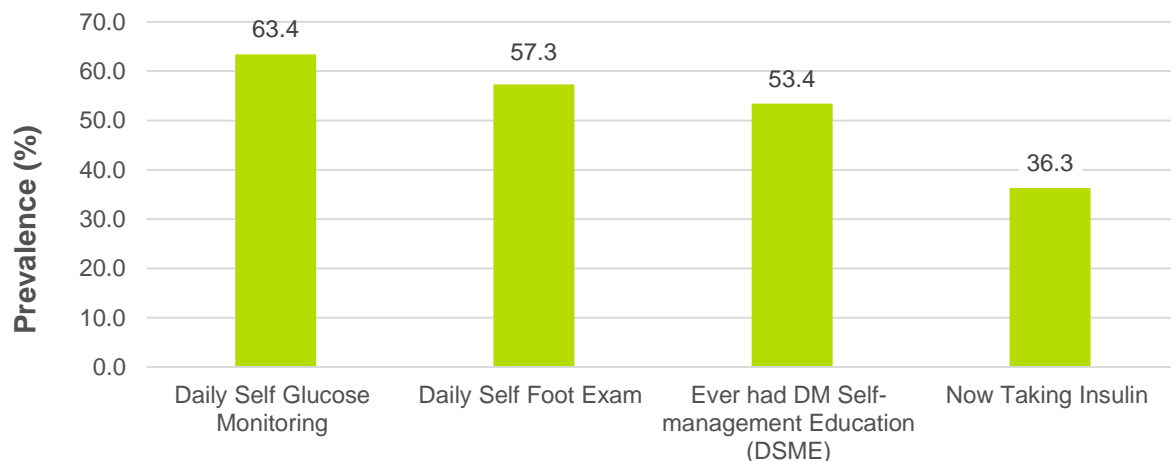
Figure 43. Estimated Prevalence of Professional Diabetes Care Measures Among Adults (Age 18+), Ohio, 2018



Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

- 78.3% of adults with diabetes reported having a professional foot exam in the past year, while only 52.7% of adults with diabetes reported having a flu vaccine in the past year.

Figure 44. Estimated Prevalence of Self Diabetes Care Measures Among Adults (Age 18+), Ohio, 2018

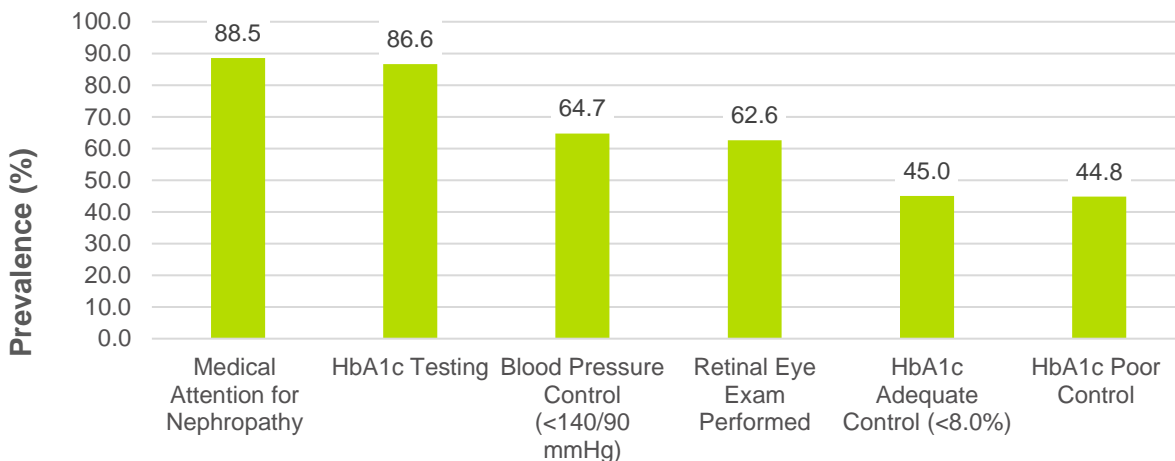


Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

- 63.4% of adults with diabetes reported monitoring their blood glucose daily, and more than half of adults with diabetes perform a daily foot exam and/or have taken diabetes self-management education.

Care/Quality Measures

Figure 45. Prevalence of HEDIS* Diabetes Care Measures Among Medicaid Managed Care Plan Beneficiaries, Ohio, 2018

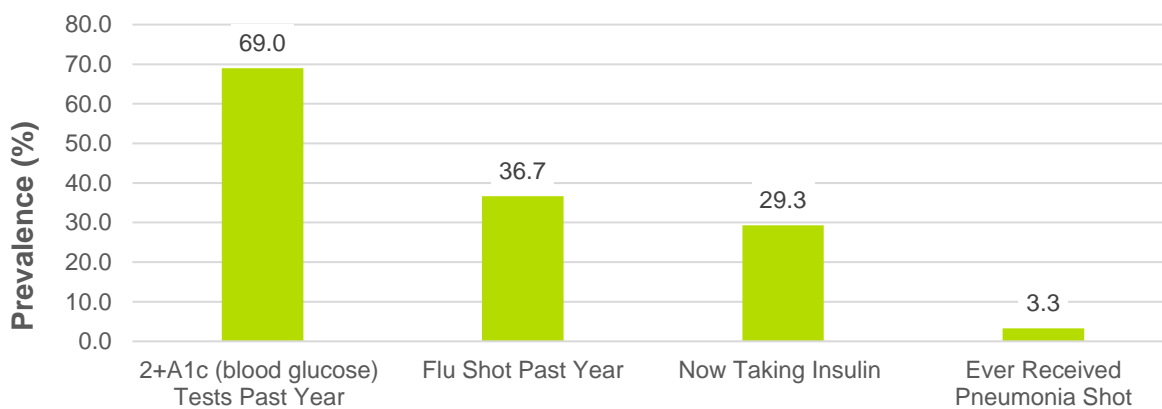


Source: Ohio Medicaid Managed Care Plan Self-Reported HEDIS State Averages, 2018.

*HEDIS = Healthcare Effectiveness Data and Information Set.

- 86.6% of Medicaid Managed Care Plan beneficiaries with diabetes reported having A1c testing, but nearly half (44.8%) reported having poor control of their A1c.

Figure 46. Prevalence of Diabetes Care Measures Among Ohio Med PPO Members, Ohio, Fiscal Year 2019

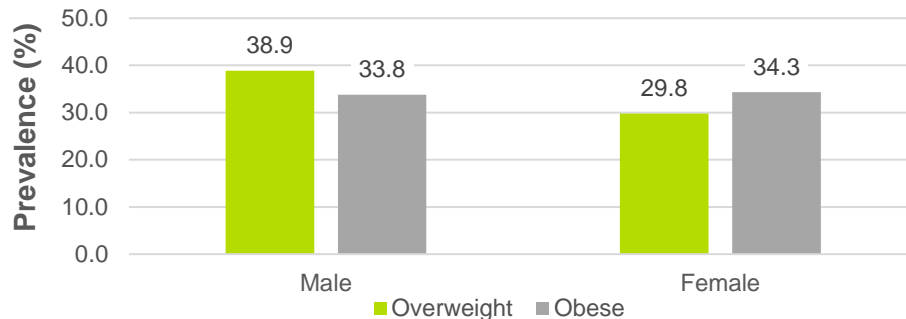


Source: SFY2019 State of Ohio Med PPO Plan aggregate, Ohio Department of Administrative Services, 2020.

- 69% of Ohio Med PPO members with diabetes had two or more A1c tests in the past year, while only 36.7% had a flu shot in the past year.

Overweight/Obesity

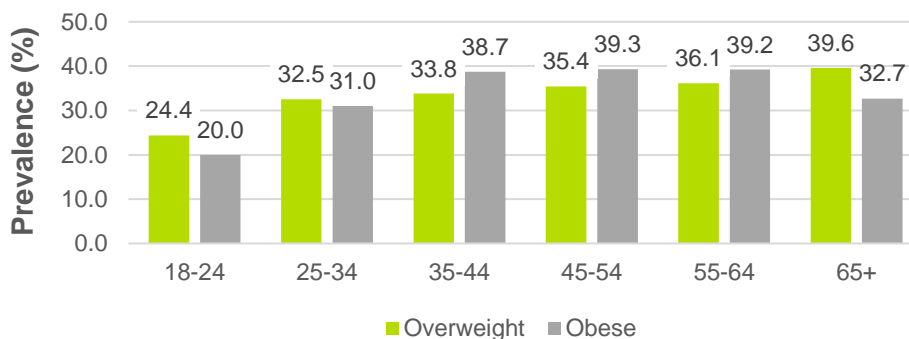
Figure 47. Estimated Prevalence of Overweight and Obesity Among Adults (Age 18+), by Sex, Ohio, 2018



Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

- Adult males are significantly more likely to be overweight (38.9%), compared with females (29.8%).
- The estimated prevalence of obesity among adults does not differ by sex.

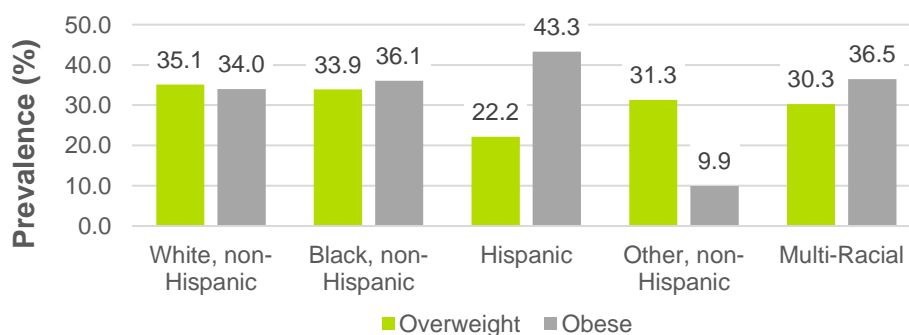
Figure 48. Estimated Prevalence of Overweight and Obesity Among Adults (Age 18+), by Age Group, Ohio, 2018



Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

- Adults ages 35 and older are significantly more likely to be overweight, compared with adults younger than 35.
- Adults ages 45-64 have the highest prevalence of obesity in Ohio.

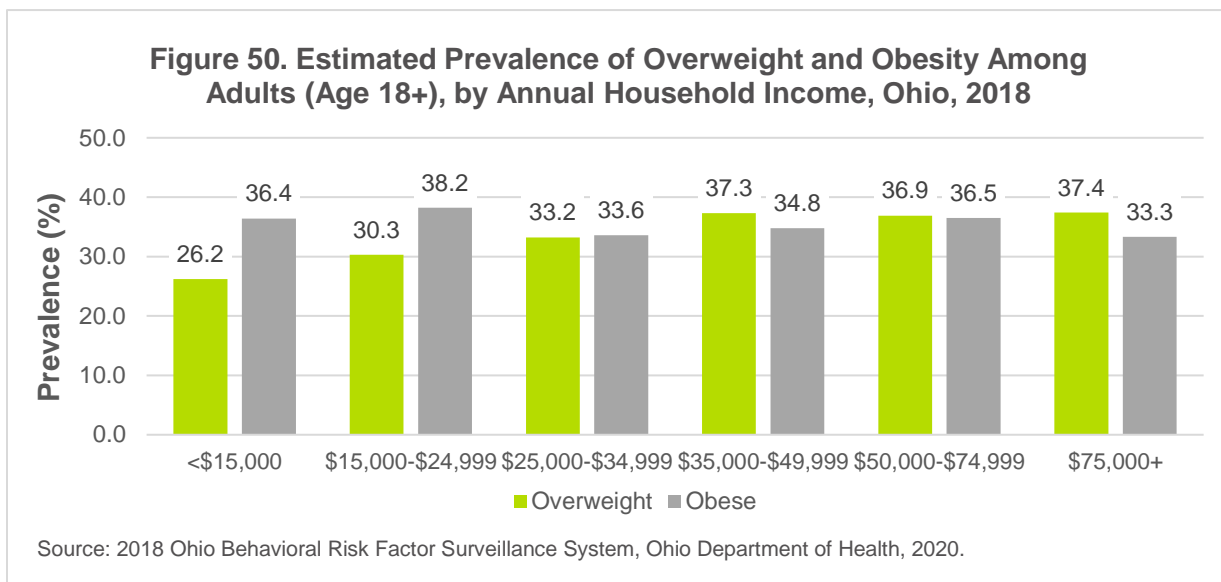
Figure 49. Estimated Prevalence of Overweight and Obesity Among Adults (Age 18+), by Race/Ethnicity, Ohio, 2018



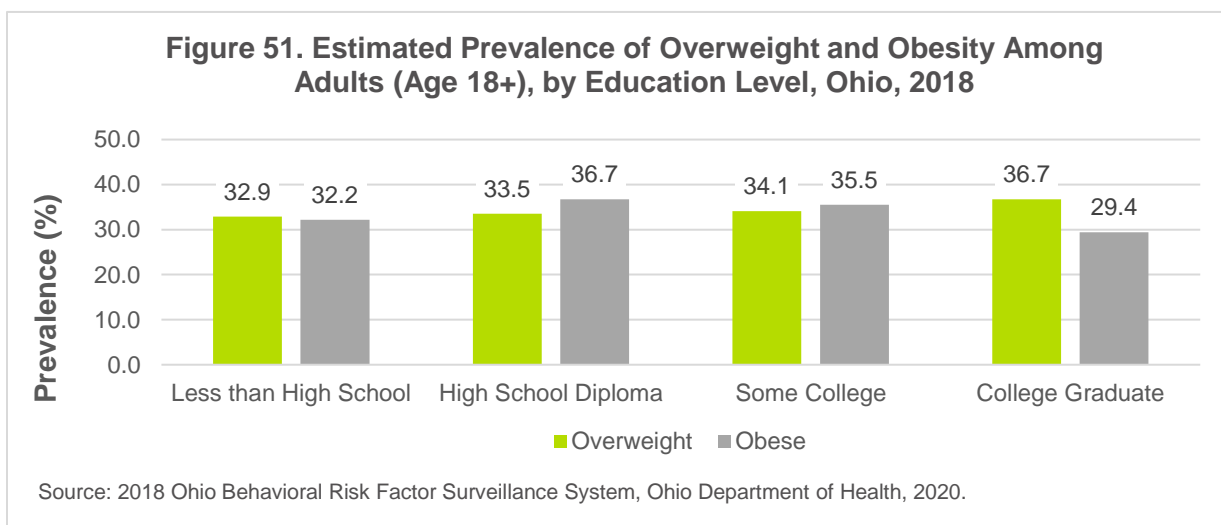
Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

- The estimated prevalence of overweight is significantly higher among white, non-Hispanic adults (35.1%), compared with Hispanic adults (22.2%).
- The estimated prevalence of obesity is significantly lower among other, non-Hispanic adults compared with the other race/ethnicity categories.

Overweight/Obesity



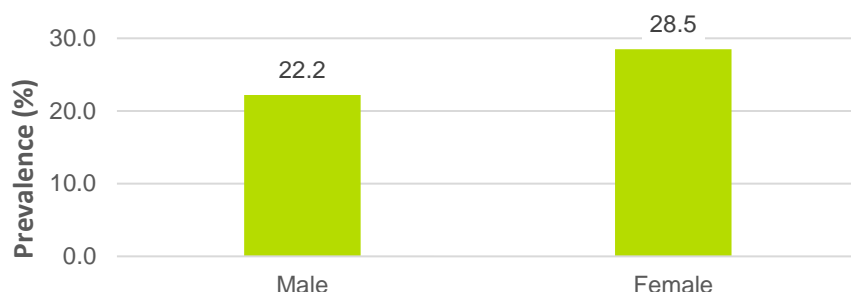
- The estimated prevalence of overweight is significantly lower among adults with an annual household income of less than \$15,000, compared with adults earning \$35,000 or more.



- The estimated prevalence of overweight does not significantly differ by educational attainment.
- The estimated prevalence of obesity is significantly lower among college graduates, compared with those who have a high school diploma or some college education.

Exercise

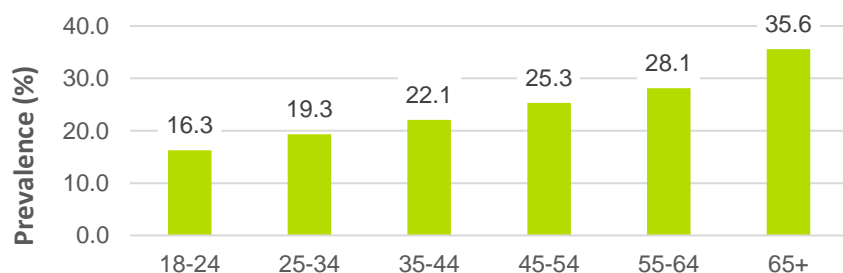
Figure 52. Estimated Prevalence of No Exercise (Past 30 Days) Among Adults (Age 18+), by Sex, Ohio, 2018



Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

- The estimated prevalence of no exercise in the past 30 days is significantly higher among females (28.5%), compared with males (22.2%).

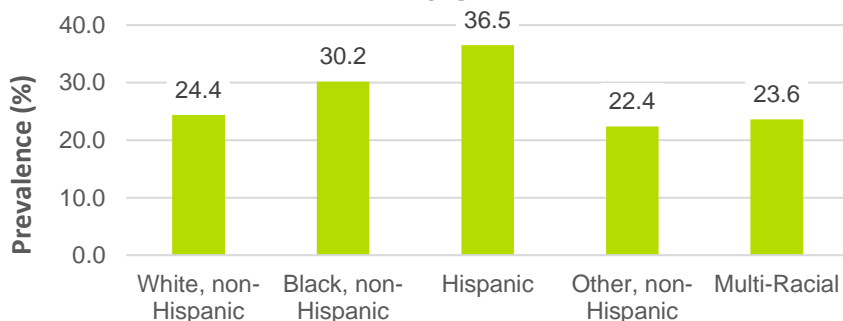
Figure 53. Estimated Prevalence of No Exercise (Past 30 Days) Among Adults (Age 18+), by Age Group, Ohio, 2018



Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

- The estimated prevalence of no exercise in the past 30 days increases with increasing age.

Figure 54. Estimated Prevalence of No Exercise (Past 30 Days) Among Adults (Age 18+), by Race/Ethnicity, Ohio, 2018

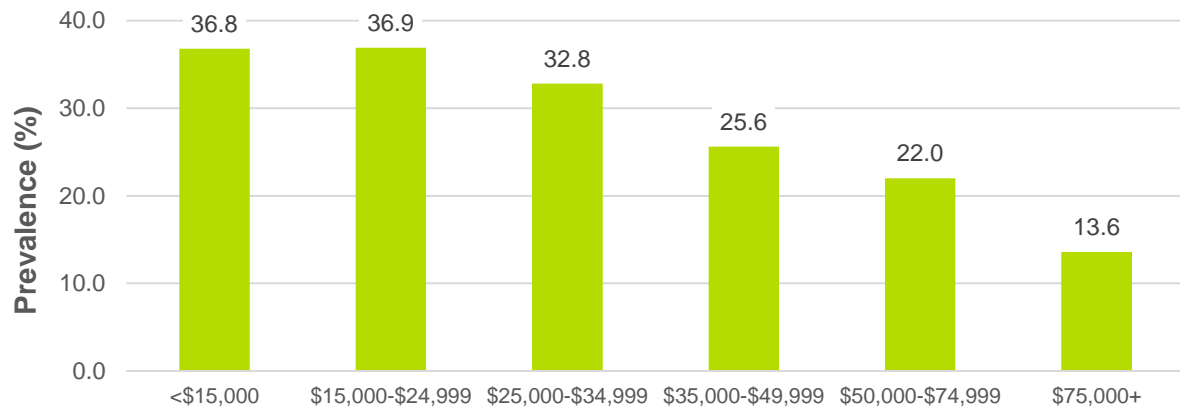


Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

- The estimated prevalence of no exercise in the past 30 days is significantly higher among Hispanic adults (36.5%), compared with white, non-Hispanic (24.4%) and Black, non-Hispanic adults (30.2%).

Exercise

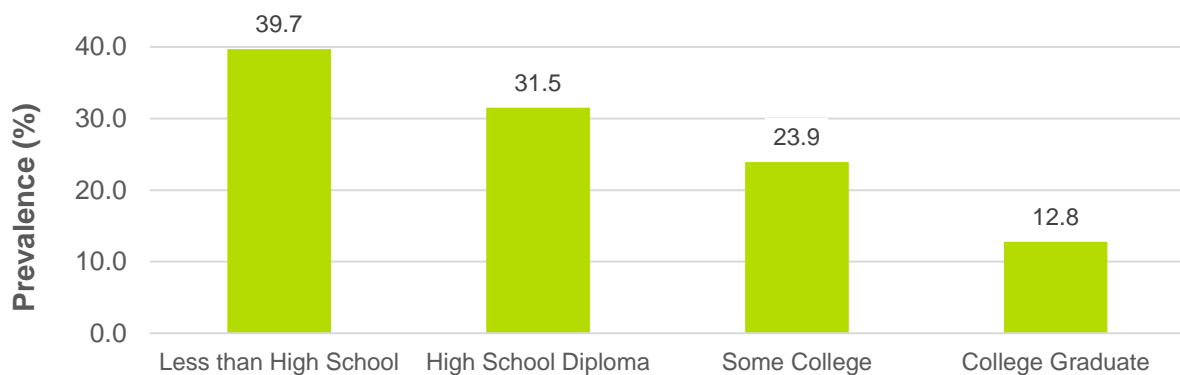
Figure 55. Estimated Prevalence of No Exercise (Past 30 Days) Among Adults (Age 18+), by Annual Household Income, Ohio, 2018



Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

- The estimated prevalence of no exercise in the past 30 days decreases with increasing annual household income.

Figure 56. Estimated Prevalence of Any Exercise (Past 30 Days) Among Adults (Age 18+), by Education Level, Ohio, 2018

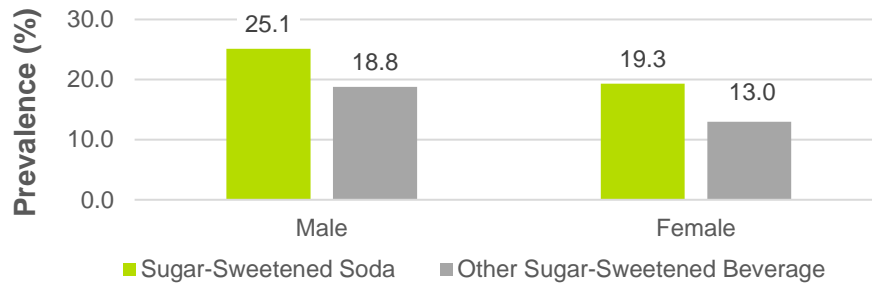


Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

- The estimated prevalence of no exercise in the past 30 days decreases with increasing levels of education.

Sugar-Sweetened Beverage Consumption

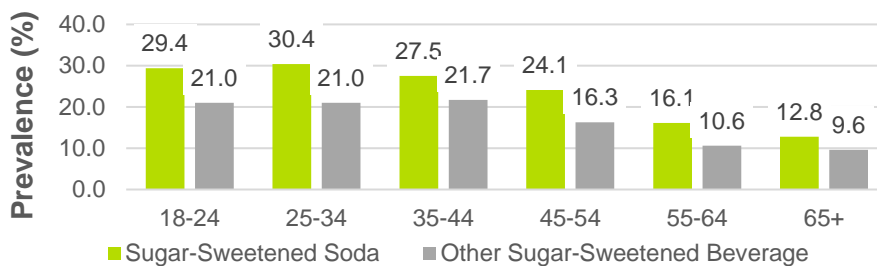
Figure 57. Estimated Prevalence of Sugar-Sweetened Beverage Consumption (1+ Times/Day) Among Adults (Age 18+), by Sex, Ohio, 2018



Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

- The estimated prevalence of both sugar-sweetened soda consumption and other sugar-sweetened beverage consumption (e.g., Kool-Aid, lemonade, sweet tea, sports or energy drinks) is significantly higher among males, compared with females.

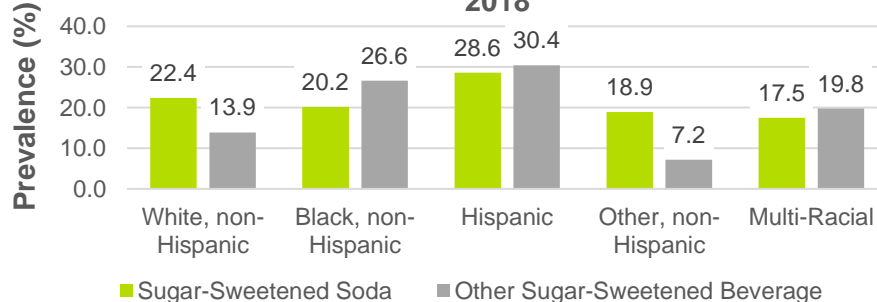
Figure 58. Estimated Prevalence of Sugar-Sweetened Beverage Consumption (1+ Times/Day) Among Adults (Age 18+), by Age Group, Ohio, 2018



Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

- The estimated prevalence of sugar-sweetened soda consumption and other sugar-sweetened beverage consumption is significantly lower among adults ages 55 and older compared with those ages 18-54.

Figure 59. Estimated Prevalence of Sugar-Sweetened Beverage Consumption (1+ Times/Day) Among Adults (Age 18+), by Race/Ethnicity, Ohio, 2018

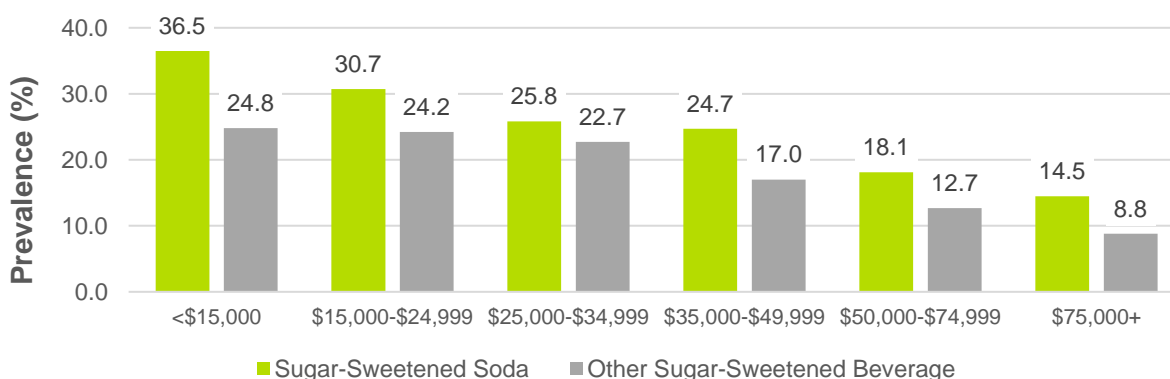


Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

- The estimated prevalence of sugar-sweetened soda consumption does not significantly differ by race/ethnicity, while other sugar-sweetened beverage consumption is significantly higher among Black, non-Hispanic (26.6%) and Hispanic adults (30.4%).

Sugar-Sweetened Beverage Consumption

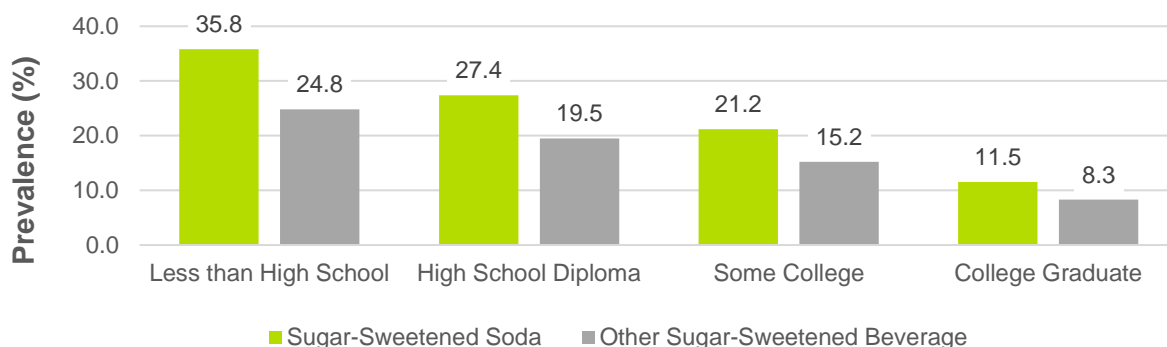
Figure 60. Estimated Prevalence of Sugar-Sweetened Beverage Consumption (1+ Times/Day) Among Adults (Age 18+), by Annual Household Income, Ohio, 2018



Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

- The estimated prevalence of both sugar-sweetened soda consumption and other sugar-sweetened beverage consumption decreases as annual household income increases.

Figure 61. Estimated Prevalence of Sugar-Sweetened Beverage Consumption (1+ Times/Day) Among Adults (Age 18+), by Education Level, Ohio, 2018



Source: 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020.

- The estimated prevalence of both sugar-sweetened soda consumption and other sugar-sweetened beverage consumption decreases as level of education increases.

Progress In Diabetes Metrics

Tables 2-4 present diabetes-related metrics among the total population of Ohio adults, Medicaid beneficiaries, and Ohio Med PPO members, by demographics, for 2015/SFY 2016 (as reported in the 2018 Ohio Diabetes Action Plan), compared with 2018/SFY 2019. The two time periods were compared to determine if there was a significant increase/increase, no change, or a significant decrease/decrease in metrics, as noted in the “Change” column. A significant difference in prevalence among all adults was determined by comparing confidence intervals (CIs) for a given measure. For all other measures, which are based on population-based data, differences were determined by directly comparing the point estimates.

- Total adult population, 2015 vs. 2018 (Table 2)
 - Significant increase in the estimated prevalence of prediabetes overall and gestational diabetes overall and among Black, non-Hispanic adults.
 - Increase in diabetes mortality overall and among males and Black, non-Hispanic Ohioans.
 - Decrease in diabetes mortality among females and Hispanic Ohioans.
- Medicaid beneficiaries, 2015 vs. 2018 (Table 3)
 - Increase in the prevalence of diabetes overall and among both males and females, prediabetes overall and among males and females, gestational diabetes, and type 2 diabetes among adults.
 - Decrease in the prevalence of type 1 diabetes among adults.
- Ohio Med PPO members, SFY 2016 vs. SFY 2019 (Table 4)
 - Increase in the prevalence of diabetes overall and among both males and females, and prediabetes overall and among both males and females.
 - Decrease in the prevalence of type 1 and type 2 diabetes among adults.

Table 2. Estimated Prevalence of Diabetes, Prediabetes, and Gestational Diabetes Among Adults (18+), and Rates of Diabetes Mortality per 100,000, by Sex and Race/Ethnicity, Ohio, 2015 and 2018

Measure	2015		2018		Change
	Prevalence (%)/ Rate per 100,000	95% Confidence Interval	Prevalence (%)/ Rate per 100,000	95% Confidence Interval	
Diabetes Prevalence					
Total	11.0	10.2 - 11.8	12.2	11.5 - 13.0	—
Male	11.4	10.2 - 12.6	11.8	10.8 - 12.9	—
Female	10.7	9.7 - 11.7	12.6	11.5 - 13.6	—
White, non-Hispanic	10.8	10.0 - 11.6	12.3	11.5 - 13.1	—
Black, non-Hispanic	14.1	10.8 - 17.3	12.9	10.2 - 15.6	—
Hispanic	8.4	3.9 - 12.8	9.6	4.5 - 14.7	—
Prediabetes Prevalence					
Total	7.5	6.8 - 8.3	9.7	8.6 - 10.7	↑
Male	7.4	6.2 - 8.5	9.4	7.8 - 11.0	—
Female	7.7	6.7 - 8.7	9.9	8.6 - 11.2	—
White, non-Hispanic	7.2	6.5 - 8.0	8.6	7.7 - 9.6	—
Black, non-Hispanic	10.3	7.0 - 13.6	15.5	10.4 - 20.6	—
Hispanic	N/A	N/A	12.8	3.8 - 21.8	N/A
Gestational Diabetes Prevalence					
Total	7.1	7.0 - 7.2	8.1	7.9 - 8.2	↑
White, non-Hispanic	6.9	6.7 - 7.7	7.9	7.7 - 8.0	—
Black, non-Hispanic	5.9	5.6 - 6.2	7.2	6.9 - 7.5	↑
Hispanic	9.7	9.0 - 10.4	9.3	8.6 - 9.9	—
Diabetes Mortality					
Total	25.2		25.4		↑
Male	30.3		32.2		↑
Female	21.1		19.9		↓
White, non-Hispanic	23.5		23.5		—
Black, non-Hispanic	41.6		44.4		↑
Hispanic	22.3		19.1		↓

Source: 2015 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2017; 2018 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2020; Bureau of Vital Statistics, Ohio Department of Health, 2017; Bureau of Vital Statistics, Ohio Department of Health, 2020.

— No change from 2015 to 2018

↑ Significant increase (prevalence data)/increase (mortality data) from 2015 to 2018

↓ Significant decrease (prevalence data)/decrease (mortality data) from 2015 to 2018

N/A: Estimate does not meet the reliability criteria for reporting set by the CDC

Table 3. Prevalence of Diabetes and Prediabetes by Sex, Prevalence of Gestational Diabetes, and Prevalence of Type 1 and Type 2 Diabetes Among Adult (Age 19+) Medicaid Managed Care Plan Beneficiaries, Ohio, 2015 and 2018

Measure	2015 Prevalence (%)	2018 Prevalence (%)	Change
Diabetes			
Total	9.9	11.3	↑
Male	8.1	9.4	↑
Female	11.4	12.8	↑
Prediabetes			
Total	2.7	3.8	↑
Male	2.2	3.2	↑
Female	3.1	4.4	↑
Gestational Diabetes			
Total	3.5	3.7	↑
Diabetes Type (Adults)			
Type 1	2.0	1.5	↓
Type 2	12.3	12.8	↑

Source: 2015 Medicaid Claims Data; Office of Data Governance and Analysis, Ohio Department of Medicaid; Quality Decision Support System – May 2017; 2018 Medicaid Claims Data; Office of Data Governance and Analysis, Ohio Department of Medicaid; Quality Decision Support System – May 2020.

- No change from 2015 to 2018
- ↑ Increase from 2015 to 2018
- ↓ Decrease from 2015 to 2018

Table 4. Prevalence of Diabetes and Prediabetes by Sex, Prevalence of Gestational Diabetes, and Prevalence of Type 1 and Type 2 Diabetes Among Adult (Age 19+) Ohio Med PPO Members, Ohio, Fiscal Year 2016 and 2019

Measure	Fiscal Year 2016 Prevalence (%)	Fiscal Year 2019 Prevalence (%)	Change
Diabetes			
Total	6.0	8.0	↑
Male	7.1	10.0	↑
Female	5.0	6.4	↑
Prediabetes			
Total	1.8	2.2	↑
Male	1.7	2.3	↑
Female	1.8	2.1	↑
Gestational Diabetes			
Total	0.1	0.1	—
Diabetes Type (Adults)			
Type 1	0.7	0.6	↓
Type 2	7.2	5.5	↓

Source: SFY2016 State of Ohio Med PPO Plan aggregate, Ohio Department of Administrative Services, 2017; SFY2019 State of Ohio Med PPO Plan aggregate, Ohio Department of Administrative Services, 2020.

- No change from fiscal year 2016 to fiscal year 2019
- ↑ Increase from fiscal year 2016 to fiscal year 2019
- ↓ Decrease from fiscal year 2016 to fiscal year 2019

Social Determinants of Health and Diabetes Disparities in Ohio

As demonstrated in Section 1, the burden of the diabetes spectrum in Ohio is not equally distributed among various populations. The diabetes prevalence among Ohio adults is highest among those with the lowest income and education, and the prediabetes prevalence is significantly higher among Black, non-Hispanic adults, compared with white, non-Hispanic adults. In addition, the diabetes mortality rate in Ohio is approximately two times higher among Black adults, compared with white adults. The 2020-2022 Ohio State Health Improvement Plan (SHIP) includes diabetes as one of 10 health priorities and identifies the following priority populations that should be targeted to meet desired outcomes: Black, non-Hispanic residents, adults ages 55 and older, low income, Ohioans with a disability, and residents of Appalachia.

Health equity is achieved when all people in a community have access to affordable, inclusive, and quality infrastructure and services that allows them to reach their full health potential. Equity is often discussed in terms of disparities and inequities. Disparities refer to avoidable differences in health outcomes that exist across communities such as differences in rates of diabetes, infant mortality, and life expectancy.

Inequities refer to differences in access to resources such as healthcare, healthy foods, a job that pays a self-sufficient income, adequate and stable housing, and quality education. Diabetes disparities and inequities result from the intersection of many social issues, which are referred to as the social determinants of health or social drivers of health. According to the National Healthy People 2030 initiative, social determinants of health include economic stability, education access and quality, healthcare access and quality, neighborhood and built environment, and social and community context.

Diabetes Prevention and Management Efforts in Ohio

Proven Approaches to Diabetes Prevention and Management

Diabetes can affect many parts of the body and if left undiagnosed or unmanaged can lead to serious complications such as blindness, kidney damage, and lower-limb amputation. People with diabetes can work as a team with their support network and healthcare team to reduce the occurrence of diabetes complications. Controlling levels of blood glucose, blood pressure, and blood lipids in addition to receiving preventive care in a timely manner, will help people with diabetes live a healthy life.

However, managing the diabetes spectrum is a complicated endeavor and is best addressed by a combination of team-based clinical care, combined with lifestyle changes to prevent or manage the disease. Team-based clinical care relies on healthcare professionals to follow specific medical guidelines for prevention and disease management. Some examples based on the 2021 American Diabetes Association (ADA) Standards of Medical Care in Diabetes include:

- Timely screening and testing for the diabetes spectrum (type 1, prediabetes, type 2, and GDM).
- Assessing and managing comorbidities (e.g., depression, anxiety, obesity, hypertension).
- Assessing appropriate blood glucose targets based on individual patients' needs.
- Recommending pharmaceutical interventions as appropriate.

In conjunction with a team-based approach, it is up to the individual to also take responsibility for the disease by:

- Managing food choices based on healthcare provider recommendations.
- Developing a consistent pattern of physical activity.
- Maintaining pharmaceutical interventions when appropriate.
- Scheduling and attending medical appointments in a timely manner.

Even though team-based clinical care members and patients have their own specific duties when it comes to disease prevention and management, it is essential for both to work together to improve health outcomes. A fundamental aspect of diabetes prevention and management includes utilizing culturally and linguistically appropriate evidence-based programming provided by community organizations. By incorporating referrals to community organizations, healthcare

providers are extending clinical education to the patient via evidence-based programs, in a setting that facilitates group learning, engagement, and peer support. The following programs are evidence-based and available in Ohio to assist the healthcare provider and patient in better diabetes prevention and management.

National Diabetes Prevention Program

The National Diabetes Prevention Program (National DPP) was started out of a growing threat of prediabetes in the United States. Congress authorized the Centers for Disease Control and Prevention (CDC) to establish the National DPP as a public-private partnership to offer evidence-based, low-cost interventions in communities across the United States to prevent type 2 diabetes. Once developed, the program underwent multiple research studies, published in the *New England Journal of Medicine*, proving that when people with prediabetes take part in a structured lifestyle change program, they can cut their risk of developing type 2 diabetes by 58% (71% for individuals older than 60). Reducing type 2 diabetes risk through the National DPP is a result of helping individuals lose 5-7% of their total body weight by eating healthfully and completing 150 minutes of physical activity a week.

CDC considers the evidence-based National DPP to be the gold standard treatment for prediabetes in order to prevent or delay the onset of type 2 diabetes. The program is offered through any of the following delivery modes: in-person, online, distance learning, or a combination of these three methods. It is designed for people who have prediabetes, a history of GDM, or are at risk for type 2 diabetes but who do not already have diabetes. A trained lifestyle coach leads the program to help individuals make changes to certain aspects of their lifestyle such as eating healthier, reducing stress, and increasing physical activity. To ensure that the National DPP is culturally appropriate, lifestyle coaches can adapt the sessions to match a group's background, interests, and needs (e.g., show participants how to prepare healthy versions of popular local or ethnic foods, provide tips for eating healthy during cultural holidays or events, etc.). The year-long program also includes group support from others who may share an individual's goals and struggles.

In April 2018, the Centers for Medicare and Medicaid Services (CMS) began covering the National DPP for eligible Medicare beneficiaries. While health insurance coverage for National DPP is limited in the state of Ohio, it is a covered health benefit through specific private health plans (e.g., Anthem, Cigna) and employers (e.g., Kroger, The Ohio State University Health Plan).

As of July 2021, Ohio had 44 recognized National DPPs (see the National DPP map in Appendix D), operated by YMCAs, non-profit organizations, and health systems. Based on National DPP and satellite site placement, 63.9% of Ohioans live within a 15-minute drive time of a program. An additional 25.5% live within a 16 to 30-minute drive. However, most people are unwilling to drive more than 15 minutes to attend a class, leaving 1.2 million Ohioans without access to these services. Unfortunately, the two regions with the highest diabetes prevalence, based on 2018/2019 data, are also in rural Appalachia where program access is significantly lacking.

Diabetes Self-Management Program

The Diabetes Self-Management Program (DSMP) was developed by the Stanford Patient Education Research Center at Stanford University to help individuals with type 2 diabetes build confidence in their ability to better manage and control their disease. The current program (in English) was developed based on an existing Spanish diabetes management program. A study on the outcomes of the DSMP concluded that participants had significant improvements in depression, symptoms of low blood glucose, communication with physicians, healthy eating, and reading food labels after participating in the program. They also had significant improvements in patient activation and self-efficacy. At 12-months following the program, participants continued to demonstrate improvements in depression, communication with physicians, healthy eating, patient activation, and self-efficacy.

Similar to the DPP, the DSMP also takes place in community settings such as Summa Health System, City of Cincinnati Health Department, and within the Ohio Department of Aging's (ODA) 12 regional Area Agencies on Aging (AAA) throughout the state. The program involves attending six workshops over the course of six weeks, for 2.5 hours a week. While participating in this program, individuals learn techniques to deal with their diabetes; high and low blood sugar; stress and emotional problems such as depression, anger, and fear. The program also addresses appropriate exercise for maintaining and improving strength and endurance, healthy eating, medication use, and working with healthcare providers to improve diabetes management. Participants are also expected to make weekly action plans, share their experiences, and help problem solve as a group.

Health insurance coverage for DSMP is limited, but that may be a result of most organizations in Ohio offering the program free of charge to reduce diabetes prevalence in the state. From January through December 2020, Ohio AAA held 35 DSMP workshops with a total of 188 participants. Due to COVID-19 some workshops were held either by phone or virtually.

Diabetes Self-Management Education

Diabetes Self-Management Education (DSME) is the collaborative process through which people with type 2 diabetes gain the knowledge, skills, and abilities necessary to modify their behavior and successfully manage the disease and its related conditions. Through either group or individual sessions, DSME incorporates the needs, goals, and life experiences of the person with diabetes and is guided by evidence-based standards. The overall objectives of the education are to support the person's informed decision-making, self-care behaviors, problem-solving, and active collaboration with the healthcare team and to improve clinical outcomes, health status, and quality of life.

DSME sessions can be provided in-person, online, or by phone and are typically held in community settings within a health system or community organization. Like DSMP, the session structure has been shown to be an effective strategy for improving blood sugar control, health outcomes, and overall well-being.

Health insurance coverage for DSME has grown over the past few years. As of October 2020, the five Ohio Medicaid Managed Care Organizations began covering the program for their beneficiaries and have partnered together to increase awareness of the benefit.

Based on 2020 CDC data, 35,438 individuals in Ohio had at least one encounter with DSME. While this number is fairly low, compared to the number of individuals with diabetes, Ohioans do have access to more than 130 program locations statewide. As of July 2021, Ohio currently has 134 DSME around the state. Based on DSME placement, 68.1% of Ohioans live within a 15-minute drive of a program location. An additional 27.6% live within a 16 to 30-minute drive, leaving 500,000 people without access to these services.

State Agency Diabetes Plans

The Ohio Department of Health (ODH), Ohio Department of Medicaid (ODM), Ohio Department of Administrative Services (DAS), and Ohio Commission on Minority Health (OCMH) all implement strategies and activities to prevent diabetes, improve diabetes care, and control complications associated with diabetes among the populations of concern to each agency. A summary of these efforts, by agency, is provided below.

OHIO DEPARTMENT OF HEALTH

ODH initiatives are led by staff from both the Bureau of Health Improvement and Wellness (BHIW) and the Bureau of Maternal, Child, and Family Health (BMCFH), as described below.

BUREAU OF HEALTH IMPROVEMENT AND WELLNESS

Diabetes Goal

The goal of the BHIW and BMCFH programs highlighted below is to prevent and manage diabetes in high-burden populations in Ohio through implementation and evaluation of evidence-based strategies that address diabetes management and type 2 diabetes prevention in a mutually reinforcing way and through a coordinated approach to achieve improved health outcomes.

Diabetes Activities

The Diabetes and Heart Disease Prevention and Management (DHDPM) Program, Creating Healthy Communities (CHC) Program, and State Physical Activity and Nutrition (SPAN) Program in the BHIW support activities to prevent and control diabetes and three of the major modifiable risk factors associated with it—physical inactivity, poor nutrition, and obesity. Evidence-based strategies focus on the general population via focused initiatives with priority populations at high risk for developing type 2 diabetes and through local grants made available by the CHC Program which funds 23 counties to improve access to and affordability of healthy food and increase opportunities for physical activity where Ohioans live, work, and play. The SPAN Program also implements strategies designed to improve access to healthy foods and increase opportunities for people to be physically active when accessing everyday

destinations, as well as strategies designed to decrease childhood obesity and increase breastfeeding rates, thereby reducing chronic disease and related risk factors in Ohio.

These strategies build support for and promote lifestyle improvements, health system interventions, linkages between clinical care and community resources, and use of data for decision making and evaluation. These efforts are funded by three federal grants from the CDC, and focus on the following strategies:

- Increasing opportunities for physical activity and access to healthy foods. (CHC and SPAN.)
- Improving access to, participation in, and coverage for the National DPP for people with prediabetes in underserved areas. (DHDPM.)
- Assisting healthcare organizations in implementing systems to identify people with prediabetes and refer them to a National DPP for type 2 diabetes prevention. (DHDPM.)
- Increasing engagement of pharmacists in the provision of medication management for people with diabetes. (DHDPM.)
- Improving access to, participation in, and coverage for DSME for people with diabetes in underserved areas. (DHDPM.)
- Increasing engagement of non-physician team members (i.e., nurses, pharmacists, and patient navigators) in diabetes prevention and management within the healthcare system. (DHDPM.)
- Promoting reporting of A1c measures. (DHDPM.)

Stakeholder Collaboration

To accomplish its diabetes prevention and management work, the DHDPM Program, CHC Program, and SPAN Program engage key stakeholders and partners in state and local activities. Below is a summary of these projects:

Diabetes Prevention Programs – ODH's diabetes prevention work focuses primarily on support for the National DPP. Therefore, the DHDPM Program maintains communication with all National DPPs across Ohio and relays updates, modifications, and changes that might impact their programs. In addition, ODH also convenes in-person/virtual meetings to allow National DPPs to share resources and best practices (e.g., marketing/promotion). As the prevalence of prediabetes continues to rise, the demand for the National DPP will also increase. ODH provides participant stipends and program support incentives (e.g., Calorie King books, measuring cups and spoons, portion control plates, exercise bands, and bodyweight scales) to support the enrollment and retention of high burden populations in the program. Participating National DPPs submit de-identified participant-level data to evaluate the effectiveness of using participant stipends and program support incentives. National DPPs receiving participant stipends are reimbursed when eligible participants meet attendance and weight loss milestones. Connecting National DPPs with healthcare systems and providers also

assists with program enrollment and sustainability, as provider referrals are essential in maintaining program recognition.

Diabetes Training and Technical Assistance Center (DTTAC): Common Ground – Since 2011, the DTTAC at Emory University has been providing training and ongoing technical assistance for lifestyle coaches and organizations delivering the evidence-based National DPP. DTTAC hosts *Common Ground*, an online learning community for lifestyle coaches, program coordinators, and master trainers of the National DPP. In 2019, ODH contracted with DTTAC to create a private space within the *Common Ground* online community platform to foster learning, access resources and provide networking opportunities to scale and sustain the National DPP. As an Ohio Common Ground member, coaches and coordinators network and share information, resources, and best practices, learn about upcoming opportunities, and discuss state-specific topics with each other. As of September 2021, Ohio Common Ground has 73 members participating.

Employer Outreach

- **Midwest Business Group on Health (MBGH)** – In late July and early August 2019, ODH partnered with MBGH to administer a survey to Ohio-based employers. The survey addressed current health benefits and wellness plans, how decisions are made when selecting plans, and coverage for chronic diseases (e.g., prediabetes and diabetes). The survey was distributed to MBGH's member list and through additional employers in Ohio. Twenty-four employers completed the survey. The survey responses were compiled and utilized by ODH staff to guide outreach to employers to increase coverage of the National DPP as a covered medical benefit or as part of a wellness program.
- **Healthy Business Council of Ohio (HBCO)** – ODH participates in the HBCO. Membership in this group allows ODH to stay up to date on the landscape of employer wellness programs and health benefits throughout the state. Through the HBCO, ODH is also able to educate employers and insurers about the National DPP, and the benefits of offering the program for employees.

Outside of these efforts to work with employers through business groups, ODH also conducts direct outreach to employers and insurers to discuss the benefits of offering the National DPP as a covered health insurance benefit or as part of a wellness program. ODH will support the implementation of pilot projects for worksites that are interested in testing the program with their employees.

National Association of Chronic Disease Directors Diabetes Council Leadership Group – NACDD is a national, nonprofit, professional association that advocates, educates, and provides technical assistance to inform programming and grow chronic disease prevention knowledge, leadership, and capacity within state health departments. ODH is a member of NACDD and participates on the NACDD Diabetes Council. The Diabetes Council supports ODH in implementing diabetes prevention and management strategies funded by CDC's

Division of Diabetes Translation. NACDD works collaboratively with CDC to help ensure that the Diabetes Council activities align with national objectives. In addition, ODH's Diabetes Coordinator actively serves on the Diabetes Council Leadership Group. The Diabetes Council Leadership Group is a collective voice for change, inspiring strategic actions for diabetes prevention and management. The Leadership Group includes liaisons that meet with other NACDD committees or external organizations that may bring value to the Diabetes Council. Liaisons help identify cross-cutting issues, support information sharing, and leverage opportunities for collaboration. NACDD provides guidance, fosters leadership, and enables the Leadership Group to set and achieve goals that benefit all state health departments, including Ohio.

Ohio Association of Community Health Centers – ODH has a well-established relationship with the Ohio Association of Community Health Centers (OACHC). After wrapping up a multi-year contract with OACHC, a new contract was established in 2019 to implement a diabetes and hypertension quality improvement project (QIP) within Federally Qualified Health Centers (FQHCs) that focuses on six pathways. The following four pathways are those that will greatly impact FQHC patients with prediabetes or type 2 diabetes:

1. Prediabetes
 - Screen for prediabetes using the ADA type 2 diabetes risk assessment.
 - Use of appropriate diagnostic tests and assignment of the prediabetes ICD-10 code R73.03.
 - Refer to a National DPP.
 - Utilize electronic health records (EHR) to run regular registry reports of patients with prediabetes for pre-visit planning/team huddles, follow-up support/appointments, referral to medication therapy management (MTM), etc.
2. Diabetes
 - Test patients who present signs/symptoms of type 2 diabetes.
 - Assign an ICD-10 code for patients who have a new diabetes diagnosis.
 - Refer to DSME programs.
 - Utilize EHRs to run regular registry reports of patients with diabetes for pre-visit planning/team huddles, follow-up support/appointments, interventions for out of control/newly diagnosed patients.
3. Medication Therapy Management
 - Assess current pharmacy landscape.
 - Determine availability of clinical pharmacy services.
 - Establish workflows to clinical pharmacy services.
 - Conduct MTM.
 - Document feedback from clinical pharmacy services.
4. Community Resources
 - Screen patients for social determinants of health.
 - Establish and maintain a list of community/social services.

- Connect patients to community/social services.

Among all six pathways there are common themes that are carried throughout the project. FQHCs will be required to: (1) run EHR reports for better population health management; (2) monitor clinical quality measures (CQM), and (3) implement clinical decision support for the screening of prediabetes. Over the span of the five-year contract, approximately 20 FQHCs will participate with an overall goal to:

1. Decrease the number of adults with diabetes with a hemoglobin A1c > 9.
2. Increase the number of adults with prediabetes enrolled in a National DPP.

Ohio Business Enterprise – ODH continues to work with Ohio's Business Enterprise Program (BEP) on a Healthy Vending initiative, with funding supported by CHC as well as the SPAN cooperative agreement. In February 2020, a team of four including two CHC staff, one ODH Human Resources representative, and one BEP representative, attended an Action Institute hosted by the National Association of County and City Health Officials to help with the development of an action plan to increase availability of healthy products in ODH vending machines, and identify steps needed to pass a policy to ensure sustainability for these changes.

Ohio Department of Aging (ODA) – Through a partnership with Ohio's 12 AAA, ODA is working to increase the number of individuals attending DSMP in high-need communities. Through this work, AAA are connecting with National DPPs, healthcare systems, providers, and FQHCs to develop a referral mechanism for individuals with prediabetes or type 2 diabetes. For example, an individual with type 2 diabetes who tries to enroll in the National DPP but isn't eligible, due to already having a type 2 diabetes diagnosis, would be referred to the nearest AAA for the DSMP. By increasing the number of individuals with type 2 diabetes who enroll in a DSMP, AAA can reduce any costly future complications of the disease caused by uncontrolled blood sugar.

Ohio Department of Rehabilitation and Correction (ODRC) – Beginning in late 2019, ODH began collaboration with ODRC to improve the health of inmates, visitors, and employees by increasing access to healthy foods sold in commissaries and vending facilities. Due to ODA's previous work around conducting focus groups with older inmates on improvements that could be made for their wellbeing, ODA helped facilitate conversations between ODH and ODRC. Cafeteria services are provided by a contracted company (Aramark), and therefore have their own nutrition regulations. However, there are no nutrition guidelines for foods sold in the commissaries and vending machines in ODRC facilities. Based on observations during visits to ODRC facilities, and review of items sold in commissaries, there are very limited healthy options. ODH is working with the ODRC dietitian to identify items that could be added to commissary lists to increase access to healthier options. After focusing on the commissary items, staff will also work to add healthier options to vending machines. The commissaries and some of the vending machines are only used by inmates, while additional vending machines are available to inmates, their visitors, and ODRC staff, so the project has potential for greater reach and impact.

Ohio Department of Transportation (ODOT) – Active Transportation—walking, biking, and taking transit—has become a shared priority for ODH and ODOT. Increasing access to safe, active forms of transportation is critical to increasing physical activity in everyday life and is proven to reduce the risk for chronic diseases, including diabetes. Instead of working separately on active transportation projects and strategies, the agencies are working together through the development of a statewide plan (Walk. Bike. Ohio.), engaging communities through a statewide campaign (Your Move), and increasing funding for the development of Complete Streets policies and Active Transportation Plans particularly in vulnerable communities.

Ohio University Diabetes Institute – ODH has contracted with the Ohio University Diabetes Institute to expand National DPP reach. The Diabetes Institute will determine feasibility, staff capacity, program referrals, and sustainability as they move towards establishing two to three National DPP satellite sites in areas of the state with high diabetes prevalence who lack a National DPP (e.g., rural Appalachia). In addition to the current contract, ODH also participates as a member of the Diabetes Institute Advisory Board. The Advisory Board is responsible for providing guidance that will advance the research, clinical, educational, and outreach goals of the institute.

Origo Branding – ODH has a contract with Origo Branding to conduct a social marketing initiative to help primary care provider team members (e.g., physicians, nurses, community health workers (CHWs)) to screen and test patients for prediabetes and refer eligible patients to National DPPs. Origo conducted qualitative interviews and an online assessment with healthcare providers working in primary care settings to understand their clinical care practices, barriers, and resources needed to screen, test, and refer patients with prediabetes. Based on the feedback received during the interviews and online assessment, Origo developed strategies and concepts to help primary care provider team members better identify patients with prediabetes and refer them to National DPPs in Ohio. Once the messages and concepts are pre-tested, Origo will work with ODH to develop an implementation plan to deploy and evaluate the initiative.

Toole Design Group – Toole Design Group is a planning firm based in Columbus, Ohio. In order to fulfill SPAN requirements, ODH has required that CHC coordinators add either active transportation planning, Complete Streets policy development, or land use interventions to their workplans each year. These strategies often require a great deal of assistance in overcoming barriers to implementing long-term changes to the built environment. ODH contracts with Toole Design Group to provide technical assistance for these strategies. Toole Design also assists state-level SPAN active living work to increase access to physical activity by developing and providing workshops on various active living strategies in CHC counties and other counties throughout the state.

Wholesome Wave – The DHDPM Program and CHC Program have worked collaboratively with a national non-profit, Wholesome Wave, over the past three years to implement produce prescription programs for people with diabetes or prediabetes. From June 2017–July 2018, Wholesome Wave implemented a produce prescription program with two National DPPs, one

in Dayton and one in Akron, to reduce food insecurity in an effort to reduce A1c levels and body mass index (BMI) among participants. Beginning in the fall of 2018, ODH and Wholesome Wave began a new partnership with two Ohio FQHCs to establish the Wholesome Rx program. This new program is designed to serve 200 patients with a diagnosis of prediabetes or diabetes who receive care at an OACHC-affiliated FQHC. Community Health and Wellness Partners of Logan County Clinic and Hopewell Health Clinic in Athens provide nutrition education (either in person or remotely) to participants who then receive fruit and vegetable vouchers redeemable at participating retail and farmers' market locations. This program ended August 31, 2020; however training and technical assistance is being provided to help make these initiatives sustainable beyond the contract period.

Reach

The priority populations for ODH diabetes initiatives are people at high risk for type 2 diabetes, including those with prediabetes, and those diagnosed with type 2 diabetes, who experience racial/ethnic or socioeconomic disparities, including inadequate access to care, poor quality of care, or low income.

Funding

Amount*	Program/Funding Source	Funding Period
Year 1: \$973,707 Years 2-5: \$1,190,087	DHDPM Program Centers for Disease Control and Prevention's Improving the Health of Americans Through Prevention and Management of Diabetes and Heart Disease and Stroke (DP18-1815)	September 30, 2018 – June 29, 2023
\$3,300,000/Annually	CHC Program Centers for Disease Control and Prevention's Preventive Health and Health Services Block Grant	October 1, 2021 – September 30, 2022
\$923,000/Annually	SPAN Program Centers for Disease Control and Prevention's State Physical Activity and Nutrition Cooperative Agreement	September 30, 2018 – September 29, 2023

BUREAU OF MATERNAL, CHILD, AND FAMILY HEALTH

Diabetes Goal

The Gestational Diabetes Mellitus (GDM) Collaborative has the over-arching goal to prevent, delay, or diagnose earlier, the onset of type 2 diabetes in women who have a history of GDM. Approximately 12.5% of women with a history of GDM will be diagnosed with type 2 diabetes within one year of delivery, with rates as high as 60% within 10 years of delivery. In fact, GDM is the strongest known predictor of type 2 diabetes.

Diabetes Activities

The Ohio GDM Collaborative is a unique collaboration between ODH's Coordinated DHDPM Program and BMCFH. The team works to improve preventive healthcare provision in Ohio in accordance with national guidelines; increase the public's knowledge about GDM; reduce type 2 diabetes risk; and increase access to preventive care. In addition, it has worked to improve the understanding of the epidemiology of GDM in Ohio by increasing the availability, use, and dissemination of public health data. The Collaborative has published data books, surveyed Ohio healthcare providers on GDM knowledge and practices, and developed a website of resources for providers and consumers (www.ohiogdm.com). The preponderance of recent efforts has supported the launch and spread of the GDM Postpartum Care Learning Collaborative, described under Stakeholder Collaboration.

Stakeholder Collaboration

Ohio Department of Medicaid – ODH and ODM funds the Government Resource Center at The Ohio State University to administer the GDM Postpartum Care Learning Collaborative, a quality assurance initiative with the following goals:

- Identify best practices for improving diabetes screening, postpartum, and ongoing patient care.
- Implement practitioner and patient-focused toolkits with resources on clinical guidelines and best practices.
- Provide support to clinical teams to implement diabetes screening, identification, education, prevention, and treatment.

The collaborative worked with experts in the field of GDM and type 2 diabetes and completed five phases of activity prior to State Fiscal Year 2020 (SFY20) that focused on prenatal care providers, primary care providers (PCP), and providers at a one-location mother-infant dyad program. Strategies were implemented to enhance prenatal and postpartum education related to GDM and type 2 diabetes, increase compliance with postpartum visits and oral glucose tolerance test screening guidelines, and improve care coordination between prenatal and postpartum care providers at maternity care sites that serve a high volume of Medicaid clientele. Providers received patient and provider toolkits, access to clinical experts, monthly coaching calls, and rapid cycle data feedback. Providers were instructed to implement treatment protocols and processes with clients diagnosed with GDM or at risk for developing it. All materials and instructions are in line with guidelines from the ADA and the American College of Obstetricians and Gynecologists.

Evaluation results showed improvements in the provision of prenatal education and postpartum visit completion. Poor communication and sharing of information between obstetricians/gynecologists and PCPs has been identified as a major barrier to improving type 2 diabetes screening rates. Improved communication can result in better patient education and evidence-based interventions such as lifestyle modification that may reduce or delay the onset of type 2 diabetes.

SFY20 activities include a pilot with home visiting providers and the expansion of primary care activities to additional providers.

Current Quality Improvement Initiatives

- **Home Visiting (HV) Providers**

This project aims to reduce postpartum risk of developing type 2 diabetes by: ensuring all women who receive HV services get a GDM assessment, screening, and care coordination support; enhancing coordination of care by ensuring women attend a postpartum visit and establish care with a PCP; improving education for women with GDM on risks and subsequent health challenges; incorporating GDM education into the existing HV curriculum; and supporting a system of continuous quality improvement.

This project uses the Institute for Healthcare Improvement model to assess and identify women with a previous or current pregnancy impacted by GDM and work with those women to improve prenatal education and facilitate postpartum care. Eleven HV sites across Ohio participated in the 12-month learning collaborative from July 2019 through June 2020 to improve postpartum visit rates, postpartum testing for type 2 diabetes, and receipt of education about topics that impact the likelihood of developing type 2 diabetes.

Patient resources and a non-clinical change package specific for HV staff were developed and implemented during visits to help educate moms on the association between GDM and type 2 diabetes, healthy lifestyle changes including diet and exercise, as well as the testing requirement and frequency for type 2 diabetes. Additionally, the change package emphasizes the need for a PCP and promotes processes for facilitating referrals to PCPs. HV staff complete eligibility forms to determine participation in the GDM program and, if women screen positive for GDM history, HV staff complete an initial intake form and subsequent monthly data collection forms on their patients. Data feedback is provided on both the site and aggregate level to participating teams monthly. HV sites engage in monthly action period calls to share best practices, identify challenges and barriers, and review aggregate data.

- **Primary Care Providers** (<http://ohiogdm.com/providers/primary-care-providers>)

National leading subject matter experts in obstetrics, family medicine, internal medicine, pediatrics, GDM, and type 2 diabetes worked together to succinctly define clinical best practices for assessing women at high risk for developing type 2 diabetes, providing appropriate screening and referrals for those women, and subsequently providing education and lifestyle interventions to help manage risk factors and/or diagnoses.

Resources were refined from the previous pilot and streamlined to focus on the most important topics as identified by the project's clinical advisors, sponsors, and through survey feedback

from pilot participants. Sites receive clinical change package and patient resources (toolkits), access to clinical experts, monthly coaching calls, and rapid cycle data feedback.

Participating sites identify women 18-44 years of age with a history of GDM or with a BMI greater than 25 and two or more type 2 diabetes risk factors and ask them when their last type 2 diabetes test was performed. Based on EHR data, a type 2 diabetes test is scheduled for any woman without a test within 12 months. Follow-up, education, and care are recommended based on the type 2 diabetes test results.

Aims by February 2021 are to: 1) increase the assessment rate of patients with a history of GDM and other risk factors for type 2 diabetes among eligible women in participating practices, and 2) increase type 2 diabetes screening within participating practices among women identified as high risk for type 2 diabetes.

Reach

Medicaid-insured women are prioritized due to their greater risk of diabetes and barriers to healthcare access and adopting preventive behaviors.

Funding

Amount	Funding Source	Funding Period
\$199,044	State General Revenue Funds	SFY 20
\$414,633	Federal Medicaid	
\$208,996	State General Revenue Funds	SFY 21
\$435,395	Federal Medicaid	

Ohio Department of Medicaid

The ODM serves low-income individuals of all ages, residents age 65 and older, and residents living with a disability. More than 2.8 million Ohioans are insured through Medicaid, nearly one-fourth of the state's population. Most Medicaid recipients (nearly 86%) are enrolled in a managed care plan (MCP) that manages and pays for their healthcare services. MCPs contract with hospitals, physicians, clinicians, and other healthcare professionals to provide person-centered healthcare to their members. ODM currently contracts with six MCPs: Buckeye Health Plan, Paramount Advantage, CareSource, UnitedHealthcare, Molina, and Aetna. Individuals who receive dual Medicaid and Medicare benefits, and who reside in one of the 29 demonstration counties, are eligible for the MyCare program. These individuals receive healthcare services through one of five Ohio MyCare health plans. (Note: Of the six MCPs listed above, Paramount does not offer a MyCare plan and Aetna is solely a MyCare plan with ODM.)

Diabetes Goal

ODM's Collaborative Quality Strategy (shown below) is designed to improve the health of Ohioans by focusing on specific populations, designing, implementing, and improving systems of care, and producing targeted desired health outcomes.



Diabetes is identified within the Ohio Medicaid Quality Strategy under the Chronic Conditions Population Stream, along with hypertension and asthma, as highly prevalent conditions negatively impacting the Medicaid population. ODM monitors national performance measures assessing the quality of services provided by MCPs to members with diabetes, focusing on management of the disease along with associated comorbidities, including hypertension and other cardiovascular diseases, retinopathy, neuropathy, obesity, and depression. ODM utilizes these measures to evaluate the performance of the Medicaid MCPs and to inform efforts to incentivize the plans to improve health outcomes.

Diabetes Activities

In their overall efforts to improve the health of the populations they serve, ODM's MCPs have great latitude to provide member benefits and strategies that go beyond their direct payment for medical services, medications, medical equipment, or supplies. These strategies are aimed at improving members' access to services and addressing barriers to care and social determinants of health, including those that contribute to health disparities. They include programs that reach out to members and empower them to proactively manage their conditions. A partial listing of strategies and programs offered by MCPs aimed at diabetes prevention and management includes:

- Transportation and appointment scheduling assistance.
- Various diabetes education programs (e.g., DPP; DMSE; Medical Nutritional Therapy).
- Care Management coordination with primary care providers.
- Referrals to community-based organizations.
- Educational materials, newsletters, and care tips.
- Medication text message reminders.
- Incentive programs for A1c testing.
- Mail order pharmacy programs for diabetes equipment and supplies.
- Web-based tutorials on glucose testing techniques and diabetes management.
- Use of medical claims data to inform providers of members' service utilization.
- Utilizing pharmacists to provide MTM to improve medication adherence.
- Assistance to members to access healthful food and physical activity to enhance wellness.

Quality Improvement Projects

Quality improvement projects (QIPs) are an important tool in ODM's Collaborative Quality Strategy. In 2019, ODM began planning a QIP with the aim of decreasing the number of Ohio Medicaid members with type 2 diabetes whose condition is under poor control (A1c >9%). All six MCPs, seven academic medical centers, and 20 clinical practices from throughout Ohio are actively participating in project planning. During the two years of the project's active phase, the participating practices will test interventions to improve diabetes treatment. At the same time, the MCPs will test the effectiveness of payer-level interventions to support the clinical practices and remove barriers experienced by their members, including those contributing to health disparities. Lessons learned from the QIPs will influence payer practices and policies to improve outcomes of diabetes management.

ODM is also spreading best practices in its diabetes prevention and management efforts. January 2019 witnessed the kickoff of the Ohio Diabetes Consortium. Funded by ODM through the Ohio Medicaid Technical Assistance and Policy Program (MEDTAPP) and including representation from Ohio's seven academic medical centers, the Ohio Diabetes Consortium will use a variety of means to educate Ohio's medical providers about best practices in prevention and management of diabetes to improve health outcomes and reduce disparities. Its strategies will include web-based professional seminars, conferences and workshops, podcasts, and dissemination of best practices via a website in conjunction with the Ohio Cardiovascular Collaborative, its organizational predecessor, also funded by the ODM via MEDTAPP.

For several years, ODM has collaborated with ODH to support the Ohio GDM Collaborative including participation in a statewide GDM Postpartum Care Learning Collaborative described earlier in more detail in this report.

Value-Based Care

ODM's diabetes prevention and management activities also include innovative collaborations with healthcare practices and providers. Funded by a federal State Innovation Model (SIM) Program grant, ODM has been actively engaging partners in designing a new healthcare delivery payment system that rewards the value of healthcare services. Two components of this system are the Comprehensive Primary Care (CPC) program and Episodes of Care (Episodes). ODM has recruited more than 250 CPC practices throughout the state that are participating in the program, serving approximately 1.4 million Medicaid recipients. The participating primary care practices receive a per-member-per-month (PMPM) payment to organize and deliver care that broadens access and improves care coordination, leading to better outcomes and lower total cost of care. The program has built-in standards that CPC practices are expected to meet to be eligible for additional financial incentives (shared savings). These standards are in categories of activity requirements, efficiency matrixes, and quality matrixes. The 20 quality measures are derived from the CMS' standards for patient-centered medical homes (PCMH) and are aligned with ODM's standards for its MCPs. Of these 20 measures, seven apply to the adult health category, with three of these specific to comprehensive diabetes care: A1c in poor control (>9%); A1c testing; and eye/retinal examination for patient with diabetes. CPC practices and their PCP receive quarterly files that identify, at a patient and practice level, which patients have diabetes, which patients are meeting the criteria for specific diabetes-related measures, and whether the practice is meeting quality thresholds for measures. The CPC practices use this information to improve care for patients with diabetes at both the individual and practice level. Practices are incentivized to improve and maintain the quality of patient care through their PMPM payments and additional shared savings if performance measures are achieved.

Episodes of Care is the second value-based purchasing model that ODM is implementing under the SIM Program grant. Episodes of Care is a provider-level program designed to produce positive patient outcomes while encouraging optimal service utilization. Episode-based payments reduce incentives to overuse unnecessary services and give healthcare providers increased flexibility. A Principal Accountable Provider receives a set fixed payment to provide all the services needed by a patient for a specific treatment condition or episode. Wave 3 of the episode-based payment implementation included the management of a diabetic ketoacidosis/hyperosmolar hyperglycemic state. This episode, valid for patients ages 0-64, tracks various quality metrics including a 30-day follow-up visit, readmission rate, intensive care unit (ICU) utilization rate, emergency department visit rate, imaging rate, and diabetes medication rate.

Assessment and Monitoring

The Ohio Medicaid MCP Agreement (see Section 7 - Resources) is ODM's contract with the Medicaid MCPs. In the Provider Agreement, ODM has included provisions to monitor the performance of the plans and to encourage them to improve their performance.

In the Quality Care (Appendix K) portion of the Provider Agreement, ODM establishes expectations for Quality Care according to a population health approach. Within this framework, an MCP is required to assign each of its covered members to one of five population streams, one of which is chronic conditions. Additionally, the plan must conduct a health risk assessment of all members and assign them to a risk level according to their assessed health conditions, needs, and barriers. The plan must address these needs and barriers using strategies such as case management and quality improvement initiatives and must monitor and evaluate the effectiveness of these strategies and refine them accordingly.

The Quality Measures and Standards (Appendix M) portion of the Provider Agreement outlines the quality measures and standards ODM uses to evaluate the performance of Medicaid MCPs in key program areas related to access, consumer satisfaction, and clinical quality. These measures are established in accordance with national specifications (i.e., Healthcare Effectiveness Data and Information Set methodology of the National Committee for Quality Assurance) and are used to evaluate MCP performance to determine compliance with minimum performance standards. ODM has created indexes of the performance measures according to its population health Collaborative Quality Strategy. The Chronic Conditions population stream contains CQMs related to comprehensive diabetes care including: A1c testing; A1c levels (indicating adequate or poor control); eye exams to screen for diabetic retinal disease; blood pressure control and statin therapy for patients with diabetes; medical attention for nephropathy; and diabetes-related lower-extremity amputations. Medicaid MCPs are evaluated based on their relative ability to achieve defined targets for each of these measures. They are expected to maintain a focus on continuous quality improvement in their provision of care and services. They may experience contractual sanctions for failing to meet applicable minimum standards.

The Quality Withhold (Appendix O) section of the Provider Agreement describes ODM's Medicaid Quality Withhold program. In the past, Medicaid has withheld a specified amount from the MCPs' allotted funding (3% in calendar year (CY) 2019) and used quality indices to calculate an annual withhold payout based on their performance on the indices. Within the Chronic Conditions population stream, diabetes has been one of four weighted quality indices used in the Quality Withhold program. The diabetes index is composed of multiple measures and uses the MCPs' self-reported audited performance data submissions. In CY 2020, to account for the significant impact of COVID-19 on the provision of care and collection of performance measures requiring medical record review, ODM will be assessing the MCP's ability to address member needs and barriers related to COVID-19.

Stakeholder Collaboration

The activities detailed above demonstrate the scope and range of ODM's active collaboration in diabetes prevention and management with numerous stakeholders, both directly and indirectly through its contracts with its MCPs and other vendors. These include partnerships with other Ohio state agencies, Ohio academic medical centers (chiefly through the MEDTAPP program), and medical practices and practitioners.

Reach

By promoting clinical best practice through its quality improvement projects (QIPs) and collaboratives such as the Diabetes Consortium, the reach of ODM's diabetes activities extends beyond its 2.8 million covered members to individuals covered by Medicare and private insurance.

From the data analytics perspective, ODM can view all eligible members anywhere on the diabetes spectrum with the ability to narrow the focus based on the type of outcome(s) or group being targeted. For example, ODM has developed guidance for MCPs in the provision of enhanced maternal care services for women of reproductive age with chronic conditions such as diabetes.

ODM has the functionality to map where members with diabetes are located in order to drill down to a more granular level and pinpoint geographic areas based on the clinical outcome, i.e., areas where diabetes is being poorly managed based on national measurement standards, areas with high comorbidities—both medical and/or behavioral health-related—or areas with well-managed diabetes. ODM tracks additional diabetes-related measures where diabetes is a comorbid condition with other diseases such as depression.

Funding

ODM utilizes federal and state funds to pay for services rendered related to diabetes (e.g., procedures, pharmaceuticals, and medical equipment and supplies) through fee-for-service payments or through capitated rates paid to Medicaid MCPs. MCP capitations provide for payment for rendered services as well as other value-added activities and member benefits (e.g., transportation, patient education, care management). Increasingly, the ODM is shifting funding towards value-based models such as described for the CPC and Episodes of Care programs. Fee schedules can be found on ODM's website: <http://www.medicaid.ohio.gov/PROVIDERS/FeeScheduleandRates/SchedulesandRates.aspx>.

OHIO DEPARTMENT OF ADMINISTRATIVE SERVICES

Diabetes Goal

The State of Ohio wellness program—*Take Charge | Live Well*—seeks to create an environment that empowers State of Ohio employees and their families to maintain optimal health, wellness, and productivity by taking responsibility for their own health and use of the healthcare system.

Diabetes Activities

The Ohio Med Preferred Provider Organizations (PPO) Plan is self-funded and available to permanent full-time and part-time employees, as well as eligible spouses and dependents. As of SFY2020, the State began to offer a High Deductible Health Plan (HDHP) with a Health

Savings Account (HSA). Per the Affordable Care Act (ACA), the State of Ohio is required to offer medical coverage to part-time employees who average at least 30 hours of service per week over a 12-month measuring period. Employees hired with the reasonable expectation of averaging 30 hours or more per week for an entire 12-month period are eligible to enroll for medical coverage upon hire. The medical plans are funded by contributions from both employees and state agencies, and includes medical, prescription drug, behavioral health, and wellness program benefits. The plans are administered to approximately 110,000 employees, spouses and dependents. The Ohio Med PPO and Ohio Med HDHP plans run on a SFY beginning July 1 through June 30. The plans allow employees and any eligible dependents access to both network and non-network providers.

In SFY2017 through SFY2019, the State of Ohio contracted with Aetna, Anthem, and Medical Mutual of Ohio (MMO) to serve as the third-party administrators (TPAs) for the Ohio Med PPO. However, Aetna was no longer an option beginning in SFY2020. These TPAs each served specific regions of the state based upon the first three digits of the employees' home ZIP code. The plan did not contain exclusions for pre-existing conditions; therefore, coverage was available to employees and eligible dependents regardless of current health or health history. The Ohio Med HDHP is also administered by Anthem and Medical Mutual, and the HSA accounts are administered by Optum Bank.

Beginning in SFY2020, the responsibility for administration and coordination of disease management programs and nurse line offerings was removed from the wellness vendor, Sharecare, and transferred to the medical TPAs—Anthem and Medical Mutual. DAS is currently working with the TPAs on the utilization and reporting for these programs.

Members enrolled in the Ohio Med PPO Plan are eligible for the Diabetes Management program in which diabetic medication, supplies, and durable medical equipment are available at no copay or deductible if an A1c is on file within the past 12 months. Approximately 5,700 eligible members with diabetes (85%) utilized this benefit in SFY2019. This addresses the goal of providing an incentive for existing members to better manage and remain compliant with their medication and treatment regimen. Doing this may help keep medical costs down by potentially reducing the number of emergency room visits and reducing gaps in care. Enrollees in the Ohio Med HDHP are not eligible for this benefit.

Preventive care services are also offered with no deductible, copayment, or coinsurance for network providers. Examples of these services include, but are not limited to, glucose and A1c testing, hematocrits, complete blood counts, urinalysis, lipid profiles, influenza and pneumococcal immunizations, and well-person examinations. Preventive services are offered to enrolled employees and dependents once per plan year.

The State of Ohio offers a comprehensive health and wellness program called *Take Charge | Live Well*. The wellness vendor for SFY2017 through SFY2020, Ohio Med PPO and Ohio Med HDHP Plans was Sharecare. This program provided tools, guidance, and resources for members to be healthier, happier, and more productive, while reducing healthcare costs. Employees and spouses who were enrolled in the Ohio Med PPO or Ohio Med HDHP Plans

could earn up to \$350 in incentive rewards by taking steps to improve their health (i.e., monthly challenges, wellness trackers). Eligible members were encouraged to participate in health risk assessments, on-site biometric screenings, and Lifestyle Management health coaching. Other areas of the *Take Charge | Live Well* program included a monthly wellness focus, on-site flu vaccination clinics, a website with program resources, weight-loss, fitness and wellness challenges, and a tobacco cessation program.

The Sharecare coaching model was a union between a high-tech platform and high-touch interactions. One-on-one coaching was supported by Sharecare platform insights to deliver personalized support through user-selected means of engagement: phone, email, and in-app messaging. Coaches used personalized data attributes from the members' Personal Health Profile to gain a comprehensive view of health behaviors and lifestyle factors.

Sharecare's Lifestyle Management coaching program, accredited by the National Committee for Quality Assurance, was a high-touch program that promoted the achievement of targeted health and wellness goals by leveraging the RealAge test (health risk assessment) and biometric data to support behavior change. Lifestyle Management coaching was a 12-month program that delivers behavior change interventions to members who have been identified as at-risk for health-related issues/diseases (e.g., diabetes, arthritis, obesity, etc.). Members had access to trained health coaches who educate members on actionable and lifestyle-related health risks, such as healthy eating, physical activity, stress, and weight management.

On July 1, 2020, the *Take Charge | Live Well* program launched a new brand, logo, and third-party administrator, Virgin Pulse. The Virgin Pulse platform offers a centralized Hub model with increased programs, features, and options for eligible members. As part of the expanded wellness offerings, members identified as having prediabetes will have access to the CDC's National DPP through the online program, *Transform*.

Stakeholder Collaboration

The State's medical and behavioral health third-party administrators, pharmacies, and wellness vendors coordinate efforts through claims data and regularly scheduled meetings. In addition, the State continues to utilize its network of Wellness Ambassadors who work at more than 100 agency locations throughout the State. Wellness Ambassadors help lead their agency's wellness initiatives by promoting events such as biometric health screenings, challenges, flu shot clinics, and other *Take Charge | Live Well* programs. They support their agency's wellness vision, strategy, goals, and direction by working with leadership to turn ideas into initiatives. Through enthusiasm and support, Wellness Ambassadors build goodwill in the workplace for the State's wellness program. This grass-roots method provides resources directly to employees at a local level, while building trust and positive acceptance of wellness initiatives. Wellness Ambassadors work with DAS to play a vital role in informing employees about the value of the wellness program and the health benefits that can be gained by participating in the program. Wellness Ambassadors are tasked with effectively communicating program changes, monthly health topics and events, and empowering employees to make

behavioral changes to improve their lives. It is through collaboration with Wellness Ambassadors that wellness initiatives are possible throughout all state agencies.

Reach

The Ohio Med PPO and Ohio HDHP Plans have roughly 110,000 covered lives with approximately 7% of the population having received treatment for diabetes. In addition to those who already have a diabetes diagnosis, the state endeavors to increase the overall health and wellness of its population while reducing healthcare costs.

Funding

The current diabetes programs and initiatives are incorporated into the Ohio Med PPO Plan, which is participant and employer funded. Premium contributions from employees and agencies are used to support claim costs and administration of the Ohio Med PPO Plan.

OHIO COMMISSION ON MINORITY HEALTH

Diabetes Goal

The Ohio Commission on Minority Health's (OCMH) goal is for diabetes prevention program participants to remain diabetes free, or to have their health improve to the extent participants no longer have prediabetes.

Diabetes Activities

OCMH was established in 1987 through legislation passed by the Ohio General Assembly. OCMH is dedicated to eliminating disparities in minority health through innovative strategies and financial opportunities, public health promotion, legislative action, public policy, and systems change. As per the Ohio Revised Code, the target minority populations served by OCMH are African Americans, Hispanics/Latinos, Native American Indians, and Asian American Pacific Islanders.

OCMH provides grants for health promotion and prevention of disease targeting minority Ohioans who are economically disadvantaged. These innovative and culturally specific grants fall under the Demonstration Grant Program Series, which can focus on diabetes, cancer, cardiovascular disease, infant mortality, substance abuse, or violence. In SFY2020 and currently in SFY2021, OCMH is providing limited funding for two diabetes demonstration grants. Funded projects must address a specific community with a methodology yielding measurable outcomes for behavior change. They must be preventive in nature and promote behavior change by tapping into the attitudes, values, and beliefs of the target populations. Programs must outline goals, objectives, and activities, with the projected number of participants to be served, that are clearly defined and measurable in process and client behavior outcomes.

To evaluate program success, grantees are required to target clinical measures that are identified by national Healthy People 2020 goals established by a national collaborative managed by the Office of Disease Prevention and Health Promotion within the U.S. Department of Health and Human Services. It is required that grantees select indicators that document a change in the required clinical measurement such as A1c reduction, body weight reduction, blood pressure reduction, cholesterol-level reduction, or other relevant clinical health measurements. In addition, all funded projects must measure change in increased physical activity as well as knowledge, skills, and awareness. Funded programs are responsible for contracting the quarterly collection of clinical health measures directly or through partnerships. It is the hope that once rigorously evaluated, a demonstration grant can be proven effective, and potentially replicated as an evidence-based program.

During SFY2018/2019, the Commission funded three diabetes prevention grants. Please note that SFY2018/2019 demonstration grants are no longer funded in the present biennium, except for Murtis Taylor Health Human Services System (MTHSS), who applied for funding using an expanded model through SFY20/21. (See description below.)

Grantee Agency: YMCA of Greater Cincinnati

Project Title: Diabetes Prevention Program (DPP)

YMCA of Greater Cincinnati's DPP intentionally targeted low-income and minority populations, as these are the individuals most at risk for developing type 2 diabetes. This DPP was partially supported through United Way of Greater Cincinnati and worked to ensure that everyone, regardless of their income, had access to health resources that can prevent the onset of diabetes. By helping individuals reduce the likelihood that they will be diagnosed with diabetes, the program also reduced the likelihood that they will suffer other health complications and thus also reduced the financial implications of this disease. Health complications linked to diabetes can limit one's ability to be gainfully employed, to support their families, and to pay for their own care.

Additional grant funding from OCMH for *Reduce Weight Reduce Risk (RWRR)* allowed the YMCA of Greater Cincinnati to incorporate a community care coordination approach into its current diabetes prevention programming for 100 adult men and women. *RWRR* is a multi-level, culturally relevant program that brings together screening, prevention, and lifestyle balance programs and community support resources to ensure that more individuals are aware of their risks for diabetes and encounter no barriers in working to reduce those risks. The YMCA expanded current programming to include a Community Health Worker (CHW), who worked closely with partners to refer clients to the program and then worked with those clients to eliminate barriers to participation and ensure they remained active and engaged. The addition of a CHW allowed the YMCA to focus on serving a higher percentage of low-income and minority individuals and alleviate some of the financial burden to pursuing a healthy lifestyle. In addition, *RWRR* added an additional layer of evaluation to the program, including

pre/post HbA1c testing. The community care coordination model is vital to ensuring that minority populations at risk for developing type 2 diabetes can access the care they need. The CHW served as a bridge between ethnic, cultural, or geographic communities and healthcare providers, and engaged the community to prevent diabetes through education, lifestyle change, self-management, and social support. CHW interventions were linked to improvement in service delivery, diabetes knowledge, patient activation, self-care behaviors, treatment satisfaction, and clinical measures. Once enrolled, the primary focus of the CHW/patient relationship was goal setting, overcoming logistical and social barriers, coordinating lifestyle activities, and support.

Grantee Agency: Lorain Urban Minority Alcoholism and Drug Abuse Outreach Program (UMADAOP)

Project Title: Diabetes We Got U

The mission of Lorain UMADAOP "is to reduce the risk of alcohol, tobacco, and other drug (ATOD) abuse and promote abstinence through outreach and prevention strategies targeting African American and Hispanic/Latino communities in Lorain County. Lorain UMADAOP provided "Diabetes We Got U," a program that encourages participants to examine their behaviors and eliminate factors that may increase their risk of type 2 diabetes. The premise was to encourage increased education and awareness to enhance one's resilience skills to reduce the chances of developing diabetes. The program focused on the concept of a "Boot Camp for Diabetes," which focused on lifestyle change. The program targeted Hispanic/Latino and African American people who were at high risk of developing diabetes. The program enhanced community knowledge about the risk factors for diabetes and assisted with eliminating the stigma of having the disease.

Grantee Agency: Murtis Taylor Human Services System (MTHSS)

Project Title: Type II Diabetes Prevention & Health Literacy Program

MTHSS is continuing to enhance and expand the Type 2 Diabetes Prevention & Health Literacy Program based on the evidence-based National DPP. The program's purpose is to provide a participatory community-based program to adult health consumers that fosters awareness and educates about risk factors for type 2 diabetes and provides ongoing awareness, education, and physical activity that promotes individual and community health. The intent and expectation for this program is to eliminate, reduce, and/or delay the onset of type 2 diabetes for at-risk individuals and for improved community health. The program will be strengthened as follows: 1) a Health Literacy Component will provide an additional prevention modality and tools, and 2) education and awareness of the relationship of smoking to increased risk of the development of type 2 diabetes will be provided to smokers. Health Literacy is defined as "the degree to which individuals have the capacity to obtain, process,

and understand basic health information and services needed to make appropriate health decisions.” (<https://health.gov/communication/literacy/olderadults/literacy.htm>)

The target population will be 100 low- and fixed-income adults annually, ages 40 years and older, who live in Greater Cleveland. Approximately 90% are expected to be low- and limited-income African Americans from Mt. Pleasant, one of the neighborhoods in the city with the highest number of adults with diabetes.

A Lifestyle Coach/Case Manager will assist and empower participants to learn and practice strategies for incorporating physical activity and healthy lifestyle habits into daily life. The LC/CM will work one-on-one and in group sessions, administer the CDC-approved health risk and the Mindfulness Based Stress Reduction assessments, both before and after participation in the program. There will be weekly, monthly, and quarterly joint, interactive education and awareness sessions, referrals to medical assessments, social and supportive services, linkages to web-based tools and community resources such as fresh food markets, and health literacy activities.

In Year two, the program will be enhanced by using participants who completed the program in Year one as mentors or peer lifestyle coaches.

Grantee Agency: University of Akron Foundation**Project Title: Finding A Better You (FABU) Cardiovascular Disease and Hypertension Prevention Education and Behavior Change**

The FABU project will address both heart disease and diabetes as these diseases are intertwined. The overarching goal of FABU is to comprehensively address reduction of risk factors by implementing/sustaining culturally competent exercise and nutrition education programs for health promotion/disease prevention. Cultural competence includes socially and culturally acceptable exercise programs, like line dancing, and will include wheelchair exercises for the physically disabled. The nutrition programs will include healthy eating and cooking of cultural foods, menu planning, and utilizing fresh produce from community gardens. Smoking cessation information will be included as part of a healthy lifestyle in both the exercise and nutrition programs. All FABU programs will be delivered on-site by trained experts from the community. The FABU project will target ethnic, gender, age, and physically disabled underserved populations living in designated ZIP Codes in Akron.

Over the two-year grant cycle, the FABU project plans to serve 100 participants among approximately 1,000 residents who live at five Akron Metropolitan Housing Authority apartment complexes and three Alpha Phi Alpha Homes, which house low- and moderate- income families and the elderly. The FABU project is scheduled for two times/week for eight weeks each quarter; the exercise and nutrition programs will each be held one day a week (using four days/quarter for assessments). The purpose of the FABU project is to demonstrate that the culturally competent exercise and nutrition education programs are sustainable primary prevention activities to reduce risk factors for heart disease and type 2 diabetes.

FABU is unique by including a train-the-trainer (TTT) model that will be implemented in year one to train participants who volunteer to lead and sustain the exercise and nutrition programs independently in year two. The TTT model will include booster classes in year two as relapse prevention strategies. The TTT model is designed to engage minority community members as leaders to sustain healthy lifestyle behavior changes. The TTT model will also connect participants with community resources offered through Akron community centers to increase access to other culturally competent exercise and nutrition programs. The objectives of FABU are to report the number of participants who: 1) reduce their risk factors for heart disease, 2) are no longer identified as having prediabetes, 3) increase their physical activity, and 4) increase their diabetes and nutrition awareness. Additional behavior change will be measured by attendance and retention rates at the exercise and nutrition programs. Sustaining the primary prevention activities of exercise and nutrition programs via the TTT model are important contributions to reducing health disparities in Akron.

The methodology will consist of tracking health outcome measures, and each apartment complex will be considered a cohort. The clinical outcome measures for heart disease and diabetes are weight, blood pressure, BMI, waist circumference, cholesterol, and A1c, which will be assessed at baseline and then quarterly over the grant cycle. Attendance and retention rates for exercise and nutrition classes will also be assessed quarterly over the grant cycle. Changes in physical activity will be measured with the Godin Leisure-Time Exercise Questionnaire, diabetes awareness will be measured with the Risk Perception Survey for Developing Diabetes, nutrition awareness will be assessed with the Nutrition Literacy Assessment Instrument, and tobacco reduction will be measured by self-report. Feedback from participants will be collected quarterly as part of the ongoing evaluation to modify the exercise and nutrition programs if necessary.

Stakeholder Collaboration

To ensure the OCMH grants are properly evaluated, the commission funded the Research and Evaluation Enhancement Program (REEP) at Wright State University to bring together Ohio evaluation experts who have experience evaluating culturally diverse health research projects. REEP's purposes are to:

- Promote health disparity research.
- Facilitate community/academic health research partnerships.
- Improve the evaluation of ethnic/cultural health promotion projects.
- Build the capacity of community organizations that provide health services to minority communities.

The evaluation expert panel's role is to create a uniform, culturally competent and scientifically sound evaluation system for the state's minority health projects. A team of six evaluators who have expertise working with minorities developed and implemented an evaluation model for projects serving minority populations. This model helps guide projects toward intended outcomes as well as streamline the collection, analysis, and reporting of evaluation results for the projects serving minority populations in the state of Ohio.

The REEP is overseen by a steering committee composed of community representatives and faculty from other universities in Ohio who assist in carrying out the program's mission.

Reach

The OCMH's target audience is the minority population because they are disproportionately impacted by prediabetes and are at increased risk of developing type 2 diabetes due to family history or through their lifestyle (e.g., poor diet, lack of physical activity). Social determinants of health also contribute to increased risk of diabetes morbidity and mortality. However, no one is turned away from OCMH prevention programs due to race or ethnicity.

Funding

The OCMH currently provides funding for innovative and culturally specific demonstration grants up to \$100,000 per year totaling \$200,000, for a two-year period, per grantee. This funding is limited to three demonstration grants this biennium; two of which focus on diabetes prevention. In SFY 2019, four of these grants targeted diabetes. All of the aforementioned grants are funded by State General Revenue funds.

Progress on 2018 Recommendations

To capture state agency progress on the 2018 Recommendations, a survey was created and distributed to all DAP State Agencies in June 2020. The survey questions addressed each recommendation and what action steps under each recommendation were completed between May 2018 and June 2020. A fill-in option was also offered for each recommendation where agencies could provide specific details on an action step or include additional action steps that were accomplished. One survey was submitted for each agency. Below is a summary of key accomplishments for each of the 2018 Recommendations. The key accomplishments in black are tied to specific action steps; accomplishments in green are from fill-in responses to the survey.

Recommendation	Key Accomplishments
RECOMMENDATION 1 Designate an Ohio Diabetes Awareness Week.	<ul style="list-style-type: none"> Requested and received a proclamation from Governor Mike DeWine declaring November as Diabetes Awareness Month (2019). Promoted Diabetes Awareness Month to state employees through the Take Charge Live Well program.
RECOMMENDATION 2 Educate Employers on Health Benefits of Lifestyle Change Programs.	<ul style="list-style-type: none"> Identified employers to determine diabetes prevention and management program coverage and provided education on coverage benefits/return on investment. Explored adding diabetes prevention program coverage for state employees enrolled in the state health plan.
RECOMMENDATION 3 Improve Diabetes by Expanding Comprehensive Primary Care (CPC) Model.	<ul style="list-style-type: none"> Engaged health plans to expand CPC network. Recruited CPC practices for quality improvement work to improve diabetes prevention among women of reproductive age. Developed communication plans to educate employers on value-based care. Analyzed/disseminated data on CPC outcomes.
RECOMMENDATION 4 Coordinate Diabetes Efforts.	<ul style="list-style-type: none"> Collaborated with DAP agencies (ODH, ODM, DAS, OCMH), organizations, and insurers to align diabetes initiatives. Supported community and statewide diabetes awareness and prevention efforts and quality improvement activities.

Recommendation

RECOMMENDATION 5

Educate Payers on
Health Benefits of Lifestyle
Change Programs.

- Used Diabetes Action Plan 2018 data/recommendations to inform the 2017-2019 Ohio State Health Improvement Plan.

Key Accomplishments

- Identified and assessed payers to determine diabetes prevention program coverage, provided education on coverage benefits/return on investment, and conducted outreach to increase collaboration.
- Educated payers on the importance of reducing health disparities through diabetes prevention to save lives and reduce healthcare costs.

RECOMMENDATION 6

Improve Health Value
and Health Equity to
Decrease Diabetes.

- Encouraged implementation of upstream (prevention) strategies.
- Used culturally and linguistically appropriate messaging/techniques to address diabetes disparities, educate the community, and provide resources.
- Explored a variety of disparities data to inform program planning.
- Focused quality improvement projects on Medicaid and minority populations.

RECOMMENDATION 7

Screen, Test, and Refer
Patients Across
Diabetes Spectrum.

- Worked with healthcare providers and health systems to conduct universal screening of patients to identify risk factors for prediabetes, gestational diabetes, and diabetes.
- Expanded access/referrals to community-based programs to assist with diabetes prevention and management, particularly in minority and high-risk areas.

RECOMMENDATION 8

Disseminate Disparities
Data Across
Diabetes Spectrum.

- Shared Diabetes Action Plan 2018 data with partners.
- Ensured DAP agency work focused on disparate populations.
- Promoted use of culturally competent diabetes programming and resources.

Recommendations to Address Diabetes in Ohio

This section includes recommendations and strategies agreed upon by all four state agencies—the Ohio Department of Health, Ohio Department of Medicaid, Ohio Department of Administrative Services, and the Ohio Commission on Minority Health—to reduce the impact that the diabetes spectrum and its complications have on all Ohioans.

Feedback was also obtained from stakeholders via an online survey which assessed how they used the 2018 Diabetes Action Plan (DAP), which action steps they implemented, and if the 2018 recommendations should be kept, revised, or deleted in the 2021 report. This stakeholder feedback was considered and incorporated, where appropriate, into the 2021 recommendations.

The 2021 recommendations include a new recommendation focused on diabetes prevention, and more specific strategies to address disparities and inequities to improve diabetes outcomes, including allocating resources and targeting interventions to priority populations and communities with greatest need (i.e., older adults, Black adults, those with the lowest household income and education, and those living in southern and Appalachian communities). The following recommendations and strategies were therefore developed using a health equity lens, and strategies are culturally and linguistically appropriate, so that all Ohioans across the diabetes spectrum can achieve their full health potential. These recommendations and strategies also align with primary prevention and diabetes objectives and strategies in the 2020-2022 State Health Improvement Plan.

Recommendation 1:

Reduce health disparities in Ohio to decrease diabetes morbidity and mortality.

Strategies:

1. Collect, analyze, interpret, and disseminate data and information from multiple sources that address disparities between population groups across the diabetes spectrum. Data and information should be presented in formats that are appropriate for the target audience (e.g., public health professionals, elected officials, physicians, public).
2. Develop and implement diabetes interventions that are designed to eliminate disparities and inequities to improve outcomes for priority populations (*e.g., older adults, Black adults, those with the lowest household income and education, and those living in southern and Appalachian communities*).
3. Evaluate interventions to monitor progress toward reducing and eliminating diabetes disparities and inequities, inform program planning, and identify promising/best practice interventions for racial and ethnic populations.
4. Use technology (e.g., secure digital messaging) and social marketing techniques that are culturally and linguistically appropriate to address diabetes disparities, improve patient/population health/eHealth literacy, educate the community, and promote resources.
5. Promote the use of culturally competent, evidence-based diabetes programming (e.g., National Diabetes Prevention Program (National DPP) and Diabetes Self-Management Education and Support/Program (DSMES/P)) and resources (e.g., Centers for Disease Control and Prevention (CDC), American Diabetes Association (ADA), Association of Diabetes Care & Education Specialists (ADCES), etc.) to all partners and stakeholders.
6. Implement protocols in healthcare systems and practices to screen patients for social determinants of health (e.g., poverty, food insecurity, violence, unemployment, housing problems, insulin coverage), and make referrals to appropriate community-based and/or social service resources, services, and programs.
7. Use Community Health Workers (CHWs) and care coordination models (e.g., community hubs) to connect high-risk patients with diabetes to culturally competent community resources.

Optimal Funding Level: TBD

The specific budget amount needed to implement this recommendation would need to be determined.

Recommendation 2:

Increase the number of Ohioans meeting national nutrition and physical activity guidelines.

Strategies:

1. Increase access to healthy foods in priority populations and high-need areas of Ohio by implementing the following strategies:
 - a. Healthy meals served at schools (e.g., school breakfast programs, healthy school lunch initiatives, school nutrition standards, school-based nutrition education programs).
 - b. Outreach and advocacy to maintain or increase enrollment in federal food assistance programs (WIC and SNAP).
 - c. Fruit and vegetable access and education (e.g., community gardens, school fruit and vegetable gardens, farm-to-school programs).
 - d. Healthy food in food banks.
 - e. Fruit and vegetable incentive programs (e.g., Ohio Produce Perks).
 - f. Healthy food retailers (e.g., farmers markets, healthy food in convenience stores, Healthy Food Financing Initiative).
 - g. Workplace healthy eating programs and policies (e.g., obesity prevention interventions, worksite gardens, healthy vending).
 - h. Protocols in healthcare systems and/or practices to increase referrals to community-based resources, services, and programs (e.g., produce prescriptions, farmers markets, food banks, Ohio Produce Perks).
2. Increase access to physical activity opportunities in priority populations and high-need areas of Ohio by implementing the following strategies:
 - a. School-based programs to increase physical activity.
 - b. Safe Routes to School.
 - c. Transportation and land use policies (e.g., built environment changes and green space).
 - d. Workplace physical activity programs and policies (e.g., obesity prevention interventions, support for active commuting, incentives for public transportation, fitness membership discounts, flexibility around work hours to accommodate a healthier lifestyle).
 - e. Physical activity policies and programs (e.g., shared use agreements).
 - f. Physical activity interventions in early childhood settings (e.g., Ohio Healthy Program).

Optimal Funding Level: \$7,800,000 per year

Additional funds will allow for the Ohio Department of Health Creating Healthy Communities (CHC) program to be implemented in the 65 Ohio counties that do not currently receive CHC funding.

Recommendation 3:

Support the implementation of systemic approaches in healthcare systems or practices to screen, test, and refer patients across the diabetes spectrum as part of standard care practices.

Strategies:

1. Work with healthcare provider organizations, health systems, and other interested organizations to:
 - a. Implement universal screening of patients to identify risk factors for prediabetes, gestational diabetes, and diabetes according to American Diabetes Association (ADA) clinical guidelines.
 - b. Based on screening results, test patients for prediabetes, gestational diabetes, and diabetes according to ADA clinical guidelines.
 - c. Diagnose patients based on appropriate ICD-10 coding (e.g., Prediabetes: R73.03) and ensure that the diagnosis is included in the patient's electronic health record.
 - d. Inform patients of screening results and provide education about the disease.
 - e. Increase patient referrals to resources, services, and programs, including those in racial and ethnic communities, to assist with disease prevention and management (e.g., National DPP, DSMES/P, prescription, and durable medical equipment assistance programs).
2. Treat all patients according to the ADA's Standards of Medical Care in Diabetes – 2020.

Optimal Funding Level: \$2,500,000 per year

Funds would be used to provide support to federally qualified health centers (FQHCs), healthcare systems and/or practices to make systemic changes to their standards of care in order to screen patients for prediabetes/diabetes, and test and refer patients to appropriate resources, services, and programs.

Recommendation 4:

Increase access to and enrollment in evidence-based lifestyle change programs among Ohioans.

Strategies:

1. Identify areas of the state with the highest prevalence of prediabetes/diabetes and limited access to evidence-based lifestyle change programs.
2. Work with community partners and stakeholders to expand evidence-based lifestyle change programs to reach priority populations.
3. Integrate technology platforms (e.g., virtual program delivery, mobile apps) into evidence-based lifestyle change program offerings in order to reach areas and populations of highest need.
4. Identify and work with funders (e.g., health plans, healthcare systems, community benefit dollars, philanthropic organizations) to support priority population enrollment in evidence-based lifestyle change programs.
5. Promote newly established evidence-based lifestyle change programs to local community organizations (e.g., faith-based, senior centers, veterans' centers, cultural agencies), health systems, and employers.

Optimal Funding Level: \$305,000 per year

Funds would be used to provide start-up costs for establishing an evidence-based lifestyle change program (virtually or in-person) in each of the 17 Ohio counties without a program, along with covering the cost to enroll approximately 15 participants in one (1) cohort in each of these counties.

Recommendation 5:

Increase coverage and utilization of evidence-based lifestyle change programs among Ohio-based employers and health plans.

Strategies:

1. Identify employers and health plans that serve Ohioans and determine medical and/or wellness benefit coverage for lifestyle change programs (e.g., National DPP, DSMES).
 - a. For employers/health plans that do not have medical and/or wellness benefit coverage for lifestyle change programs:
 - i. Educate employers/health plans on the benefits and value on investment of lifestyle change program coverage (e.g., improved employee morale, decreased use of sick days, increased productivity, positivity and talent retention, and financial savings on healthcare costs).
 - ii. Encourage employers to add evidence-based lifestyle change program medical and/or wellness benefit coverage for all employees/members.
 - b. For employers that do have medical and/or wellness benefit coverage for lifestyle change programs:
 - i. Encourage employers to promote this benefit to their employees.
 - c. For health plans that do have medical and/or wellness benefit coverage for lifestyle change programs:
 - i. Encourage health plans to promote the benefit to their employer networks and support employers to add the program to their employee benefits package.

Optimal Funding Level: \$110,000 per year

Additional staff support will be needed to implement strategies for this recommendation.

Furthermore, additional costs (approximately \$500 per participant per year) may be incurred by employers and/or health plans who may need to modify their medical and/or wellness benefits to enroll participants in an evidence-based lifestyle change program.

Recommendation 6:

Improve diabetes-related population health outcomes by supporting and expanding the Comprehensive Primary Care (CPC) and other Patient-Centered Medical Home (PCMH) models.

Strategies:

1. Encourage health plans to negotiate and contract with primary care providers to expand the CPC program and those practices with integrated team-based delivery systems. These teams could include, but are not limited to, behavioral health professionals, dietitians, and pharmacists as providers. Develop communications plan to better educate employers on the importance of value-based care.
2. Encourage health plans to develop and send multicultural educational materials to members regarding the potential benefits of going to a CPC or PCMH provider.
3. Support CPC and PCMH practices to complete activity requirements and report/achieve goals in quality and efficiency metrics.
4. Analyze CPC and PCMH outcomes and efficiencies to support payment reform.
5. Disseminate data and outcomes to appropriate stakeholders/partners.

Optimal Funding Level: TBD

The specific budget amount needed to implement this recommendation would need to be determined.

Recommendation 7:

Promote National Diabetes Awareness Month in Ohio during the month of November.

Strategies:

1. Promote the following topics during Diabetes Awareness Month to help increase awareness about the diabetes spectrum:
 - a. Health disparities and inequities/social determinants of health.
 - b. Prevention.
 - c. Screening, testing, and referrals to lifestyle change programs.
 - d. Access to and enrollment in lifestyle change programs.
 - e. Management.
 - f. Coverage (DSMES/P, National DPP).
2. Engage Ohio Diabetes Action Plan agencies and other state and local stakeholders to promote the month and implement awareness activities (e.g., media campaigns, social media posts, web content, share available resources, issue press releases, host press conferences, host screening events).

Optimal Funding Level: \$1,000,000 per year

Funds would allow for creation and implementation of a statewide Diabetes Awareness Month campaign.

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Resources

Ad Council

- National Prediabetes Awareness Campaign
The American Diabetes Association, the American Medical Association and the Centers for Disease Control and Prevention, in conjunction with the Ad Council, partnered to launch a new creative awareness effort aimed at reducing the incidence of type 2 diabetes. The public service announcements include various media components from TV to print to social media.
Source: <http://prediabetes.adcouncilkit.org/>

American Diabetes Association

- Diabetes Patient Education Resource Library
The American Diabetes Association provides free, downloadable, reproducible handouts in a variety of languages for diabetes education use.
Source: https://professional.diabetes.org/search/site?f%5B0%5D=im_field_dbp_ct%3A32&retain-filters=1
- Find a Diabetes Education Program in Your Area
Diabetes Self-Management Education classes are available throughout the state of Ohio. To find a program, access the American Diabetes Association Diabetes Self-Management Education site to locate the nearest class offering.
Source: <https://www.diabetes.org/diabetes/find-a-program>

American Medical Association

- Prediabetes Quality Measures
The purpose of the prediabetes quality measures is to support the prevention of type 2 diabetes in our nation. Specific areas of focus include increased screening and testing for prediabetes, referring/providing those at risk an intervention, and follow-up testing.
Resource: https://amapreventdiabetes.org/sites/default/files/uploaded-files/AMA%20Prediabetes%20Measures_REVISED%20FINAL_20DEC19.pdf
- Prevent Diabetes Toolkit
This toolkit can be used as a comprehensive assessment and guided process to support health care organizations with implementing diabetes prevention strategies, including access to evidence-based diabetes prevention programs.
Source: <https://amapreventdiabetes.org/>

Association of Diabetes Care and Education Specialists

- Find a Diabetes Self-Management Education Class Location
Diabetes Self-Management Education classes are available throughout the state. To find a program, access the Association of Diabetes Care and Education Specialists site to locate the nearest class offering.
Source: <https://www.diabeteseducator.org/living-with-diabetes/find-an-education-program>

Centers for Disease Control and Prevention

- A Practitioner's Guide for Advancing Health Equity: Community Strategies for Preventing Chronic Disease.
This guide provides lessons learned and innovative ideas on how to maximize the effects of policy, systems, and environmental improvement strategies—all with the goal of reducing health disparities and advancing health equity.
Source: <https://www.cdc.gov/nccdphp/dch/pdf/HealthEquityGuide.pdf>
- Adult Obesity Prevalence Maps
The Obesity Maps depict self-reported obesity prevalence among U.S. adults. This section offers obesity data maps by state and territory.
Source: <https://www.cdc.gov/obesity/data/prevalence-maps.html>
- Diabetes Self-Management Education and Support (DSMES) Toolkit
The DSMES Toolkit is a comprehensive resource for achieving success in Diabetes Self-Management Education and Support (DSMES). Expanded use of DSMES can help ensure that all people with diabetes receive the support they need.
Source: <https://www.cdc.gov/diabetes/dsmes-toolkit/index.html>
- Diabetes Prevention Program: Recognition Program Standards and Operating Procedures (2021)
The Centers for Disease Control and Prevention established the Diabetes Prevention Recognition Program as part of the National Diabetes Prevention Program. The purpose of the Diabetes Prevention Recognition Program is to recognize organizations that have demonstrated their ability to effectively deliver a proven type 2 diabetes prevention lifestyle intervention. The program standards and operating procedures describe in detail the Diabetes Prevention Recognition Program standards for type 2 diabetes prevention lifestyle interventions and explains how an organization may apply for, earn, and maintain recognition.
Source: <https://www.cdc.gov/diabetes/prevention/pdf/dprp-standards.pdf>
- Diabetes State Burden Toolkit
This Centers for Disease Control and Prevention toolkit can be used to report the health, economic, and mortality burden of diabetes in Ohio.
Source: <https://ncccd.cdc.gov/Toolkit/DiabetesBurden/Home/>

- National Diabetes Prevention Program: Find a Program
Diabetes Prevention Programs are available throughout the state. To find a program, access the Centers for Disease Control and Prevention Diabetes Prevention Program map to locate the nearest class offering.
Source: <https://www.cdc.gov/diabetes/prevention/find-a-program.html>
- National Diabetes Statistics Report (2020)
The National Diabetes Statistics Report, a periodic publication of the CDC, provides information on the prevalence and incidence of diabetes and prediabetes, risk factors for complications, acute and long-term complications, deaths, and costs. These data can help focus efforts to prevent and control diabetes across the United States.
Source: <https://www.cdc.gov/diabetes/pdfs/data/statistics/national-diabetes-statistics-report.pdf>

County Health Rankings and Roadmaps

- 2021 State Report – Ohio
The County Health Rankings help counties understand what influences the health of residents and how long they will live. The Rankings also have the ability to measure the current overall health of every county in Ohio along with looking at a variety of measures that affect the future health of communities, such as access to healthy foods, obesity and rates of smoking.
Source: <https://www.countyhealthrankings.org/app/ohio/2021/downloads>

Health Policy Institute of Ohio

- Beyond Medical Care Fact Sheet: Preventing Type 2 Diabetes
Although genes and aging play strong roles in the development of type 2 diabetes, environmental conditions and health behaviors also contribute. Many cases of type 2 diabetes, therefore, can be prevented, and this fact sheet covers how Ohio can improve health value and health equity around the disease.
Source: http://www.healthpolicyohio.org/wp-content/uploads/2015/09/Beyond_DiabetesFactSheet_Final.pdf
- Health Value Dashboard – 2021
The Health Value Dashboard is a tool to track Ohio's progress towards health value—a composite measure of Ohio's performance on population health outcomes and healthcare spending. The Dashboard examines Ohio's performance relative to other states, tracks change over time, and examines Ohio's greatest health disparities and inequities.
Source: <https://www.healthpolicyohio.org/2021-health-value-dashboard/>

National Association of Chronic Disease Directors

- National Diabetes Prevention Program Coverage Toolkit
The National Diabetes Prevention Program Coverage Toolkit contains resources and information on topics such as contracting, delivery, billing and coding, and data and reporting that are designed to support health insurance plans, employers, and state Medicaid agencies in making the decision to cover the National Diabetes Prevention Program.

Source: <https://coveragetoolkit.org/>

National Institute of Diabetes and Digestive and Kidney Disease

- Guiding Principles for the Care of People with or At-Risk for Diabetes
These guiding principles aim to identify and synthesize areas of general agreement among existing guidelines to help guide primary care providers and healthcare teams to deliver quality care to adults with or at risk for diabetes. No evidence-based guidelines have been developed for this resource.
Source: <https://www.niddk.nih.gov/health-information/professionals/clinical-tools-patient-management/diabetes/guiding-principles-care-people-risk-diabetes>
- Game Plan for Preventing Type 2 Diabetes
This toolkit provides health professionals and teams with evidence and resources to identify, counsel, and support patients to prevent or delay the onset of type 2 diabetes.
Source: <https://www.niddk.nih.gov/health-information/professionals/clinical-tools-patient-management/diabetes/game-plan-preventing-type-2-diabetes>

Ohio Cardiovascular and Diabetes Health Collaborative

- Cardio-OH ECHO
Project ECHO (Extension for Community Healthcare Outcomes) is an innovative educational program developed at the University of New Mexico Health Sciences Center. Cardi-OH ECHO uses a combination of multi-point videoconferencing technology, case-based learning, promotion of best practices, and the monitoring of outcomes to create and support professional communities of learning and practice.
Source: <https://www.cardi-oh.org/echo>
- Diabetes Management Best Practices
Diabetes is a significant public health issue and is the seventh leading cause of death in Ohio. Due to the high incidence of this chronic disease, appropriate evidence-based management is vital to help improve the health of the population. Provided here are tools and resources to help clinicians aid patients in managing their diabetes.
Source: <https://www.cardi-oh.org/best-practices/diabetes-management>
- Diabetes Quality Improvement Project
The Medicaid Technical Assistance and Policy Program (MEDTAPP) Diabetes Quality Improvement Project (QIP) is the second quality improvement project that is part of the Ohio Department of Medicaid's (ODM's) Chronic Conditions Quality Collaborative.
Source: <https://www.cardi-oh.org/qip/diabetes>

Ohio Commission on Minority Health

- Medical Expert Panel on Obesity and Diabetes White Paper: Achieving Equity and Eliminating Obesity and Diabetes Disparities within Racial and Ethnic Populations
The Ohio Commission on Minority Health's White Paper offers insights and recommendations to address diabetes and obesity in Ohio with the goal of achieving health equity. The Ohio Commission on Minority Health Medical Expert Panel on Obesity and Diabetes sought to influence the thinking, actions, and policies which function to transcend the status quo of unacceptable high incidence and prevalence rates of these diseases.
Source: <http://www.mih.ohio.gov/Portals/0/Medical%20Expert%20Panel/Diabetes%20White%20Paper%20Version%202.2.pdf>

Ohio Department of Health

- Diabetes
This Ohio Department of Health website includes information on the types of diabetes, data and statistics, programs, and initiatives as well as data and publications about diabetes in Ohio.
Source: <https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/diabetes/diabetes>
- Gestational Diabetes
This Ohio Department of Health website includes information on gestational diabetes, data and statistics about gestational diabetes in Ohio, and descriptions about current efforts to combat the burden of gestational diabetes in Ohio.
Source: <https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/gestational-diabetes/gestational-diabetes>
- Ohio Gestational Diabetes Postpartum Care Learning Collaborative
The Ohio Gestational Diabetes Mellitus Collaborative is a resource for consumers (pregnant women or women who have previously had gestational diabetes) and clinical providers. For providers, it includes clinical tools, patient education resources, office resources, and links to presentations and reports. For consumers, it includes information and resources regarding management of gestational diabetes and prevention of type 2 diabetes. Consumer information is provided in both English and Spanish at a grade four reading level.
Source: <http://www.OhioGDM.com>
- State Health Improvement Plan (2020 – 2022)
The State Health Improvement Plan takes a comprehensive approach to improving Ohio's greatest health challenges by identifying cross-cutting factors that impact multiple outcomes, including prediabetes. This approach is built upon the understanding that access to quality health care is necessary, but not sufficient, for good health. The State Health Improvement Plan is designed to implement strategies that address the social determinants of health and health behaviors, as well as approaches that strengthen the connections between healthcare systems, public health, community-based organizations, and sectors beyond health.
Source: <https://odh.ohio.gov/static/SHIP/2020-2022/2020-2022-SHIP.pdf>

Ohio Department of Medicaid

- Ohio Medicaid Provider Agreement for Managed Care Organizations
Ohio Medicaid contracts with Managed Care Plans to provide quality health care to many Ohio Medicaid consumers. The following is the Ohio Medicaid Managed Care Provider Agreement. In Appendices M and O in particular, various performance measures are outlined, specifically measures related to diabetes.
Source: https://managedcare.medicaid.ohio.gov/wps/wcm/connect/gov/38e87337-f168-4a0f-a341-d3379b5dcf9c/MCO+Provider+Agreement_2021+06+29_final+for+signature.pdf?MOD=AJPERES&CVID=nGHQqH.
- Medicaid Managed Care Program Quality Strategy
The Quality Strategy is grounded on three primary pillars: delivering better care, contributing to healthy people and healthy communities, and practicing best-evidence medicine across the care continuum. This resource outlines various Ohio Department of Medicaid initiatives that are helping Ohio Medicaid to achieve its goals and continue to reform the healthcare landscape across Ohio.
Source: <https://medicaid.ohio.gov/wps/portal/gov/medicaid/about-us/gs/medicaid-managed-care/medicaid-managed-care>

Trust for America's Health

- Adult Obesity Rates (2020)
These data raise awareness about the seriousness of the diabetes epidemic.
Source: <https://www.tfah.org/report-details/state-of-obesity-2020/>

U.S. Department of Agriculture

- Dietary Guidelines for Americans 2020 – 2025
The Dietary Guidelines is designed for policymakers and nutrition and health professionals to help all individuals and their families consume a healthy, nutritionally adequate diet. The information in the Dietary Guidelines is used to develop, implement, and evaluate Federal food, nutrition, and health programs. It also is the basis for Federal nutrition education materials designed for the public and for the nutrition education components of U.S. Department of Agriculture and U.S. Department of Health and Human Services nutrition programs.
Source: https://www.dietaryguidelines.gov/sites/default/files/2020-12/Dietary_Guidelines_for_Americans_2020-2025.pdf

U.S. Department of Health and Human Services

- Physical Activity Guidelines for Americans, 2nd edition (2018)
The Physical Activity Guidelines for Americans provides science-based guidance to help people ages three years and older improve their health through participation in regular physical activity. It reflects the extensive amount of new knowledge gained since the publication of the first Physical Activity Guidelines for Americans, released in 2008. This edition of the Guidelines discusses the proven benefits of physical activity and outlines the amounts and types of physical activity recommended for different ages and populations.
Source: https://health.gov/sites/default/files/2019-09/Physical_Activity_Guidelines_2nd_edition.pdf

U.S. Department of Health and Human Services Office of Minority Health

- The National Standards for Culturally and Linguistically Appropriate Services
The National Standards for Culturally and Linguistically Appropriate Services aim to improve healthcare quality and advance health equity by establishing a framework for organizations to serve the nation's increasingly diverse communities.
Source: <https://www.thinkculturalhealth.hhs.gov/assets/pdfs/EnhancedNationalCLASStandards.pdf>
- Think Cultural Health
This website provides information, continuing education opportunities, resources and more for health and healthcare professionals to learn about culturally and linguistically appropriate services, or CLAS.
Source: <https://thinkculturalhealth.hhs.gov/clas>

U.S. Preventive Services Task Force

- Gestational Diabetes Screening
The U.S. Preventive Services Task Force makes recommendations about the effectiveness of specific clinical preventive services for patients without related signs or symptoms. It bases its recommendations on screening gestational diabetes on the evidence of both the benefits and harms of the service and an assessment of the balance.
Source:
<https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/gestational-diabetes-screening>
- Prediabetes and Type 2 Diabetes Screening
The U.S. Preventive Services Task Force makes recommendations about the effectiveness of specific clinical preventive services for patients without related signs or symptoms. It bases its recommendations on screening for prediabetes and type 2 diabetes on the evidence of both the benefits and harms of the service and an assessment of the balance.
Source:
<https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/screening-for-prediabetes-and-type-2-diabetes>

Appendices

Appendix A: Acronym List

Acronym List	
A1c	Hemoglobin A1c
AAA	Area Agencies on Aging
ACA	Affordable Care Act
ADA	American Diabetes Association
ADCES	Association of Diabetes Care and Education Specialists
ATOD	Alcohol, Tobacco and Other Drugs
BEP	Business Enterprise Program
BHIW	Bureau of Health Improvement and Wellness
BMCFH	Bureau of Maternal, Child and Family Health
BMI	Body Mass Index
BRFSS	Behavioral Risk Factor Surveillance System
CDC	Centers for Disease Control and Prevention
CHC	Creating Healthy Communities
CHW	Community Health Worker
CI	Confidence Interval
CLAS	Culturally and Linguistically Appropriate Services
CMS	Centers for Medicare and Medicaid Services
CPC	Comprehensive Primary Care
CQM	Clinical Quality Measures
DAP	Diabetes Action Plan
DAS	Department of Administrative Services
DHDPM	Diabetes Heart Disease Prevention and Management
DPP/National DPP	National Diabetes Prevention Program
DSME	Diabetes Self-Management Education
DSMP	Diabetes Self-Management Program
DTTAC	Diabetes Training and Technical Assistance Center
EHR	Electronic Health Record
FABU	Finding a Better You
FQHC	Federally Qualified Health Center
GDM	Gestational Diabetes Mellitus
HBCO	Healthy Business Council of Ohio
HDHP	High Deductible Health Plan

Acronym List

HEDIS	Healthcare Effectiveness Data and Information Set
HSA	Health Savings Account
HV	Home Visiting
ICD	International Classification of Diseases and Related Health Problems
ICU	Intensive Care Unit
MBGH	Midwest Business Group on Health
MCP	Managed Care Plan
MEDTAPP	Medicaid Technical Assistance and Policy Program
MMO	Medical Mutual of Ohio
MTHSS	Murtis Taylor Human Services System
MTM	Medication Therapy Management
NACDD	National Association of Chronic Disease Directors
NCQA	National Center for Quality Assurance
OACHC	Ohio Association of Community Health Centers
OCMH	Ohio Commission on Minority Health
ODA	Ohio Department of Aging
ODH	Ohio Department of Health
ODM	Ohio Department of Medicaid
ODOT	Ohio Department of Transportation
ODRC	Ohio Department of Rehabilitation and Corrections
PCMH	Patient-Centered Medical Home
PCP	Primary Care Providers
PMPM	Per-Member-Per-Month
PPO	Preferred Provider Organization
QIP	Quality Improvement Project
REEP	Research and Evaluation Enhancement Program
RWRR	Reduce Weight, Reduce Risk
SFY	State Fiscal Year
SHIP	State Health Improvement Plan
SIM	State Innovation Model
SPAN	State Physical Activity and Nutrition Program
TPA	Third Party Administrator
TTT	Train-the-Trainer
UMADAOP	Urban Minority Alcohol and Drug Abuse Program
WIC	Women, Infants and Children

Appendix B: Diabetes Action Plan Committee Representatives

The following individuals participated in the preparation of this report:

Ohio Department of Health

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Ohio Commission on Minority Health

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Appendix C: Diabetes Action Plan Stakeholders and Partners

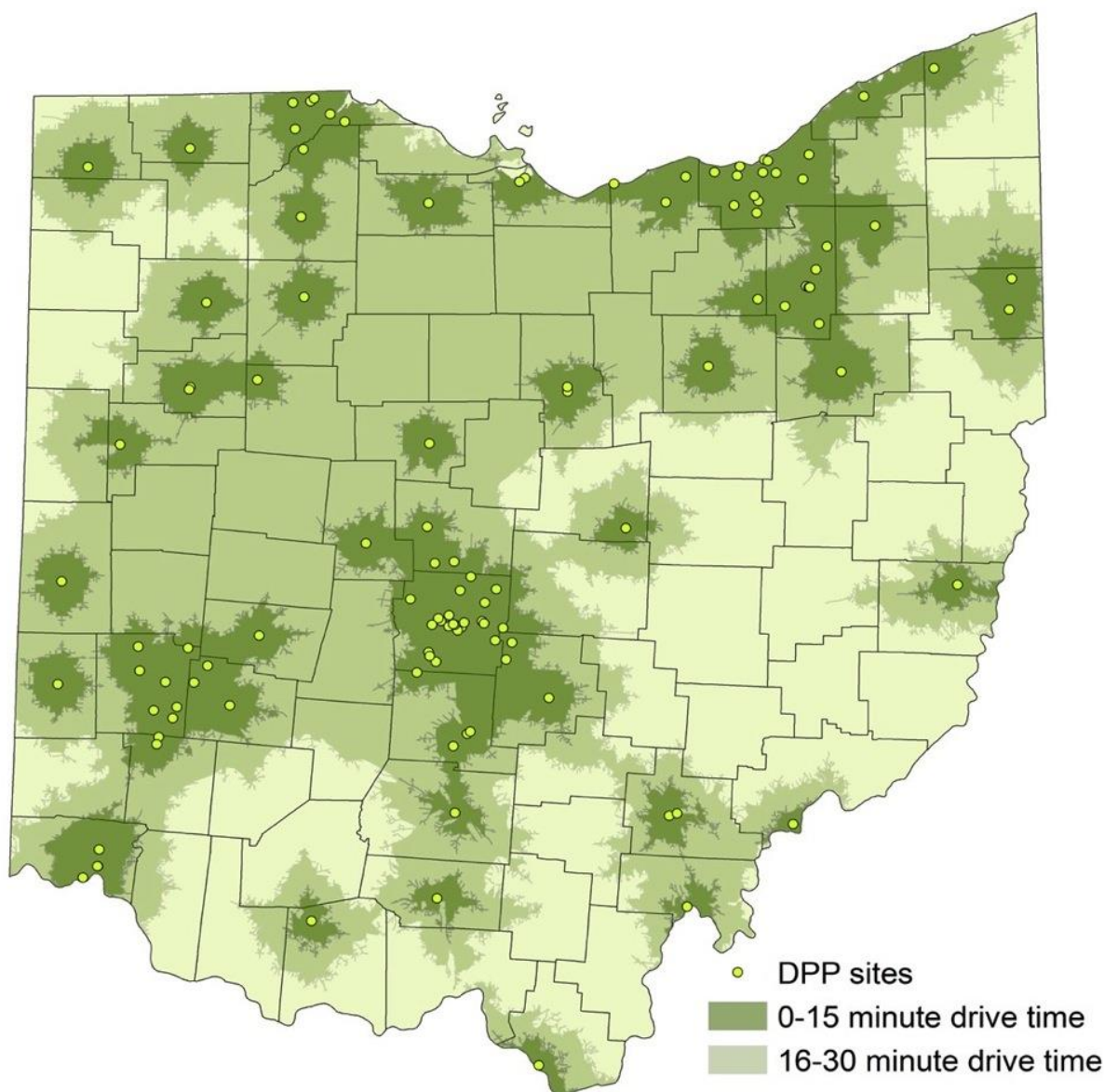
The following stakeholders and partners provided feedback on the 2018 DAP Recommendations and utilization of the report via the DAP Stakeholder Survey. Stakeholder and partner survey responses were then used to drive the 2021 DAP Report Recommendations as well as inform the DAP Committee of any new or relevant data and/or information that should be included in the 2021 DAP Report.

Adena Health System	Champaign Health District
Adena Occupational Health	Cigna Legal Services & Solutions – Regulatory Reporting
Advanced Wellness	Cincinnati Health Department
Akron Children's Hospital Mahoning Valley, Chronic Care Education and Support Center	Clark County Combined Health District
American Diabetes Association	Cleveland Clinic
Anthem Blue Cross/Blue Shield Ohio	Clinton County Health District
Ashland County Health Department	Columbus Public Health
Ashtabula City Health Department	Coshocton County Health Department
Auglaize County Health Department	Crawford County Public Health
Aultman Alliance Community Hospital	Cuyahoga County Board of Health
Belmont County Health Department	Darke County Health Department
Better Health Partnership	Dayton Internal Medicine
Brown County Health Department	Delaware General Health District
CareSource	Endocrine Diabetes Care Center
Central Ohio Diabetes Association	Erie County Health Department / Erie County Community Health Center
Firelands Regional Medical Center	Noble County Health Department
Functional Endocrinology/FUNCDE, LLC	Norwood Health Department
GEMCARE Wellness	NovoNordisk
Greene County Public Health	Ohio Foot & Ankle Medical Association
Hamilton County Public Health	Ohio Academy of Family Physicians
Health Policy Institute of Ohio	Ohio Association of Community Health Centers
Health Source of Ohio	Ohio Chapter, American Academy of Pediatrics

Healthcare Collaborative of Greater Columbus	Ohio Department of Health
Hylant	Ohio State University Wexner Medical Center
Jefferson County General Health District	Ohio University Diabetes Institute
Kenton Hardin Health Department	OhioHealth
Kettering Health Network	The Ohio State University Wexner Medical Center - Department of Family Medicine
Knox Public Health	Paramount Health Care, Inc.
Licking County Health Department	Public Health - Dayton & Montgomery County
Licking Memorial Health Systems	Scioto County Health Dept
Mansfield OH YMCA	Somali American Resource Center
Mercy Development Foundation	St. Vincent Charity Medical Center
Mid-Ohio Foodbank	Stark County Health Department
Molina Healthcare	The MetroHealth System
Morgan County Health Department	The Christ Hospital
Mount Carmel Health System	The Ohio State University
The Ohio State University College of Pharmacy	Veteran's Affairs/Department of Defense
Toledo Family Pharmacy LTC.	Van Wert County Health Department
Touray Reality LLC	Warren County Health District
Trumbull County Combined Health District	Wayne HealthCare
Tuscarawas County Health Department	Williams County Health Department
Tyler Scott Lancaster Foundation	YMCA of Greater Cleveland
Union County Health Department	YMCA of Greater Dayton
UnitedHealthcare Community Plan	YMCA of Greater Toledo
University Hospitals	YMCA of Youngstown
United States Air Force	Youngstown City Health District

Appendix D: Diabetes Prevention Program Site Locations by Drive Time

Population coverage of CDC-recognized Diabetes Prevention Programs (DPP) and satellite locations within 15- and 30-minute drive times, Ohio, August 2021



Utilizing the population-weighted centroid of census block groups and the location of the 43 CDC-recognized DPPs in Ohio and the 75 DPP satellite locations, this geospatial analysis shows that 63.9 percent of Ohioans live within a 15-minute drive of an Ohio DPP location. An additional 25.5 percent live within a 16 to 30-minute drive. The current infrastructure of DPP providers covers 89.4 percent of Ohioans, leaving more than 1.2 million people without ready access to these services.

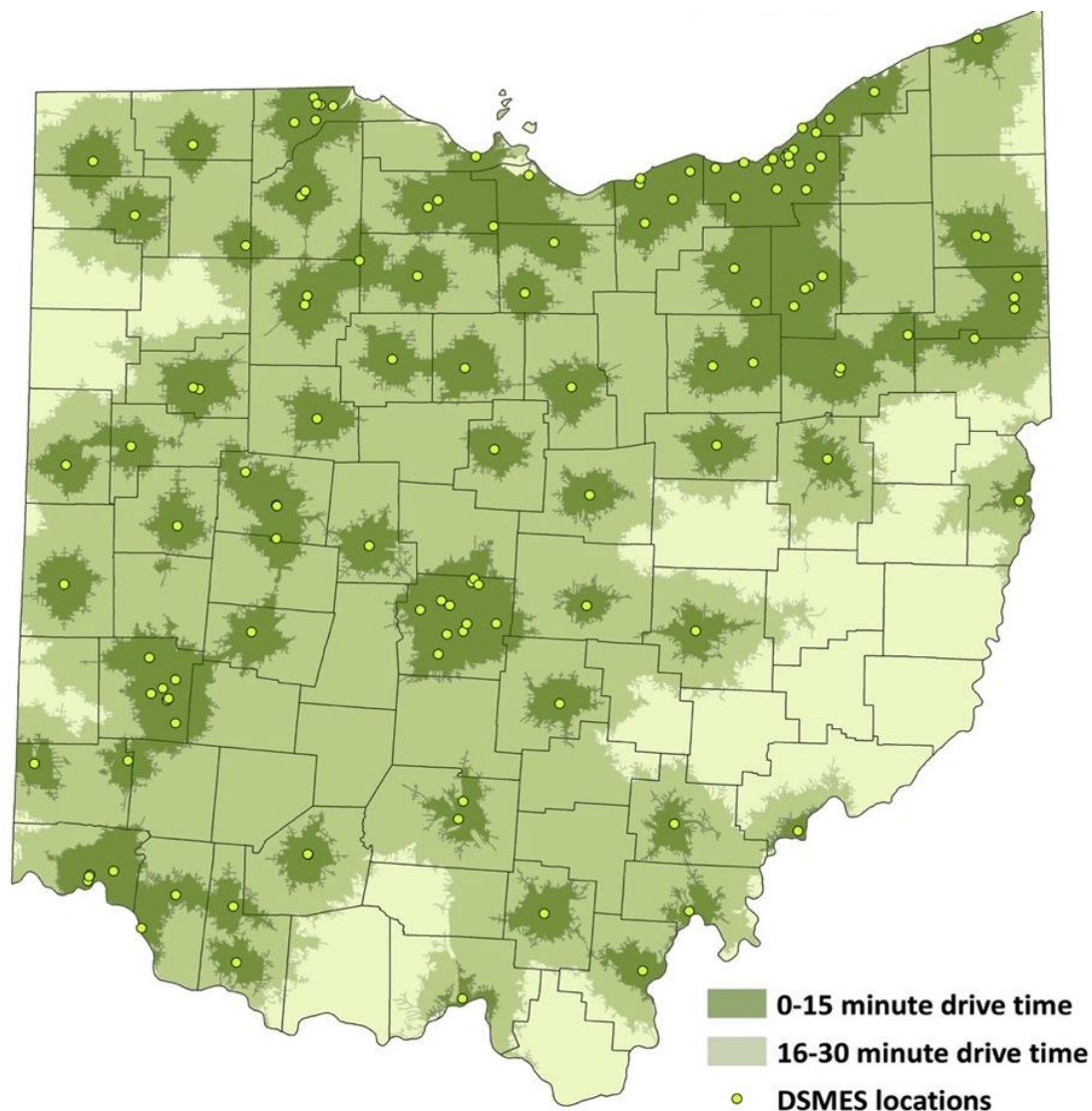


Department
of Health

Source: The Centers for Disease Control and Prevention (CDC) Diabetes Prevention Recognition Program Registry of Recognized Programs as of July 2021; Bureau of Health Improvement and Wellness, Ohio Department of Health, 2021.

Appendix E: Diabetes Self-Management Education Locations by Drive Time

Population coverage Diabetes Self-Management Education program (DSMES) locations within 15- and 30-minute drive times, Ohio, August 2021



Utilizing the population-weighted centroid of census block groups and the location of the 134 DSMES in Ohio, this geospatial analysis shows that 68.1 percent of Ohioans live within a 15-minute drive of an Ohio DSMES location. An additional 27.6 percent live within a 16 to 30-minute drive. The current infrastructure of DSMES providers covers 95.7 percent of Ohioans, leaving nearly 500,000 people without ready access to these services.



**Department
of Health**

Source: American Diabetes Association (ADA), Association of Diabetes Care & Education Specialists (ADCES) providers as of July 2021;
Bureau of Health Improvement and Wellness, Ohio Department of Health, 2021.

Appendix F: Ohio Medicaid Diabetes Codes

Diabetes Codes (ICD-9, ICD-10 and Therapeutic Drug Class) for Medicaid Fee for Service and Managed Care Claims

ICD-9 Codes	Description
249	Secondary Diabetes Mellitus (DM)
250	DM
790.2	Abnormal Glucose
V5867	Long-Term Insulin Use (current)
64800 - 64804	DM of Mother Complicating Pregnancy
64880 - 64884	Abnormal Glucose of Mother Complicating Pregnancy
7750 - 7751	Neonatal DM
3620	Diabetic Retinopathy
366.41	Diabetic Cataract
357.2	Polyneuropathy in DM
ICD-10 Codes	Description
E08	DM Due to Underlying Condition
E09	Drug or Chemical Induced DM
E10	Type 1 DM
E11	Type 2 DM
E13	Other Specified DM
Z794	Long-Term Insulin Use (current)
R73.0	Abnormal Glucose
R73.9	Hyperglycemia
O240 - O2433	Pre-existing DM During Pregnancy
O244 - O24439	Gestational DM
O248 - O2483	Other Pre-existing DM in Pregnancy/Childbirth
O249 - O2493	Unspecified DM in Pregnancy
P700 - P702	Neonatal DM
O99810 - O99815	Abnormal Glucose Complicating Pregnancy, Childbirth, etc.
National Drug Codes	Description
Diabetes Drug Codes	This code list is extensive and complex. Please contact the Ohio Department of Medicaid if you are interested in these codes.

Appendix G: Additional County-Level Data

Table A1. Number of Diabetes Deaths and Mortality Rates per 100,000 by County, Ohio, 2018

County	Deaths	Rate	County	Deaths	Rate
Adams	10	26.9	Licking	59	26.4
Allen	37	26.8	Logan	14	22.6
Ashland	19	23.5	Lorain	97	23.5
Ashtabula	35	25.0	Lucas	187	35.1
Athens	21	34.2	Madison	12	21.9
Auglaize	18	28.0	Mahoning	92	26.8
Belmont	39	37.3	Marion	26	29.9
Brown	16	27.1	Medina	43	19.2
Butler	89	20.6	Meigs	14	38.5
Carroll	13	32.9	Mercer	10	16.0
Champaign	19	34.2	Miami	22	15.5
Clark	66	34.2	Monroe	9	N/A
Clermont	40	14.4	Montgomery	217	30.8
Clinton	20	36.1	Morgan	7	N/A
Columbiana	35	21.9	Morrow	14	29.8
Coshocton	17	34.2	Muskingum	24	20.2
Crawford	18	29.0	Noble	4	N/A
Cuyahoga	390	22.6	Ottawa	0	N/A
Darke	18	23.0	Paulding	19	28.7
Defiance	13	25.0	Perry	6	N/A
Delaware	19	9.7	Pickaway	8	N/A
Erie	32	26.5	Pike	17	23.8
Fairfield	51	26.4	Portage	11	29.9
Fayette	8	N/A	Preble	45	23.2
Franklin	310	24.5	Putnam	13	22.5
Fulton	19	33.1	Richland	16	36.6
Gallia	9	N/A	Ross	28	16.5
Geauga	26	18.2	Sandusky	32	34.9
Greene	43	19.8	Scioto	33	41.4
Guernsey	21	41.9	Seneca	55	52.0
Hamilton	222	22.6	Shelby	16	19.6
Hancock	27	27.1	Stark	30	48.3
Hardin	6	N/A	Summit	138	25.4
Harrison	12	50.6	Trumbull	171	23.3
Henry	10	24.3	Tuscarawas	73	22.7
Highland	17	30.2	Union	97	72.1
Hocking	10	22.6	Van Wert	17	30.9
Holmes	8	N/A	Vinton	0	N/A
Huron	16	23.4	Warren	9	N/A
Jackson	15	34.6	Washington	10	53.2
Jefferson	37	35.9	Wayne	47	31.9
Knox	22	26.8	Williams	31	60.0
Lake	46	12.5	Wood	43	29.2
Lawrence	28	33.7	Wyandot	6	N/A

Source: Bureau of Vital Statistics, Ohio Department of Health, 2017.

N/A: Rates may be unstable and are not presented when the death count is less than 10.

Table A2. Diabetes Cases, Prevalence, Inpatient Hospital Admissions, and Emergency Department Visits among Medicaid Beneficiaries, Ohio, 2018

County	Cases	Prevalence	Inpatient Hospital Admissions	Emergency Department Visits
Adams	1,935	14.2%	291	492
Allen	3,714	10.5%	807	1,095
Ashland	1,539	10.9%	231	545
Ashtabula	4,433	11.4%	718	1,532
Athens	2,436	12.4%	346	960
Auglaize	945	9.6%	149	236
Belmont	2,419	11.6%	349	682
Brown	1,933	10.9%	298	400
Butler	11,917	10.3%	2,960	6,195
Carroll	903	10.3%	117	222
Champaign	1,076	9.2%	167	204
Clark	5,436	10.1%	1,743	2,282
Clermont	4,911	9.6%	1,244	1,569
Clinton	1,785	11.7%	371	1,233
Columbiana	4,503	12.7%	1,659	1,905
Coshocton	1,363	9.6%	273	1,011
Crawford	1,818	9.8%	267	575
Cuyahoga	56,619	12.0%	16,741	31,675
Darke	1,339	9.8%	192	718
Defiance	1,304	11.0%	194	469
Delaware	2,053	9.1%	430	1,368
Erie	2,323	10.1%	413	1,584
Fairfield	3,955	8.6%	627	1,305
Fayette	1,374	11.0%	211	711
Franklin	43,460	10.0%	12,318	29,347
Fulton	953	9.5%	187	530
Gallia	1,543	11.6%	302	594
Geauga	1,086	9.4%	281	318
Greene	3,999	10.1%	994	2,618
Guernsey	1,782	11.3%	265	805
Hamilton	29,067	10.6%	7,950	15,444
Hancock	1,793	9.4%	260	768
Hardin	1,023	10.7%	149	515
Harrison	687	11.9%	83	333
Henry	600	9.7%	83	195
Highland	2,040	10.9%	297	718
Hocking	1,327	10.6%	188	391
Holmes	613	9.9%	102	209
Huron	1,975	9.8%	311	859
Jackson	1,916	12.7%	378	590
Jefferson	2,899	11.3%	539	1,802
Knox	1,714	9.3%	284	395
Lake	5,018	10.3%	1,277	2,062

Source: Ohio Department of Medicaid. (2020). Quality Decision Support System 2018 Incurred Medicaid Claims Data. Office of Health Innovation and Quality, Ohio Department of Medicaid.

Table A2, continued. Diabetes Cases, Prevalence, Inpatient Hospital Admissions and Emergency Department Visits among Medicaid Beneficiaries, Ohio, 2018

County	Cases	Prevalence	Inpatient Hospital Admissions	Emergency Department Visits
Lawrence	3,382	13.0%	610	1,602
Licking	4,757	9.2%	927	2,413
Logan	1,311	9.7%	206	259
Lorain	9,291	10.5%	2,771	4,792
Lucas	20,151	12.0%	6,765	10,028
Madison	1,155	9.6%	315	1,023
Mahoning	11,255	12.1%	2,727	2,877
Marion	2,891	9.7%	477	1,710
Medina	2,736	9.4%	622	1,236
Meigs	1,303	12.7%	185	477
Mercer	700	9.4%	112	227
Miami	2,834	10.4%	506	795
Monroe	584	12.4%	84	140
Montgomery	21,098	10.9%	5,931	12,135
Morgan	660	10.5%	82	181
Morrow	1,119	9.6%	165	576
Muskingum	3,818	10.4%	631	1,448
Noble	392	9.8%	57	150
Ottawa	1,019	10.5%	202	545
Paulding	575	10.5%	82	174
Perry	1,492	9.8%	200	470
Pickaway	1,664	9.5%	442	1,245
Pike	1,938	12.7%	266	636
Portage	3,778	9.3%	925	1,985
Preble	1,232	9.7%	191	500
Putnam	608	10.2%	104	89
Richland	4,581	10.5%	817	2,164
Ross	4,035	11.1%	588	1,630
Sandusky	1,827	10.4%	266	747
Scioto	4,904	13.7%	923	869
Seneca	1,796	10.8%	310	655
Shelby	1,109	9.2%	187	356
Stark	12,028	10.4%	2,901	6,198
Summit	17,793	10.5%	4,905	11,455
Trumbull	8,597	11.7%	2,229	3,055
Tuscarawas	2,899	10.6%	362	1,607
Union	896	9.1%	197	530
Van Wert	763	10.2%	106	177
Vinton	777	11.4%	109	238
Warren	3,531	9.6%	815	1,690
Washington	2,391	12.8%	383	1,397
Wayne	2,854	10.1%	702	1,737
Williams	1,130	10.5%	129	308
Wood	2,496	10.0%	605	1,017
Wyandot	577	10.4%	58	114

Source: Ohio Department of Medicaid. (2020). Quality Decision Support System 2018 Incurred Medicaid Claims Data. Office of Health Innovation and Quality, Ohio Department of Medicaid.