

Ohio Medicaid Basics

A closer look at health behaviors

Background and purpose

This brief is a follow-up to the Health Policy Institute of Ohio's [Ohio Medicaid Basics 2019](#) and describes opportunities to take an evidenced-informed approach to encouraging healthy choices among people with Medicaid coverage, particularly working-age adults. While the environments in which people live and multiple other sectors play a critical role in supporting healthy choices, this brief focuses on Ohio's Medicaid program and Medicaid managed care plans (MCPs).

As described in Ohio Medicaid Basics 2019, Medicaid pays for healthcare services for about three million Ohioans with low incomes. Total spending on the program exceeded \$26 billion in state fiscal year (SFY) 2018, with \$18 billion in federal match included. In Ohio, the state Medicaid agency contracts with MCPs to pay for medically necessary healthcare and related services for Medicaid enrollees. During SFY 2019, 90% of people enrolled in Ohio Medicaid received services through an MCP and \$16.6 billion, or about 62% of total spending for Ohio Medicaid, flowed through MCPs.¹

Due to the significant cost of the program, many states, including Ohio, have considered or implemented policies to encourage Medicaid beneficiaries to make cost-conscious decisions about health care and adopt healthier behaviors.² The federal government has expressed openness to considering innovative approaches to accomplishing these goals, within the bounds of federal law.³

Unhealthy behaviors, including tobacco use, excessive drinking, lack of physical activity and poor nutrition, contribute to Ohio's poor health

3 key findings for policymakers

- **Unhealthy behaviors contribute to poor health** and Ohio's greatest health challenges.
- **A comprehensive approach is needed** to support healthy choices.
- **Evidence-informed strategies** can be advanced through Ohio's Medicaid program to support healthy choices.

and high healthcare spending. When compared to other states, Ohio ranks near the bottom for conditions associated with unhealthy behaviors, including cardiovascular disease, adult obesity and type 2 diabetes. These conditions can be expensive to treat and difficult to manage. However, improvement is possible and there is strong evidence that efforts to encourage Medicaid beneficiaries to take an active role in their health care improves health outcomes, including health behaviors.⁴ Emerging evidence suggests that these efforts can also reduce utilization of costly healthcare services.⁵

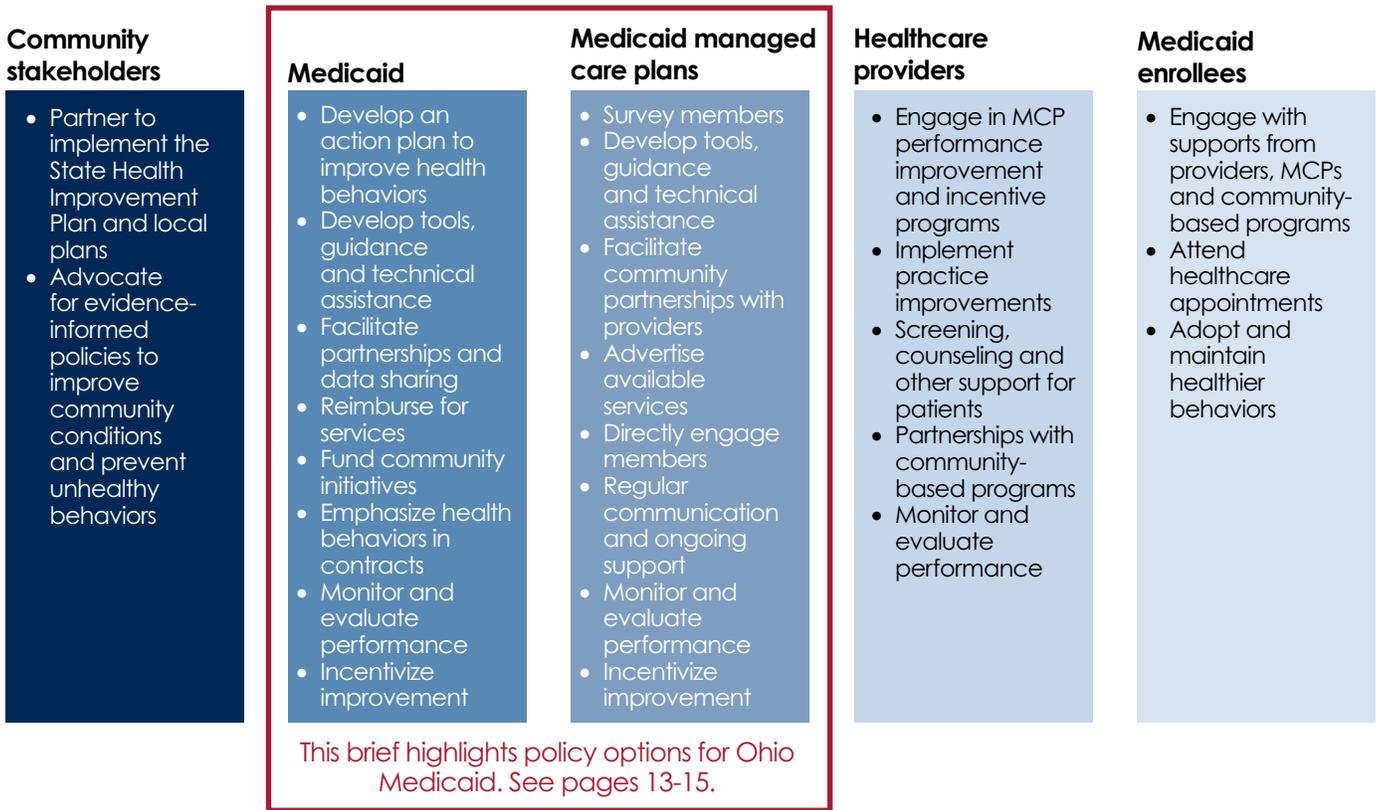
Over the coming months, the Ohio Department of Medicaid (ODM) will seek proposals from MCPs and procure new contracts. Ohio Gov. Mike DeWine's stated objective through procurement is "to focus on the individual rather than the business of managed care."⁶ The last time ODM



This brief answers the following questions:

- How do health behaviors influence poor health in Ohio?
- What factors influence opportunities for improving health behaviors for Ohioans with low incomes to make healthy choices?
- What general approaches for improving health behaviors emerge from current research?
- Which specific, evidence-informed healthcare strategies are likely to improve health behaviors among adult Medicaid enrollees?
- What can the Ohio Department of Medicaid and managed care plans do to improve health behaviors among adult Medicaid enrollees?

Figure 1. **Summary of a comprehensive approach to support healthy behaviors among Medicaid enrollees**



sought bids was 2012.⁷ Given the infrequency of this process, it presents a rare opportunity to address some of Ohio's greatest health challenges through managed care plan procurement.

Figure 1 summarizes a comprehensive approach to support healthy behaviors among Medicaid enrollees. This policy brief highlights evidence-informed policy options that ODM and MCPs can advance within the healthcare system. It is important to note, however, that many factors beyond clinical care affect health behaviors. A comprehensive approach to improve health behaviors and overall health requires partnerships between Ohio Medicaid and other sectors such as housing, transportation, education and workforce development. (See State Health Improvement Plan box on page 4 for more information.)

How do health behaviors influence poor health in Ohio?

As shown in figure 2, making healthy choices, or engaging in healthy behaviors, is critical for good health. Research estimates that health is shaped by several modifiable factors. About 20% of a person's

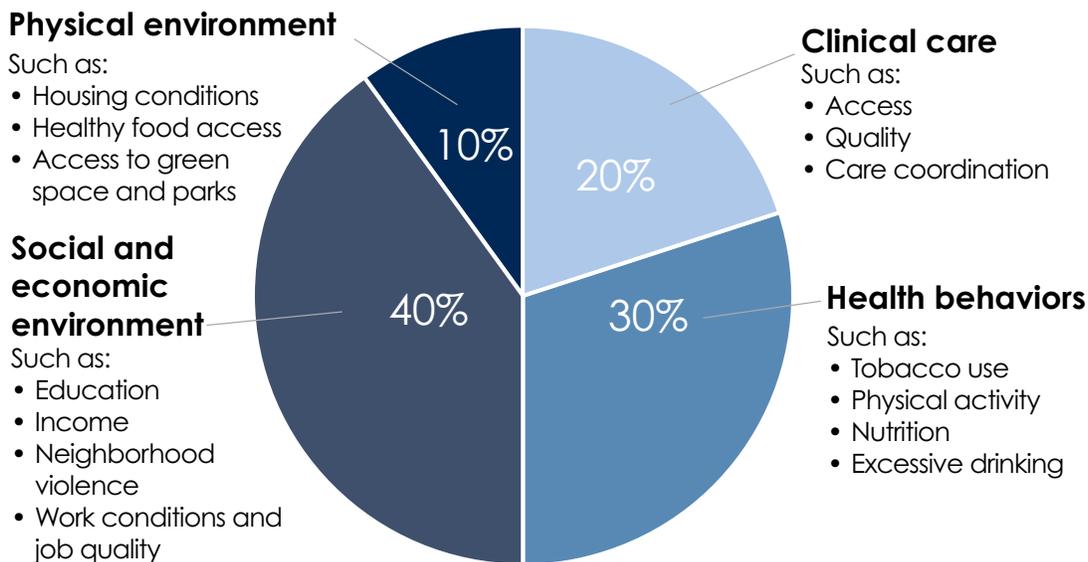
health is attributed to clinical care, 30% to health behaviors and the remaining 50% is attributed to non-clinical factors in the social, economic and physical environments.⁸

Ability and motivation to make healthy choices are shaped by community conditions and access to social, economic and healthcare resources. Because of this, many Ohioans, particularly those with low incomes, face barriers to being healthy. For example, the healthy food options available to a person who relies on a food pantry are limited by the food that the pantry has available for distribution. Similarly, personal motivation to increase physical activity is shaped by numerous factors, including accessibility, neighborhood and pedestrian safety, access to parks and trails, commute times to work and the activity levels of friends and family.

Health behaviors in Ohio

According to HPIO's **2019 Health Value Dashboard**, Ohio ranked 46th on a composite ranking of health behaviors when compared to all 50 states and the District of Columbia. This means that Ohioans are less likely to engage in healthy behaviors than people in most other states.

Figure 2. **Modifiable factors that influence health**



Source: Booske, Bridget C. et. al. County Health Rankings Working Paper: Different Perspectives for Assigning Weights to Determinants of Health. University of Wisconsin Public Health Institute, 2010.

Consequences of unhealthy behaviors in Ohio

Ohio also performs poorly relative to other states on health conditions related to unhealthy behaviors, including adult obesity⁹, diabetes¹⁰ and cardiovascular disease mortality¹¹, in addition to premature death¹² and infant mortality.¹³ Exposure to tobacco smoke during pregnancy, for example, is associated with increased risk for stillbirth and neonatal infant mortality.¹⁴

Without receiving the necessary supports, Ohioans will continue to make unhealthy choices, putting upward pressure on Ohio's healthcare spending and contributing to the state's poor health outcomes.

In addition to causing pain, suffering and hardships, these conditions can be expensive to treat. For example:

- A review of studies on the cost of treating chronic diseases in Medicaid programs found that treating diabetes costs between \$3,219 and \$4,674 per person annually.¹⁵
- A 2016 analysis of costs associated with treating cardiovascular disease among Medicaid beneficiaries with hypertension ranged from \$1,067 – \$1,156 per year; the total cost of providing healthcare services to these beneficiaries ranged from \$5,458 - \$6,038.¹⁶
- An Indiana study found that per member per month Medicaid expenditures were 51.4% higher for smokers compared to non-smokers.¹⁷
- Researchers estimate that 15% of U.S. Medicaid costs are attributable to cigarette smoking.¹⁸

What factors influence opportunities for Ohioans with low incomes to make healthy choices?

Many factors, including community conditions, exposure to stress and trauma and living with mental illness and/or other disabling conditions, influence opportunities for Ohioans to make healthy choices.

This section describes how these factors influence health behaviors and provides data about communities with the greatest need to improve health behaviors. Understanding the factors that influence opportunities for Ohioans with low incomes to make healthy choices is relevant to Medicaid policy because Medicaid is a means-tested program, meaning that all beneficiaries must have low incomes to enroll.

State Health Improvement Plan

The [State Health Improvement Plan \(SHIP\)](#) is a tool to strengthen state and local efforts to improve health, wellbeing and economic vitality in Ohio. Led by the Ohio Department of Health (ODH) in partnership with 13 state agencies, the SHIP is designed to be implemented by a wide range of public and private partners, including local health departments, hospitals, MCPs and sectors beyond health.

The SHIP includes measurable objectives and evidence-informed strategies to improve Ohio's performance on six priorities, including health behaviors (tobacco/nicotine use, nutrition and physical activity). Recognizing that many factors influence health behaviors, the SHIP provides a comprehensive menu of policies and programs to address housing, poverty, education, trauma and other factors.

This policy brief focuses on steps ODM and MCPs can take *within the healthcare system* to support healthy behaviors. In contrast, the SHIP provides a broader set of opportunities for ODM and MCPs to partner with community-based organizations, schools, housing, workforce development agencies and others to address upstream community conditions. MCPs, for example, can use their influence and resources to advocate for community-based prevention efforts and provide data to effectively direct resources to the areas of greatest need.

Health behaviors addressed in this brief

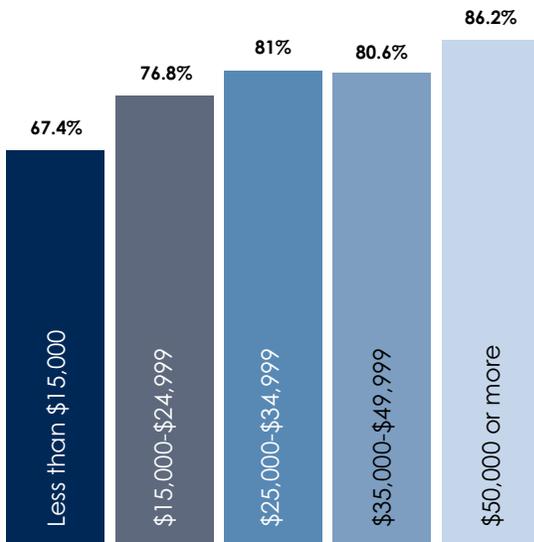
This brief focuses on improving behaviors related to nutrition, physical activity, tobacco use and excessive drinking.¹⁹ Ohio ranks among the bottom half of states on measures related to all of these behaviors (see below). These behaviors are risk factors for serious and costly health conditions.

Ohio's rank (out of 50 states and D.C.)	Metric	Ohio data value
46	Health behaviors	
37	Excessive drinking. Percent of adults that report either binge drinking, defined as consuming more than four (women) or five (men) alcoholic beverages on a single occasion in the past 30 days, or heavy drinking, defined as drinking more than one (women) or two (men) drinks per day on average (2017)	20.2%
37	Youth all-tobacco use. Percent of youth, ages 12-17, who used cigarettes, smokeless tobacco, cigars or pipe tobacco during the past 30 days (does not include e-cigarettes) (2016-2017)	6.8%
40	Adult insufficient physical activity. Percent of adults, ages 18 and older, not meeting physical activity guidelines for muscle strength and aerobic activity (2017)	81.7%
44	Adult smoking. Percent of adults, ages 18 and older, who are current smokers (2017)	21.1%
44	Conditions and diseases (selected)	
36	Adult depression. Percent of adults who have ever been told by a health professional that they have depression (2017)	22.6%
37	Adult diabetes. Percent of adults who have ever been told by a health professional that they have diabetes (2017)	11.3%
39	Cardiovascular disease mortality. Number of deaths due to all cardiovascular diseases, including heart disease and strokes, per 100,000 population (2016)	276.4



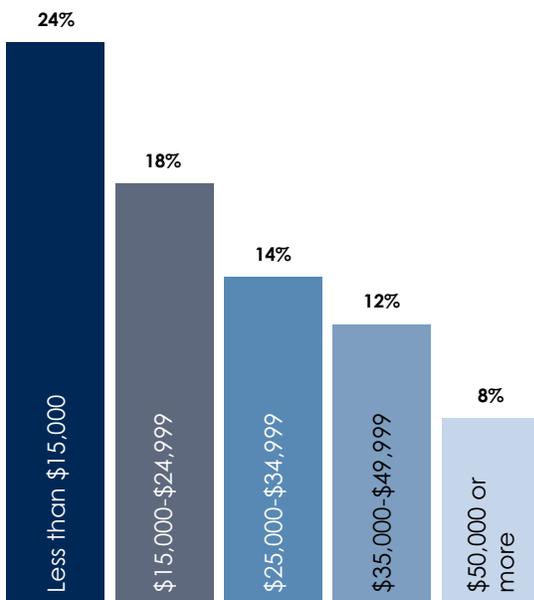
Source: Health Policy Institute of Ohio 2019 Health Value Dashboard

Figure 3. **Percent of Ohio adults who consume one or more servings of vegetables per day, by annual household income, 2017**



Source: Behavioral Risk Factor Surveillance System

Figure 4. **Percent of Ohioans who live in food deserts, by annual household income, 2015**



Source: The Health Opportunity and Equity (HOPE) Initiative analysis of data from the USDA Food Access Research Atlas

Community conditions

Daily decisions about being healthy are influenced by community conditions, including neighborhood safety, school quality, working conditions and job quality, access to health care and the availability of places to be physically active. Because of this, many Ohioans, particularly those with low incomes, face barriers to making healthy choices.

Income, food access and nutrition: An example of how community conditions in food deserts can influence health behaviors among Ohioans with low incomes

Ohioans with higher incomes tend to consume vegetables more frequently than Ohioans with lower incomes (see figure 3). The food access environment in low-income neighborhoods may contribute to this disparity.

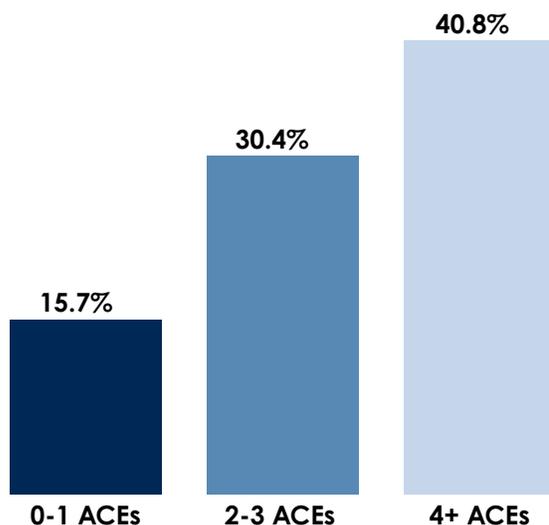
Research shows that there are fewer full-service grocery stores in low-income neighborhoods, and Ohioans with higher incomes are less likely to live in a neighborhood that is a designated food desert (see figure 4). This means that healthier foods are generally harder to find and are more expensive in low-income neighborhoods than in higher-income neighborhoods.²⁰

Grocery store access and food costs are not the only factors that influence decisions about healthy eating. Food deserts are, however, a significant barrier to making healthy food choices, and food access problems are more prevalent in the lives of people with low incomes.

Stress and trauma

Exposure to stress, especially stress that is persistent or brought on by traumatic events, is strongly associated with increased tobacco use.²¹ Evidence suggests that there is also a link between stress and other unhealthy behaviors, including unhealthy eating and lack of exercise.²² When confronted with stress, people rely on coping mechanisms to find relief. The chemicals in cigarettes, alcohol and unhealthy foods give users a temporary sense of relief from stress.

Figure 5. Percent of Ohio adults who currently smoke cigarettes, by number of adverse childhood experiences (ACEs), 2015



Source: Behavioral Risk Factor Surveillance System data provided by the Ohio Department of Health on Feb. 28, 2019

Exposure to persistent stress and/or trauma during childhood is associated with increased odds of unhealthy behaviors later in life.²³ In 2015, for example, Ohio adults who reported exposure to four or more adverse childhood experiences (ACEs) were 2.6 times more likely to be current smokers than people who experienced 0-1 ACEs (see figure 5). ACEs are traumatic experiences during childhood, such as:

- Experiencing physical, sexual and/or emotional abuse
- Mental illness and/or substance use disorder of a household member
- Divorce, separation, death and/or incarceration of a parent
- Witnessing domestic violence

Mental illness and other disabling conditions

Mental illness and other disabling conditions contribute to higher prevalence of unhealthy behaviors among people living with these conditions.²⁴ For example:

- Living with a mental illness increases the risk of becoming addicted to cigarettes because the mood-altering effects of nicotine can temporarily relieve some symptoms of mental illness. In addition, tobacco companies have an established history of direct marketing to people with mental illness.²⁵
- Disabling conditions can restrict physical activity, particularly for people living in communities that are not accessible.
- Alcohol is sometimes used to cope with the symptoms of mental health problems, particularly for people with severe and persistent mental illness.²⁶

As a result of these factors, research consistently shows that people living with mental illness and/or other disabling conditions engage in unhealthy behaviors at higher rates:

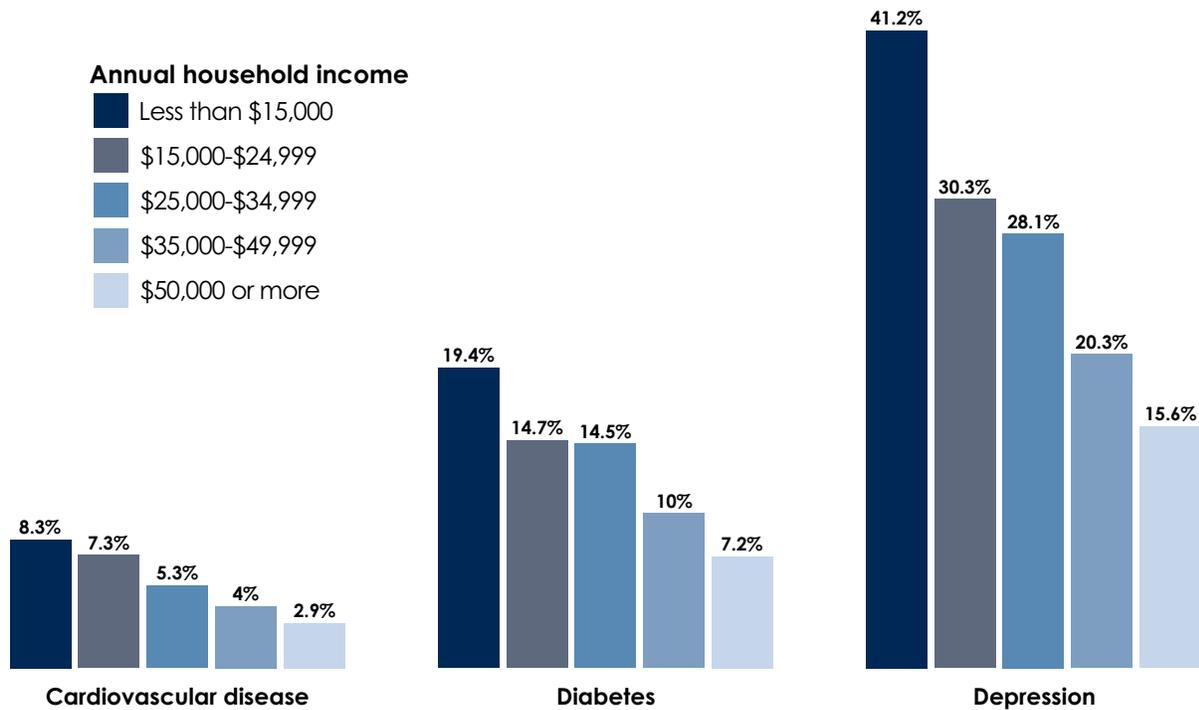
- Between 2009 and 2011, 39% of Ohioans with a mental illness reported current smoking compared to 25.1% of adults with no mental illness.²⁷
- A large-scale study found that people with severe psychotic disorders were about four times more likely to report heavy alcohol use.²⁸
- In 2017, Ohio adults with disabilities were more than twice as likely to smoke cigarettes as Ohio adults without disabilities.²⁹

Differences in health outcomes and behaviors by income

Due to the factors described in this section, Ohioans with low incomes experience troubling health disparities for conditions related to unhealthy behaviors, including cardiovascular disease³⁰, diabetes³¹ and depression³² (see figure 6).

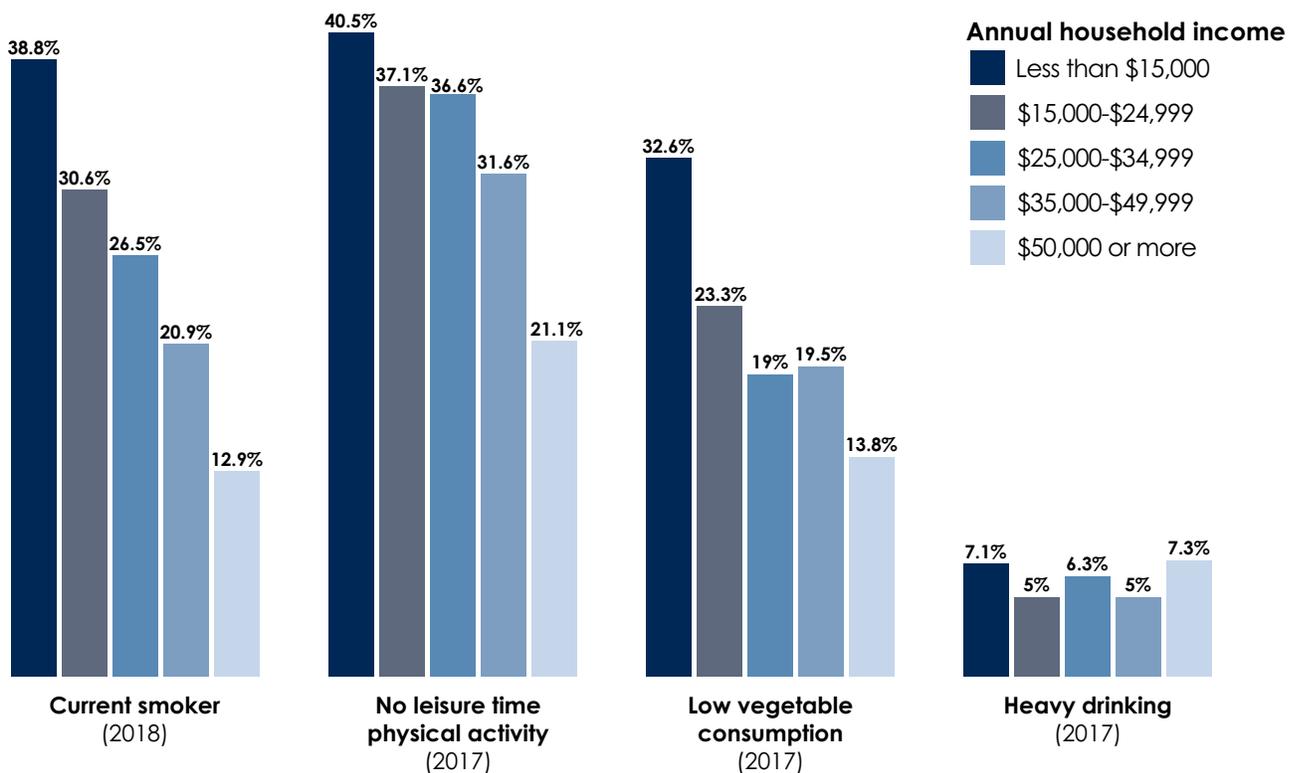
Because Ohioans with lower incomes face barriers to making healthy choices, this group tends to engage in unhealthy behaviors at higher rates than Ohioans with higher incomes (see figure 7). According to a literature review, health behaviors account for about 25% of disparities in health outcomes between groups with high and low socioeconomic status (i.e., income and/or education).³³ This means that efforts to support healthy choices among Ohioans with low incomes are critical to eliminating gaps in outcomes and achieving health equity.³⁴

Figure 6. Percent of Ohioans with chronic conditions, by annual household income, 2017



Source: Behavioral Risk Factor Surveillance Survey

Figure 7. Percent of Ohioans with unhealthy behaviors, by annual household income



Source: Behavioral Risk Factor Surveillance System and Ohio Department of Health

What general approaches for improving health behaviors emerge from current research?

Because many factors influence health behaviors, improving these behaviors requires engagement from numerous sectors, including health care. This section provides an overview of three general approaches for supporting healthy choices:

- Improve community conditions
- Increase access to, and utilization of, healthcare services designed to support healthy behavior change
- Tailor services and supports to communities with the greatest need

Improve community conditions

Research indicates that improving community conditions can positively impact health behaviors by expanding the range of healthy options that are available. For example, increasing access to healthy food by providing nutritious options in convenience stores improves the likelihood that people who live in food deserts will purchase and eat healthy foods.³⁵

The Ohio Department of Health's Good Food Here program works with small food retailers, including convenience stores, to increase access to healthy and fresh food options. Produce Perks is another example of an evidence-based program that improves nutrition by matching Supplemental Nutrition Assistance Program funds spent on fruits and vegetables.³⁶

Increase access to, and utilization of, healthcare services designed to support healthy behavior change

Access to quality, coordinated, healthcare services, particularly primary care services, can support adoption of healthier behaviors. Healthcare providers can screen for unhealthy behaviors, educate patients about the health impacts of behaviors and, for people who want to change, provide or refer to services that encourage healthy decision making. For example, prescribing exercise and nutrition and Screening, Brief Intervention and Referral to Treatment (SBIRT) for excessive alcohol use are interventions that can be used in clinical settings.

Access to evidence-based tobacco counseling and cessation medications improves the likelihood that tobacco quit attempts are successful. However, Ohio Medicaid data shows that only a small number of people enrolled in Medicaid through MCPs received these services.³⁷ In SFY 2016, just 5% of adult Medicaid managed care enrollees were prescribed cessation medication and 2% received counseling for tobacco use. That year, it was estimated that about 46% of Medicaid enrollees smoked.³⁸ Many people who smoke or use other tobacco products want to quit. In 2017, 55.8% of people between the ages of 18 and 64 in Ohio who were current smokers reported a quit attempt during the past year.³⁹

Tailor services and supports to communities with the greatest need

Tailoring services and supports to communities with the greatest need is important to eliminate gaps in health behavior-related outcomes experienced by some Ohioans. As previously discussed, people exposed to persistent stress, survivors of trauma and people living with mental illness and/or disabilities are among those with the greatest need related to health behaviors in Ohio and may need additional support to make healthy choices.

The SHIP identifies priority populations and highlights strategies with evidence of effectiveness to reduce gaps in outcomes (see text box on pg. 4). Stakeholders at the state and/or local levels can use this information to tailor services and direct resources to communities with the greatest need.

Which specific, evidence-informed healthcare strategies are likely to improve health behaviors among adult Medicaid enrollees?

HPIO developed an inventory of effective healthcare strategies to improve health behaviors among adult Medicaid enrollees (see figure 8). This inventory informed the policy options in this brief (see pages 13-15). To ensure that the policy options were evidence-informed and relevant to the Medicaid program, HPIO searched evidence registries for policies and programs that support healthy behavior change and then prioritized the results of the search using the criteria listed below. Figure 8 includes all strategies that were identified and prioritized through this process. The strategy descriptions include links to more information and highlight examples of implementation in Ohio.

Evidence registries	Prioritization criteria
<ul style="list-style-type: none"> What Works for Health (WWFH), University of Wisconsin The Community Guide (CG), Centers for Disease Control and Prevention (CDC) 6/18 initiative, CDC 	<ul style="list-style-type: none"> Strong evidence rating (rated "scientifically supported" or "some evidence" in context of WWFH; recommended by The Community Guide and/or the 6/18 Initiative) No increase in disparities (from WWFH) Evidence of effectiveness for Medicaid-eligible populations and/or applicability for Medicaid-eligible populations Relevance to Medicaid providers and/or MCPs Relevance to working-age adults

Figure 8. Effective healthcare strategies to improve adult health behaviors

Policy or program (click link for more information)	Description	Outcomes
Health behaviors in general and/or multiple health behaviors		
Chronic disease self-management programs	<p>Programs that support active management of conditions in daily life through education and behavioral interventions. Programs vary by specific disease but often focus on self-monitoring and medical management, decision making or adoption and maintenance of health-promoting behaviors.</p> <p>The Healthy U Ohio program is an example of this strategy. The program is implemented through a partnership between the Ohio Department of Aging and the Ohio Department of Health.</p>	<p>WWFH:</p> <ul style="list-style-type: none"> Improved health outcomes Increased healthy behaviors Improved quality of life Increased self-efficacy
Community health workers (CHW)	<p>Workers who provide outreach, education, referral and follow-up, case management, advocacy and home visiting services. Ⓣ</p> <p>In Ohio, certified CHW programs coordinate with MCPs to address social determinant of health needs, particularly for women with low incomes who are pregnant. The Ohio Board of Nursing certifies community health workers that complete an approved training program.</p> <p>Through a grant program to reduce racial disparities in infant mortality, ODH and MCPs provided \$10.6 million in funding to support CHW programs in nine, mostly urban, counties.</p>	<p>WWFH:</p> <ul style="list-style-type: none"> Increased patient knowledge Increased access to care Increased healthy behaviors Increased preventive care
Nurse-Family Partnership (NFP)	<p>Voluntary home visiting program that supports first-time mothers with low incomes and their babies. Specially trained registered nurses provide support, advice and education on diverse topics regarding child and maternal health, development and care. Ⓣ</p> <p>In Ohio, NFP is one evidence-based home-visiting model used by the ODH Help Me Grow program.</p> <p>The Mom and Baby Bundle program, which is an initiative under development by ODM as of Jan. 2020, will connect "at-risk" women who are pregnant with services, such as nurse home visiting services, in an effort to improve birth outcomes.</p>	<p>WWFH:</p> <ul style="list-style-type: none"> Improved well-being Improved family functioning Improved child development Reduced risky health behaviors Reduced child maltreatment

Bold = outcomes related to health behaviors

WWFH = What Work for Health; CG = The Community Guide

Ⓣ = Likely to decrease disparities according to WWFH

Figure 8. **Effective healthcare strategies to improve adult health behaviors** (cont.)

Policy or program (click link for more information)	Description	Outcomes
Health behaviors in general and/or multiple health behaviors (cont.)		
Text message-based health interventions	Method for communicating reminders, education or self-management assistance for health conditions to patients. This intervention is often integrated into broader approaches for improving health and managing chronic disease.	WWFH: <ul style="list-style-type: none"> Improved health outcomes Improved weight outcomes Increased healthy behaviors Improved chronic disease management Increased tobacco cessation Reduced tobacco use Reduced drug and alcohol use Increased vaccination
Preconception education interventions	Strategy for providing information about the risks and benefits of behaviors that affect a woman's health before, during and after pregnancy. This intervention can be administered in clinical and/or community settings by people with varying degrees of medical training.	WWFH: <ul style="list-style-type: none"> Increased healthy behaviors
Tobacco use (youth and adult)		
Tobacco/nicotine cessation therapy affordability	Efforts to increase affordability of tobacco/nicotine cessation therapies. Examples include eliminating co-payments, limits on duration of treatment, requirements for prior authorization or annual limits on quit attempts. ☹️ Ohio Medicaid covers all cessation medications and services without co-payments.	WWFH: <ul style="list-style-type: none"> Increased quit rates Increased access to cessation treatment Increased use of cessation treatment <p>See also, the CDC 6/18 Initiative: Reduce Tobacco Use and CG: Tobacco</p>
Tobacco quit lines	Strategy for providing behavioral counseling to tobacco users who want to quit. Some quit lines provide additional interventions, such as mailed materials, web-based support, text messaging or tobacco cessation medications. In Ohio, ODH manages the Ohio Tobacco Quit Line .	WWFH: <ul style="list-style-type: none"> Increased quit rates
Cell phone-based tobacco cessation interventions	Strategy for providing cessation advice, motivational messages or content to distract from cravings that can be delivered via text, smartphone applications or video messages. Some cell phone-based interventions include interactive features or connect participants to each other virtually for additional support.	WWFH: <ul style="list-style-type: none"> Increased quit rates
Healthcare provider reminder systems for tobacco cessation	Reminder systems that encourage health professionals to support tobacco cessation among their patients. Such systems can include provider trainings, organizational protocols or referral processes, financial remuneration for providers and materials such as self-help pamphlets and pharmacotherapy. ☹️	WWFH: <ul style="list-style-type: none"> Increased quit rates

Bold = outcomes related to health behaviors

WWFH = What Work for Health; CG = The Community Guide

☹️ = Likely to decrease disparities according to WWFH

Figure 8. **Effective healthcare strategies to improve adult health behaviors** (cont.)

Policy or program (click link for more information)	Description	Outcomes
Physical activity and nutrition		
Exercise prescriptions	<p>Strategy for primary care physicians and other healthcare providers to give patients physical activity advice and information. Prescriptions for physical activity outline an exercise plan that can safely meet a patient's needs based on their current physical condition and the recommendations for daily physical activity.</p> <p>Exercise is Medicine™ is a global initiative with several Ohio health system participants to make physical activity and exercise a standard part of disease prevention and treatment.</p>	<p>WWFH:</p> <ul style="list-style-type: none"> • Increased physical activity • Improved physical fitness • Increased mobility
Digital health interventions	<p>Strategy to deliver tailored guidance and support through web-based interactive content (e.g., virtual coaching); telephone sessions with intervention providers or automated voice messages, text messages and reminders; or apps with goal setting, activity tracking and reminder functions. Some also include print materials or feedback devices (e.g., pedometers, accelerometers).</p>	<p>CG:</p> <p>Increased physical activity</p>
Individually adapted physical activity programs	<p>Programs that teach behavioral skills, such as goal setting, positive self-talk, self-monitoring and self-reward systems, to help participants incorporate physical activity into their daily routines. Programs also include efforts to develop social support systems and proactive plans to prevent relapse into sedentary behavior.</p>	<p>WWFH:</p> <ul style="list-style-type: none"> • Increased physical activity • Improved physical fitness
Multi-component obesity prevention interventions	<p>Approach that combines educational, environmental and behavioral activities, and typically addresses both physical activity and nutrition. These interventions frequently include nutrition education, aerobic or strength training exercise sessions, training in behavioral techniques and specific dietary prescriptions.</p>	<p>WWFH:</p> <ul style="list-style-type: none"> • Increased physical activity • Improved weight status <p>See also, CG, Obesity Task Force Findings for examples of multi-component obesity prevention interventions</p>
Combined diet and physical activity promotion programs to prevent type 2 diabetes among people at increased risk (e.g., the National Diabetes Prevention Program)	<p>Combined diet and physical activity promotion programs, such as the National Diabetes Prevention Program, aim to prevent type 2 diabetes among people who are at increased risk of the disease. Programs last for at least three months and may be administered in clinical and/or community settings in-person or by other methods. Program sessions may be delivered to groups or individuals, and session topics may include counseling, coaching, goal setting and ongoing support.</p>	<p>CG:</p> <ul style="list-style-type: none"> • Reduced onset of type 2 diabetes • Reduced risk factors, including improved blood sugar control, fasting blood sugar and blood pressure
Excessive drinking		
Alcohol brief interventions (i.e. Screening, Brief Intervention and Referral to Treatment [SBIRT])	<p>Strategy for providing information and increasing motivation to change or prevent problematic alcohol consumption in a short session. Interventions may be administered by healthcare providers, trained counselors or social workers. Interventions can also be administered remotely, by telephone or online.</p> <p>Beginning in 2018, as part of Behavioral Health Redesign, ODM expanded access to SBIRT by adding some behavioral health providers to the list of provider types eligible to bill for SBIRT services.⁴⁰ This expands access to SBIRT services by increasing the number of providers that can be reimbursed to provide the service.</p> <p>The Ohio Department of Mental Health and Addiction Services provides access to training for providers about SBIRT implementation and other relevant skills, including motivational interviewing.</p>	<p>WWFH:</p> <ul style="list-style-type: none"> • Reduced alcohol use • Reduced excessive drinking • Reduced underage drinking • Reduced alcohol-related harms

Common approaches for improving health behaviors through Medicaid programs

Many state Medicaid programs have ongoing initiatives to improve the healthcare utilization behaviors of enrollees, often by using financial incentives to reward healthy behaviors.

Healthcare utilization behaviors and adherence to treatment

Behaviors related to when, where and how people use healthcare services, and whether they adhere to medical advice and treatment plans, are often the focus of initiatives led by healthcare providers and payers, including ODM and MCPs. Notably, these behaviors directly affect the revenue and day-to-day operations of ODM and MCPs.⁴¹

The Ohio Comprehensive Primary Care (CPC) program is an example of an initiative that emphasizes improved healthcare utilization and adherence to treatment. Implemented in 2017, the initiative involves public and private healthcare payers, including ODM and MCPs. The program tracks primary care provider performance on activity, efficiency and quality metrics and rewards providers with bonus payments for better performance. Many of the metrics that are tracked for the CPC program reflect healthcare utilization, such as:

- Well-child visits in the first 15 months of life
- Well-child visits in the 3rd, 4th, 5th and 6th years of life
- Adolescent well-care visits
- Timeliness of prenatal care
- Postpartum care

A report evaluating the Ohio CPC program identified improvement on only four measures.⁴² The extent to which the Ohio CPC program has impacted health behaviors, such as smoking, or improved health is unclear.⁴³ For more information, see the [Ohio CPC and Ohio CPC for Kids program](#) website.⁴⁴

Financial incentives to promote healthy behavior change

Many states, including Ohio, use financial incentive programs to promote healthy choices among specific groups of Medicaid beneficiaries, such as women who are pregnant and people with chronic conditions.⁴⁵ Emerging

research suggests that financial incentives are an effective strategy for improving health behaviors in commercial health insurance plans.⁴⁶ Until recently, however, research on the effectiveness of financial incentives in the context of Medicaid was limited.

The federal government created the Medicaid Incentives for Prevention of Chronic Diseases (MIPCD) program in 2011 to test whether financial incentive programs improve health behaviors among Medicaid beneficiaries.⁴⁷ This was important because people receiving Medicaid have low incomes and often poorer health, and therefore may respond differently to financial incentives than people in commercial health plans.⁴⁸

While Ohio did not implement an MIPCD program, findings from the federal program could inform policymaking in Ohio and other states. Key evaluation results from MIPCD programs and other Medicaid financial incentives include⁴⁹:

- Medicaid beneficiaries who enrolled in incentive programs were usually satisfied with the program.
- Reaching enrollment goals was a challenge in most states, and administrative problems led to delayed roll-out of programs in several states.
- Incentive programs focused on smoking cessation generally showed positive results, and some states saw increased utilization of preventive services, such as diabetes prevention programs, tobacco quit lines and cessation medications.
- States generally did not see improvements in health outcomes, including blood sugar control, blood pressure and weight loss.
- The few evaluations that assessed the impact of incentives on Medicaid spending found increased utilization of preventive services in some states. However, there were no significant effects on utilization or expenditures for other Medicaid services.

Some recent policy proposals have considered using financial disincentives in Medicaid, such as charging higher co-pays and/or losing Medicaid coverage, to promote healthier and more cost-conscious behaviors among Medicaid enrollees. There is no evidence, however, that restricting access to health care as a consequence for unhealthy behaviors leads to positive outcomes, such as improved health or healthier behaviors.

What can ODM and MCPs do to improve health behaviors among adult Medicaid enrollees?

Based on the research summarized in figure 8, there are many evidence-informed strategies to improve health behaviors that could be implemented by ODM and MCPs. This section highlights key findings from HPIO's review of the current status of health behavior improvement in Ohio Medicaid and policy options for ODM and MCPs.

Current status of evidence-informed health behavior improvement in Ohio Medicaid

Before developing policy options, HPIO staff reviewed the following publicly-available documents to assess the extent to which ODM and MCPs are already implementing evidence-informed strategies:

- ODM Medicaid Managed Care Quality Strategy
- Documents on ODM's website related to Ohio's Comprehensive Primary Care (CPC) program
- Managed care member handbooks for the five MCPs that serve all Medicaid members
- Ohio's existing MCP agreement
- Federal and state statutes (selected sections as referenced by documents listed above)

HPIO searched these documents using more than 60 terms related to health behaviors, tobacco, diet, nutrition, physical activity and the strategies listed in figure 8. HPIO also consulted with representatives from some MCPs, ODM and other stakeholders throughout this review to gather contextual information.

Based on the review described above, HPIO identified two key findings that informed the policy options in this brief:

1. Improving health behaviors of people with chronic conditions and women who are pregnant has been a priority for ODM and MCPs. Learnings from this work should inform the approach ODM and MCPs develop to improve health behaviors.

2. There are many opportunities for ODM and MCPs to expand efforts to improve health behaviors by advancing evidence-informed strategies. A comprehensive approach could prevent illness, improve health and slow the growth of healthcare spending in Ohio.

Policy options for ODM and MCPs

Encouraging and supporting healthy choices among Ohio Medicaid beneficiaries will take energy and investment from multiple sectors, including ODM, MCPs, healthcare providers and beneficiaries (see figure 1). The policy options for ODM and MCPs in this section were developed based on:

- Evidence-informed strategies listed in figure 8
- Consultation with representatives from ODM and some MCPs
- Key findings from the review of publicly-available documents from ODM and MCPs

Policy options to improve health behaviors in general are presented first, followed by options for improving each of the health behaviors addressed in this brief:

- Tobacco use
- Nutrition
- Physical activity
- Excessive drinking

Policy options to improve general health behaviors

To improve community conditions that affect health behaviors, **ODM can:**

- Partner with ODH and other state agencies to implement the 2020-2022 State Health Improvement Plan (SHIP).
- Develop an action plan with broad stakeholder input for addressing health behaviors. The plan should reflect the regulatory landscape of Medicaid and the external factors that impact the health behaviors of Medicaid beneficiaries (e.g., low incomes, living in under-resourced neighborhoods). The plan should align with objectives for health behaviors in the 2020-2022 SHIP.

To improve community conditions that affect health behaviors, **MCPs can:**

- Partner with local health departments and hospital systems to implement local health plans and to advance the 2020-2022 SHIP.
- Advocate for community-level policies to support healthy choices, such as: increased funding for public spaces for physical activity and healthy food access programs, tobacco/nicotine product advertising restrictions and strong enforcement of minimum-age tobacco/nicotine restrictions.

In addition to the options above, **ODM and MCPs can work together to:**

- Develop and implement an evidence-informed approach to support health behavior change for beneficiaries. This approach could:
 - Use information from health risk assessments (HRAs) to improve health behaviors:
 - Provide feedback to members on potentially unhealthy behaviors.
 - Explain that PCPs and other Medicaid-approved healthcare providers can provide support to change unhealthy behaviors.
 - Establish a procedure for sharing information from HRAs with each member's PCP for follow-up.⁵⁰
 - Connect members with programs and services that provide encouragement and reward healthy behaviors, such as financial incentives and motivational interviewing.
 - Establish a procedure for, and dedicate capacity to, periodically reminding members of available services.
 - Establish a procedure for educating provider networks about billing codes and Medicaid/MCP-reimbursed services that support health behavior change.

- Provide regular communications and technical assistance to providers regarding health behavior support services (e.g., learning networks, practice specific reporting and/or practice comparison tools, linkages to training, etc.).
- Contract with community-based entities to provide evidence-informed supportive services (examples are described below).
- Strengthen quality measurement and pay-for-performance programs, such as Ohio CPC, the Quality Withhold Program and value-based payment arrangements between MCPs and healthcare providers by integrating process and outcome measures related to health behaviors. For example:
 - Collect data needed to report on certified quality measures that align with the health behavior objectives in the 2020-2022 SHIP.
 - Publicly report MCP and aggregate provider performance on all measures for which data is collected. In public reporting, disaggregate data by race/ethnicity, sex, disability status and other demographic characteristics.
 - Advance and expand initiatives to tie performance improvement to payment for MCPs and healthcare providers.
- Identify barriers to PCP participation in health information exchanges and provide technical assistance, funding and other supports to increase participation among primary care providers.
- Survey Medicaid beneficiaries about health behaviors. Survey topics could include:
 - Prevalence of unhealthy behaviors
 - Prevalence of desire to adopt healthier behaviors
 - Barriers to adopting healthy behaviors
 - Barriers to engaging with supports offered by MCPs and/or providers
 - Strategies for engaging Medicaid beneficiaries in health behavior change
- Require MCPs to partner with community-based health-messenger programs, including CHWs and home visitors, to increase the capacity of these programs through:
 - Funding
 - Information sharing
 - Advertising
 - Referring members to services, including by facilitating referral relationships between PCPs and local CHW and home visiting programs
- Expand and/or develop mobile applications to connect members with health and health behavior-related information:
 - Allow members to assess their behaviors and set goals to improve.
 - Provide tools to connect members with evidence-based services, for example, the Ohio Tobacco Quit Line phone number and website, an option to contact their PCP for an appointment and/or an option to sign up and receive healthy behavior reminders tailored to the member's goals.⁵¹
- Develop a crosswalk for providers that explains which evidence-informed, health behavior-related support services are billable under Ohio Medicaid, including codes and any relevant modifiers.

Policy options to reduce tobacco/nicotine use

To reduce tobacco/nicotine use, **ODM and MCPs can:**

- Identify beneficiaries who use nicotine in a systematic way, such as by reviewing the results of HRAs, so that cessation outreach efforts can be targeted to people who use nicotine.
- Launch a high-intensity campaign to increase use of cessation counseling and medication among members who use tobacco.
- Promote greater use of the Ohio Tobacco Quit Line, such as by:
 - Advertising the Ohio Tobacco Quit Line in member handbooks and other member materials.⁵²
 - Facilitating a data sharing agreement between ODH and MCPs so that MCPs can know which members have used the service.
 - Covering all nicotine replacement therapy (NRT) for Quit Line participants receiving NRT via the Quit Line (rather than relying on ODH funding).
 - Rewarding MCPs that increase the volume of their members who enroll in the Quit Line.
- Provide cash and/or voucher incentives to members who stop using tobacco/nicotine (see this [review of evidence on quit incentives](#)).
- Raise awareness of cessation coverage among providers and remove any remaining barriers to using cessation products and services such as prior authorizations and quit attempt limits.
- Incentivize providers to implement healthcare provider reminder systems for tobacco/nicotine cessation.
- Incentivize healthcare providers and/or other community-based providers to offer, intensive and tailored cessation services to Ohioans who are at a higher risk of tobacco/nicotine use and are struggling to quit, such as enrollees:
 - With a behavioral health diagnosis (see [SAMHSA guides for SUD treatment settings and mental health providers](#))
 - With a disability (see [Ohio Disability and Health fact sheet](#))
 - Who are survivors of trauma

Policy options to improve nutrition and physical activity

To improve nutrition and physical activity, ODM and MCPs can:

- Increase utilization of community-based Diabetes Prevention Programs (DPP), such as programs offered through partnerships with YMCAs, by:
 - Reimbursing for DPP following the steps outlined in CDC's [National DPP Coverage Toolkit](#).
 - Provide grant funding to establish DPP in underserved areas. For Ohio DPP locations, [click this link](#).
 - Reimburse primary care providers for completing the American Diabetes Association (ADA) prediabetes risk assessment and referring people with prediabetes to DPP.
 - Encourage providers, particularly PCPs, to:
 - Screen all adults for prediabetes using the ADA prediabetes risk assessment.
 - Complete a blood glucose test for adults who scored 5 or higher on the ADA prediabetes risk assessment (assign ICD-10 Code R73.03 as appropriate).
 - Refer patients with prediabetes DPP.
- Advocate for the national development and certification of a prediabetes-focused quality measure.
- Provide Medicaid reimbursement for community-based Chronic Disease Self-Management Programs (CDSMPs). For example, provide reimbursement for HEALTHY U Ohio programs.
- Expand awareness of, and access to, CDSMPs by:
 - Raising awareness of local programs among members with chronic disease.
 - Raising awareness of local programs among PCPs and helping to facilitate referral relationships between PCPs and local programs.
 - Funding programs in underserved areas.
- Add physical activity and nutrition counseling billing codes to the list of eligible codes for behavioral health providers.

Policy options to reduce excessive drinking

To reduce excessive drinking, ODM and MCPs can:

- Partner with the [Ohio Department of Mental Health and Addiction Services](#) to increase the number of providers trained to provide SBIRT and related services, including motivational interviewing.
- For practices implementing SBIRT, facilitate referral relationships with local substance abuse treatment providers and establish a referral feedback loop to monitor receipt of treatment.⁵³
- Monitor the outcomes of Behavioral Health Redesign related to excessive alcohol use and SBIRT implementation.

Conclusion

Given Ohio Medicaid's role as one of the largest healthcare payers in the state, ODM and MCPs have considerable leverage to encourage and incentivize healthy choices.

Unhealthy behaviors, including tobacco use, excessive drinking, lack of physical activity and poor nutrition, contribute to poor health and high healthcare spending. When compared to other states, Ohio ranks near the bottom for conditions associated with unhealthy behaviors, including cardiovascular disease, adult obesity and type 2 diabetes. These conditions can be expensive to treat and difficult to manage.

However, improvement is possible and there is strong evidence that efforts to encourage Medicaid beneficiaries to take an active role in their health care improves health outcomes, including health behaviors.⁵⁴ In order for Medicaid to be successful in improving the health of its enrollees, a comprehensive approach is needed to support healthy choices.

Based on HPIO's review, ODM and MCPs currently do not have a comprehensive approach to improving health behaviors. By implementing the evidence-informed policy options in this brief, ODM and MCPs can improve health behaviors among Medicaid enrollees. And the procurement of new managed-care contracts presents a rare opportunity to strengthen efforts to improve health behaviors.

It is important to note, however, that improving the health behaviors of Ohioans is not the sole responsibility of the healthcare sector. Many factors beyond clinical care influence health behaviors. Changing health behaviors will require a coordinated approach across many sectors, both inside and outside of what is traditionally considered health care. The State Health Improvement Plan is a tool to help coordinate and strengthen these efforts.

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Notes

1. "Budget Variance Report – June 2019." Ohio Department of Medicaid. Accessed on Dec. 18, 2019.
2. For descriptions of various states' efforts to increase Medicaid beneficiary engagement in health and healthcare spending, including various health behavior incentive programs, see: Byrd, Vivian L.H., Maggie Colby and Katherine Bradley. "Beneficiary Engagement Strategies in Medicaid Demonstrations." June 2017. <https://www.medicaid.gov/medicaid/section-1115-demo/downloads/evaluation-reports/beneficiary-engagement-strategies.pdf>; Contreary, Kara and Rachel Miller. "Incentives to Change Health Behaviors: Beneficiary Engagement Strategies in Indiana, Iowa, and Michigan." August 2017. <https://www.medicaid.gov/medicaid/section-1115-demo/downloads/evaluation-reports/incentives-to-change-health-behaviors.pdf>; and Medicaid and CHIP Payment and Access Commission. "The Use of Healthy Behavior Incentives in Medicaid." August 2016. <https://www.macpac.gov/publication/the-use-of-healthy-behavior-incentives-in-medicaid/>
3. Madison, Kristin, Harald Schmidt and Kevin G. Volpp. "Smoking, Obesity, Health Insurance, and Health Incentives in the Affordable Care Act." *JAMA Viewpoint* 10, no. 2. July 2013 <https://jamanetwork.com/journals/jama/article-abstract/1697621>
4. For a review of research on the impact of patient activation and engagement on health outcomes see: Hibbard, Judith H. and Jessica Greene. "What Evidence Shows About Patient Activation: Better Health Outcomes And Care Experiences; Fewer Data On Costs." *Health Affairs*, 32, no. 2, Feb. 2013. <https://doi.org/10.1377/hlthaff.2012.1061>
5. *Ibid.*; Patients who are more engaged in health care as measured by the Patient Activation Measure were less likely to use costly healthcare services, including emergency department and inpatient hospitalization, in a study of an Accountable Care Organization in Minnesota. See: Greene, Jessica et al. "When Patient Activation Levels Change, Health Outcomes And Costs Change, Too." *Health Affairs*, 34, no. 3 (2015): 431-437. doi: 10.1377/hlthaff.2014.0452
6. Ohio Department of Medicaid. "Ohio Medicaid seeks public input on making the program better." Press release. June 13, 2019. <https://medicaid.ohio.gov/Portals/0/For%20Ohioans/Managed-Care-Procurement-Press-Release.pdf?ver=2019-06-13-135220-420>
7. Anthes, Loren. Engineering Outcomes: Managed Care Value-based Design. Center for Community Solutions. Apr. 8, 2019. <https://www.communitysolutions.com/research/engineering-outcomes-managed-care-value-based-design-ohio-medicaid/>
8. Booske, Bridget et al. Different perspectives for assigning weights to determinants of health. County Health Rankings, February 2010
9. Obesity is linked with several medical conditions that require treatment, including diabetes and hypertension: Al-Goblan S., Abdullah, Mohammed A Al-Ali and Muhammad Z. Khan. "Mechanism linking diabetes mellitus and obesity." *Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy* 7 (2014): 587-591. doi: 10.2147/DMSO.S67400; and, Jiang, Shu-Zhong et al. "Obesity and hypertension." *Experimental and Therapeutic Medicine*, 12, no. 4 (2016): 2395-2399. doi: 10.3892/etm.2016.3667
10. One of the known risk factors for prediabetes and Type 2 diabetes is being physically active less than three times per week. "Diabetes. Who's at Risk?" Centers for Disease Control and Prevention. Accessed on Jan. 9 2020. <https://www.cdc.gov/diabetes/basics/risk-factors.html>
11. Unhealthy behaviors are associated with several of the leading causes of premature death in Ohio, including unintentional injuries (including drug overdose deaths and alcohol-involved traffic accidents), heart disease, chronic lower respiratory disease, diabetes and chronic liver disease. For more data about premature death by cause see the Ohio Department of Health's 2019 Online State Health Assessment. <https://odh.ohio.gov/wps/portal/gov/odh/explore-data-and-stats/interactive-applications/2019-Online-State-Health-Assessment>
12. Physical inactivity and other health behaviors are risk factors for cardiovascular disease and cardiovascular disease mortality; Lacombe, Jason, et al. "The impact of physical activity and an additional behavioural risk factor on cardiovascular disease, cancer and all-cause mortality: a systematic review." *BMC Public Health* 19 (2019):900. doi:10.1186/s12889-019-7030-8
13. Smoking tobacco and exposure to tobacco smoke during pregnancy is associated with increased risk for stillbirth and neonatal infant mortality; Pineles, Beth L. et al. "Systematic Review and Meta-Analyses of Perinatal Death and Maternal Exposure to Tobacco Smoke During Pregnancy." *American Journal of Epidemiology* 184, no. 2 (2016): 87-97. doi: 10.1093/aje/kwv301
14. *Ibid.*
15. Chapel, John M. Matthew D. Ritchey, Donglan Zhang, Guijing Wang. "Prevalence and Medical Costs for Chronic Diseases Among Adult Medicaid Beneficiaries." *American Journal of Preventive Medicine* 53, no.6 Supplement 2: S143-S154. doi: 10.1016/j.amepre.2017.07.019
16. *Ibid.*
17. SVC, Inc. Indiana Smoking Attributable Medicaid Expenditures Final Report, March 2017. <https://www.rmf.org/wp-content/uploads/2017/04/Fairbanks-SAE-FinalUPDATED-Report-3.31.2017.pdf>
18. Xu, X., et al. "Annual Healthcare Spending Attributable to Cigarette Smoking: An Update." *American Journal of Preventive Medicine* 48, no.3 (2015): 326-333.
19. Other behaviors, including sleep, risky sexual behavior, addiction, involvement with crime and/or violence, have serious implications for health and should be addressed by Ohio's Medicaid program. The topics addressed in this brief were identified among Ohio's greatest health challenges in the 2019 Health Value Dashboard.
20. Treuhaff, Sarah and Allison Karpyn. The Grocery Gap: Who has access to healthy food and why it matters. PolicyLink and The Food Trust, 2010.
21. Issue Brief #3 – Exploring the Social Determinants of Health: Stress and Health, Robert Wood Johnson Foundation, 2011; see also, Stress and Health Disparities: Contexts, Mechanism, and Interventions Among Racial/Ethnic Minority and Low Socioeconomic Status Populations. Washington, DC: American Psychological Association, 2017. <https://www.apa.org/pi/health-disparities/resources/stress-report>
22. *Ibid.*
23. Garrido, Edward F., Lindsey Weiler and Health Taussig. "Adverse Childhood Experiences and Health-Risk Behaviors in Vulnerable Early Adolescents." *Journal of Early Adolescence* 38, No. 5: 661-680. doi: 10.1177/0272431616687671 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5976451/>
24. For more information, see "The CBHSQ Report: Serious Mental Illness Among Adults Below the Poverty Line." U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Nov. 15, 2016. https://www.samhsa.gov/data/sites/default/files/report_2720/Spotlight-2720.html
25. "CDC Vital Signs: Adult Smoking, Focusing of People with Mental Illness." Centers for Disease Control and Prevention. Accessed on Dec. 31, 2019. <https://www.cdc.gov/vitalsigns/smokingandmentalllness/index.html>
26. Cheers? Understanding the relationship between alcohol and mental health. Mental Health Foundation, 2006.
27. "Vital Signs: Current Cigarette Smoking Among Adults Aged≥18 Years with Mental Illness – United States, 2009–2011." *Morbidity and Mortality Weekly Report (MMWR)*, Centers for Disease Control and Prevention. Accessed Dec. 31, 2019. https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6205a2.htm?_cid=mm6205a2_w
28. Hartz, Sarah et al. "Comorbidity of Severe Psychotic Disorders With Measures of Substance Use." *Journal of the American Medical Association Psychiatry*, 71, no. 3:248-254. doi: 10.1001/jamapsychiatry.2013.3726
29. According to the CDC's BRFSS, as compiled by the Disability and Health Data system, 36.3% of Ohioans living with disabilities are current smokers, compared to 17.4% of Ohioans who do not live with disabilities.
30. Schultz, William M., et al. "Socioeconomic Status and Cardiovascular Outcomes: Challenges and Interventions." *Circulation* 137, no. 20 (2018): 2166-2178. doi: 10.1161/CIRCULATIONAHA.117.029652
31. Beckles GL, Chou C. "Disparities in the Prevalence of Diagnosed Diabetes — United States, 1999–2002 and 2011–2014." *Morbidity and Mortality Weekly Report* 65, no. 45 (2016):1265–1269. doi: 10.15585/mmwr.mm6545a4
32. For example, data from 2018 indicates that lifetime prevalence of depression for Ohioans with annual household incomes below \$15,000 per year was 40.5%, compared to 14.3% percent for Ohioans with annual household incomes of \$50,000 or more. HPIO analysis of data from the Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System using the Web-Enabled Analysis Tool. Accessed on Feb. 4, 2020.
33. Pampel, Fred C., Patrick M. Krueger and Justin T. Denney. "Socioeconomic Disparities in Health Behaviors." *Annual Review of Sociology*, 36: 349-370. 2010. doi: 10.1146/annurev.soc.012809.102529 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3169799/#:~:ip=65.7895>
34. For more information about health equity, see HPIO's Health Equity topic page: <https://www.healthpolicyohio.org/health-equity/>. See also, Health Policy Institute of Ohio. "Closing Ohio's Health Gaps: Moving toward equity." Oct. 2018. <https://www.healthpolicyohio.org/closing-ohios-health-gaps-moving-towards-equity/>
35. "Healthy food in convenience stores." County Health Ranking and Roadmaps, What Works for Health. Accessed on August 23, 2019. <https://www.countyhealthrankings.org/take-action-to-improve-health/what-works-for-health/policies/healthy-food-in-convenience-stores>
36. See evidence summary for "fruit and vegetable incentive programs" on What Works for Health <https://www.countyhealthrankings.org/take-action-to-improve-health/what-works-for-health/policies/fruit-vegetable-incentive-programs>
37. Data provided by the Ohio Department of Medicaid, 2016. Counseling refers to cessation counseling of various durations (procedures). Medication refers to smoking determinants and nicotine receptor partial agonists (DM therapeutic class).
38. Data provided by the Ohio Colleges of Medicine Government Resource Center. Ohio Medicaid Assessment Survey. Provided March 15, 2019.
39. HPIO analysis of data from the Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System using the Web-Enabled Analysis Tool. Accessed on Feb. 4, 2020.
40. Ohio Department of Medicaid. "Medicaid Behavioral Health State Plan Services. Provider Requirements and Reimbursement Manual." Sept. 29, 2017. <https://bh.medicaid.ohio.gov/Portals/0/Providers/BH-Manual-Final-Version.pdf>
41. Anthes, Loren. Engineering Outcomes: Managed care and value-based design in Ohio Medicaid. Center for Community Solutions. April 9, 2019. <https://www.communitysolutions.com/research/engineering-outcomes-managed-care-value-based-design-ohio-medicaid/>
42. SIM Final Report. Columbus, OH: The Ohio Department of Medicaid, June 12, 2019. <https://medicaid.ohio.gov/Portals/0/PROVIDERS/PaymentInnovation/SIM-Grant-Final-Report.pdf>
43. *Ibid.*
44. "Comprehensive Primary Care (CPC) Program." Ohio Department of Medicaid. Accessed on Jan. 21, 2019. <https://medicaid.ohio.gov/provider/PaymentInnovation/CPC>
45. In Ohio, financial incentive programs are administered by managed care plans. For examples, see managed care plan handbooks. For a summary of other state approaches see: Medicaid and CHIP Payment and Access Commission. "The Use of Healthy Behavior Incentives in Medicaid." August 2016. <https://www.macpac.gov/publication/the-use-of-healthy-behavior-incentives-in-medicaid/>; and, Contreary, Kara and Rachel Miller. "Incentives to Change Health Behaviors: Beneficiary Engagement Strategies in Indiana, Iowa, and Michigan." August 2017. <https://www.medicaid.gov/medicaid/section-1115-demo/downloads/evaluation-reports/incentives-to-change-health-behaviors.pdf>
46. Blumenthal, Karen J. et al. "Medicaid Incentive Programs To Encourage Health Behavior Show Mixed Results To Date And Should Be Studied and Improved." *Health Affairs*, 32, no. 3 (2013):497-507. doi: 10.1377/hlthaff.2012.0431
47. *Ibid.*
48. Contreary, Kara and Rachel Miller. "Incentives to Change Health Behaviors: Beneficiary Engagement Strategies in Indiana, Iowa, and Michigan." August 2017. <https://www.medicaid.gov/medicaid/section-1115-demo/downloads/evaluation-reports/incentives-to-change-health-behaviors.pdf>
49. For a comprehensive review of publicly available research on Medicaid healthy behavior incentive programs, see: Saunders, Rob, et al. Are Carrots Good for Your Health? Current Evidence on Health Behavior Incentives in the Medicaid Program. Duke Margolis Center for Health Policy, 2018. https://healthpolicy.duke.edu/sites/default/files/atoms/files/duke_healthybehaviorincentives_6.1.pdf; see also, Hoerger, Thomas et al. Medicaid incentives for Prevention of Chronic Diseases. RTI International, April 2017. <https://downloads.cms.gov/files/cmml/mipccd-finaevalrpt.pdf>
50. This recommendation is informed by an analysis of the Healthy Michigan Plan, a Medicaid Section 1115 waiver. The waiver requires certain Medicaid enrollees to complete a health risk assessment with a primary care doctor and attest to improving a health behavior as a condition for staying enrolled in Michigan's Medicaid program. If Ohio adopts this approach, enrollment should not be contingent on participation in the HRA or attestation to improve a health behavior. Early results from the Healthy Michigan Plan suggest that beneficiaries were intrinsically motivated to change health behaviors. Ohio can incorporate this element of the Healthy Michigan plan
51. Push notifications and mobile applications are not rated in the evidence registries reviewed for this analysis. However, several of the strategies identified rely on cell-phone and internet-based communication. These strategies could be adapted to be integrated into mobile applications.
52. HPIO's analysis found that two MCPs reference help for smoking cessation in member handbooks and three do not. Only one MCP included the CDC Quitline number. Members may receive information through other communications that were not reviewed for this analysis.
53. A pilot program in Ohio identified this as an important feature of SBIRT implementation that was a major challenge for all the practices that participated in the pilot. Healthcare payers can help to facilitate communication and agreements between primary care providers and community treatment providers.
54. For a review of research on the impact of patient activation and engagement on health outcomes see: Hibbard, Judith H. and Jessica Greene. "What Evidence Shows About Patient Activation: Better Health Outcomes And Care Experiences; Fewer Data On Costs." *Health Affairs*, 32, no. 2, Feb. 2013. <https://doi.org/10.1377/hlthaff.2012.1061>