

The State of Obesity:

BETTER POLICIES FOR A HEALTHIER AMERICA

2019

With Special Feature on Racial and Ethnic Disparities in Obesity and Advancing Health Equity



Acknowledgments

Trust for America's Health (TFAH) is a nonprofit, nonpartisan public health policy, research, and advocacy organization that promotes optimal health for every person and community, and makes the prevention of illness and injury a national priority.

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The State of Obesity

Table of Contents

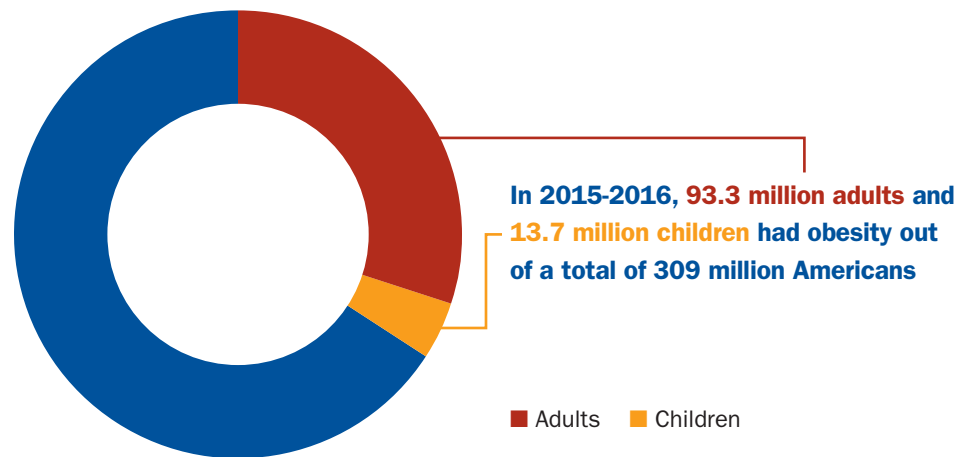
INTRODUCTION	4
SECTION I. Special Feature: Racial And Ethnic Disparities In Obesity	10
Obesity Data by Race/Ethnicity	13
Policy Considerations and Approaches	16
Meet Two Health Equity Leaders	18
SECTION II. Obesity-Related Data and Trends	22
Trends in Adult Obesity	22
Trends in Childhood Obesity	28
SECTION III. Obesity-Related Policies and Programs	33
Nutrition Assistance and Education	33
Federal Nutrition Assistance: WIC, School Nutrition Programs, SNAP and Nutrition Incentive Programs	34
Nutrition Education and Information: Dietary Guidelines, and Nutrition and Menu Labels	41
Economics of What We Eat	43
Food and Beverage Marketing	43
Fiscal and Tax Policies that Promote Healthy Eating: Beverage Taxes, Healthy Food Financing Initiative, and the New Markets Tax Credit	44
Role of Child Care and Education Settings	47
Early Child Care and Education: Head Start, State Requirements, and CDC Initiatives ..	47
Elementary and Secondary Education: Local Wellness Policies, Smart Snacks, and CDC Initiatives	48
School-Based Physical Activity and Physical Education	49
After-School Settings	49
Community Policies and Programs	50
Built Environment: Community Design and Land Use, and Safe Routes to Schools ..	50
CDC Community Initiatives	52
Healthcare Coverage and Programs	55
Medicare and Medicaid	55
Healthcare and Hospital Programs	57
Obesity and the Military	59
Recruitment	59
Service Members and Families	59
Veterans	60
SECTION IV. Recommendations	61
APPENDIX: Obesity-Related Indicators and Policies By State	69
REFERENCES	74

View this report online at tfah.org/stateofobesity2019. For more data on obesity prevalence, policies, and programs, visit stateofobesity.org.

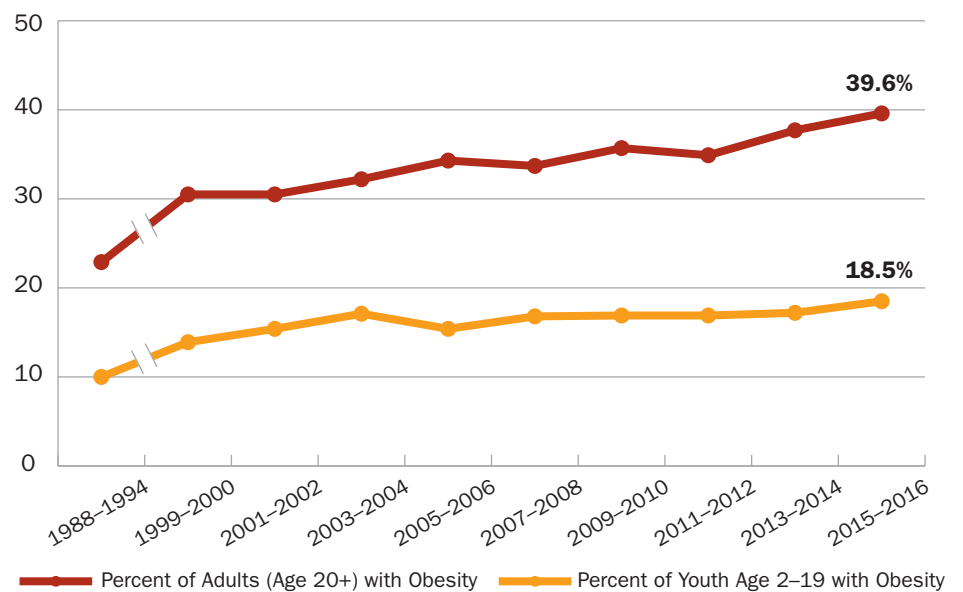
The State of Obesity

Introduction

Obesity is a growing epidemic in the United States—and has been for decades. Currently, about one in three Americans of all ages—or more than 100 million people—have obesity.¹ Between the most recent National Health and Nutrition Examination Survey (2015–2016) and the 1988–1994 survey, there has been an extraordinary increase in the adult obesity rate of more than 70 percent, and an increase in a childhood obesity rate of 85 percent.^{2,3}



Percent of Adults and Youth with Obesity, 1988–2016



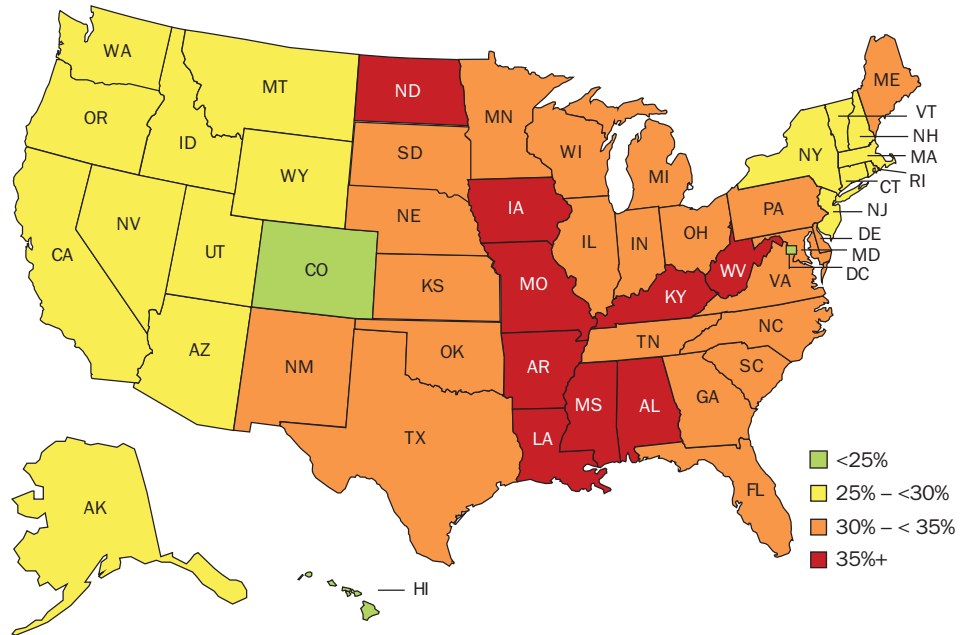
Source: NHANES

New 2018 data from the Behavioral Risk Factor Surveillance System (BRFSS) show that adult obesity rates across the United States are continuing to climb. In 2018, nine states had adult obesity rates above 35 percent—including Kentucky, Missouri, and North Dakota for the first time—and more than half of adults in every state were either overweight or had obesity. Between 2017 and 2018, seven states had statistically significant increases in the adult obesity rate, and only one state had a statistically significant decrease. When looking over the last five years (between 2013 and 2018), more than half of states (33) had statistically significant increases in their adult obesity rates.⁴ (See pages 23-27 for more data and analysis.)

However, within overall negative trends, there have been some new positive indications from programs and policies implemented in the last decade, including:

1. Healthier WIC Food Packages: To complement its nutritional counseling and breastfeeding support, the U.S. Department of Agriculture (USDA) revised the food packages for the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) in 2009. The new package aligns with the Dietary Guidelines for Americans by adding more fruits, vegetables, and whole grains; reducing the fat levels in milk and infant formula; and decreasing the juice provision. Program data released in 2019 show a steady decline in obesity rates for children ages 2 to 4 enrolled in the program between 2010 and 2016 (from 15.9 percent to 13.9 percent).⁵ Two other 2019 studies also found benefits among enrollees.^{6,7} (See page 34 for more on WIC and the 2009 changes to the food package.)

Adult Obesity Rates by State, 2018



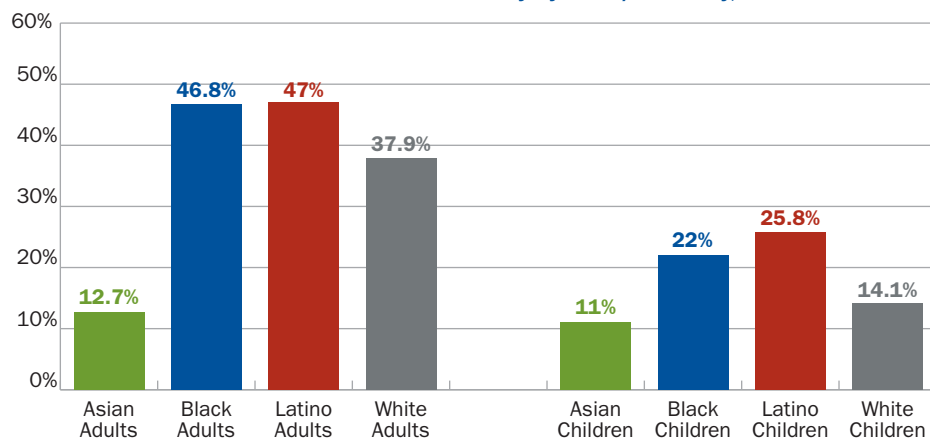
Source: TFAH analysis of BRFSS data

2. Local Beverage Taxes: Evidence continues to demonstrate that taxes on sugary drinks can change consumer behaviors. Philadelphia, the largest U.S. municipality to date with a beverage tax, enacted a 1.5-cent per-ounce tax on all sugary drinks in 2017. New research on the first year of the tax found that consumers in the city purchased fewer sugary drinks on average, and retailers stocked more bottled water and less soda. The effect on consumers was not uniform, rather it tended to primarily affect those who drank higher amounts of soda. This includes declines in total sugar consumption among children who drank more sugary drinks before the tax went into effect. It also appeared to lead some residents to buy soda outside city limits.⁸ (See page 44 for more on localities' beverage taxes and research on their effects.)

More needs to be done

Without the range of current obesity prevention policies and programs across the United States, obesity rates might be even higher. It is clear, however, that the status quo is not sufficient to counter the decades-long currents pushing Americans to eat more, to eat less nutritiously, and to get inadequate physical activity. As a nation, Americans need bolder policies and more investment in long-term, evidence-based programs; collaboration across public and private sectors; and innovation to find better solutions to the obesity crisis. Doing so now is critical to ensuring that current and future generations live healthier, longer, and more productive lives.

Percent of Adults and Youth with Obesity by Race/Ethnicity, 2015–2016



Source: NHANES

While obesity affects all populations, obesity rates are higher in certain populations where social and economic conditions contribute to persistent health inequities—almost half of Latino (47 percent) and Black (46.8 percent) adults had obesity in 2015–2016, which is 24 percent higher than Whites (37.9 percent).⁹ This pattern holds true for children: obesity rates are substantially higher among Latino children (25.8 percent) and Black children (22 percent) than among White children (14.1 percent). Currently too many Americans, particularly those who live in poverty and/or face racism and other forms of discrimination, face barriers to healthy behavior. All Americans—no matter where they live, how much money they make, or what their racial or ethnic background is—must be able to make healthy choices for themselves and their families, and communities must support them in doing so through innovative programs and services. When considering what additional policies and

programs are necessary, it's important to prioritize those populations and communities with the highest levels of obesity and, historically, the least government and private investment. Focusing on these communities is both a matter of equity, as well as offers the greatest opportunity for progress.

This is the 16th annual report by Trust for America's Health on the obesity crisis in the United States; we track the latest data and policies, and we offer recommendations. This year, we added a feature section to conduct an in-depth exploration—including interviews with experts—of a critical single aspect of the obesity issue: the intersection of racial and ethnic inequity and obesity. Additionally, this report, as in previous years, includes sections on: the latest data available on adult and childhood obesity (see page 22), key current and emerging policies (page 33), and, finally, recommended policy actions (page 61).



CONSEQUENCES OF OBESITY

Obesity hurts Americans individually, at the community level, and as a nation at large—increasing the risk of physical and mental disease, and premature death; causing additional healthcare costs and productivity losses; and reducing the nation's military readiness.

- Obesity increases the risk of a range of diseases for adults—including type 2 diabetes, high blood pressure, heart disease, stroke, arthritis, depression, sleep apnea, liver disease, kidney disease, gallbladder disease, pregnancy complications, and many types of cancer—and an overall risk of higher mortality.^{10,11,12,13 14,15, 16,17,18,19} A 2019 study attributes 80,000 cancer cases in 2015, or 5.2 percent of all new diagnoses, to poor diet and obesity.²⁰

- Children with obesity are also at greater risk for certain diseases, like type 2 diabetes, high blood pressure, and depression.^{21,22,23,24} A 2017 study of new diabetes diagnoses in children between the years 2001 and 2012 found a 7.1 percent annual increase in cases diagnosed per 100,000 children ages 10 to 19 (versus 1.4 percent increase annually for type 1 diabetes, which is not associated with obesity).²⁵
- Studies show individuals with obesity had substantially higher medical costs than healthy-weight individuals.²⁶ A 2016 study found that obesity increased annual medical expenses in the United States by \$149 billion.²⁷ Indirect, or non-medical, costs from obesity also run into the billions due to

missed time at school and work, lower productivity, premature mortality, and increased transportation costs.²⁸

- Being overweight or having obesity is the most common reason young adults are ineligible for military service. In addition, the proportion of active-duty service members who have obesity has risen in the past decade—along with healthcare costs, injuries, and lost work time. According to Mission: Readiness, a nonpartisan group of more than 700 retired admirals and generals, excess weight prevents nearly one in three young adults from qualifying for military service, and the U.S. Department of Defense is spending more than \$1 billion each year on obesity-related issues.^{29,30}

2019 STATE OF OBESITY RECOMMENDATIONS

Since obesity has a multitude of contributing causes and potential solutions, Trust for America's Health directs its recommendations to government officials at the national, state, and local levels. TFAH's two guiding principles when making these recommendations are: (1) apply a multisector, multidisciplinary approach (since a single effort in one sector or discipline is unlikely to have a significant impact); and (2) focus on those populations with a disproportionate burden of obesity. A summary of TFAH's recommendations are below; the full recommendations begin on page 61. Unless otherwise noted, all recommendations are for the federal government.

Strengthen Federal Best Practices to Build State and Local Capacity and Reduce Disparities

- Expand the Centers for Disease Control and Prevention's (CDC) statewide obesity-prevention program (State Physical Activity and Nutrition (SPAN) program).
- Create best-practices guides for states to maximize effectiveness when they implement SPAN.
- Increase funding for CDC's Racial and Ethnic Approaches to Community Health (REACH) program.
- Create a new CDC grant program that focuses on addressing social determinants of health across sectors.
- Adapt federal grantmaking practices to account for the differential needs and capacity of states and organizations for competitive grants.

Make Physical Activity and the Built Environment Safer and More Accessible

- Fully fund the Student Support and Academic Enrichment program and

other federal programs that support student physical education.

- Routinely update the Physical Activity Guidelines for Americans based on the most current scientific and medical knowledge, and support a robust public education campaign of recommendations.
- Dedicate a portion of the Surface Transportation Block Grant program to transportation alternatives like pedestrian and bicycle facilities, recreational trails, and Safe Routes to Schools (SRTS).
- Make SRTS, Vision Zero, Complete Streets, and other safety projects eligible for the Highway Safety Improvement Program.
- Incorporate Complete Streets principles as a condition for state receipt of federal funding for major transportation projects in all federal infrastructure bills.
- State and local education agencies should prioritize physical activity in their educational plans, including using the Every Student Succeeds Act Title I and/or IV funding.
- States and cities should enact Complete Streets and other complementary streetscape design policies to improve active transportation and increase outdoor physical-activity opportunities.
- States should expand the federal "Every Kid Outdoors" program to include state-managed lands.

Prioritize Healthy Eating by Making Changes Across the Food System

- Maintain the current eligibility levels and requirements, and value of benefits of the Supplemental Nutrition Assistance Program (SNAP) and other important food-security programs.

- Add nutrition as a core program tenet to SNAP and identify ways to improve diet quality, without reducing access or benefits, though new pilot initiatives and strengthening current programs.
- The Dietary Guidelines for Americans must reflect latest scientific evidence and include recommendations tailored to pregnant women, infants, and toddlers.
- Extend benefits and scope of the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) Program to children through the age of 6 and to postpartum mothers through the first two years after the birth of a baby, and fully fund the WIC Breastfeeding Peer Counseling Program.
- Expand and improve the Child and Adult Care Food Program.
- Align federal child nutrition policies and programs with the evidence-based Dietary Guidelines for Americans.
- Implement the Nutrition Facts regulations in 2020 as currently scheduled, and ensure funding for Nutrition Innovation Strategy consumer-awareness education campaigns for Nutrition Facts and menu labeling.
- States should strengthen school nutrition beyond the federal government standards, including the length of meal time, time of the meal, and recess before lunch.
- States and local education agencies should offer nutritious school-meal programs, expand flexible school breakfast programs, participate in the Community Eligibility Provision, and use the CDC's Whole School, Whole Community, Whole Child framework.

- States should adopt the Food Service Guidelines for foods and beverages procured for government food-service facilities and vending machines at all state agencies.

Change How the Nation Markets and Prices Unhealthy Foods and Beverages

- Close federal tax loopholes and eliminate business-cost deductions related to advertising of unhealthy food and beverages to children on television, internet, and places frequented by children.
- States should increase the price of sugary drinks, through an excise tax, with tax revenue allocated to local efforts to reduce health and socioeconomic disparities.
- States should enforce the USDA local school wellness policies final rule, which limits marketing at schools during the day to food that meet Smart Snacks standards.
- Local education agencies should consider including strategies in their local wellness policies that reduce unhealthy food and beverage advertising to students, by prohibiting coupons, sales, and advertising around schools and school buses.

Work with the Healthcare System to Close Gaps

- Clarify for health insurers which U.S. Preventive Services Task Force obesity-related screening and treatments they are required to cover with no cost-sharing.
- Improve healthcare provider knowledge on obesity-related treatments, like intensive behavioral therapy, and relevant community programs and supports.
- Public health departments should partner with and/or convene healthcare and community partners to increase the availability of and

WHAT IS OBESITY?

“Obesity” means that an individual’s body fat and body-fat distribution exceed the level considered healthy.^{31,32} There are many methods of measuring body fat. Body-mass index (BMI) is an inexpensive method that is often used as an approximate measure, although it has its limitations and is not accurate for all individuals (e.g., muscular individuals often have lower body fat than their BMI would suggest).³³ BMI is calculated by dividing a person’s weight (in kilograms) by his or her height (in square meters). The BMI formula for measurements in pounds and inches is:

$$\text{BMI} = \left(\frac{\text{Weight in pounds}}{(\text{Height in inches}) \times (\text{Height in inches})} \right) \times 703$$

For adults, BMI is associated with the following weight classifications:

BMI LEVELS FOR ADULTS AGES 20+	
BMI Level	Weight Classification
Below 18.5	Underweight
18.5 to < 25	Healthy weight
25 to < 30	Overweight
30 and above	Obesity
40 and above	Severe Obesity

Medical professionals measure childhood obesity differently. That’s because body-fat levels change over the course of childhood and are different for boys and girls. Childhood weight classifications are determined by comparing a child’s height and weight with BMI-for-age growth charts developed by the Centers for Disease Control and Prevention (CDC) using data collected from 1963 to 1965 and from 1988 to 1994.³⁴

BMI LEVELS FOR CHILDREN AGES 2-19	
BMI Level	Weight Classification
Below 5th percentile	Underweight
5th to < 85th percentile	Healthy weight
85th to < 95th percentile	Overweight
95th percentile and above	Obesity

participation in obesity-prevention or control programming with a particular emphasis on communities that are disproportionately impacted by obesity.

- Medicaid should reimburse providers for evidence-based comprehensive pediatric weight-management programs and services.

The State of Obesity

SPECIAL FEATURE: Racial and Ethnic Disparities in Obesity

Obesity rates diverge along a number of demographic measures (for example, sex, race or ethnicity, income, education, geography, and urban or rural). Some of the starkest variations, like many other health measures, occur across race and ethnicity. While obesity rates depend on many factors—from individual-level behaviors to economic and community effects to cultural and marketing influences—there are persistent health inequities in racial and ethnic groups with high obesity rates.

Broader equity issues—like poverty and institutional racism—and community context shape daily life and available choices around healthy food, physical activity, education, jobs, financial security, etc. (together often called “social determinants of health”), which systematically affect people’s weight and health.³⁵ Real change in obesity requires understanding and action on the various drivers of high obesity rates—from addressing historical

inequities and underinvestments that result in limited resources in communities to encouraging culturally appropriate, healthy choices at the individual level.

This section outlines obesity data by race and ethnicity, and shares policy considerations and approaches to this issue. It also includes interviews with experts and highlights from current initiatives and programs.



HOW INEQUITY CONTRIBUTES TO OBESITY: From Living Context to Weight Outcomes

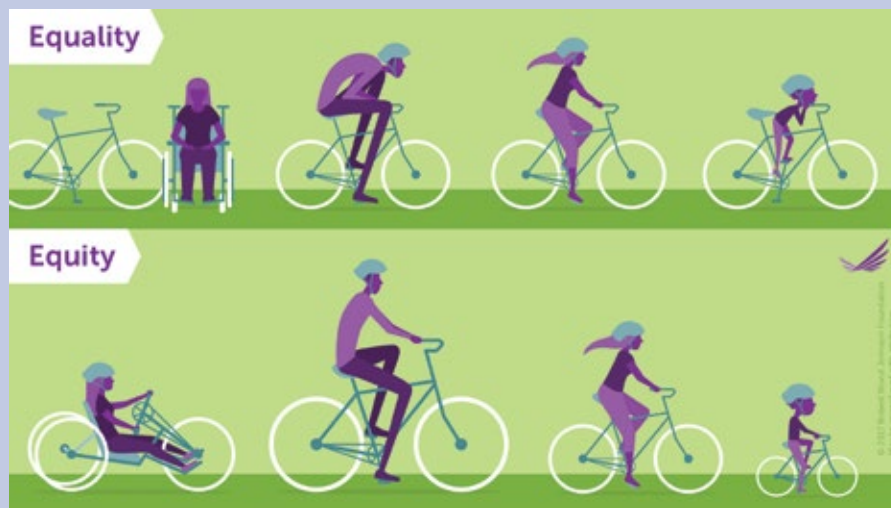
Developed from a presentation at the Roundtable on Obesity Solutions, National Academies of Sciences, Engineering, and Medicine³⁶



WHAT IS HEALTH EQUITY?

Health equity is a common term that various organizations have defined in different ways over the years. TFAH uses the Robert Wood Johnson Foundation definition:

“Health equity means that everyone has a fair and just opportunity to be as healthy as possible. This requires removing obstacles to health such as poverty, discrimination, and their consequences, including powerlessness and lack of access to good jobs with fair pay, quality education and housing, safe environments, and health care. For the purposes of measurement, health equity means reducing and ultimately eliminating disparities in health and its determinants that adversely affect excluded or marginalized groups.”³⁷



THE RACIAL AND ETHNIC APPROACHES TO COMMUNITY HEALTH PROGRAM REACHES 20TH ANNIVERSARY

CDC’s Racial and Ethnic Approaches to Community Health (REACH) initiative is a national program focused on reducing chronic disease and obesity for racial and ethnic groups with high disease burden. REACH has supported locally based and culturally tailored solutions in more than 180 communities over the last 20 years. These communities have seen decreases in smoking, reductions in obesity, increases in fruit and vegetable consumption, and improvements in healthy behaviors. The CDC estimates that, since its inception in 1999, REACH has helped millions of Americans:



- Over 2.7 million people have better access to healthy food and beverages.
- Approximately 1.3 million people have more opportunities to be physically active.
- Over 750,000 people have better access to new community-clinical linkages.³⁸

The current five-year REACH grants cover 31 entities across 21 states. The Fiscal Year (FY) 2019 funding for the core REACH grants was \$35 million. Grantees include local public health departments, local governments, universities, and nonprofits in urban, rural, and tribal communities.³⁹

OBESITY DATA BY RACE/ETHNICITY

This subsection summarizes the best available data on obesity rates by race and ethnicity. When available, Trust for America's Health uses the Centers for Disease Control and Prevention's (CDC) National Health and Nutrition Examination Survey (NHANES), supplemented by other surveys and studies as needed.⁴⁰

American Indians and Alaska Natives

Due to relatively small population sizes, many national surveys do not report data on health measures for American Indians and Alaska Natives (AI/AN). The surveys that do exist do not gather or present findings by tribal nations. What is available shows that the AI/AN population has some of the highest rates of obesity of any race/ethnic population. The 2017 National Health Interview Survey finds 38.1 percent of AI/AN adults had obesity, which is roughly the same as Black adults in that survey and substantially higher than White adults.⁴¹ Another 2017 study found that as of 2015 AI/AN children ages 2 to 19 had an obesity rate of 29.7 percent, which was almost twice the obesity rate as the overall population of 2- to 19-year-olds in the United States. Young AI/AN children (ages 2 to 4) enrolled in WIC also had the highest obesity rates of any race or ethnicity (18.5 percent for AI/AN 2- to 4-year-olds versus 13.9 percent overall in 2016).⁴²

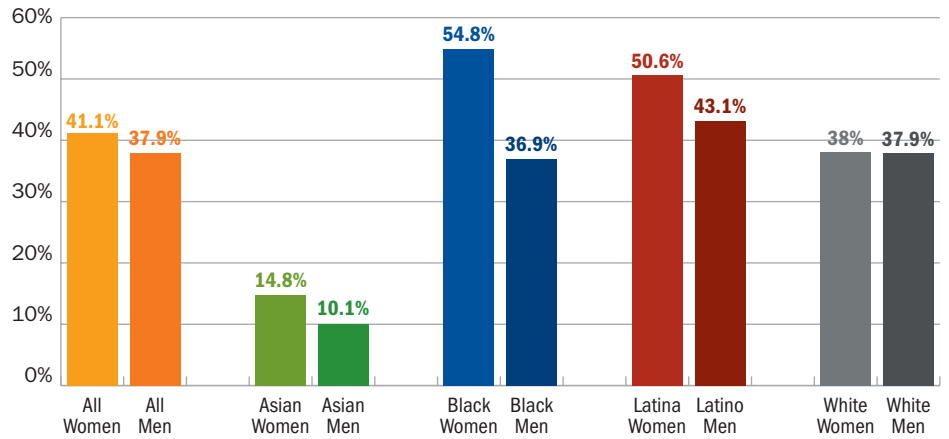
The positive news for the AI/AN population is that the obesity rates among AI/AN children remained stable between 2006 and 2015, and the youngest children (ages 2 to 5) showed a decrease in obesity rates between 2010 and 2015 (from 23.2 to 20.7 percent).⁴³

Asians, Native Hawaiians, and Pacific Islanders

Asians, Native Hawaiians, and Pacific Islanders have far lower rates of obesity than any other racial or ethnic group (12.7 percent versus 39.6 percent overall in 2015–2016 according to NHANES). However, national studies often group together Native Hawaiian, Pacific Islanders, Chinese, Indian, Vietnamese, Korean, Japanese, and other Asian ethnicities, which conceals important differences among these smaller populations. For example, the 2014 Native Hawaiian and Pacific Islander National Health Interview Survey found that Native Hawaiian adults ages 18 and older had obesity rates of 37.4 percent and Pacific Islander adults had obesity rates of 44.5 percent; in comparison, all Asians had an obesity rate of 11 percent in the 2014 National Health Interview Survey (and Whites had a 28.2 percent obesity rate). Within Pacific Islander populations there is even substantial variation, most notably 60 percent of Samoan adults had obesity in 2014 versus 38 percent Guamanian, Chamorro, and other Pacific Islanders.⁴⁴

There is also substantial evidence that Asians should have a lower BMI cutoffs for overweight and obesity measures than other races and ethnicities, because they have higher health risks at a lower BMI.⁴⁵ This includes a higher risk for type 2 diabetes and other metabolic diseases at a lower BMI. Medical professionals typically consider diabetes testing for patients who are overweight or who have obesity (a BMI of 25 or higher), which means many Asians are not getting tested and diagnosed. An estimated half of Asians with diabetes have not been diagnosed, which is much higher than the overall population.^{46,47}

Percent of Adults with Obesity by Race/Ethnicity and Sex, 2015–2016



Source: NHANES

Blacks

In 2015–2016, 46.8 percent of Black adults and 22 percent of Black children ages 2 to 19 had obesity according to NHANES. In comparison, the obesity rate for White adults was 37.9 percent and White children ages 2 to 19 was 14.1 percent.

The high obesity rate among Black women drives these differences. According to 2015–2016 NHANES data, 54.8 percent of Black women have obesity. That’s the highest sex and race or ethnicity combination included in NHANES—and 44 percent higher than White women (38 percent). In contrast, Black men have an obesity rate of 36.9 percent, which is about the same as White men (37.9 percent).

Latinos

Latinos also have very high obesity rates. NHANES found that 47 percent Latino adults and 25.8 percent of Latino children ages 2 to 19 had obesity in 2015–2016. These are the highest combined adult and youth obesity rates among races and ethnicities included in NHANES.

Latinos also have important variations within the group. Like Blacks, Latina women have much higher rates of obesity—as of 2015–2016, half of Latina women (50.6 percent) had obesity compared with 43.1 percent of Latino men. And, while the data are a bit older, there’s evidence that there is also variation among Latinos by ethnicity. Puerto Ricans and Mexicans (particularly those born in the United States) have higher rates of obesity compared with Cubans, Central Americans, and South Americans.⁴⁸

Whites

Whites have substantially lower obesity rates compared with other races and ethnicities, except Asians. Because Whites are the majority of the U.S. population, the White obesity rates and trends drive the overall obesity rates and trends. Unlike other races and ethnicities, there is no difference in obesity rates between the sexes among Whites.

SHIFTING TRENDS IN DIABETES AMONG AMERICAN INDIANS AND ALASKA NATIVES

In the 1990s, diabetes prevalence among AI/ANs was higher and increasing faster than in the general population—with the largest increases among American Indians under 35 years old, including an astounding 58 percent jump in diabetes rates among AI/AN adults ages 20 to 29 between 1990 and 1998.^{49,50} In response to these alarming trends, Congress established the Special Diabetes Program for Indians (SDPI) in 1997. SDPI provides grants for diabetes prevention and treatment programs in AI/AN communities, including weight-management and nutrition services, community- and school-based physical-activity programs, diabetes education, and diabetes clinical teams. The current 2016–2020 SDPI grants allocate \$150 million per year to 301 grantees across 35 states. Grantees include programs across 252 tribes, 29 urban Indian health programs, and 20 Indian Health Service entities.⁵¹

SDPI significantly increases the availability of prevention and treatment programs in AI/AN communities—and can help improve the trajectory of diabetes and childhood obesity among AI/AN people. Since 2006, diabetes rates have stabilized among AI/AN adults (although they are still higher than the overall population’s), and childhood obesity and diabetes rates also remained

constant.⁵² Importantly, SDPI grants are community-directed, and grantees adapt evidence-based interventions to fit local needs and culture.

One specific program, the SDPI Diabetes Prevention Initiative, studied the impact of a proven lifestyle program for individuals with a high risk of developing diabetes. After adapting the program to AI/AN communities, SDPI found that the intervention successfully reduced the number of new diabetes cases expected, increased healthy-eating and physical-activity levels, and reduced participants’ BMI.⁵³

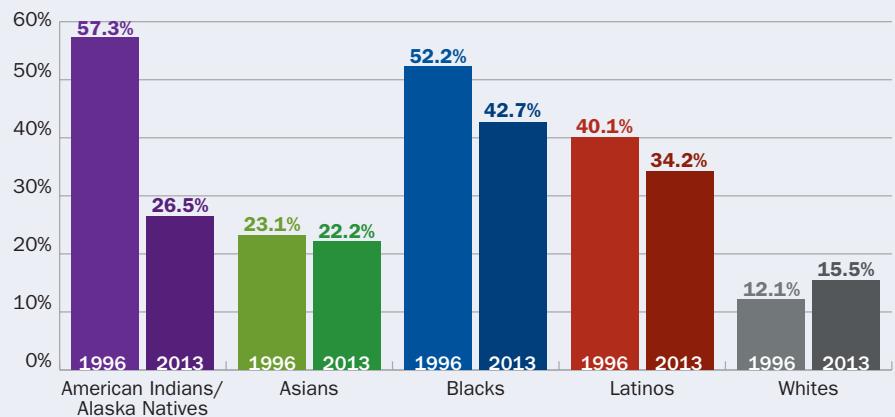
SDPI has also tackled high rates of diabetes complications within AI/AN communities. New population-health and

team-based approaches to diabetes care led to a decrease of 54 percent in kidney failure rates among AI/AN diabetes patients between 1996 and 2013.⁵⁴

The work of SDPI at stabilizing trends in diabetes and childhood obesity among AI/AN people shows the importance of using tailored, culturally appropriate population-health and team-based approaches for diverse communities.

Another program focused on the health of American Indians and Alaska Natives is the CDC’s Good Health and Wellness in Indian Country program. The 5-year, \$13 million per year initiative enlists tribes and tribal organizations to be change agents within their communities

Rate of Kidney Failures (Per 100,000 Population) by Race/Ethnicity, 1996 and 2013



Source: United States Renal Data System

POLICY CONSIDERATIONS AND APPROACHES

Despite current efforts, obesity rates across the United States are too high, particularly within certain populations. Additional focused research, more investment, and bolder policies centered on groups with the highest levels of obesity is a crucial step in tackling the obesity crisis overall and in ensuring that all Americans have an opportunity to lead his or her healthiest life. This subsection shares insights from experts about understanding the underlying equity issues as well as ideas for making progress.

CDC's Recommendations on Advancing Health Equity

In response to the needs of public health practitioners seeking effective, evidence-based tools to mitigate inequities in chronic diseases, CDC developed *A Practitioner's Guide for Advancing Health Equity*. The guide focuses on making the places where people live, learn, work, and play better support health through environmental, policy, and systems approaches, including:

- Designing, implementing, and evaluating strategies with an intentional focus on health equity;
- Building a team that reflects a diverse set of partners; and
- Embedding health equity into local efforts by engaging the community, building partnerships, establishing organizational capacity, and conducting evaluations.

In their recommendations, CDC suggests ways to achieve health equity as well as detailed opportunities for which public health practitioners can maximize the impacts. For instance,

a strategy that seeks to increase food access through land-use planning and policies must work with and involve the community by:

- Partnering with credible organizations with ties to residents in order to cultivate meaningful engagement;
- Offering training to expand residents' leadership skills and to deepen understanding of the planning process; and
- Establishing processes to ensure resident concerns are gathered and echoed in the plans.⁵⁵

Equity Approach to Obesity Framework

The equity approach to obesity framework, developed by Dr. Shiriki Kumanyika for the National Academies of Sciences, Engineering, and Medicine, suggests the need for interventions intentionally tailored to populations with high obesity rates (as opposed to the population at large or those with less of a need), in order to effectively mitigate health-related inequities seen in obesity. Kumanyika proposes a strategy that focuses on both short-term and long-term efforts in altering social determinants of obesity.⁵⁶ The key to advancing equity when it comes to obesity-causing factors and related outcomes is using an operational approach comprising four major solution categories: (1) increase healthy options; (2) reduce deterrents to healthy behaviors; (3) improve social and economic resources; and (4) build community capacity. Integrating solutions across the four categories can lead to better and more equitable outcomes.

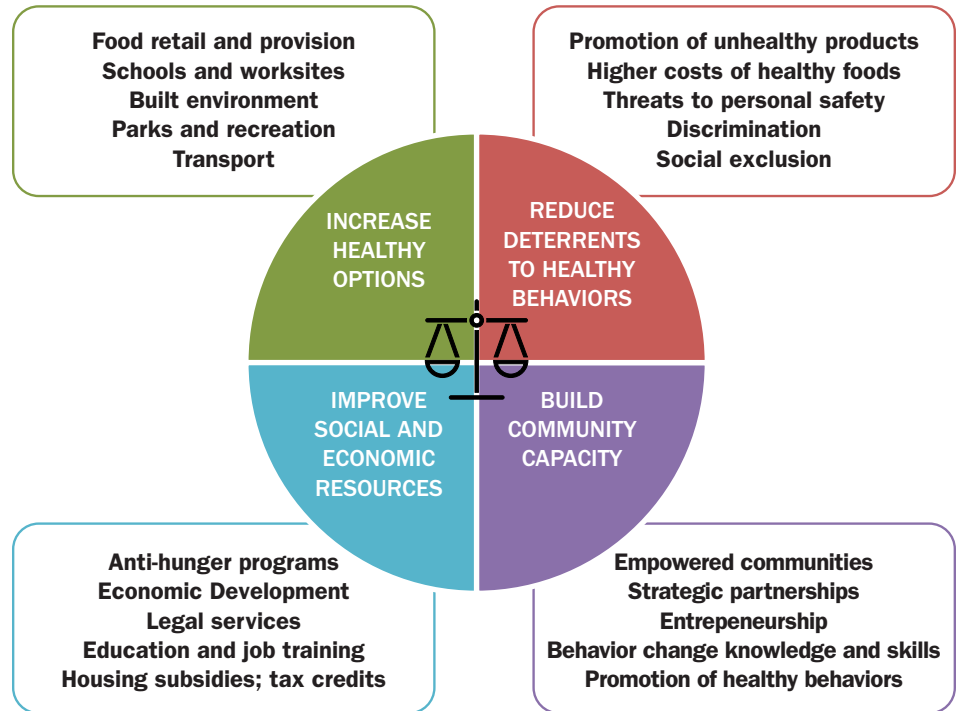
This equity-oriented method can be used with a specific demographic group or within a particular geographic region and translated into action by: (1) convening groups of relevant experts and stakeholders with knowledge of approaches in each category or solution of this framework; (2) engaging experts and stakeholders to create a coordinated strategy; and (3) identifying metrics for evaluating success. It is of paramount importance that public health practitioners, experts, and stakeholders leverage existing community assets when developing solutions, as opposed to identifying deficits alone.

Public Health Approach to Reducing Inequity in Obesity: Examples from Native American Communities

The National Academies of Sciences, Engineering, and Medicine created the Roundtable on Obesity Solutions in 2014 to engage leadership from multiple sectors to solve the obesity crisis. During a Roundtable workshop in April 2019, Dr. Valarie Blue Bird Jernigan, the director of the Center for Indigenous Health Research and Policy at Oklahoma State University, shared insights on the historical and current inequities, particular challenges, and policy recommendations for reducing obesity among AI/AN populations. AI/AN populations experience high levels of obesity; significant social, economic, and environmental inequities; and a lack of research on effective models, programs, and policies for indigenous communities. Furthermore, current national and state obesity-related policies don't necessarily affect those residing in tribal nations due to the sovereign status of tribal nations.

In order to address the persistent inequities Native communities

Proposed Equity-Oriented Obesity Prevention Action Framework to assist in selecting or evaluating combinations of interventions that incorporate considerations related to social disadvantages and social determinants of health



Source: National Academies of Sciences, Engineering, and Medicine

experience, as they relate to obesity, Jernigan offers five key recommendations:

1. Use participatory approaches that respect tribal sovereignty.
2. Fund culturally centered, rigorous, robust, and evaluative research.
3. Build research and implementation capacity among tribes and research partnerships.
4. Translate practitioners' applied knowledge and disseminate findings.
5. Focus on AI/ANs residing in urban areas as well as rural ones.

While Jernigan tailored her insights to Native American communities, her recommendations include considerations for other populations with high obesity rates, too.⁵⁷

MEET TWO HEALTH EQUITY LEADERS

This subsection features interviews with two community and policy leaders who share their perspective on the role of health equity in obesity prevention.

Interview with Xavier Morales, PhD, MRP

Executive Director, The Praxis Project

The Praxis Project is a national non-profit that works with national, regional, state and local partners to build healthy communities and achieve health equity.

TFAH: Please briefly describe the work of The Praxis Project.

Morales: The Praxis Project's overarching goal is to center community power to advance health justice and racial equity. We do this three ways: 1) helping our national network of basebuilding community partners—community-based organizations that build local power by addressing local priorities - to improve health justice and racial equity better, faster, more sustainably, and more profoundly; 2) creating space for these organizations within professional public health by promoting and coaching opportunities for authentic collaboration, and 3) producing evidence to show that public health's efforts to improve health justice need to equally invest in basebuilding community groups for their inherent value to the broader fight for health. This work is nuanced and complex due to power dynamics, scarcity of resources, and most importantly, trust issues resulting from real and persistent trauma. We address the obesity crisis by looking at the underlying systemic conditions in people's lives and engage with the fiercest basebuilding organizers and innovative traditional public health partners who share the goal of a world where health justice and racial equity are the norm.

TFAH: What role does health equity play in the obesity crisis?

Morales: First, a bit of framing to better understand where Praxis is coming from; we reference grammar to illustrate our health equity work. The noun of health equity

refers to the material outcomes that can be measured by quantifying the determinants of health in a given geographic area—for example, data on food security, access to quality housing, educational attainment, and so forth. The verb of health equity refers to contemporary and historical processes or structures that have caused or perpetuate how robustly present—or absent—each determinant is in a particular area. We firmly believe that inequity in processes leads to inequity in social conditions and distribution of the determinants of health.

To solve an issue like obesity, both the noun and the verb need to be addressed. If we don't change the process and structures that lead to health inequity, our work towards health equity will never be sustainably effective. So, for me, as I look at the obesity crisis, which in my estimation, dwarfs almost every other contemporary health crisis on every measure — in lives lost, costs to society, costs to productivity, costs to dignity—addressing the verb of health equity is central to stemming the crisis.

TFAH: The Praxis Project emphasizes partnerships and community centered power in its work. Can you talk about the importance of these factors?

Morales: Praxis is fortunate to be in a place where we can participate in efforts to improve health justice both at the professional level—i.e. researchers, professional advocates, program developers/implementers/evaluators, funders, and policy advocates—and at the organic level—i.e. community basebuilding partners—to share learning in ways that bridge, synthesize, connect and interpret between these levels of professional and organic public health. As we travel between the professional and the organic, we find that the distance between the larger goals of the noun of health equity,

i.e. improving the robustness of the presence of the determinants—think food justice, housing, transportation—are similar, but the operationalization of the verb of health equity—addressing structural inequities that lead to poor health outcomes such as obesity—is greatly impacted by worldviews, priorities, funding, perfect-vs-good policy, how knowledge for action is produced and accepted, and political/economic/academic positioning within the vast ecosystem of public health.

In a nutshell, we see professional public health making general progress towards health equity. However, these gains are not equally felt across all communities—especially those living in areas with the highest levels of disinvestment. It is these areas where basebuilding organizers typically work. In these community settings with folks that really understand the structures that lead to inequity, work can often get messy and complicated—truths are said, realities are dissected and exposed, contradictions and hypocrisies of systems and the people who perpetuate these systems and structures are questioned and called out. This environment is not always pleasant. But we need to go through the messiness to build the trust that is needed for professional and organic public health to authentically come together to work towards a healthier and more just world. The work towards addressing the verb of health equity will go much faster and further with authentic partnerships between professional and organic public health.

TFAH: What have you learned from your work that policymakers need to better understand?

Morales: Policy solutions need to fit the problems and be practical. They need to be grounded in diverse perspectives, especially

if the reason for policy action is the inequitable conditions in communities that are experiencing the most disinvestment. Policymakers and advocates need to recognize that there is “public health perfect” based on sound research. And there is “politically good” which is shaped by both the research and the political complexities required to advance policies in a manner that addresses the problem but may not fully maximize the research. I share an example that teases out this tension between the “perfect” and the “good” concerning an attempt to pass a local soda tax. If we think back less than five years ago, our field had attempted and failed to pass a local soda tax many times. The folks that were leading this work are incredible public health activists that had the best of intentions. They followed the accepted research that said if you wanted to use a soda tax to curb the consumption of sugary drinks 1) the tax had to be two cents per ounce to have any effect, 2) that it needed to be a retail tax so that the consumer could see and feel that they were paying more, and 3) that the tax needed to be a specific tax—one that explicitly stated where the revenues were going. This was the public health perfect, attempted many times but never adopted.

In 2014 folks from Berkeley, CA decided to pursue a soda tax to help continue to fund our gardening and cooking classes in our schools to improve nutrition education—another approach to reducing sugary drink consumption. A small group of advocates spoke with representatives from another California municipality who were still stinging from their overwhelming defeat on a soda tax two years earlier. Berkeley’s advocates asked, what would you do different if you could do this again? The answer was, involve diverse community input, especially voices from those who we are claiming to serve, as early in the process as possible. Taking this advice, our core group invited a few more residents who closely worked within the populations that suffer the most when it comes to the overconsumption of sugar water. This new leadership configuration worked to overcome deep-seated bias about the space between the public health perfect

and the Berkeley good. In the end Measure D, the name of the initiative, held forth a one cent tax per ounce of soda, it was an excise tax (taxing the producers/distributors rather than the consumers), and it was a general tax—which meant that it’s revenue would go into the general fund. But, we also provided for a commission made up of Berkeley residents that would advise our City Council on investments to help our children consume less soda and drink more water. Without intending it, we created a strategy that included as an outcome participatory budgeting. The result: we received nearly 76% of the vote and created the first municipal soda tax in the United States. This model helped advance some other municipal soda taxes that have passed since 2014.

TFAH: As a nation, why haven’t we seen better results in efforts to address obesity?

Morales: There are many reasons we haven’t seen better results in efforts to reduce the number of people with obesity. The main reason is that the corporate profit opportunity in people contracting or having obesity is very high. Examples of the profit opportunity are numerous, starting with the agricultural subsidies designed when famine and hunger pervaded more areas of the U.S.; to the processed food companies that are very good at engineering how much salt, fat, and sugar are needed so we “can’t have just one”. Additionally, predatory marketing, placement, and pricing of unhealthy foods and beverages and the oversaturation and ubiquity of liquid sugar are adding to the crisis. A whole industry has evolved to make, distribute, and market unhealthy food. A dependency has been created by different sporting/social/community activities and events that are funded by donations from this industry. We have zones of food apartheid where it is difficult to get affordable fresh fruits and vegetables and clean water. Health promoting cultural practices that are benign have been replaced by manufactured realities selling us images of happiness frosted with sugar. The disinvestment in youth activities and city infrastructure that help to make sure communities are safe and that exercising

outdoors won’t get you hurt or make you sick are also adding to the crisis.

We need to find the authentic partnerships that can address these overwhelming structural contributors to the obesity crisis, and, we need to increase the bandwidth of the frontline leadership. Obesity, like climate change, epitomizes the contradictions inherent when massive profits, and the political power of those who are profiting, are greater than the influence of those who seek solutions that threaten those profits.

TFAH: In your opinion, what is the single most important policy action that needs to be taken to address obesity?

Morales: In addition to the national public health campaigns the field engages in, there also needs to be significant investment into building community capacity, knowledge, and resilience through investing in local organizations that are working hard to improve health. We need to be more intentional to ensure that investments are changing the underlying structures that promote health inequities and obesity. The way we are currently approaching the obesity epidemic — in silos and with national campaigns/priorities that may not fit all local complexities, resources, and priorities — is creating “solutions” that often don’t address the structural causes of obesity. As I work across professional and organic public health, I feel we have reached the limits of what professional public health alone can do going up against powerful moneyed interests. We have to bring in the rest of the team (organic public health) in a manner that is authentic, dignified, equitably valued, and funded. The power of those profiting from the obesity epidemic is immense. Our public health solutions need to be equally powerful. In Berkeley, we were effectively outspent over 10:1 in the most expensive campaign our little city ever experienced. The way we were able to beat the industry was through sustained people power deployed house to house, block by block, across our city. Led by neighbors who put our children’s health first.

Interview with Devita Davison

Executive Director, Food LabDetroit

FoodLab Detroit is a non-profit member-based association of 200 good food businesses.

TFAH: Tell me about your work at FoodLabDetroit and what you're trying to do in Detroit.

Davison: FoodLab Detroit sits at the intersection of economic development and public health. We provide incubation and acceleration for entrepreneurs to open healthy food businesses in the community. All our efforts, our workshops, our trainings, our classes, our technical assistance—all the work that we do and the services that we provide—are for Detroiters who have traditionally been underserved and marginalized. Of FoodLab Detroit businesses, 78 percent are women-led, 52 percent by women of color, and 63 percent by African Americans. Which reflects the city of Detroit, where about 83 percent of residents are African American and over 90 percent people of color. It's really important for us that we create an equitable landscape as it relates to entrepreneurship and small business development.

TFAH: What do you wish policymakers were doing more of?

Davison: I wish policymakers understood how important it is to get out into the community. I don't know all the interworking's of how legislation becomes law, what I do know is that there is an awful lot of influence of money and big companies in our politics. I wish policymakers had a balanced perspective—that they listen to constituents in the neighborhoods and really talk to small business entrepreneurs, hold roundtables and discussions, making it a point to come

out into the community, and hear what is happening on the ground.

One thing that I'm excited about—on [July 28, 2019], the United States Surgeon General, Dr. Jerome Adams, was in Detroit speaking at the NAACP Conference and he wanted to get beyond the banquet halls and out into the community. So FoodLab Detroit, along with member businesses and partners, hosted Dr. Adams in their neighborhoods. Those are the things that we should be excited about—when our policy leaders have an opportunity to engage with people on the ground who are affected by policy.

TFAH: What have you seen and learned in your community and from your work that you wish policymakers better understood?

Davison: As an Executive Director of a non-profit organization, I'm constantly fundraising and looking for opportunities for funding. With that lens, I think many people don't realize how federal policy [and resource allocation] impacts them, how important voting is because elected officials are passing legislation that can affect you, locally, in your community. [For example], the federal government created the Health Food Financing Initiative (HFFI) looking at communities designated as food deserts (defined as communities without a full-service grocery store within a one-mile distance) and created a fund to tackle that problem. These funds were tapped by large grocery stores, which go into underserved, marginalized neighborhoods to build stores. HFFI was an important initiative but if we understood it more, it would help us fight for a policy that would also allow community-supported healthy food

retails, like the entrepreneurs I worked with, access such funding. We're not a big regional grocery store—we're bodegas and green markets—but why shouldn't we get support like the big guys? Drawing the connection between how policy plays a part in allocating funds and resources that eventually get to one's community is really important.

TFAH: Let's talk food system and restaurant industry. What are some key changes that the food system and restaurant industry overall can do to help reduce obesity?

Davison: What I want is for Detroit to leverage our food. We have 1,600 urban farms in Detroit that are tapping into beautiful fruits and vegetables in our own backyard, that all Detroiters can take pride in. And we are creating a community—growers, restaurateurs, and chefs—and using creative ways to create a Detroit movement that takes advantage of what we're growing. That's not to say, we're going to disconnect ourselves from the globalized food system, but we need to bring local food systems in, so we're all connected. It's a rising tide lifts all boats model—because beautiful, healthy food should be available for all. How do we democratize that and get some of the best foods from Detroit into our poorer communities? It's hard to ensure that all folks have equitable access. We're taking that on in Detroit.

TFAH: Why hasn't there been more success in reducing obesity rates over the past decade?

Davison: Couple things. First, it's great to open a store in a community that has not had a full-service grocery store in that neighborhood for years. But you cannot think that if you build it, that they will come, and it solves the

problem. Even though people may now have access to healthy food, it's not moving the needle on obesity. We need to accompany healthy food with education. We need to ask how do we educate the community, how to work with busy moms and dads, and young people who don't have time. People are working two or three jobs—and they're not cooking as much. They're doing more "grab and go". The question is how to meet people where they are and go head-to-head with some of these fast food restaurants. We have to look at how people are shopping—what are their behaviors—and then how to make food healthier to align with how they shop.

The second thing is that we cannot tackle obesity if we're not looking at the connection between our public health crisis and the deep wealth inequality [in the United States]. Until people have the ability to only work one job, and afford to put a roof over their head and food on their families' plates, we're going to keep having this public health crisis. People are now working two or three jobs and don't have time to think about dietary intake; they're so busy trying to live their lives and take care of their kids. We have to look at the totality of the human being and the totality of what it looks like to make healthy communities. To look at the social determinants of health you can't look at just one aspect. Obesity has more to do than just what you put into your mouth, it's about the environment you live in.

TFAH: What are the biggest barriers that you see in reducing obesity in communities of color?

Davison: If I'm really talking about the top barriers it has to be income—the wage gap.

The second—and this is for the African American community in which I live

everyday—is the, almost shame, about culturally-appropriate food, soul food, and about how unhealthy it is. There is not enough education around culturally-appropriate cuisine, why our grandmothers and great-grandmothers did not suffer from an obesity crisis, but now, when we eat the same food, our family's weights keep increasing. We're using the same recipes, but the ingredients are different, what goes into the food and chemicals used to grow it are different.

Another barrier is, time. So many people are doing all they can to just survive. Leisure activities of playing and exercise fall to the wayside.

The fourth is health insurance. I talk to people all the time—these are the restaurateurs that I work with—who say "I have insurance, but I don't have insurance". They say: "My deductible is too high. My copays are too high. I haven't been to the doctor in two years." They pay for insurance, but they're not going to the doctor because they haven't met their deductible and are afraid that if they go, they'll get a bill they can't afford. So, there is no relationship between people and their doctors, no relationship where they can talk to a doctor or nutritionist. We need the healthcare field to be more proactive, instead of reactive.

What we've seen at FoodLab is that if we educate people on the importance of good health and when we make the healthy food delicious, they come back for the healthy food choices every time. One of the things that delights me more than anything is when I'm at Detroit Vegan Soul—a soul food restaurant, run by two women, that is totally plant-based—and see families and little children who know what tempeh and seitan is, and are drinking their green

smoothies with apple, kale, and spinach. These are the stories I want to promote and I want children to say "Of course I'll have spinach and kale", because it's normalized and good.

TFAH: What are your top three national policy wishes for reducing obesity and why?

Davison: If I could make one policy wish happen: it would be—and it is going to happen—to increase the federal minimum wage. Then we can begin to close the wage gap.

The second is healthcare—that is to move to a one payer healthcare system, so healthcare would really be affordable for all Americans.

The third would be—and this is important because it's one of the levers that raises folks out of poverty—to make higher education accessible and affordable for all. This goes to my story. My parents moved from rural Alabama to Detroit and got their bachelor's degrees and master's degrees, and that trajectory propelled them into the middle class. And my brother and I were able to leverage the fact that they had a good education, which allowed them to get good jobs.

Healthcare and education, if not affordable and attainable, means more and more Americans are going into debt for those two things. Then we will always have this income gap and wealth inequity—and subsequently, we'll have people looking for cheap food because that's all they can afford. And cheap food and cheap calories leads to obesity.

So, I'm working backwards [to reducing obesity with these policies wishes]. These impact how much money people make—and when people make money, they can make choices, and when people make choices, they have agency and power.

The State of Obesity

Obesity-Related Data and Trends

TRENDS IN ADULT OBESITY

For decades, the national adult obesity rate, as measured by NHANES, has been rising, with the most recent data, from 2015–2016, showing adult obesity rates reaching nearly 40 percent.^{59,60,61} The

next sections present the most recent data available on adult obesity levels by state and by demographics, using the two primary U.S. surveys used to track adult obesity rates, NHANES and BRFSS.



DATA SOURCES FOR ADULT OBESITY MEASURES

- 1. The National Health and Nutrition Examination Survey** is the source for the national obesity data in this report. NHANES defines adults as individuals age 20 and older. As a survey, NHANES has two main advantages: (1) it examines a nationally representative sample of Americans ages 2 years and older; and (2) it combines interviews with physical examinations to ensure data accuracy. The downsides of the survey include a time delay from collection to reporting and a small survey size (approximately 5,000 interviews over two years) that cannot be used for state or local data and that does not disaggregate data for racial and ethnic groups by age for each survey cycle.⁶²
- 2. The Behavioral Risk Factor Surveillance System** is the source for state-level adult obesity data in this report. BRFSS defines adults as individuals age 18 and older. As a survey, BRFSS has three major advantages: (1) it is the largest ongoing telephone health survey in the world (approximately 450,000 interviews per year); (2) each state survey is representative of the population of that state; and (3) the survey is conducted annually, so new obesity data are available each year.⁶³ The downsides of the survey include using self-reported weight and height statistics, which result in underestimates of obesity rates due to people's tendency to misreport their weight and height. Also, the sample size, in some states, prohibit representative data about racial and ethnic groups.

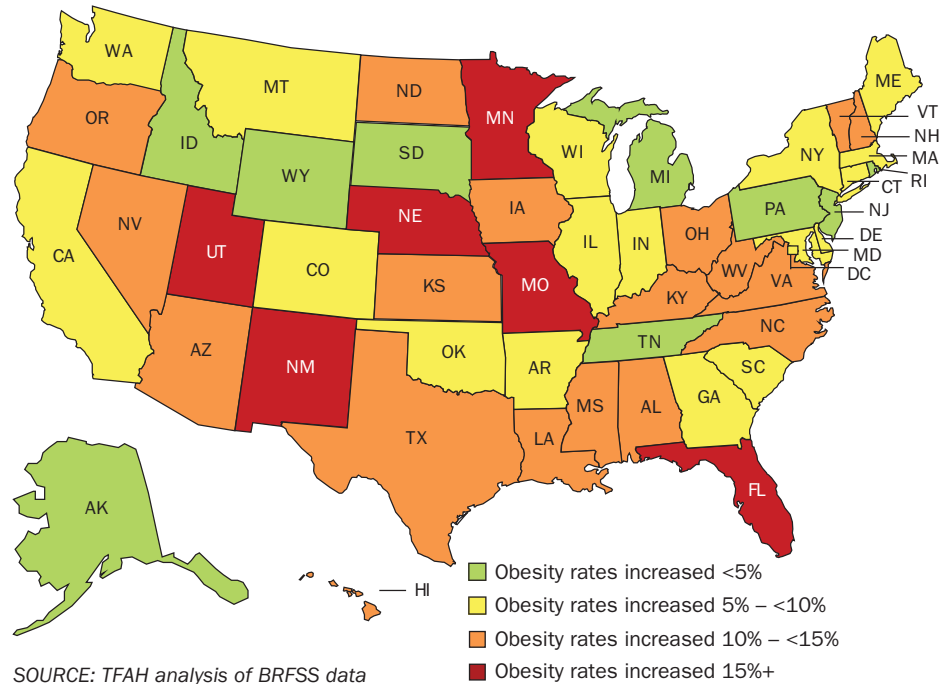
State Obesity Rates

State-level adult obesity results vary considerably, from a low of 23 percent in Colorado to a high of 39.5 percent in Mississippi and West Virginia.⁶⁴ That's an obesity rate 72 percent higher in Mississippi and West Virginia than Colorado. Other key findings from the recently released data include:

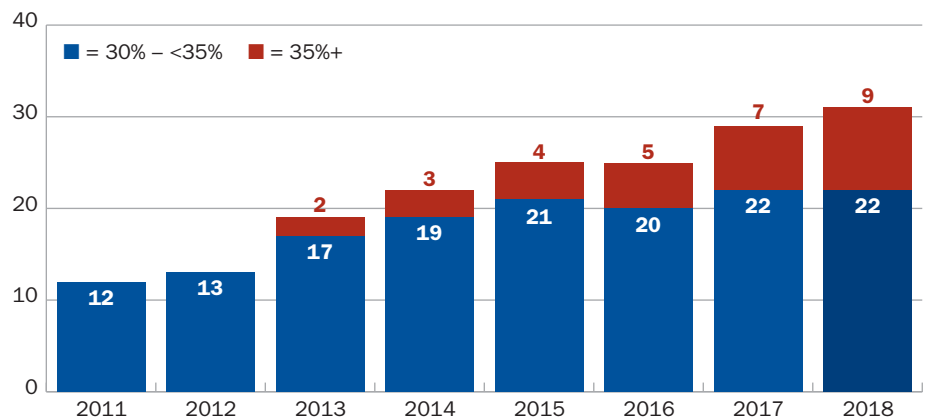
- In 2018, the adult obesity rate was at or above 35 percent in 9 states. Kentucky, Missouri, and North Dakota had adult obesity rates above 35 percent for the first time in 2018, joining Alabama, Arkansas, Iowa, Louisiana, Mississippi, and West Virginia. Oklahoma was above 35 percent in 2017 but not in 2018.⁶⁵
- In 1985, no state had an adult obesity rate higher than 15 percent; in 1991, no state was over 20 percent; in 2000, no state was over 25 percent; and, in 2006, only Mississippi and West Virginia were above 30 percent. In 2015, half the states were above 30 percent.⁶⁶
- Between 2017 and 2018, seven states had statistically significant increases (Florida, Kansas, Minnesota, Missouri, New Mexico, New York, and Utah) and one state had a statistically significant decrease (Alaska) in their adult obesity rates.
- In the prior five years (2013 to 2018), more than half of states (33) had statistically significant increases in their obesity rates.
- In more positive news, 30 states had a statistically significant decrease in the number of adults who were physically inactive between 2017 and 2018.

For additional state-level data from BRFSS, see the charts on pages 25 to 27.

Percent Change in Adult Obesity Rates by State, 2013-2018



Number of States with Adult Obesity Rates At 30 Percent or Higher, 2011-2018



WHY ARE REPORTED NATIONAL OBESITY RATES HIGHER THAN STATE-BY-STATE RATES?

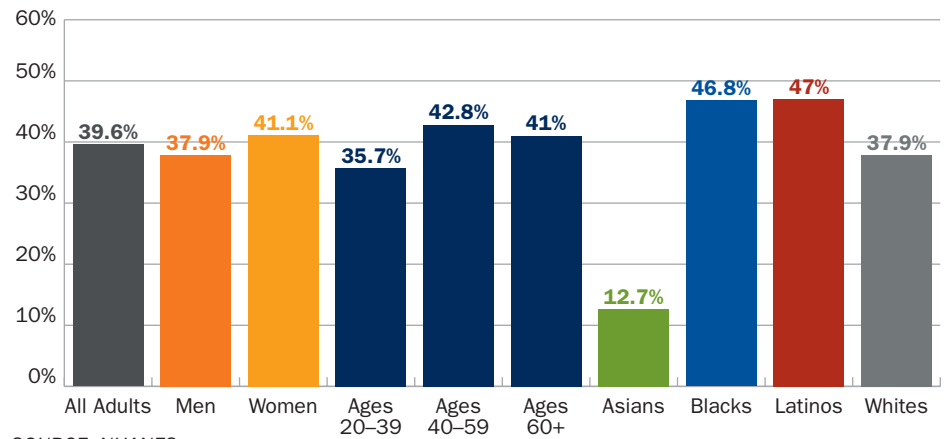
How is it that only 9 states have adult obesity rates exceeding 35 percent, yet the national obesity rate is 39.6 percent? It's because state obesity rates are from the BRFSS, which collects self-reported height and weight. Research has demonstrated that people tend to overestimate their height and underestimate their weight. In fact, one study found that, due to this phenomenon, the BRFSS may underestimate obesity rates by nearly 10 percent.⁶⁷ NHANES, from which the national obesity rate is derived, calculates its obesity rate based on measurements obtained at respondents' physical examinations. Accordingly, the higher rates found by NHANES may be a more accurate reflection of obesity in the United States.⁶⁸

Demographic Trends

Obesity levels vary substantially among demographic groups. In the previous section, there was a discussion of differences by race and ethnicity (page 10). There are also differences by sex (women have slightly higher levels of obesity and severe obesity compared with men) and age (middle-age and older adults are more likely to have obesity).⁶⁹ Additionally, other analyses and research show important variations in obesity rates by education, income level, and urban or rural population.

- **Rural/urban:** *Rural areas and counties have higher rates of obesity and severe obesity.*
 - According to 2016 BRFSS data, adult obesity rates were 19 percent higher in rural regions than they were in metro areas. More than one-third (34.2 percent) of adults in rural areas had self-reported obesity compared with 28.7 percent of metro adults. Rural areas also have higher levels of obesity-associated chronic diseases (e.g., diabetes and heart disease).⁷⁰
 - Likewise, a CDC analysis of NHANES data found that adults (ages 20 and older) who lived in the most urban areas of the country (large Metropolitan Statistical Areas) had the lowest obesity rates in 2013–2016. The researchers also found that severe obesity is much higher in rural areas for adults and children. In fact, men who live in rural areas have more than twice the obesity rate of those who live in large Metropolitan Statistical Areas (9.9 percent versus 4.1 percent). Severe obesity among adults also increased at a much faster rate in rural areas between 2001 and 2016.⁷¹

Percent of Adults With Obesity by Select Demographics, 2015–2016



- **Income:** *Generally, the higher a family's income the less likely its members will have obesity.*
 - According to a CDC analysis of 2011–2014 NHANES data, there is one exception to this trend: the very poor, who live below the federal poverty line (FPL), had lower obesity rates (39.2 percent) than those with incomes just above the poverty line (42.6 percent). But both income groups—those below the FPL and those at 100 to 199 percent FPL—had higher obesity levels than those with incomes at or above 400 percent FPL (29.7 percent).⁷² Note: Rates among White women drive these data.
 - This dynamic holds true for children, too. A CDC analysis of 2011–2014 NHANES data for youth ages 2 to 19 found that 18.9 percent of youth in the lowest-income group (≤ 130 percent FPL) had obesity, 19.9 percent of youth in the middle-income group (>130 percent to ≤ 350 percent FPL) had obesity, and 10.9 percent of youth in the highest-income group (>350 percent FPL) had obesity.⁷³ The differences in obesity rates among girls have widened substantially between 1999

and 2014, with girls in the highest-income group having a modest decrease in obesity, while girls in the lowest- and middle-income groups saw increases (boys had more stable obesity levels at all income levels over this time period).⁷⁴

- **Education:** *Individuals with lower education levels are more likely to have obesity.*
 - According to 2017 BRFSS data, 35.6 percent of adults with less than a high school education had obesity compared with 22.7 percent of college graduates—a difference of more than 50 percent.⁷⁵
 - The difference is greater when looking at children and the education level of the head of household. A CDC analysis of 2011–2014 NHANES data found that, when looking at homes where the head of household was a high school graduate or less, 21.6 percent of children ages 2 to 19 had obesity; however, in homes with a head of household who graduated college, only 9.6 percent of children had obesity. That means kids with parents who did not attend any college had more than twice the rate of obesity than those with parents who did.⁷⁶

Adult Obesity Rates and Related Health Indicators, 2018

States	Obesity		Overweight & Obesity		Diabetes		Physical Inactivity		Hypertension [^]	
	Percent of Adults Who Have Obesity	Rank	Percent of Adults Who Have Obesity or Are Overweight	Rank	Percent of Adults with Diabetes	Rank	Percent of Adults Who Are Physically Inactive	Rank	Percent of Adults with Hypertension	Rank
Alabama	36.2	6	69.7	5-T	14.5	2	30.4	5-T	41.9	2
Alaska	29.5**	34-T	64.2	38	8.6	47-T	19.8	45	31.8	28
Arizona	29.5	34-T	64.7	34	10.8	26	22.2**	34-T	30.7	33
Arkansas	37.1	3	70.5	4	14.1*	4-T	30.9	3	41.3	3
California	25.8	46	62.2	45	10.3	32-T	20.6	41	28.4	47
Colorado	23.0	51	58.9	50	7.1	51	16.3	51	25.9	50
Connecticut	27.4	44	64.4	36-T	9.7	38	22.5	31	30.5	36-T
Delaware	33.5	18	67.8	18-T	12.0	17	26.9**	10-T	34.9	11
D.C.	24.7	50	55.8	51	8.6	47-T	19.6**	46	26.7	48
Florida	30.7*	27	65.9	29-T	12.4*	13	26.8**	13	34.6	16
Georgia	32.5	21	67.2	22-T	12.6*	10	26.2**	14	33.1	17-T
Hawaii	24.9	49	59.5	49	11.5	21	20.1**	44	30.6	34-T
Idaho	28.4	39	64.1	39-T	9.9	36	20.3**	42-T	29.8	41
Illinois	31.8	24	66.6	25	10.1	34-T	24.5	20	32.2	26
Indiana	34.1	15-T	66.4	27	12.7	9	27.1**	9	35.2	10
Iowa	35.3	7	69.5	9	10.1	34-T	23.0**	27	31.5	29
Kansas	34.4*	12-T	68.6*	12	11.8*	19-T	22.2**	34-T	32.8	20
Kentucky	36.6	5	68.5	13	13.8	7	32.3	1	39.4	5
Louisiana	36.8	4	69.4	10	14.1	4-T	30.4	5-T	39.0	6
Maine	30.4	28-T	65.7	32	10.5	29-T	22.4**	32	34.8	12
Maryland	30.9	25-T	66.5	26	11.9*	18	22.9**	28	32.4	24-T
Massachusetts	25.7	47-T	61.7	47	8.6	47-T	22.6	30	28.6	46
Michigan	33.0	19-T	67.5	21	11.8	19-T	24.0**	23	34.7	13-T
Minnesota	30.1*	30-T	65.8	31	8.9*	44	20.3**	42-T	26.6	49
Mississippi	39.5	1-T	73.3*	1	14.3	3	31.9	2	40.8	4
Missouri	35.0*	9	66.9	24	11.4	22-T	26.1**	15	32.0	27
Montana	26.9	45	63.2	42	9.2*	43	22.7**	29	29.0	45
Nebraska	34.1	15-T	68.9	11	9.6	39-T	23.8**	25	30.6	34-T
Nevada	29.5	34-T	67.6	20	10.7	27-T	24.9	19	32.6	21-T
New Hampshire	29.6	33	65.0	33	10.3*	32-T	21.5**	40	30.0	40
New Jersey	25.7	47-T	62.3	44	10.4	31	28.1	7-T	33.0	19
New Mexico	32.3*	22	67.2	22-T	12.5*	11-T	22.3**	33	30.5	36-T
New York	27.6*	42	62.7	43	11.0	24	23.9**	24	29.4	44
North Carolina	33.0	19-T	68.0	16	12.1	16	23.7	26	34.7	13-T
North Dakota	35.1	8	71.0	3	9.6	39-T	21.9**	36	29.5	42-T
Ohio	34.0	17	68.4	14	12.2	14-T	25.3**	18	34.7	13-T
Oklahoma	34.8	10-T	69.6	7-T	12.2	14-T	26.9**	10-T	37.7	9
Oregon	29.9	32	64.1	39-T	10.9	25	19.4**	47	30.1	39
Pennsylvania	30.9	25-T	65.9	29-T	11.4	22-T	24.1	22	32.6	21-T
Rhode Island	27.7	41	64.6	35	10.7*	27-T	25.7	16	33.1	17-T
South Carolina	34.3	14	69.7	5-T	13.3	8	26.9	10-T	38.1	8
South Dakota	30.1	30-T	67.8	18-T	9.3**	41-T	24.2	21	30.8	30-T
Tennessee	34.4	12-T	67.9	17	13.9	6	30.6	4	38.7	7
Texas	34.8	10-T	69.6	7-T	12.5	11-T	25.6**	17	32.5	23
Utah	27.8*	40	62.1	46	8.3*	50	17.2**	50	24.5	51
Vermont	27.5	43	61.1	48	9.3	41-T	19.1**	48	30.4	38
Virginia	30.4	28-T	66.3	28	10.5	29-T	21.6**	38-T	32.4	24-T
Washington	28.7	38	63.4	41	9.8	37	17.6**	49	29.5	42-T
West Virginia	39.5	1-T	72.0	2	16.2	1	28.1**	7-T	43.5	1
Wisconsin	32.0	23	68.1	15	8.7	45-T	21.6	38-T	30.8	30-T
Wyoming	29.0	37	64.4	36-T	8.7	45-T	21.7**	37	30.8	30-T

SOURCE: Behavioral Risk Factor Surveillance System (BRFSS) data, CDC

NOTE: For rankings, 1 = Highest Rate, and 51 = Lowest Rate; T = Tie. Red and * indicate state rates that significantly increased between 2017 and 2018; Green and ** indicate state rates that significantly decreased between 2017 and 2018; Bold indicates state rates that significantly increased between 2013 and 2018. Tests of significance were not conducted for hypertension and only for 2017-2018 differences for physical activity.

[^] Hypertension is updated in odd years; the latest data, from 2017, is above.

Adult Obesity Rates by Race/Ethnicity and Sex, 2018

States	Black*		Latino*		White*		Male		Female	
	Percent of Black Adults Who Have Obesity	Rank	Percent of Latino Adults Who Have Obesity	Rank	Percent of White Adults Who Have Obesity	Rank	Percent of Men Who Have Obesity	Rank	Percent of Women Who Have Obesity	Rank
Alabama	44.1	4	31.7	27-T	33.8	7	34.6	7	37.8	5
Alaska	42.4	8	29.8	36	30.4	22-T	29.9	34	28.5	33
Arizona	32.8	38	34.8	11	26.8	39	31.0	28-T	28.0	35-T
Arkansas	45.4	2	32.0	24-T	34.8	3	34.9	6	39.4	3
California	34.5	32	32.8	21-T	23.3	48	26.0	48	25.6	47
Colorado	31.4	40	28.1	45	21.1	49	21.8	50	24.2	50
Connecticut	37.0	26-T	32.0	24-T	25.2	44	28.4	41-T	26.4	45
Delaware	40.1	15-T	30.2	32	30.7	21	33.6	13	33.5	20-T
D.C.	37.0	26-T	23.4	51	11.2	51	21.2	51	28.0	35-T
Florida	36.3	28	30.7	31	26.9	38	31.1	25-T	30.2	28-T
Georgia	38.3	24	30.1	33	30.1	24	31.6	21	33.3	22
Hawaii	31.0	41	33.2	19	17.8	50	26.8	47	23.0	51
Idaho	N/A	-	33.3	18	27.7	35-T	29.7	35-T	27.1	42-T
Illinois	40.1	15-T	35.6	9	30.8	19-T	30.1	33	33.2	23
Indiana	41.7	12-T	31.7	27-T	33.0	9	33.9	11	34.2	16-T
Iowa	41.7	12-T	34.4	14	34.5	4	36.0	4-T	34.6	13-T
Kansas	39.7	20	36.3	7	32.1	14	33.3	16	35.6	11
Kentucky	39.3	23	30.9	30	35.2	2	36.4	2	36.8	7
Louisiana	43.5	5	31.7	27-T	32.9	10	34.1	10	39.5	2
Maine	28.2	44	29.0	41	29.8	26	31.5	22	29.2	30-T
Maryland	39.5	21-T	29.7	37-T	28.7	30-T	28.6	40	33.1	24-T
Massachusetts	30.9	42	30.0	34-T	25.0	47	27.0	46	24.3	49
Michigan	39.9	18	36.9	5-T	31.8	16	31.4	23	34.6	13-T
Minnesota	32.7	39	34.5	12-T	28.7	30-T	32.4	18	27.5	39
Mississippi	46.1	1	28.2	44	33.9	5-T	36.1	3	42.6	1
Missouri	41.9	10-T	37.1	4	32.0	15	34.4	9	35.7	10
Montana	25.5	46	26.8	47	25.1	45-T	27.8	44	25.8	46
Nebraska	41.9	10-T	34.0	16	32.6	11-T	34.5	8	33.8	19
Nevada	34.8	31	28.9	42-T	26.4	40	29.7	35-T	29.2	30-T
New Hampshire	23.1	49	24.2	50	28.5	32	31.1	25-T	28.1	34
New Jersey	36.0	29	31.9	26	26.1	41	25.8	49	25.5	48
New Mexico	27.6	45	32.8	21-T	25.1	45-T	31.2	24	33.5	20-T
New York	34.1	34	29.4	39	25.7	42-T	27.9	43	27.3	40
North Carolina	42.7	7	30.0	34-T	29.9	25	32.1	20	33.9	18
North Dakota	23.5	48	40.2	1	33.1	8	36.0	4-T	34.2	16-T
Ohio	37.9	25	39.8	2	32.6	11-T	33.8	12	34.3	15
Oklahoma	39.8	19	36.9	5-T	33.9	5-T	32.8	17	37.0	6
Oregon	33.8	36	34.5	12-T	29.2	28	29.2	38	30.8	26-T
Pennsylvania	39.5	21-T	32.2	23	30.4	22-T	30.9	30	30.8	26-T
Rhode Island	33.2	37	34.3	15	27.1	37	28.4	41-T	27.1	42-T
South Carolina	42.3	9	27.6	46	30.8	19-T	32.3	19	36.2	8-T
South Dakota	N/A	-	32.9	20	29.7	27	31.1	25-T	28.7	32
Tennessee	44.7	3	33.6	17	32.3	13	33.5	14-T	35.3	12
Texas	40.0	17	37.9	3	31.5	17	33.5	14-T	36.2	8-T
Utah	30.5	43	28.9	42-T	25.7	42-T	28.7	39	26.8	44
Vermont	24.9	47	24.9	49	27.7	35-T	27.7	45	27.2	41
Virginia	41.3	14	29.2	40	28.4	33	30.4	31	30.2	28-T
Washington	34.3	33	35.9	8	29.0	29	29.4	37	28.0	35-T
West Virginia	43.4	6	26.7	48	38.5	1	40.6	1	38.5	4
Wisconsin	35.3	30	34.9	10	31.4	18	31.0	28-T	33.1	24-T
Wyoming	34.0	35	29.7	37-T	28.0	34	30.2	32	27.8	38

SOURCE: Behavioral Risk Factor Surveillance System (BRFSS), CDC

NOTE: For rankings, 1 = Highest Rate, and 51 = Lowest Rate; T= Tie.

* For race/ethnicity data, three years of data are needed for sufficient sample size; 2016–2018 data were used here. Some data are not available due to an insufficient sample size.

Adult Obesity Rates by Age, 2018

States	Ages 18-24		Ages 25-44		Ages 45-64		Ages 65+	
	Percent Who Have Obesity	Rank	Percent Who Have Obesity	Rank	Percent Who Have Obesity	Rank	Percent Who Have Obesity	Rank
Alabama	19.3	23-T	40.0	4-T	41.8	7	31.8	12-T
Alaska	21.2	11	29.6	37	33.8	38	27.2	35-T
Arizona	14.4	42	31.8	29-T	36.1	28-T	26.1	42
Arkansas	26.2	3	40.4	3	42.9	4-T	30.1	20
California	15.2	39-T	26.2	49	30.3	47	24.2	48
Colorado	12.0	46-T	22.8	50	28.0	51	21.8	50
Connecticut	12.4	45	28.8	41	32.3	42-T	26.3	41
Delaware	18.4	28	33.8	19-T	39.0	18	32.5	8-T
D.C.	17.5	31	22.3	51	31.6	46	25.2	46
Florida	16.6	35-T	32.0	26	36.2	27	27.8	33
Georgia	19.8	20	33.8	19-T	37.6	21	29.6	22
Hawaii	20.6	15-T	28.0	42	28.7	50	17.4	51
Idaho	10.7	50	29.4	38-T	34.0	36	29.0	26
Illinois	16.8	33	32.4	24	36.1	28-T	32.5	8-T
Indiana	22.6	8	34.8	15-T	39.1	16-T	32.6	7
Iowa	20.9	13	37.6	8	40.2	10	34.0	3-T
Kansas	21.8	10	36.3	12	40.1	11-T	31.0	17
Kentucky	18.5	27	40.0	4-T	43.8	3	30.8	18
Louisiana	27.9	2	37.0	10	42.9	4-T	31.8	12-T
Maine	20.5	17	31.9	27-T	34.2	35	27.2	35-T
Maryland	18.1	29	32.1	25	36.1	28-T	27.9	31-T
Massachusetts	13.0	43	26.6	48	29.5	48	25.9	43
Michigan	18.9	26	33.5	22	38.3	19	32.3	11
Minnesota	19.0	25	29.7	36	34.5	33	30.0	21
Mississippi	29.5	1	41.9	2	45.2	2	32.8	5
Missouri	20.6	15-T	38.5	6	39.7	14	31.3	16
Montana	11.6	49	29.1	40	32.8	41	24.1	49
Nebraska	20.3	18	33.9	18	41.5	8	32.4	10
Nevada	10.2	51	31.9	27-T	34.5	34	28.1	30
New Hampshire	19.4	22	31.1	32	31.8	44	28.3	28-T
New Jersey	12.0	46-T	26.7	47	28.9	49	25.8	44
New Mexico	25.8	4	35.9	14	36.5	25	24.9	47
New York	18.0	30	27.5	44	31.7	45	27.0	37
North Carolina	16.7	34	33.0	23	42.4	6	27.6	34
North Dakota	21.1	12	38.0	7	39.4	15	34.3	1-T
Ohio	20.0	19	34.8	15-T	39.1	16-T	32.7	6
Oklahoma	24.2	7	37.1	9	40.1	11-T	29.4	23
Oregon	14.9	41	30.0	34	36.7	23-T	27.9	31-T
Pennsylvania	16.1	37	31.8	29-T	37.3	22	28.3	28-T
Rhode Island	16.6	35-T	27.2	46	33.0	40	26.6	39
South Carolina	19.5	21	36.2	13	40.0	13	31.5	15
South Dakota	12.6	44	31.3	31	34.7	32	31.8	12-T
Tennessee	25.2	5	33.8	19-T	40.5	9	30.7	19
Texas	20.8	14	36.6	11	38.2	20	35.3	1-T
Utah	16.9	32	27.6	43	33.5	39	29.2	24-T
Vermont	19.3	23-T	27.3	45	32.3	42-T	25.5	45
Virginia	15.9	38	30.4	33	36.4	26	29.2	24-T
Washington	15.2	39-T	29.4	38-T	33.9	37	26.9	38
West Virginia	22.3	9	43.5	1	45.4	1	34.0	3-T
Wisconsin	24.3	6	34.6	17	34.9	31	28.4	27
Wyoming	12.0	46-T	29.8	35	36.7	23-T	26.4	40

SOURCE: Behavioral Risk Factor Surveillance System (BRFSS), CDC

NOTE: For rankings, 1 = Highest Rate, and 51 = Lowest Rate; T= Tie.

TRENDS IN CHILDHOOD OBESITY

As with adults, obesity has been rising among children over the last several decades. Between the 1976–1980 NHANES survey and the 2015–2016 survey, obesity rates for children ages 2 to 19 more than tripled, up from 5.5 to 18.5 percent.^{77,78,79} In the last decade, the increase has slowed, with no statistically significant changes between 2007–2008 and 2015–2016.⁸⁰

These high childhood obesity rates, however, are not promising for future adult obesity rates, since children who are overweight or who have obesity are more likely to have obesity as adults, too.⁸¹ As such, targeting interventions that will help families and children have access

to healthy, affordable foods and safe places for physical activity is a promising strategy to start addressing America's obesity epidemic. Recently researchers have focused specifically on the first 1,000 days of life as a critical time to encourage healthy nutrition (including breastfeeding, responsive feeding, delay of complementary food, and no juice or milk for infants under age 1).⁸² It's also an opportunity for family interventions that benefit parents as well as children.

This section includes the latest data available on childhood obesity. As with adults, this report relies on multiple surveys to better understand the full picture of childhood obesity.

DATA SOURCES FOR CHILDHOOD OBESITY MEASURES

1) The National Health and Nutrition Examination Survey is the primary source for national obesity data on adults and on children ages 2 to 19 in this report. NHANES is particularly valuable in that it combines interviews with physical examinations while also covering a wide age range of Americans. The downsides of the survey include a time delay from collection to reporting and samples that do not break out local data. The most recent NHANES data are from the 2015–2016 survey.

2) The WIC Participant and Program Characteristics Report is a biennial census of families that WIC serves. The USDA collects the data, and CDC analyzes the obesity data. Because the program only includes low-income mothers and young children (under the age of 5), these data are

limited.⁸³ Nevertheless, because obesity disproportionately affects individuals with low incomes, early childhood is a critical time for obesity prevention, and the data provide valuable information for evaluating the effectiveness of programs aimed at reducing obesity rates and health disparities. The most recent data are from its 2016-2017 iteration.

3) The National Survey of Children's Health (NSCH) surveys parents of children ages 0 to 17 about aspects of their children's health, including height and weight. An advantage of this survey is that it includes state-level data. A disadvantage is that height and weight data are parent-reported, not directly measured. The NSCH survey is now annual and the most recent data are from its 2016 iteration. Because survey

methodology changed in 2016, it is not possible to compare estimates with earlier iterations of the survey.

4) The Youth Risk Behavior Survey (YRBS) measures high-risk health behaviors among students in grades 9 to 12, including eating habits, physical activity, and obesity (by asking respondents to self-report about their height and weight). As in other surveys that use self-reported data to measure obesity, this survey likely underreports the true rates.⁸⁴ YRBS officials conduct the survey in odd-numbered years; 2017 is the most recent dataset available. The 2017 survey includes state-level samples for 39 states and the District of Columbia plus select large urban school districts, as well as a separate national sample.⁸⁵

National Childhood Obesity Rates

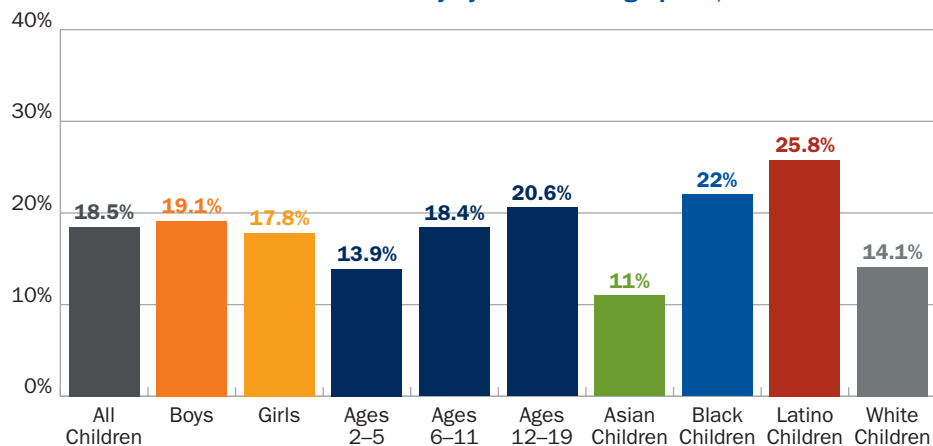
The most recent national data, the 2015–2016 NHANES survey, found that 18.5 percent of children ages 2 through 19 had obesity. The prior section covers differences by race and ethnicity (starting on page 10). Some other demographics available include:

- **Sex:** *Boys are slightly more likely to have obesity than girls.*
 - From 2015 to 2016, 19.1 percent of boys had obesity and 17.8 percent of girls had obesity.
 - Between 2013–2014 and 2015–2016, the obesity rate of boys went up 11 percent, while the rate among girls with obesity went up 4 percent.⁸⁶
- **Age:** *The prevalence of obesity and severe obesity increases with age.*
 - In 2015–2016, 13.9 percent of children ages 2 to 5, 18.4 percent of children ages 6 to 11, and 20.6 percent of children ages 12 to 19 had obesity.
 - Nearly 2 percent of children ages 2 to 5, 5.2 percent of children ages 6 to 11, and 7.7 percent of children ages 12 to 19 had severe obesity.



- Between the 1976–1980 NHANES survey and the 2015–2016 survey, the percentage of children ages 2 to 19 with obesity overall tripled, with obesity among children ages 6 to 11 doubling, and the obesity rates of teens ages 12 to 19 quadrupling.

Percent of Children with Obesity by Select Demographics, 2015–2016



SOURCE: NHANES

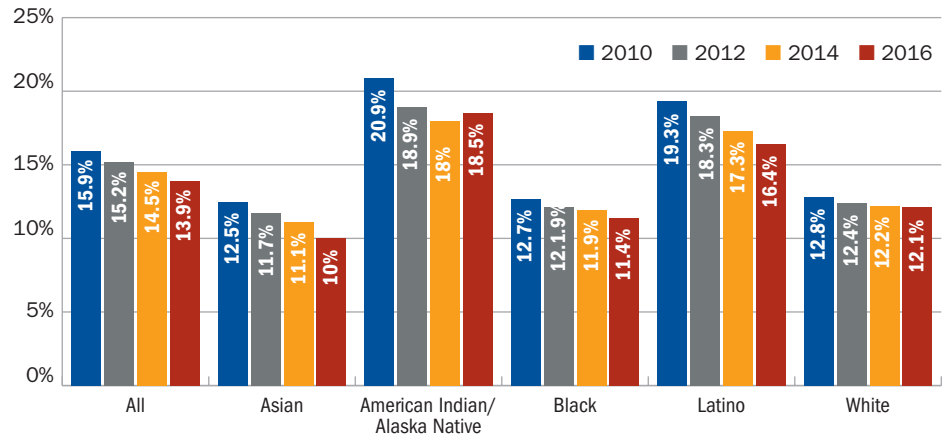
Early Childhood Obesity Rates

According to WIC data, the percentage of children ages 2 to 4 enrolled in the program who had obesity continued to decline, from 15.9 percent in 2010 to 13.9 percent in 2016, compared with increases between 2000 and 2010. The reductions were widespread—rates decreased among children across age, sex, major racial and ethnic groups, and in 34 of 56 state WIC agencies. The obesity rates among all children enrolled in WIC are now in line with the general population of children in the United States.

However, certain races and ethnicities have much higher obesity rates.

Specifically, in 2016, 18.5 percent of AI/AN and 16.4 percent of Latino children who were enrolled in WIC had obesity,

Percent of Young Children (Ages 2–4) Enrolled in WIC with Obesity, 2010–2016



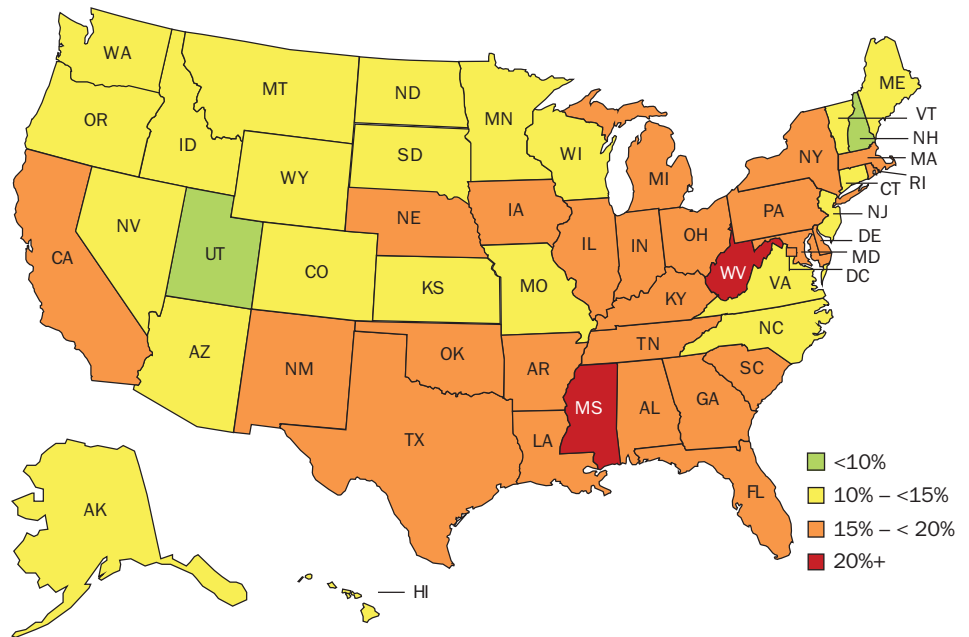
Source: WIC Participants and Program Characteristics Survey

compared with 12.1 percent of White, 11.4 percent of Black and 10 percent of Asian and Pacific Islander children.⁸⁷

Obesity Rates in Children Ages 10 to 17

The NSCH reported that nationwide, for their 2016–2017 survey, 15.8 percent of children ages 10 to 17 had obesity and 15.2 percent were overweight. The states with the highest rates of obesity for children ages 10 to 17 were Mississippi (26.1 percent), West Virginia (20.3 percent), and Kentucky (19.3 percent); the states with the lowest rates of obesity were Utah (8.7 percent), New Hampshire (9.8 percent), and Washington state (10.1 percent). See chart on page 32 for more state data.

Percent of Children Ages 10–17 with Obesity by State, 2016–2017



Source: NSCH



High School Obesity Rates

According to 2017 YRBS data, 14.8 percent of high school students (grades 9 through 12) nationwide had obesity and 15.6 percent were overweight. In 2015, YRBS found 13.9 percent of high schoolers had obesity and 16 percent were overweight. Obesity levels among high school students show a statistically significant increase in the long-term; in 1999, obesity rates among high schoolers participating in the survey were at 10.6 percent.⁸⁸

Other takeaways include:

- High schoolers who were male (17.5 percent); Black (18.2 percent); Latino (18.2 percent); or lesbian, gay, or bisexual (20.5 percent) had particularly high levels of obesity in 2017.

- The levels of obesity among high school students in different states varied considerably—from 9.5 percent in Colorado to 21.7 percent in Arkansas.
- States with the highest levels of obesity were: Arkansas (21.7 percent), Kentucky (20.2 percent), Tennessee (20.5 percent), and West Virginia (19.5 percent).⁸⁹
- States with the lowest obesity rates were: Colorado (9.5 percent), Florida (10.9 percent), Idaho (11.4 percent), Massachusetts (11.7 percent), Montana (11.7 percent), and Utah (9.6 percent).

See page 32 for state-by-state data on obesity, overweight, and activity levels among high school students.

Youth Obesity Rates and Related Health Indicators

States	Young Children: Obesity, 2014	Children and Teenagers: Obesity and Physical Activity, 2016-2017			High School (HS) Students: Obesity, Overweight, Physical Activity, 2017		
	Percent of Low-Income Children Ages 2-4 Who Have Obesity	Percent of Children Ages 10-17 Who Have Obesity	Ranking	Percent of Children Ages 6-17 Who Participate in 60 Minutes of Physical Activity Every Day	Percent of HS Students Who Have Obesity (95% C.I.)	Percent of HS Students Who Are Overweight (95% C.I.)	Percent of HS Students Who Are Physically Active 60 Minutes Every Day of the Week (95% C.I.)
Alabama	16.3	18.2	43	29.0	N/A	N/A	N/A
Alaska	19.1	12.6	11	25.7	13.7 (+/-1.1)	17.5 (+/-2.55)	18.4 (+/-2.65)
Arizona	13.3	14.2	20	19.7	12.3 (+/-2.25)	15.9 (+/-2.85)	24.5 (+/-2.75)
Arkansas	14.4	15.6	T-30	22.6	21.7 (+/-4.2)	18.1 (+/-1.95)	21.4 (+/-6.05)
California	16.6	15.6	T-30	26.3	13.9 (+/-3.85)	15.0 (+/-1.9)	27.5 (+/-3.3)
Colorado	8.5	10.7	6	24.2	9.5 (+/-2.1)	12.3 (+/-2.05)	27.4 (+/-3.55)
Connecticut	15.3	11.9	8	24.7	12.7 (+/-2.1)	16.0 (+/-3.1)	22.3 (+/-2.1)
Delaware	17.2	16.7	36	18.5	15.1 (+/-2.15)	16.6 (+/-1.65)	25.1 (+/-2.45)
D.C.	13.0	16.1	34	20.7	16.8 (+/-0.95)	18.0 (+/-1.0)	13.4 (+/-0.9)
Florida	12.7	16.9	39	22.2	10.9 (+/-1.4)	14.2 (+/-1.0)	22.8 (+/-1.2)
Georgia	13.0	18.4	44	23.9	N/A	N/A	N/A
Hawaii	10.3	13.9	19	16.5	14.2 (+/-1.15)	14.2 (+/-1.65)	19.6 (+/-1.6)
Idaho	11.6	13.4	17	23.9	11.4 (+/-1.8)	14.7 (+/-2.25)	23.7 (+/-1.95)
Illinois	15.2	16.2	35	25.7	14.8 (+/-2.45)	16.1 (+/-2)	23.2 (+/-3.45)
Indiana	14.3	17.5	41	24.8	N/A	N/A	N/A
Iowa	14.7	17.7	42	24.7	15.3 (+/-3.75)	16 (+/-2.3)	29.4 (+/-3.85)
Kansas	12.8	13.0	T-13	22.9	13.1 (+/-3.35)	15.3 (+/-1.95)	26.5 (+/-3.35)
Kentucky	13.3	19.3	49	21.2	20.2 (+/-2.95)	16.1 (+/-2)	22 (+/-2.55)
Louisiana	13.2	19.1	48	22.0	17 (+/-3.05)	18.3 (+/-2.25)	20.5 (+/-4)
Maine	15.1	14.7	T-22	28.7	14.3 (+/-1.2)	16 (+/-1.15)	19.6 (+/-1.15)
Maryland	16.5	15.7	33	19.1	12.6 (+/-0.5)	15.2 (+/-0.45)	17.9 (+/-0.5)
Massachusetts	16.6	15.0	25	20.4	11.7 (+/-1.95)	14.0 (+/-1.6)	22.7 (+/-2.6)
Michigan	13.4	17.3	40	25.9	16.7 (+/-4.25)	16.3 (+/-1.7)	22.9 (+/-2.45)
Minnesota	12.3	10.4	4	24.2	N/A	N/A	N/A
Mississippi	14.5	26.1	51	26.9	N/A	N/A	N/A
Missouri	13.0	12.7	12	26.0	16.6 (+/-3.05)	15.7 (+/-2.25)	28.6 (+/-3.65)
Montana	12.5	12.3	9	24.5	11.7 (+/-1.4)	14.6 (+/-1.35)	28.0 (+/-1.45)
Nebraska	16.9	15.5	29	22.2	14.6 (+/-2.4)	16.6 (+/-3.15)	26.8 (+/-3.35)
Nevada	12.0	14.7	T-22	24.7	14.0 (+/-2.25)	14.3 (+/-2.8)	24.9 (+/-0.25)
New Hampshire	15.1	9.8	2	22.8	12.8 (+/-0.95)	14.1 (+/-0.95)	23.0 (+/-0.95)
New Jersey	15.3	14.8	24	19.1	N/A	N/A	N/A
New Mexico	12.5	15.1	26	22.8	15.3 (+/-1.65)	16.4 (+/-1.55)	30.8 (+/-2.45)
New York	14.3	15.3	27	21.1	12.4 (+/-1.85)	16.2 (+/-1.75)	23.2 (+/-2.55)
North Carolina	15.0	13.1	15	22.2	15.4 (+/-2.2)	15.5 (+/-2.1)	22.3 (+/-2.2)
North Dakota	14.4	12.5	10	25.5	14.9 (+/-1.75)	16.2 (+/-2.1)	26.1 (+/-2.3)
Ohio	13.1	18.6	46	23.6	N/A	N/A	N/A
Oklahoma	13.8	18.7	47	29.2	17.1 (+/-2.95)	16.5 (+/-1.95)	29.5 (+/-3.65)
Oregon	15.0	11.4	7	22.0	N/A	N/A	N/A
Pennsylvania	12.9	16.8	T-37	24.5	13.7 (+/-1.9)	15.7 (+/-1.9)	24.5 (+/-2.55)
Rhode Island	16.3	16.8	T-37	21.4	15.2 (+/-2.8)	15.9 (+/-2.7)	23.2 (+/-3.85)
South Carolina	12.0	15.4	28	23.9	17.2 (+/-3.2)	16.5 (+/-2.7)	21.7 (+/-3.8)
South Dakota	17.1	13.6	18	22.4	N/A	N/A	N/A
Tennessee	14.9	15.6	T-30	24.5	20.5 (+/-2.6)	17.5 (+/-1.9)	25.6 (+/-2.65)
Texas	14.9	18.5	45	18.5	18.6 (+/-2.45)	18.0 (+/-2.3)	25.2 (+/-3.35)
Utah	8.2	8.7	1	14.2	9.6 (+/-1.7)	13.2 (+/-1.4)	19.1 (+/-3.3)
Vermont	14.1	13.0	T-13	27.7	12.6 (+/-0.45)	14.1 (+/-0.5)	25.4 (+/-0.6)
Virginia	20.0	13.2	16	23.8	12.7 (+/-1.8)	15.5 (+/-1.55)	22.4 (+/-1.95)
Washington	13.6	10.1	3	20.7	N/A	N/A	N/A
West Virginia	16.4	20.3	50	29.5	19.5 (+/-3.15)	16.0 (+/-2.55)	23.4 (+/-1.4)
Wisconsin	14.7	14.3	21	24.5	13.7 (+/-1.0)	15.0 (+/-1.5)	24.7 (+/-3.1)
Wyoming	9.9	10.6	5	21.2	N/A	N/A	N/A

SOURCE: WIC
Participants and Program
Characteristics Survey,
USDA

SOURCE: National Survey of Children's Health, HRSA
NOTE: For rankings, 1 = Highest Rate, and 51 = Lowest Rate.
T= Tie.

SOURCE: Youth Risk Behavior Survey, CDC
NOTE: C.I. = Confidence Intervals

The State of Obesity

Obesity-Related Policies and Programs

Public policy can improve the health of the nation. Policies can be a positive force in reducing obesity by creating conditions that promote optimal health and by deterring the unhealthy behaviors that lead to obesity—for example, taxing sugary drinks can reduce consumption. Programs that provide access to nutritious food, teach about healthy eating and regular physical activity, and incentivize people to make healthier choices all help prevent and reduce obesity.

In order to ensure effective policies and programs, policymakers should prioritize communities with high obesity rates and must proactively consider equity and community

context when designing and implementing obesity-prevention policies—to ensure they reach the intended communities and do not unintentionally exacerbate inequities.



NUTRITION ASSISTANCE AND EDUCATION

Providing Americans with nutritious food is a straightforward way to encourage healthy eating. The programs below provide food, financial assistance, and education to low-income Americans.

Many programs focus on food insecurity—a lack of access to enough food for an active, healthy life—with access to quality, nutritious food as a secondary goal. Paradoxically, food insecurity is associated with obesity, particularly among women.⁹⁰ Racial and

ethnic minority households have higher rates of food insecurity: 22 percent of households headed by Blacks and 18 percent of households headed by Latinos are food insecure, compared with a 12 percent national average.⁹¹ When designing and implementing nutrition programs, policymakers must ensure the policies are based on solid scientific findings, including the *Dietary Guidelines for Americans*, as well as ensure the policies are culturally sensitive to participants.

Federal Nutrition Assistance: WIC, School Nutrition Programs, SNAP, and Nutrition Incentive Programs

Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)

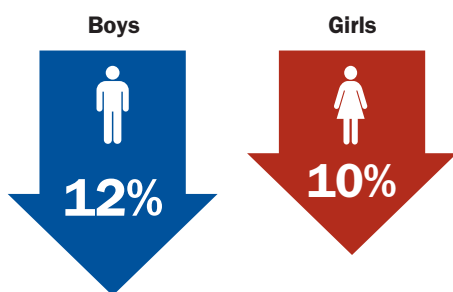
WIC provides nutrition-assistance and education programs to low-income pregnant, postpartum, and breastfeeding mothers and their children under the age of 5. WIC is one of the larger federal nutrition-assistance programs; it served 6.9 million people in 2018, including half the nation's infants.^{92,93} WIC is funded by the federal government and administered by the USDA's Food and Nutrition Service (FNS) in conjunction with state agencies. WIC participants receive vouchers or payments cards that they can use to purchase a discrete set of foods, including milk, infant formula, cereal, eggs, whole grains, fruits, and vegetables.

WIC also provides nutrition education, healthcare, and social-service referrals, as well as breastfeeding education and support. Nutrition early in life is critical, and research shows breastfed children have a reduced risk of obesity later in life.^{94,95} Studies show breastfeeding initiation rates among WIC participants have increased substantially more recently (83 percent in 2013 versus 56 percent two decades earlier).⁹⁶ In FY 2019, the Senate Appropriations Committee requested that USDA conduct an updated study on the economic benefits of breastfeeding in WIC.⁹⁷ The study found that if breastfeeding rates in WIC met levels recommended by the

American Academy of Pediatrics (AAP), there would be \$9.1 billion saved in healthcare costs from less disease and fewer early deaths.⁹⁸

In 2009, the USDA updated WIC food packages to more closely adhere to the *Dietary Guidelines for Americans* and the AAP infant-feeding guidelines,⁹⁹ the first major change to the food packages since the program's creation in the 1970s.¹⁰⁰ The changes added fruits, vegetables, and whole grains; reduced the fat levels in milk and infant formula; and reduced the monthly juice allocation. A 2019 study that examined the health impacts of these changes in Los Angeles County found that 4-year-olds who had received the revised WIC food packages since birth were at a reduced risk of obesity—a 12 percent reduction for boys and a 10 percent reduction for girls—compared with those who received the old versions of the package.¹⁰¹ Another study of the package changes found that they may have helped reverse toddler obesity trends among WIC participants ages 2 to 4; toddler obesity had been increasing by 0.23 percentage points annually before the package changes and began decreasing by 0.34 percentage points annually after the changes went into effect.¹⁰² The most recent data from WIC on obesity rates among enrolled children ages 2 to 4 shows a further decline in 2016 to 13.9 percent of children with obesity, down from 15.9 percent in 2010.¹⁰³

A 2019 study in Los Angeles County found that 4-year-olds who had received the revised WIC food packages since birth were at a reduced risk of obesity



Participation in WIC has been declining since FY 2010,^{104,105} likely for a number of reasons, including an improving economy, a decline in the U.S. birth rate,¹⁰⁶ and possibly due to burdensome administrative processes.¹⁰⁷ A federal rule—commonly referred to as “public charge”—was finalized in August 2019. The rule will make it harder for immigrants who use certain public benefits to qualify for permanent resident cards (green cards).¹⁰⁸ While not yet in effect, the rule has already caused fear and confusion in immigrant communities, leading some families to unenroll or stop participating in public programs, including WIC in 18 states.¹⁰⁹ A recent Urban Institute survey found that 13.7 percent of adults in immigrant families failed to participate in a public program in 2018 for fear of jeopardizing future green card status.¹¹⁰ Another recent proposal that could reduce WIC participation—as well as many other essential nutrition, healthcare, and education programs—is the Office of Management and Budget consideration of a change to consumer-inflation measures, which are used to measure poverty levels.¹¹¹ If adopted, this change would, in effect, change the income threshold for eligibility and mean fewer Americans would be able to participate in these programs.

While the majority of WIC participants are White, racial and ethnic minorities make up a disproportionate share of WIC recipients relative to their share of the overall population. In 2016, 59 percent of WIC participants were White, 21 percent were Black, 10 percent were AI/AN, 4 percent were Asian, and approximately 5 percent of WIC participants reported two or more races. In addition, 42 reported Latino ethnicity (race and Latino origin



questions are asked separately).¹¹² These numbers are not surprising, as racial and ethnic minorities comprise an outsized share of Americans living in poverty,¹¹³ but they do suggest the need for policymakers to consider matters of racial equity in the administration of WIC and other programs, like making WIC packages more culturally inclusive, providing targeted support based on health disparities, and providing more breastfeeding support for women of color who participate in WIC.¹¹⁴

In FY 2019, the federal government appropriated \$6.1 billion for WIC, including \$60 million for its breastfeeding peer-counselor program and \$5 million for telehealth programs that support WIC’s nutrition education or breastfeeding support programs and that decrease barriers that deter participation in the program.^{115,116} Appropriators also encouraged FNS to increase the levels of fish allowed in WIC food packages due to their health benefits and cultural significance in certain communities, particularly in Alaska.^{117,118,119}

Since the 2012 standards were implemented, participants in the School Lunch and Breakfast Programs consumed more fruits, vegetables, whole grains, and milk while consuming fewer calories and saturated fat. In addition, plate waste—a way to measure student satisfaction with the meals—was generally comparable to waste observed in studies that took place prior to the new standards going into effect.

School Nutrition Programs

American children consume up to half their daily calories at school,¹²⁰ providing schools and the government a key opportunity to boost healthy eating and nutrition among students. The federal child nutrition programs—which include the School Lunch Program, the School Breakfast Program, and the Summer Meals Program (see sidebar on page 37)—together feed more than 34 million American children.¹²¹ Funded by the federal government and administered by FNS and state agencies, these programs reimburse schools, day-care centers, and after-care programs for the cost of providing healthy meals and snacks to children in their care. In 2018, more than 40 percent of all American children participated in one of these programs,^{122,123} with the School Lunch Program alone serving 4.8 billion meals.¹²⁴

Children from low-income households are eligible for free or reduced-price lunch. While these students are mostly White, a disproportionate number of students receiving the reduced price are racial or ethnic minorities.¹²⁵ Accordingly, policymakers should ensure these populations are being well served by the child nutrition programs by taking measures to reduce barriers to program participation, including stigma, lack of information, and language and literacy challenges.¹²⁶ One way to reduce the stigma of program participation is by making school breakfast and lunch free to all students. The Community Eligibility Provision of the Healthy, Hunger-Free Kids Act of 2010 (HHFKA) allows any school district with 40 percent or more children eligible for school lunch to provide free meals for all students. Administrative savings help offset the costs of offering meals to all.¹²⁷ Participating schools

report that the Community Eligibility Provision improves children’s access to healthy meals, cuts paperwork for parents and schools, and makes school-meal programs more efficient.¹²⁸ Yet currently, only about half of eligible districts and states participate in the Community Eligibility Provision, ranging from 15 percent adoption in Kansas to 100 percent adoption in North Dakota (see appendix for data on all states).¹²⁹

HHFKA required USDA to align school food nutrition standards with the 2010 *Dietary Guidelines for Americans*.¹³⁰ The new rules, completed in 2012, require increased availability of whole grains, fruits and vegetables, skim and low-fat milk, and lower levels of added sugars and saturated fats. They also required lower sodium levels, with changes phased in over several years.^{131,132} Nearly all schools have now successfully implemented these 2012 standards.¹³³

In April 2019, FNS published the first nationally representative study of the School Lunch and Breakfast Programs since the 2012 standards went into effect. The study found that both school lunches and breakfasts significantly improved in nutritional quality after the new standards went into effect; that participants in the programs consumed more fruits, vegetables, whole grains, and milk than nonparticipants, while consuming fewer calories and saturated fat than nonparticipants. In addition, plate waste—a way to measure student satisfaction with the meals—was generally comparable to waste observed in studies that took place prior to the new standards going into effect, suggesting that the new standards did not have a significant effect on student satisfaction with the meals.¹³⁴

Because of the success of the child nutrition programs, nutrition advocates have focused on increasing participation, particularly in the School Breakfast Program, which serves only 57 percent of the students who participate in the School Lunch Program. A February 2019 report found that nearly 149,000 additional students participated in the breakfast program during the 2017–2018 school year, a 1.2 percent increase over the prior year.¹³⁵ (See appendix for data on state-level progress on School Breakfast implementation.)

However, in the past several years, Congress and USDA have rolled back several aspects of the 2012 standards, permitting schools to again serve chocolate milk, refined grains, and foods with higher sodium levels.¹³⁶ In April 2019, a number of states and two public-interest organizations sued over the rollback, arguing that USDA violated the Administrative Procedure Act by failing to offer a reasoned explanation for the rule changes or to provide sufficient notice to the public. The lawsuit also noted that nearly all schools had successfully implemented the 2012 standards and that the majority of public comments that USDA received in 2017 were supportive of the 2012 rules.¹³⁷ These rollbacks risk reversing the recent progress made in the nutritional quality of meals eaten by American school children.

For FY 2019, Congress appropriated \$23.1 billion for the child nutrition programs, including \$30 million in grant funding for equipment to allow schools to serve healthier meals, improve food safety, or expand their school breakfast programs.¹³⁸ This was a reduction of more than \$1 billion from the FY 2018 funding level,¹³⁹ reflecting lower participation rates in the programs.



MAJOR CHILD NUTRITION PROGRAMS IN THE UNITED STATES

- The National School Lunch Program** provides low-cost or free meals and snacks to nearly 30 million low-income students in public and private schools and in residential child-care facilities.¹⁴⁰ In FY 2018, the program served more than 4.8 billion lunches.¹⁴¹
- The School Breakfast Program** provides free or low-cost breakfast to nearly 12.5 million low-income students each school year.¹⁴² In FY 2018, the program served 2.4 billion meals.¹⁴³
- The Summer Food Service Program** provides nutritious daily meals to approximately 3.8 million low-income school children during summer vacation from school.¹⁴⁴
- The Child and Adult Care Food Program** funds healthy meals and snacks for more than 4.2 million children in day-care, preschool, and after-care programs, as well as 130,000 adults in adult day-care centers.¹⁴⁵
- The Special Milk Program for Children** provides free low-fat or skim milk to students who do not participate in the meal programs, such as half-day kindergarten students.¹⁴⁶
- Fresh Fruit and Vegetable Program** provides fresh fruits and vegetables as a healthy snack option in select low-income schools and promotes nutrition education.¹⁴⁷
- The Farm to School Grant Program** helps incorporate fresh, local food into the National School Lunch and School Breakfast Programs and facilitates hands-on learning activities, including school gardens, farm visits, and cooking classes.¹⁴⁸

Supplemental Nutrition Assistance Program

The Supplemental Nutrition Assistance Program (SNAP), also known as food stamps, is the nation's largest nutrition-assistance program. It had 40 million participants in 2018, down from a record high of 48 million in FY 2013.¹⁴⁹

As with WIC, the number of SNAP recipients has declined in the last several years. This is likely due to a number of causes, including an improved economy, reduced outreach, and possibly the “public charge” rule discussed earlier (page 35). An analysis of data from the ongoing Children’s Health Watch study found that SNAP participation decreased among immigrant families in 2018, most markedly among recent immigrants, while employment rates remained stable.^{150,151} Another proposed federal rule from the USDA is to stop offering SNAP’s broad-based categorical eligibility option to states—which allows state to enroll residents in SNAP when they apply for other income-based programs.¹⁵² USDA estimates that 3.1 million Americans receive SNAP benefits through this option.¹⁵³

The federal government funds SNAP benefits and shares the cost of administering the program with the states.¹⁵⁴ SNAP recipients receive monthly vouchers they can use to purchase food from participating retailers. The average monthly benefit in 2018 was \$126 per person.¹⁵⁵

Current law imposes work requirements on SNAP recipients: adults ages 18 to 59 who are able to work must do so, with stricter requirements imposed on able-bodied adults ages 18 to 49 without dependents. The latter group is limited to three months of SNAP benefits in three years if they do not work 80 hours per month, although states are permitted

to seek waivers from the requirement.¹⁵⁶ In recent years, SNAP benefits have been cut, and there have been a number of proposals to further reduce benefits while increasing the program’s work requirements.^{157,158} In February 2019, USDA issued a proposed rule that would limit the ability of states to obtain waivers that allow them to extend eligibility to people who have not met the program’s work requirements (no final rule has been issued as of July 2019).¹⁵⁹ By USDA’s estimate, this rule could cut SNAP benefits to 755,000.¹⁶⁰ This would disproportionately touch a number of populations, including: women, Blacks, Latinos, LGBTQ communities, rural communities, people with disabilities, and people with criminal records.^{161,162}

With a few exceptions—such as alcohol, vitamins, prepared food, hot food, or live animals—SNAP can be used to purchase any food or beverage, regardless of its nutritional value.¹⁶³ A 2016 study by FNS found that SNAP households spend 20 cents of every SNAP dollar on sweetened drinks, salty snacks, candy, and other desserts, with more money spent on soft drinks than any other item. These spending patterns are largely consistent with those of non-SNAP households.¹⁶⁴ Some public health advocates have suggested changes that would incentivize participants to make healthier food choices, for example, through voluntary pilot programs that test different strategies, such as excluding sugary drinks or other foods with limited nutritional value. Some have raised concerns, however, that such changes could increase stigma, reduce participation, and unfairly target low-income individuals.¹⁶⁵ USDA has historically denied requests by states to pilot test strategies, and Congress had also resisted similar legislative proposals.^{166,167}

FNS has licensed more than 3,000 farmers' markets nationwide to accept SNAP benefits,¹⁶⁸ increasing opportunities for participants to purchase fresh fruits and vegetables. In 2017, Americans spent \$22 million in SNAP benefits at farmers' markets, a 35 percent increase over 2012.¹⁶⁹ And USDA recently rolled out a pilot program allowing SNAP participants to use their benefits for eligible food via online sales for the first time. (SNAP does cover not delivery fees.) Amazon, Walmart, and ShopRite stores began accepting SNAP for online purchases in New York in April 2019, and the program is slated to expand to other states.^{170,171,172}

The SNAP Education (SNAP-Ed) grant program, the educational component of SNAP, teaches healthy shopping and cooking skills, and it encourages physical activity. States can apply for SNAP-Ed funding and often contract with land-grant universities to implement the program.¹⁷³ Below are examples of programs funded by SNAP-Ed:

- The Power of Produce club has been adopted by farmers' markets across the nation and provides children ages 4 to 12 with a token for \$2 of fresh fruit or vegetables. In surveys of parents whose children participated in the program, 67 percent reported that their children were eating, or at least trying, more fruits and vegetables.¹⁷⁴
- Auburn University and the Alabama Department of Public Health have helped 11 retailers in rural counties promote the purchase of healthy foods through the Good Choice Healthier Retail Initiative. Health officials help retailers assess their stores and recommend purchasing and promotional improvements, such as displaying

Good Choice signage near healthy foods, increasing their stock of healthy items, and revising product placement to promote the purchase of healthy foods and drinks.¹⁷⁵

The SNAP program also helps stimulate the economy. USDA's Economic Research Service estimates that SNAP has a multiplier effect, with each dollar in federally funded SNAP benefits generating \$1.79 in economic activity.¹⁷⁶ In addition, a May 2019 Economic Research Service study of the impact of SNAP on county-level employment from 2001 to 2014 found that the program created jobs in rural areas and, in particular, helped lift the economy during the 2008–2010 recession.¹⁷⁷

Congress appropriated \$73.5 billion for the SNAP program in FY 2019, including \$433 million for SNAP-Ed.^{178,179} This was a \$537 million reduction from the program's FY 2018 level.¹⁸⁰



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Gus Schumacher Nutrition Incentive Program

Based on the success of the Fresh Fruit and Vegetable Program (see sidebar on page 37), the Agriculture Act of 2014 (2014 Farm Bill) established the Food Insecurity Nutrition Incentive grant program, which incentivizes SNAP recipients to purchase more produce.^{181,182} The 2018 Farm Bill expanded the program and renamed it the Gus Schumacher Nutrition Incentive Program (GusNIP), after the late August Schumacher, a former undersecretary of agriculture. Congress funded the program at \$250 million per year for five years.^{183,184} GusNIP, which is administrated collaboratively by FNS and the National Institute of Food and Agriculture (NIFA), funds projects that provide incentives to SNAP recipients to purchase more fruits and vegetables and to programs that provide produce prescriptions to encourage fruit and vegetable consumption.^{185,186}

Research has demonstrated the success of these types of incentive programs. A rigorous evaluation of the USDA's Healthy Incentives Pilot (HIP) program, which provided SNAP participants in Hampden County, Massachusetts, with 30 cents for every dollar in benefits spent on fruits and vegetables, found that HIP significantly increased participants' produce consumption.¹⁸⁷ Other studies have shown that produce prescriptions can increase fruit and vegetable consumption¹⁸⁸ and reduce participants' BMI.¹⁸⁹

NIFA has issued a request for applications for FY 2019 projects and announced that it has approximately \$41 million in funding available for five types of GusNIP grants:

- One-year GusNIP pilot projects (awards up to \$100,00) to implement innovative strategies to increase fruit and vegetable consumption;
- GusNIP projects (awards up to \$400,000) for programs that provide incentives at the point-of-purchase to increase produce consumption;
- GusNIP large-scale projects (awards up to \$500,00) for statewide or regional programs;
- Produce Prescriptions (awards up to \$500,000), competitive grants for organizations partnering with healthcare providers to offer prescriptions that increase food and vegetable consumption; and
- Nutrition Incentive Program Training, Technical Assistance, Evaluation, and Information Centers (awards of \$8.5 million) to support and evaluate programs.¹⁹⁰

Nutrition Services Program

The Nutrition Services Program, authorized by the Older Americans Act, provides funding to states and territories that provide nutrition assistance for individuals ages 60 and older in order to reduce food insecurity among seniors, to delay the

onset of adverse health conditions, and to provide socialization. The U.S. Department of Health and Human Services' (HHS) Administration on Aging administers the program, which has three components: (1) the Congregate Nutrition Services Program, which provides meals to seniors in group settings, such as senior centers and churches; (2) the Home-Delivered Nutrition Services Program, which delivers meals to frail and homebound seniors, commonly referred to as "Meals on Wheels"; and (3) the Nutrition Services Incentive Program, which provides grants to organizations to support the first two nutrition programs. Participants are encouraged to contribute to the cost of their meals, though no one may be denied participation for failure to contribute.¹⁹¹ Meals served through the program must adhere to the *Dietary Guidelines for Americans*.¹⁹²

Funding formulas for these programs are largely population-based, depending on the number of people ages 60 or over in a state, and states are required to match 15 percent of the cost of the congregate and Meals on Wheels programs.¹⁹³ The Nutrition Services Program received \$911 million in funding for FY 2019, including \$486 million for congregate nutrition, \$247 million for home-delivered meals, and \$178 million for the Nutrition Services Incentive Program.¹⁹⁴

Nutrition Education and Information: Dietary Guidelines, and Nutrition and Menu Labels

Dietary Guidelines for Americans

The *Dietary Guidelines for Americans*, issued jointly by USDA and HHS, helps educate the public about healthy eating, serve as a resource for policymakers and health professionals, and provide the foundation for the federal government's nutrition programs.¹⁹⁵ The current 2015–2020 guidelines are the eighth edition and focus on how Americans age two and older can achieve an overall healthy eating pattern.¹⁹⁶

USDA and HHS publish new guidelines every five years reflecting the latest in nutrition science, and the process of developing the ninth edition of the guidelines is already underway. As mandated by the 2014 Farm Bill, the next guidelines will include advice for babies, toddlers, and pregnant women.¹⁹⁷ In the past decade, there has been increasing evidence of the lifelong health impact of the period from conception to age 2. Poor nutrition during this period can result in permanent health problems, including obesity.¹⁹⁸

One way the *Dietary Guidelines for Americans* communicate with the public is through a food-guidance symbol known as MyPlate, an educational icon that serves as a reminder for Americans to eat healthfully, and its companion *ChooseMyPlate.gov* website, which provides practical information to help them do so. A 2018 study revealed that Americans who reported they had tried MyPlate were more likely to have engaged in healthy behaviors, such as

Start simple with MyPlate
Start simple and take healthy eating one step at a time.

- Focus on whole fruits**
Include fruit at breakfast! Top whole-grain cereal with your favorite fruit, add berries to pancakes, or mix dried fruit into hot oatmeal.
- Vary your veggies**
Cook a variety of colorful veggies. Make extra vegetables and save some for later. Use them for a stew, soup, or a pasta dish.
- Vary your protein routine**
Next taco night, try adding a new protein, like shrimp, beans, chicken, or beef.
- Make half your grains whole grains**
Add brown rice to your stir-fry dishes. Combine your favorite veggies and protein foods for a nutritious meal.
- Move to low-fat or fat-free milk or yogurt**
Enjoy a low-fat yogurt parfait for breakfast. Top with fruit and nuts to get in two more food groups.
- Drink and eat less sodium, saturated fat, and added sugars**
Cook at home and read the ingredients to compare foods.

Based on the Dietary Guidelines for Americans.
Go to ChooseMyPlate.gov for more information.

MPMW Tipsheet No. 14
December 2018
Center for Nutrition Policy and Promotion
USDA is an equal opportunity provider, employer, and lender.

reducing fat or increasing exercise. The same study, however, revealed socioeconomic and racial and ethnic disparities in Americans' awareness of MyPlate; Latinos, Blacks, and low-income individuals were less likely to have heard about MyPlate.¹⁹⁹

As noted earlier, federal nutrition programs, such as WIC and the School Lunch Program, have seen improved health and nutrition outcomes among participants since more closely aligning program nutritional requirements with the *Dietary Guidelines for Americans*.

Nutrition Labels and Menu Labeling

Congress has required nutrition labels on most packaged foods and beverages since 1993.²⁰⁰ In 2014, the Food and Drug Administration (FDA) proposed updating the label requirements to better reflect the latest scientific knowledge about healthy eating. FDA finalized a federal rule implementing this change in 2016; it requires that nutrition information panels: (1) print “calories” and “number of servings” in larger and bolder type; (2) report “added sugars”; and (3) include serving sizes that more accurately reflect Americans’ eating habits.²⁰¹ The compliance date of the new rule is January 2020, for large manufacturers and January 2021, for small manufacturers, though many foods already feature the new labels.²⁰²

Research demonstrates that mandatory food labels can alter consumer and industry behavior. A recent meta-analysis of 60 studies of the effect of food labels across 11 countries found that consumers ate fewer calories and total fat, and consumed more vegetables. On the industry side, the analysis found that companies decreased sodium levels and artificial trans fats.²⁰³

Like nutrition labels, labels on restaurant menus allow American consumers, who are eating more food away from home than in years past,²⁰⁴ to make informed decisions about what they eat. Food outside the home tends to have more calories and be of lower nutritional quality than food prepared at home,²⁰⁵ yet consumers tend to underestimate the number of calories and levels of sodium in out-of-home meals.^{206,207} The Affordable Care Act required chain restaurants and vending-machine companies to provide nutritional information about their products beginning in May 2018.²⁰⁸ Chain restaurants with 20 or more locations

must now prominently display calorie counts on menus and menu boards, and vending-machine operators with 20 or more machines must also post calorie counts.²⁰⁹ For some products sold in glass-front vending machines, the FDA will “exercise enforcement discretion” until it finalizes a new rule regarding calorie count type size for these machines.²¹⁰

Several studies have demonstrated that posting nutritional information at the point of purchase can result in healthier menu choices,^{211,212,213} and a 2016 study found that the average BMI fell in jurisdictions in New York that implemented calorie-count laws.²¹⁴ There is also evidence that menu labeling may lead restaurants to improve the nutritional content of their food.²¹⁵ Other studies have found that menu labeling leads to significant results only at specific establishments or in certain populations,^{216,217} while other studies have found no changes in consumer behavior.²¹⁸

Some have raised concerns that menu labeling could reinforce racial and ethnic health disparities. Recent studies show mixed results. One study published in 2018 reported that Blacks and Latinos use labels more than Whites in sit-down restaurants, though Whites increased their use of labels over time more than the other groups,²¹⁹ while another study found that Blacks have lower rates of using menu labels.²²⁰ Advocates have suggested educational campaigns and label improvements to ensure they are understood and used universally.²²¹ For example, some countries use symbols on their labels—such as a voluntary color-coded traffic-light system on some packaged foods in the United Kingdom and a stop-sign-shaped warning label in Chile—to simplify the messages in order to reach more consumers.²²²

ECONOMICS OF WHAT WE EAT

How foods and beverages are priced and marketed has an enormous impact on what Americans eat and drink. A 2017 review of 30 studies measuring the effect of food pricing found that every 10 percent price increase on unhealthy food reduced sales by 6 percent, while a 10 percent reduction in the cost of healthy foods increased their purchase by 16 percent.²²³ An analysis of television data found that exposure to an increase of 100 ads for soda between 2002 and 2004 was associated with an 9.4 percent increase in consumption in 2004 among fifth-graders.²²⁴ One study determined that subsidies of healthy foods, such as fruits and vegetables, and taxes on sugary drinks and other unhealthy foods could together prevent more than 20,000 deaths per year and potentially reduce disparities between those with differing levels of education.²²⁵

In addition to taxes and subsidies, there are also federal programs that financially incentivize retail development that increases access to healthy food or physical activity opportunities. A few fiscal policies to this effect are highlighted below.

Food and Beverage Marketing

Marketers deluge children, particularly teenagers, with food and beverage advertising. Despite some improvement in recent years, ads for primarily unhealthy categories of food constituted more than 75 percent of food-related ads viewed by American youth in 2016. In particular, the marketing of sugary drinks—such as sports drinks and sodas—has increased substantially. Between 2015 and 2016, the exposure of children ages 2 to 11 to ads for carbonated beverages increased by 19 percent and their exposure to ads for juice, fruit drinks, and sports drinks increased by 38 percent.²²⁶



Advertisers market unhealthy food even more heavily to Black and Latino youth than to their White counterparts. A 2019 report by the Rudd Center for Food Policy and Obesity found that, even when accounting for differences in TV viewing time, Black children saw 40 percent more candy ads than White children. On the other hand, brands in the healthiest categories—such as juice, fruit, water, and nuts—were less likely to advertise on Black-targeted TV and did not advertise at all on Spanish-language stations.²²⁷ Another survey of American adolescents ages 12 to 17 found that Black adolescents and those with less educated parents reported the highest exposure levels to sugary drink ads.²²⁸

Public health advocates have also raised concerns about the misleading marketing of toddler drinks, a category that includes “transition formula” marketed for children ages 9 months to 36 months, and “toddler milk,” for children ages 12 months to 36 months.²²⁹ The labels for toddler drinks frequently make nutritional and health claims, even though the World Health Organization (WHO) has labeled these drinks, which are often made from powdered milk and added sweeteners, “unnecessary” and “unsuitable.” Both the WHO and the AAP recommend that children ages 1 and older

drink cow’s milk in combination with a nutritious diet.²³⁰ The Latino community has been a particular target for formula companies, which spent \$16 million advertising toddler drinks on Spanish-language channels in 2015, more than 20 percent of their total marketing dollars, compared with about 8 percent for most highly marketed food and beverage brands.²³¹

Public health organizations have called for policy changes to reduce the marketing of unhealthy foods and beverages to children. The AAP and the American Heart Association (AHA) recently issued a policy paper on sugary drinks (see sidebar on page 45). Among its recommendations are suggestions on how to limit sugary-drink marketing within constitutional constraints. One suggestion is to change federal tax law to prohibit food and beverage companies from deducting all or part of the cost of marketing unhealthy products.²³² The Rudd Center has also proposed that the Children’s Food and Beverage Advertising Initiative, a food and beverage industry self-regulation program, limit targeted marketing of unhealthy products to Black and Latino children.²³³ Public health researchers have recommended that the FDA regulate the marketing of toddler formula to prevent misleading labeling.²³⁴

Fiscal and Tax Policies that Promote Healthy Eating: Beverage Taxes, Healthy Food Financing Initiative, and the New Markets Tax Credit

Beverage Taxes

Sugary drinks, including soda and sports drinks, are the largest source of added sugar in the U.S. diet,²³⁵ and the WHO has found the consumption of sugary drinks to be associated with childhood obesity.²³⁶ Research has demonstrated that beverage taxes can effectively reduce consumption of these drinks. In fact, the Childhood Obesity Intervention Cost-Effectiveness Study (CHOICES)—a collaboration among researchers at the Harvard T.H. Chan School of Public Health and the Milken Institute School of Public Health at The George Washington University—calculated that a tax on sugary drinks would be the most cost-effective strategy in reducing childhood obesity. A 1-cent per-ounce tax, over a decade, could prevent more than half a million cases of childhood obesity and save the nation more than \$14 billion, mainly from reduced healthcare costs.²³⁷ (CHOICES has also developed a tool kit that can help policymakers and others model different obesity-reduction strategies to help inform decision-making.)²³⁸

A number of U.S. cities, as well as the Navajo Nation, have passed local taxes on sugary drinks, and these taxes have shown early promise. Studies of a 1-cent per-ounce tax enacted in Berkeley, California, and a 1.5-cent per-ounce tax enacted in Philadelphia, Pennsylvania, found that purchase and consumption of such drinks decreased significantly after the tax.^{239,240,241}

Another study found that Philadelphia retailers stocked more bottled water and less soda after the tax went into effect.²⁴² Researchers need longer-term studies to understand whether sugary-drink taxes affect overall



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calorie consumption and weight status and how the impacts differ by race, socioeconomic status, and gender.

Some have raised equity concerns about these taxes, since they have a disproportionate impact on lower-income consumers. Public health advocates point out that the benefits will ultimately return to these populations, as they will also realize a disproportionate share of the improved health benefits. Some cities have directed the sugary-drink tax revenue toward programs that promote healthy eating and active living and/or help disadvantaged communities to ensure the policies boost health and reduce inequities. For example:

- Albany, California—a city of 20,000 residents on the east shore of San Francisco Bay—implemented a 1-cent per-ounce tax in 2017. The city council allocated the revenue toward public health purposes,

including school programs for cooking, gardening, and nutritional education, as well as grants to community health organizations and for management of the city's public health division.^{243,244,245}

- Seattle, Washington, earmarked revenue from its 1.75-cents per-ounce tax passed in 2017 for improving access to healthy foods, supporting early childhood programs, and addressing equity in K–12 education.²⁴⁶
- Philadelphia has used the tax revenue from its 1-cent per-ounce tax passed in 2017 to fund the attendance of 4,000 children in pre-kindergarten classes, which directly benefit underserved communities.²⁴⁷

Despite their success in reducing sales and consumption, no state governments have passed sugary-drink taxes, and some states have even passed legislation preempting their cities from taxing such drinks. California passed a law in 2018 barring any more local sugary-drink taxes until 2031 in response to a threatened ballot initiative sponsored by the American Beverage Association that would have required a two-thirds majority of voters to pass any tax increase.²⁴⁸ When state and federal law conflict, the supremacy clause of the U.S. Constitution dictates that federal law governs, preempting state law, and the same concept exists with respect to states and municipalities. Many industries have successfully avoided regulation by lobbying for federal or state laws that preempt the more progressive laws passed on the local level, and the beverage industry is following suit.

DOCTORS AND HEALTH OFFICIALS CALL FOR POLICIES TO REDUCE CHILDREN'S CONSUMPTION OF SUGARY DRINKS

Citing the “grave health threat” that excess sugar poses to children and adolescents, in April 2019, the American Academy of Pediatrics and American Heart Association issued a policy statement calling for stronger public policies to decrease the consumption of sugary drinks.²⁴⁹ The organizations noted that socioeconomically vulnerable children are particularly at risk.

The statement recommends that policymakers on all levels should:

- Consider increasing the cost of sugary drinks, such as through an excise tax, with revenue allocated to reducing health disparities;
- Support efforts to restrict the marketing of sugary drinks to children, such as by eliminating the ability of companies to deduct the cost of advertising unhealthy foods and beverages;

- Ensure federal nutrition programs discourage consumption of sugary drinks, including by restricting Child and Adult Care Food Program providers from serving sugary drinks and disallowing users from spending SNAP benefits on sugary drinks;
- Promote access to accurate nutrition information on nutrition labels, menus, and advertisements; and
- Create policies that make healthy beverages the default, such as through vending-machine rules or food-service guidelines.

The statement notes that many of these proposals—including raising taxes and imposing marketing restrictions—worked successfully on cigarettes. The result has been a drastic reduction in youth smoking rates, one of the nation's greatest public health success stories.

Healthy Food Financing Initiative

More than 23 million Americans—including 6.5 million children—live in a low-income area more than a mile from a supermarket, also known as a food desert.²⁵⁰ The Healthy Food Financing Initiative (HFFI), a public-private partnership established by the 2014 Farm Bill, helps improve access to healthy foods in communities by providing funding and technical

assistance to healthy food retail projects.²⁵¹ The initiative has supported nearly 1,000 retail projects in more than 35 states and leveraged an estimated \$1 billion in private investment and tax credits.^{252,253} HFFI is now an USDA Rural Development initiative and administered by the Reinvestment Fund.²⁵⁴ In FY 2019, Congress appropriated \$22 million for the program.²⁵⁵

FOOD DESERTS AND FOOD SWAMPS

Recognizing that many Americans lack access to a nearby supermarket, the federal government in the past decade has focused considerable efforts on eliminating food deserts—low-income areas that lack a full-service grocery store. Policymakers used a number of tools to increase access to supermarkets, such as HFFI and former First Lady Michelle Obama’s *Let’s Move!* Campaign, which helped extract pledges from retailers to build more stores selling fruits and vegetables in underserved neighborhoods.²⁵⁶ Recent research, however, suggests that more important than supermarket access alone is the more holistic measure of the kind of food available in an area.^{257,258} Researchers have found a correlation between fast-food availability and fast-food consumption among low-income respondents.²⁵⁹ A 2017 study found that food swamps—communities where

there is a high density of outlets selling high-calorie food, such as fast-food restaurants and convenience stores, compared with ones that sell healthy food—have a stronger association with obesity than communities with just a lack of supermarkets.^{260,261}

Both food deserts and food swamps disproportionately affect communities of color.^{262,263,264} When comparing neighborhoods with similar poverty rates, Black and Latino neighborhoods have fewer large supermarkets than White neighborhoods.²⁶⁵ Fast-food outlets are also more prevalent in neighborhoods that are predominantly Black and Latino.²⁶⁶ This uneven distribution of food resources poses an additional challenge to members of these communities attempting to consume a nutritious diet and maintain a healthy weight.²⁶⁷

Researchers suggest one way to tackle the challenge of food swamps and promote health equity is through zoning laws that incentivize healthy food outlets to open stores in underserved neighborhoods and that restrict fast-food and other outlets that sell primarily unhealthy food.²⁶⁸ Others have suggested incentivizing or requiring retailers that accept SNAP benefits to stock a certain amount of healthy food, including fresh produce, although this could have the unintended consequence of reducing the number of retailers in neighborhoods that are already underserved.²⁶⁹ Clearly, additional efforts are necessary to ensure that all Americans live in neighborhoods that offer plenty of opportunities to purchase fresh, nutritious food and fewer opportunities to buy products that may be convenient and affordable but are largely unhealthy.

New Markets Tax Credit

The New Markets Tax Credit (NMTC) encourages investment in low-income areas by providing a modest tax incentive to private investors that fund business- or economic-development projects in some of the nation’s poorest communities. By incentivizing companies to build healthcare centers, supermarkets, fitness centers, and other facilities, in communities that lack access to affordable, healthy food and safe places to exercise, this program removes some of the barriers to a healthy lifestyle that exist in low-income communities.

NMTC investments of \$42 billion have generated \$80 billion in project financing.²⁷⁰ Examples of projects funded with NMTC assistance include:

- Town & Country Foods, a warehouse-style grocery store that provides the Southside neighborhood of Bozeman, Montana, access to local and organic groceries;²⁷¹
- The SL Green Street Squash Center in Harlem, New York, which hosts a youth-enrichment program that includes squash instruction and serves 750 public-school children each year;²⁷² and

- The Shops at Park Village in Washington, DC includes the first full-service grocery store in the area in more than a decade.²⁷³

In 2018, NMTC incentivized nearly \$4 billion in investments in low-income communities.²⁷⁴ In FY 2019, Congress appropriated \$22 million for the administration of Community Development Financial Institutions programs and NMTC.²⁷⁵

ROLE OF CHILD CARE AND EDUCATION SETTINGS

Early Child Care and Education: Head Start, State Requirements, and CDC Initiatives

Head Start

Head Start and Early Head Start are federally funded programs that promote the school readiness of young children from low-income families by providing education, health, and social services.²⁷⁶ The federal government provides funding and oversight to local agencies that administer the programs, which benefit more than one million children and their families every year.²⁷⁷ Head Start and Early Head Start programs provide healthy food to their participants via either the Child and Adult Care Food Program or the National School Lunch Program. Children who participate in Head Start are healthier on a number of scores,²⁷⁸ and one study found that children who entered Head Start with an unhealthy weight status were significantly more likely to have a healthier BMI when they started kindergarten than a comparison group.²⁷⁹

Head Start directors have identified obesity as one of the major health challenges facing the children and families in the program, and many Head Start programs focus on nutrition, physical activity, and weight-management services.²⁸⁰ Since 2016, federal nutrition and physical-activity standards have required programs to actively engage in obesity prevention both in the classroom and through its family partnership process.²⁸¹

Research shows that early health education in Head Start can make a big difference. A 2019 study of predominantly Black and Latino Head Start students in Harlem found that the 4-year-olds significantly improved their knowledge and attitude of a healthy lifestyle after

being taught about a healthy diet and physical activity.²⁸² A group of 15 schools were randomly assigned either an educational intervention that comprised 50 hours of age-appropriate instruction about healthy eating, physical activity, understanding the human body, and managing emotions or the standard curriculum. Researchers assessed the children's knowledge, attitudes, and habits about a healthy lifestyle at the baseline and after five months. For example, researchers asked the children to remember what they did at home (e.g., Do you run, jump, and play? Do you watch TV?). Both groups of children increased their knowledge, attitudes, and habits about a healthy lifestyle, but the results were 2.2-fold higher in the intervention group.²⁸³

For FY 2019, Congress appropriated \$10.1 billion for Head Start for FY 2019, including \$805 million for Early Head Start.²⁸⁴

State Early Child-Care and Education Requirements

All states have health and safety requirements that schools and early child-care providers must meet. The Child Care and Development Fund is a block grant program funded by the federal government and administered by the states to assist low-income families with the cost of child care, as well as improve the quality of child care. To receive funding, the Child Care and Development Block Grant Act of 2014 requires child-care providers to meet state-mandated health and safety requirements, which often include nutrition and physical-activity benchmarks.²⁸⁵ In FY 2019, Congress appropriated \$5.3 billion for the program.²⁸⁶

CDC Early Care and Education Initiatives

Several CDC grant programs provide funding, training, and/or technical assistance to states to help them target early obesity risks by focusing on early care and education (ECE) settings.

- The State Physical Activity and Nutrition program funds statewide initiatives in 16 states and requires all grantees to integrate nutrition and physical-activity standards into ECE systems and/or supports.²⁸⁷
- The Obesity Mini Collaborative Improvement & Innovation Network (CoIIN) is a program run by the Association of State Public Health Nutritionists in cooperation with CDC that promotes the “farm-to-ECE” strategy as a way to develop healthy habits in young children. Five states are participating in CoIIN in 2018–2019: Alabama, Arizona, Colorado, Minnesota, and Ohio.²⁸⁸
- CDC partners with Nemours Health System on the Healthy Kids, Healthy Future Technical Assistance Program, which funds 10 states to improve nutrition and physical activity in their ECE systems, and on the Physical Activity Learning Session project to train ECE providers in three states about integrating physical activity in ECE settings.²⁸⁹
- The CDC's High Obesity Program (described in more detail on page 53) funds programs in counties with high rates of obesity; grantees can fund activities in the ECE sector. For example, as part of its High Obesity Program, West Virginia University is helping ECE providers in the state incorporate more movement, nutrition, and healthy habits into their classrooms.²⁹⁰

Elementary and Secondary Education: Local Wellness Policies, Smart Snacks, and CDC Initiatives

Given that children spend more than 900 hours each year at school,²⁹¹ nutrition, physical activity, and other obesity-prevention programs implemented in school settings can have an enormous impact.

Local School Wellness Policies

All school districts that participate in federal child nutrition programs must develop a wellness policy that promotes the health of students and addresses childhood obesity.²⁹² These policies must:

- Establish nutrition promotion and physical-activity goals;
- Include nutrition guidelines for foods available on campus; and
- Limit food marketing to those products that meet the Smart Snacks in Schools nutrition standards (discussed in more detail below).

A review of school district wellness policies during the 2014–2015 school year, however, found that only 57 percent of policies included all federally required topics.²⁹³

Smart Snacks in Schools

All food sold at schools—including food sold in vending machines, at school stores, and at school fundraisers—must meet federal nutrition standards.²⁹⁴

States can exempt infrequent school fundraisers from the standards, although 21 states have policies in place allowing zero exemptions.²⁹⁵ The nutritional requirements for snacks are

similar to requirements covering the National School Lunch and Breakfast Programs. The Smart Snacks in School rule exempts snacks sold after school hours, food intended for consumption off school property, or food provided for free—for example, cupcakes brought in for a student’s birthday.

CDC School Initiatives

CDC assists elementary and secondary schools with obesity-prevention efforts through its Healthy Schools program, which uses the Whole School, Whole Community, Whole Child model as its framework. The model emphasizes the importance of leveraging the entire community to help support students and schools, and using evidence-based practices to effect change.²⁹⁶

CDC Healthy Schools promotes:

- Improved school nutrition practices;
- Physical education and activity before, during, and after school;
- Health education and literacy;
- Stronger school health services to target chronic conditions, including obesity; and
- Assessment with the School Health Index.

The program also collects data, trains school staff, and encourages parental involvement. Congress funded the program at \$15.4 million for FY 2019.²⁹⁷

School-Based Physical Activity and Physical Education

Physical activity helps promote lifelong health and prevents adverse health conditions. Physically active children tend to have better school attendance, higher grades, and exhibit better classroom behavior. While experts recommend that children ages 6 to 17 get at least one hour of physical activity per day, fewer than a quarter of children (21.6 percent) between the ages of 6 and 19 get an hour or more of moderate-to-vigorous physical activity even five days per week.^{298,299}

Schools can help ensure children are getting sufficient physical activity by providing time for both recess (free play) and physical education for all grade levels. Research demonstrates that children benefit in numerous ways from having time for physically active free play during the school day.³⁰⁰ The AAP describes recess as “a crucial and necessary component of a child’s development” and explains that “recess is unique from, and a complement to, physical education—not a substitute for it.”³⁰¹ The AAP specifically credits recess with helping students meet their recommended 60 minutes of daily physical activity. The CDC advises that schools provide students from kindergarten through 12th grade with 20 minutes of recess per day, in addition to—and not as a substitute for—physical education.³⁰²

Despite these recommendations, fewer than a quarter of U.S. states require recess. Five states (Arizona, Florida, Missouri, New Jersey, and Rhode Island) have laws requiring recess daily, while seven states (Iowa, North Carolina, South Carolina, Louisiana, Texas, Connecticut, and Virginia) require daily physical activity but do not specify how the time must be



spent.³⁰³ A bill to require 20 minutes of recess in Massachusetts failed in 2018, but parent groups are hoping it will pass in the future.³⁰⁴

Physical education provides important benefits for children, and research demonstrates that it prevents childhood obesity and is cost-effective.³⁰⁵ The AHA recommends daily physical education in schools, including 150 minutes weekly for elementary school students and 225 minutes for middle and high school students.³⁰⁶ Yet, only seven states meet the AHA recommendation for elementary school while just three states meet the AHA recommendations for middle school.³⁰⁷ Even where state requirements are in place, schools are not necessarily compliant. A 2016 Washington Post investigation found that only 10 of the more than 200 public and charter schools in Washington, DC, met the law’s physical education requirements.³⁰⁸

After-School Settings

More than 10 million American children enroll in an after-school program,³⁰⁹ and children often attend these programs 15 or more hours per week during the school year and all day during the summer. A national coalition of leaders in out-of-school programs—including the YMCA of the USA, the National Institute on Out-of-School Time, the University of Massachusetts Boston, the Harvard School of Public Health, and the Healthy Out-of-School Time Coalition—helped develop a set of voluntary evidence-based nutrition and physical activity standards called the National AfterSchool Association Healthy Eating Physical Activity standards.³¹⁰ Organizations that provide care to children outside of school can pledge to abide by the standards.

Ensuring that after-school programs are providing nutritious food and plenty of physical activity is important in addressing health inequities, as Black and Latino children are much more likely to enroll in after-school programs than the general population.³¹¹

COMMUNITY POLICIES AND PROGRAMS

Recent evidence demonstrates the importance of community-based obesity-prevention and obesity-reduction strategies. The Healthy Communities Study, a five-year study that included more than 5,000 children from more than 100 communities, found that areas with policies and programs that targeted more kinds of healthy behaviors related to physical activity and nutrition were associated with lower BMI and smaller waist circumference in children.^{312,313} A study of Kaiser Permanente’s Community Health Initiative, which has reached more than 715,000 people in nearly 60 communities, found that 69 percent of the strategies implemented affected behavioral change. Kaiser’s most successful community strategies were physical-activity programs and park improvements.³¹⁴

Built Environment: Community Design and Land Use, and Safe Routes to Schools

Research shows a link between built environments—all the human-made physical aspects of a community—physical activity, and obesity. The odds of a child having obesity or being overweight increase by 20 to 60 percent if he or she lives in a neighborhood with unfavorable environmental aspects, such as poor housing, unsafe conditions, and no access to sidewalks, parks, or recreation centers.³¹⁵

Community Design and Land Use

Thoughtful community design and land use can encourage physical activity. *The Community Guide*—a collection of evidence-based policies from the Community Preventive Services Task Force—recommends several transportation-infrastructure

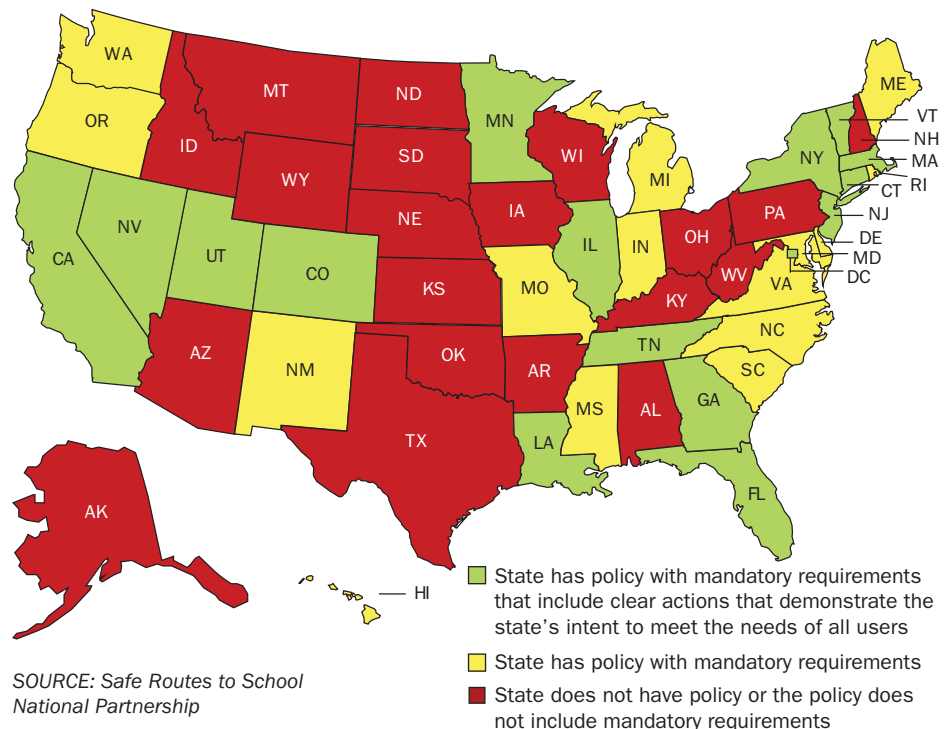
and land-use approaches, including street connectivity; sidewalk, bicycle, and trail infrastructure; and public-transit access; mixed residential and commercial land use; and parks and recreational areas. These strategies are all shown to encourage physical activity:

- Changing zoning laws to encourage mixed-use neighborhoods, which are associated with more physical activity;^{316,317}
- Improving conditions for walking by building sidewalks, installing crosswalks, and taking other pedestrian-safety measures—as children engage in more physical activity when their neighborhoods have sidewalks,³¹⁸ and people in neighborhoods with sidewalks are 50 percent more likely to meet the recommended daily amount of physical activity;³¹⁹

- Adding physically protected bike lanes, which encourage both walking and cycling³²⁰—as well as improved safety for all road users³²¹—and other bike-friendly measures; and
- Expanding public transportation, as taking public transportation can result in between eight and 33 minutes of additional walking per day.³²²

The National Complete Streets Coalition has also developed a set of recommendations for community design and transportation policies and implementation practices that ensure streets are safe for people of all ages and abilities, balance the needs of different modes of transportation, and support local land uses, economies, cultures, and natural environments. Currently 31 states have implemented policies that meet Complete Streets’ requirements.³²³

States With A Complete Streets Policy



A number of federal programs provide funding for active transportation projects, such as building biking, rolling or walking trails, including:

- **Fixing America's Surface Transportation (FAST) Act funding**, which has a specific funding stream for projects that expand travel choices, the Transportation Alternative Set-Aside (TASA), and provides most of the federal funding for walking, biking, and trails;³²⁴
- **Formula grant funding**, such as the Congestion Mitigation and Air Quality Improvement program, which funds transportation projects that contribute to clean air, and the Surface Transportation Block Grant program, which provides flexible funds for different transportation projects, including walking and biking infrastructure;³²⁵ and
- **Discretionary grant funding**, including the U.S. Treasury Department's Better Utilizing Investments to Leverage Development (BUILD) grants (formerly called the Transportation Investment Generating Economic Recovery, or TIGER, program), which supports road, rail, port, and transit projects.³²⁶ Since 2009, this program has funded 30 projects focused on improving pedestrian or biking infrastructure.³²⁷

Community design is very much a health-equity issue. As discussed earlier, food deserts and food swamps disproportionately affect racial and ethnic minorities.^{328,329,330} Research demonstrates that predominantly minority neighborhoods are less likely to have recreational facilities,³³¹ and predominantly Black neighborhoods are more likely to have sidewalks in need of repair.³³² People of color often face more precarious conditions

PROMOTING HEALTH AND COST CONTROL IN STATES

TFAH's Promoting Health and Cost Control initiativeⁱ identified 13 policies outside the healthcare sector that have a long-term impact on health and evidence showing their effectiveness.

Many have the potential to help reduce the obesity crisis including universal Pre-K programs, school nutrition programs, earned income tax credits and complete streets policies.

i Lustig A, Cabrera M, et al. *Promoting Health and Cost Control in States: How States Can Improve Community Health and Well-being Through Policy Change*. Trust for America's Health, February 2019. <https://www.tfah.org/report-details/promoting-health-and-cost-control-in-states/> (accessed August 20, 2019).

for walking, rolling, and biking. For example, Black and Latino pedestrians' traffic-related death rates are twice as high as Whites, and AI/AN are four times as high,³³³ and the fatality rate for Black cyclists is 30 percent higher than for White cyclists, and, for Latino cyclists, it is 23 percent higher than for White cyclists.³³⁴ Altogether, these barriers and risks may dissuade healthy physical activity. Thoughtful community design must consider ways to reduce the barriers and risks, including by engaging community members in planning. For example, experts at the Harvard School of Public Health asked residents of high-crime neighborhoods in Boston about their perceptions of the safety of various bicycle-route options. Residents preferred wide, two-way cycle tracks with clear markings that were on streets with high-end stores and good sight lines to reduce crime risk. By considering residents' views when designing new bike routes, urban planners can create environments that are welcoming to bikers in diverse communities and hopefully can increase physical activity and health equity.³³⁵

See appendix for information on state-level indicators and policies related to the built environment, including Complete Streets policies and the prevalence of sidewalks and parks.

Safe Routes to School

Walking, rolling, or biking to school is an easy way for children to get more exercise: walking one mile to and from school each day provides a child with two-thirds of the recommended 60 minutes of daily physical activity.³³⁶ Safe Routes to School (SRTS) initiatives educate students and families about the benefits of walking, rolling, and biking to school and ensure that the school environment allows children to do so safely. Yet according to the 2018 SRTS National Partnership report card only two states—California and Washington—received the top grade for supportive state policies on walking, bicycling, and physical activity.³³⁷

SRTS programs have resulted in statistically significant improvements in active transportation to school. One study of 800 schools in four states with SRTS programs found that rates of walking and biking to school increased after the program started and could lead to a 25 percent increase over five years in walking and bicycling.³³⁸

To implement an SRTS initiative, states, localities, and school districts can compete for TASA funding, which is available to all states under the FAST Act. The amount of total national funding available for TASA projects in FY 2019 is \$850 million.³³⁹

CDC Community Initiatives

In addition to its support of obesity prevention in schools and ECE facilities, CDC also provides funding for a number of community-based obesity programs. For FY 2019, Congress funded CDC’s Division of Nutrition, Physical Activity, and Obesity at \$56.9 million, of which CDC allocated \$15 million for the High Obesity Program and \$2 million for the Farm to School program.^{340,341}

State Physical Activity and Nutrition Program

The CDC’s State Physical Activity and Nutrition (SPAN) Program supports

community efforts to improve nutrition and provide safe and accessible places for physical activity. The SPAN program replaced the State Public Health Actions program in 2018, changing the program from one that operated in all 50 states to one that supports larger five-year projects in as many states as funding allows. In FY 2018, SPAN approved 50 applications, but CDC could fund only 16 states for state- and local-level efforts to support nutrition, physical activity, and breastfeeding.³⁴²

SELECT OBESITY-RELATED FUNDING OPPORTUNITIES FROM CDC

Grant/Program Name	Grant Number	Grant Goal	Length of Grant	Number of Available Grants	Annual Grant Size	Total Program Funding
State Physical Activity Nutrition (SPAN) Program (1807)	1807	Improve nutrition and physical activity at state and local level	5 years starting in September 2018	16 states	\$880,000 average annual award	\$70 million over 5 years
High Obesity Program (HOP)	1809	Increase access to healthy foods and safe places for physical activity in high-obesity areas	5 years starting in September 2018	15 land-grant universities	\$725,000 average annual award	\$56 million over 5 years
Preventive Health and Health Services (PHHS) Block Grant		Provide each state with flexible support to address its most important health needs	Annual	61 grants: 50 states, DC, two American Indian tribes, and eight U.S. territories	In FY 2018, CDC spent \$10.1 million on nutrition and \$3.8 million on physical activity	\$160 million in FY 2019
Racial and Ethnic Approaches to Community Health (REACH)	813	Reduce racial and ethnic health disparities	5 years starting in September 2018	31 grants in 21 states: AL, AZ, AR, CA, CT, FL, GA, IN, MA, MI, MS, NE, NV, NM, NY, NC, OH, OR, PA, TX, and WA	\$780,000 average	\$56 million in FY 2019 (\$35 million for REACH, \$21 million for Good Health and Wellness in Indian Country)
Improving Student Health and Academic Achievement through Nutrition, Physical Activity and the Management of Chronic Conditions in Schools (Healthy Schools)	1801	Increase number of students who consume nutritious food and beverages, participate in daily physical activity, and can effectively manage their chronic health conditions	5 years starting in June 2018	State education agencies in 17 states: AK, AZ, AR, CO, IL, KY, LA, MA, MN, MO, NE, NM, NC, OK, OR, TN, and WA	\$350,000 average for Priority 1 awards \$450,000 average for Priority 2 awards	\$35 million over 5 years

High Obesity Program

The High Obesity Program (HOP) funds land-grant universities in 15 states to conduct community programs that improve nutrition and provide safe and accessible places for physical activity in counties where the obesity rate exceeds 40 percent.³⁴³ HOP grantees generally work in rural areas and target their efforts to those communities.³⁴⁴ Current grantees include:

- The University of Kentucky in Lexington, which is working with local partners to expand its programs, including Plate it Up Kentucky Proud, which provides healthy recipes using local ingredients grown in Kentucky;
- North Dakota State University in Fargo, which is increasing access to healthier and culturally appropriate foods in the communities of the Standing Rock Sioux Tribe in Sioux County and the Turtle Mountain Band of Chippewa Indians in Rolette County;
- Mississippi State University in Starkville, which is connecting sidewalks, bike routes, and public transit with homes, schools, and workplaces in seven Mississippi counties.³⁴⁵

CDC requires grantees to conduct activities with populations that are at increased susceptibility to obesity. American Indian adults are 50 percent more likely than White adults to have obesity,³⁴⁶ and four of the current projects include a focus on Native tribes.³⁴⁷

Congress appropriated \$15 million for HOP in FY 2019.³⁴⁸

Preventive Health and Health Services Block Grant

The Preventive Health and Health Services (PHHS) block grant provides states with flexible funding to address

important public health needs.³⁴⁹ In FY 2018, states spent \$10.1 million in PHHS funding in obesity and nutrition, and \$3.8 million on physical activity.³⁵⁰

Examples of past PHHS-funded obesity-prevention activities include:

- Hiring a physical-activity coordinator and purchasing game equipment by the Kickapoo Tribe for the Kickapoo Boys and Girls Club in Kansas;³⁵¹
- Introducing salad bars, active classrooms, and farm-to-school programs in seven Alaskan school districts;³⁵² and
- Strengthening school wellness policies in five school districts in Maryland.³⁵³

Funding for the PHHS program remained level in FY 2019 at \$160 million.³⁵⁴

Racial and Ethnic Approaches to Community Health

A national program to reduce health disparities, Racial and Ethnic Approaches to Community Health (REACH) initiative has provided funds to community organizations, tribes, universities, and state and local health departments to implement culturally appropriate programs—including obesity-prevention efforts—among Blacks, American Indians, Latinos, Asian Americans, Alaskan Natives, and Pacific Islanders. Between 2014 and 2018, the REACH program improved access to healthy food and beverages for 2.7 million people and increased opportunities for 1.3 million people to be physically active.³⁵⁵

Given the high obesity rates, many REACH grantees focus on reducing obesity in the Black community. Between 2008 and 2012, this was the target population of 14 REACH grantees, using strategies such as creating local farmers'

markets, improving the walkability of neighborhood streets, and expanding healthy food choices in community grocery stores.³⁵⁶

In FY 2018, REACH funded 31 recipients. Just a few of the obesity-reduction activities REACH grantees undertook during the current five-year funding period include:

- The Montgomery Area Wellness Coalition is developing a Fresh Truck to travel to neighborhoods in food deserts in Montgomery, Alabama;
- Coastal Georgia's YMCA is supporting a national movement called Active People, Healthy Nation by creating a community-wide multi-use trail connecting homes to jobs; and
- Live Healthy Miami Gardens is implementing a breastfeeding program and establishing five new public-transportation routes in Miami Gardens, Florida.³⁵⁷

Congress funded the REACH program at \$56 million for FY 2019, a \$5 million increase over FY 2018. While the overall REACH funding line received a \$5 million increase in FY19, the increase went entirely to the Good Health and Wellness in Indian Country grant program, which works with American Indian tribes, Alaska Native villages, tribal organizations, and tribal epidemiology centers to promote health, prevent disease, reduce health disparities, and strengthen connections to culture and lifeways that improve health and wellness. In order to fund the creation of the Good Health and Wellness in Indian Country grant program, which has been instrumental in tribal communities, the core REACH grants have had \$53 million diverted over the past three fiscal years.

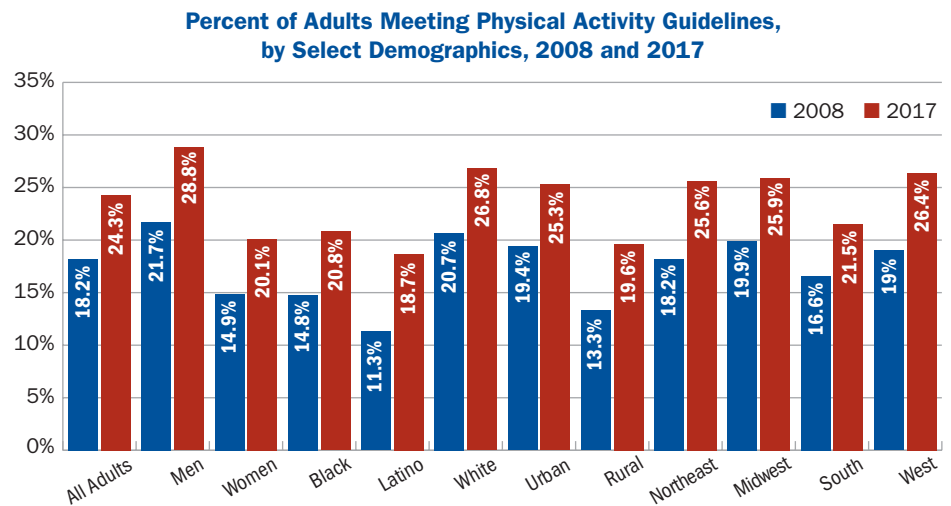
CDC Childhood Obesity Research Demonstration

Now in its third funding period, the Childhood Obesity Research Demonstration (CORD) is currently focused on creating and adapting “packaged” obesity-reduction materials and messages that healthcare and community organizations can use with children and families in real-world settings.³⁵⁸ The CORD 3.0 grantees for the funding period 2019–2024 are: Massachusetts General Hospital in Boston; Miriam Hospital in Providence, Rhode Island; Stanford University in Palo Alto, California; University of Nebraska in Lincoln; and Washington University in St. Louis, Missouri.³⁵⁹

CORD 3.0 builds on progress made during CORD 1.0, which focused on combining obesity-prevention efforts in pediatric settings with public-school interventions,³⁶⁰ and CORD 2.0, which focused on weight-management interventions for children in low-income families struggling with obesity in Massachusetts and Arizona, and used electronic records to refer patients for BMI screenings, nutrition and physical-activity counseling, and healthy-weight programs.³⁶¹

National Diabetes Prevention Program

CDC created the National Diabetes Prevention Program (DPP), a public-private partnership, in 2010 to support evidence-based type 2 diabetes-prevention interventions in communities around the country. The program works to prevent or delay a diagnosis of type 2 diabetes for the 84.1 million Americans with prediabetes, a condition in which a patient has glucose levels that are elevated but not high enough for a diagnosis of diabetes.³⁶² A key feature of the DPP is its evidence-based lifestyle-change program, which researchers have found can cut participants’ risk of developing type 2 diabetes by 58 percent.³⁶³



Source: National Health Interview Survey

The DPP is a particularly important tool for addressing health disparities, as diabetes has a disproportionate effect on communities of color. Among adults, Native Americans and Alaska Natives have the highest prevalence of diagnosed and undiagnosed diabetes (15.1 percent), followed by Blacks (12.7 percent), Latinos (12.1 percent), and Asians (8 percent), while the prevalence rate among Whites is 7.4 percent.³⁶⁴

Congress funded the DPP at \$25.3 million for FY 2019.³⁶⁵

Physical Activity Guidelines

In 2018, HHS released the second edition of *Physical Activity Guidelines for Americans*. The guidelines have recommendations for different age groups:

- Children ages 3 to 5 should be active throughout the day;
- Children ages 6 to 17 should engage in at least 60 minutes per day of moderate-to-vigorous physical activity, which should include muscle-strengthening activities three days per week and bone-strengthening activities three days per week; and

- Adults should have at least 150 to 300 minutes of moderate-intensity aerobic activity or 75–150 minutes of vigorous-intensity aerobic activity per week and two or more days of muscle-strengthening training.³⁶⁶

Currently, about one-quarter of American adults meet the *Physical Activity Guidelines for Americans*, which is up 34 percent over the past decade (from 18.2 percent in 2008 to 24.3 percent in 2017) and suggests that the combination of policy and community-design changes and public-awareness campaigns across the country can change behavior over time.³⁶⁷ Women, older Americans, Blacks, Latinos, those with a high school education or less, rural residents, and Southerners, however, continue to have the lowest proportion of individuals meeting the guidelines, highlighting a need to focus community-design changes and programs on areas and populations with lower activity rates.

To build on the improvements made over the last decade, CDC created the Active People, Healthy Nation public-awareness and education campaign. Active People, Healthy Nation has a goal of helping 27 million Americans become more physically active by 2027.³⁶⁸

HEALTHCARE COVERAGE AND PROGRAMS

Obesity costs the United States billions of dollars in higher medical costs, reduced productivity, missed school and work time, and other indirect costs. One 2016 study found that obesity increased medical costs by \$149 billion—about half of which Medicare and Medicaid paid for.³⁶⁹

While the healthcare sector incurs many of obesity’s costs, it is also uniquely positioned to help prevent and reduce obesity. Practitioners can help identify patients at risk for obesity, and clinical interventions can help individuals achieve a healthier weight and become more physically active. Health insurers and healthcare systems can use their considerable influence with their patients and communities to boost healthy behaviors and to help address non-medical social needs among patients.

Medicare and Medicaid

Medicare, the federal healthcare program for Americans ages 65 and older, and Medicaid, the government healthcare program for low-income Americans and those with disabilities, pay many of the healthcare costs related to obesity.³⁷⁰ One study projected that, in the absence of obesity, Medicare spending would be 8.5 percent and Medicaid 11.8 percent lower.³⁷¹

Both Medicare and Medicaid cover certain obesity-prevention and treatment services, like:

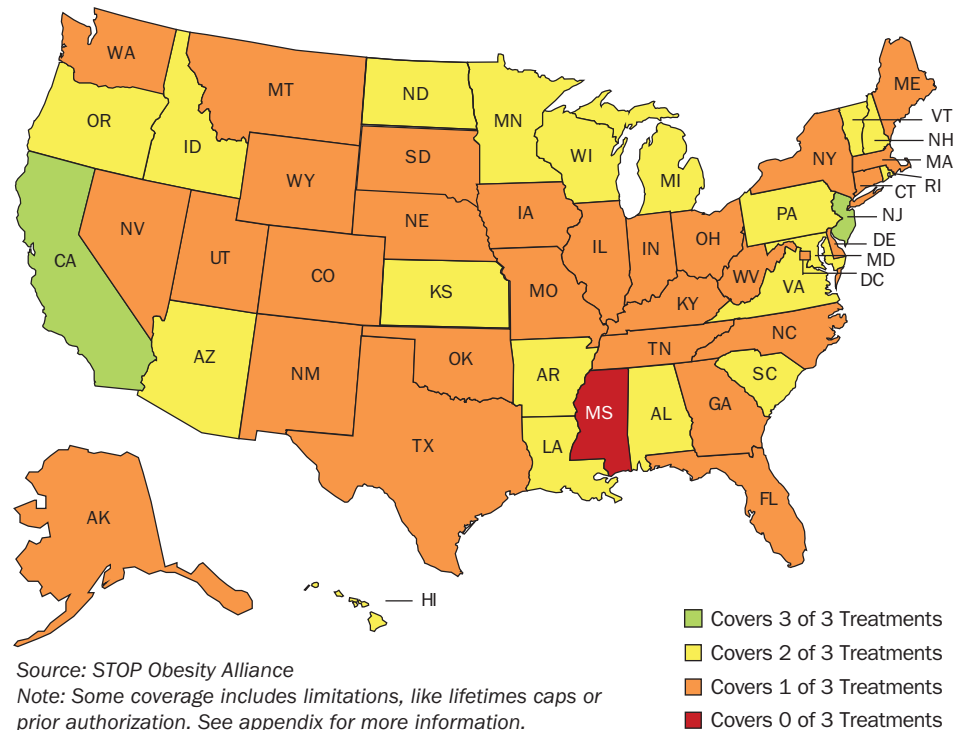
- Medicare covers BMI screenings and behavioral counseling by a primary care practitioner, the Diabetes Prevention Program, and bariatric surgery in some situations.^{372,373}

- States have to provide Medicaid coverage for medically necessary screening, diagnostic and treatment services for children, which may include obesity services. States also receive an enhanced federal match by covering certain preventive services, including obesity screening and counseling for children, adolescents and adults.³⁷⁴

A 2018 study found that Medicaid coverage for adult obesity care (including nutritional counseling, pharmacotherapy, and bariatric surgery) had improved in many states between 2009 and 2017 but was still lacking in

many states.³⁷⁵ In July 2019, during an annual updating process, CMS proposed eliminating two measures that assess child and adult BMI CMS from the 2020 Core Set of Health Care Quality Measures for Medicaid and CHIP. The Core Set is used to uniformly assess the quality of care across Medicaid and CHIP providers. Several health groups wrote comments detailing concerns that the removal of these measures hinder tracking obesity rates and related efforts. The 2020 Core Set will be finalized by the end of 2019. *See appendix for state-by-state information on Medicaid coverage of obesity treatments for adults.*

States’ Medicaid Coverage of Obesity Treatments (Diabetes Prevention Program, Pharmacotherapy, and Bariatric Surgery)





Diabetes Prevention Programs in Medicare and Medicaid

Diabetes imposes a huge cost on the Medicare program, an estimated \$42 billion in 2016 alone.³⁷⁶ The Medicare Diabetes Prevention Program (MDPP) is an expanded model of the CDC's DPP specifically for Medicare beneficiaries. The MDPP involves 16 sessions of training at a certified community-based organization on dietary change, physical activity, and weight-control strategies with monthly follow-up sessions.^{377,378}

The MDPP trial for the Center for Medicare and Medicaid Innovation showed cost savings (\$3,000 per patient over three years) and reductions in hospital inpatient admissions and emergency-department visits.³⁷⁹ Due to

this success, Medicare began covering MDPP in April 2018 as an additional preventive service with no cost for patients who have prediabetes.³⁸⁰ This is the first time a community-based benefit with non-licensed professionals has expanded to all qualified Medicare beneficiaries.

As of 2018, seven states—California, Minnesota, Montana, New Jersey, New York, Texas, and Vermont—provided some form of Medicaid coverage for the DPP program as well. In addition, CDC funded the National Diabetes Prevention Program Demonstration Project from July 2016 through January 2019, which supported efforts in two states (Oregon and Maryland) to advance an understanding of how to achieve sustainable coverage of the national DPP for Medicaid beneficiaries.³⁸¹

Childhood Obesity Performance Improvement Projects

The federal government mandates that states with a Medicaid managed care program require health plans to complete performance improvement projects (PIPs). Thirteen states reported a combined total of 26 PIPs that targeted childhood obesity in 2014–2015. Common strategies included BMI assessment, nutritional counseling, and physical-activity counseling.³⁸² Annual reporting by HHS demonstrates that states are improving on BMI assessment. Data released in 2018 showed that 61 percent of children in state Medicaid programs or the Children's Health Insurance Program had their BMI documented in their medical records in 2017 (37 states reporting),³⁸³ compared with a median of only 36.5 percent in 2013 (25 states reporting).³⁸⁴

Healthcare and Hospital Programs

Healthcare systems and providers can play key roles in obesity prevention and reduction by working with community partners, implementing evidence-based initiatives, and making better connections between clinical and community interventions.

Treatment of Obesity

In 2014, an American Heart Association task force, the American College of Cardiology, and the National Heart, Lung, and Blood Institute issued clinical guidelines on obesity treatment. These guidelines can help health practitioners decide which patients they should recommend for weight loss, the best diets and lifestyle changes to help patients lose weight and maintain weight loss, and the benefits and risks of bariatric surgery.³⁸⁵

Practitioners should also counsel their patients that physical activity has a number of health benefits even when it does not lead to weight loss, particularly for patients at risk for heart disease. High physical activity is inversely correlated with cardiovascular disease and type 2 diabetes.³⁸⁶ Other advantages of physical activity include lower blood pressure³⁸⁷ and a reduced risk of depression and anxiety.³⁸⁸

Practitioners do not receive adequate training in the treatment of obesity and physicians want more training in this area.^{389,390,391,392} In a survey of Wisconsin physicians published in 2016, only 31 percent reported having sufficient tools to assist with obesity counseling.³⁹³ Another survey of physicians at Massachusetts General Hospital found that 41 percent had received no obesity

training, and those who had received training were significantly more likely to answer questions about bariatric surgery correctly.³⁹⁴ To help fill this gap, the Strategies to Overcome and Prevent (STOP) Obesity Alliance brought together dozens of health organizations and medical providers to create competencies and resources to help providers better care for patients with obesity.³⁹⁵

Electronic health records (EHRs) allow practitioners to share information and communicate with their patients, and they help engage patients in taking charge of their own health, which is critical for a chronic condition like obesity.³⁹⁶ Providers who use EHRs often have access to clinical decision support systems for assistance in obesity screening and treatment. For example, EHRs can be set up to alert clinicians when patients have a high BMI and to provide recommendations about counseling resources and weight-management programs. This type of clinical intervention is a cost-effective obesity-prevention tool.³⁹⁷ If applied nationally, the intervention could prevent 43,000 cases of obesity over a 10-year period.³⁹⁸

U.S. Preventive Services Task Force

The U.S. Preventive Services Task Force (USPSTF)—a volunteer panel of experts that makes clinical recommendations—advises healthcare providers to refer their patients with obesity to counseling and lifestyle-coaching programs.^{399,400} The USPSTF's review of the evidence found that behavioral-counseling interventions can lead to weight loss and reduced incidence of diabetes in adults and can improve weight status in youth

ages 6 years and older.^{412,402} These are grade “B” recommendations; under the Affordable Care Act, most health plans are required to cover preventive services that have received an A or B grade from the USPSTF.⁴⁰³ However, USPSTF has no enforcement authority, and many plans have yet to cover these services.

Community Benefit Program

The majority of hospitals in the United States are nonprofit organizations.⁴⁰⁴ To qualify as tax-exempt, a hospital must demonstrate that its primary purpose is to benefit the community.⁴⁰⁵ The Affordable Care Act built on this longstanding requirement by mandating that nonprofit hospitals specifically assess, implement, and evaluate strategies to address their local community's health needs.⁴⁰⁶ More than half of the Catholic Health Association's 203 member-hospitals found childhood obesity to be a top priority for their communities,⁴⁰⁷ and 70 percent of the Association of American Medical Colleges' 238 member-hospitals identified childhood obesity or obesity as a priority need.⁴⁰⁸

The Internal Revenue Service estimates that nonprofit hospitals spent \$63 billion on community benefit programs in 2014.⁴⁰⁹ Examples of obesity-related community benefit programs:

- St. Mary's Hospital in Waterford, Connecticut, provides inpatient and outpatient nutritional counseling and offers a Mindful Meal program in the hospital;⁴¹⁰ and
- Holy Cross Hospital, in Silver Spring, Maryland, sponsors a Senior Fit exercise program with free classes for adults ages 55 and older at 24 community-based sites each week.⁴¹¹

Food Insecurity Screening and Resource Referral

The AAP recommends that healthcare providers help ensure their patients are eating a healthy diet by screening them for food insecurity and connecting at-risk patients with nutrition-assistance programs such as SNAP, WIC, and the school meal programs.⁴¹² This is particularly important, as many Americans qualify for these programs but do not take advantage of them. For example, in 2015, 15 million people were eligible to receive WIC benefits, but only 53 percent of them enrolled in the program.⁴¹³

Healthy Food Procurement

Healthcare providers—particularly at large institutions like hospitals—can require their food-service and vending-machine providers to offer healthier food choices. One-third of U.S. hospitals are part of the Healthy Food in Health Care network, which improves the nutritional quality of the food hospitals serve and supports a more environmentally sustainable food system. Twenty percent of hospitals in the network have farmers' markets, gardens, produce prescriptions, or community-supported agriculture programs, and half offer diet and nutrition education.⁴¹⁴ CDC's Healthy Hospitals initiative helps support efforts by hospitals to provide healthier food options and has developed evaluation tools to help hospitals assess their food, beverage, and physical-activity environment, so they can make their hospitals healthier for their employees and patients.⁴¹⁵

Breastfeeding Support

Children who are breastfed are at a significantly lower risk for obesity later in life.⁴¹⁶ Among all babies born in 2015, 83 percent started to breastfeed, an improvement over 2010 when 77 percent began breastfeeding.⁴¹⁷ There are racial and ethnic disparities in these rates—69 percent of Black babies born in 2015 were ever breastfed, compared with 85 percent of Latino babies, 86 percent of White babies, and 89 percent of Asian babies.^{418,419} Causes cited for the lower rate of Black women who breastfeed include lack of support from the healthcare community, an earlier return to work than White women, and work environments that do not support breastfeeding.^{420,421}

As nearly 99 percent of American babies are born in hospitals,⁴²² these facilities can help reduce disparities and support breastfeeding during the critical postpartum period. The Baby Friendly Hospital Initiative, a joint program of the WHO and the United Nations Children's Fund, designates hospitals as "Baby Friendly" when they offer the optimal level of care for lactation. In 2018, 26 percent of children in the United States were born at facilities designated as Baby Friendly,⁴²³ more than triple the 2010 rate of 8 percent.⁴²⁴ Most U.S. births, however, still take place in facilities that lack this designation. Nevertheless, many hospitals not designated as Baby Friendly are still implementing most or all of the 10 steps for successful breastfeeding.

OBESITY AND THE MILITARY

Obesity is a threat to the nation's military readiness and national security. From reducing the pool of eligible recruits to increasing military healthcare costs, the obesity crisis is having a significant and detrimental impact on U.S. security.

Recruitment

Obesity poses a major challenge for military recruiters. In a 2018 report, the Council for a Strong America found that obesity disqualifies 31 percent of American youth from serving in the armed forces.⁴²⁵ The report identifies the obesity crisis as a major impediment to recruiting and notes that obesity rates are particularly high in the South, a traditionally fertile source of recruits.⁴²⁶ In FY2018, the U.S. Army fell short of its recruiting goals for the first time in more than a decade.⁴²⁷

Service Members and Families

Obesity among active-duty service members weakens the country's armed forces. In 2015, 7.8 percent of service members had obesity, an increase of 73 percent since 2011. Service members with obesity are more likely to get injured, with one study finding they are 33 percent more likely to suffer musculoskeletal injury. Thirty percent of these injured soldiers either never return to active duty or return to duty with limitations.⁴²⁸

Strengthening the social safety net, including federal nutrition programs, can help support the military as a number of active-duty service members have incomes low enough to qualify for these programs. A 2016 report by the U.S. Government Accountability Office found that 23,000 service members had accessed SNAP benefits in 2013 and that active-duty service members spent



more than \$21 million in SNAP benefits at commissaries between September 2014 and August 2015.⁴²⁹ Many military families also qualify for WIC, particularly since WIC permits states to exclude from income calculations items that SNAP includes, such as service members' basic housing allowance and family separation housing.⁴³⁰

The majority of U.S. Department of Defense (DOD) beneficiaries (service members and their families) are overweight or have obesity, and the medical costs of obesity are considerable. DOD spends an estimated \$1.5 billion annually on obesity-related healthcare. In addition, active-duty service members miss more than 650,000 days of work annually due to obesity-related issues.⁴³¹

DOD has a number of programs in place to prevent and reduce obesity among service members and their families:

- Operation Live Well is DOD's overarching prevention initiative to promote health, well-being, and readiness among service members and in military communities. It offers resources in the areas of nutrition, physical activity, wellness, and tobacco-free living to help members of the military community live a healthy lifestyle.⁴³²
- "Go for Green" (G4G) is a joint-service nutrition initiative that promotes healthy eating. G4G labels in dining facilities and galleys rate foods based on a stoplight green-yellow-red system that indicates a food's nutritional quality based on the Dietary Guidelines for Americans and uses a salt shaker icon to identify sodium levels.^{433,434} The initiative encourages service members to fill half their plate with green-coded foods.⁴³⁵
- 5210 Healthy Military Children, a military-wide public-education campaign, promotes four daily goals for children: (1) eat five or more servings of fruits and vegetables; (2) spend two or fewer hours on a screen; (3) engage in one or more hours of physical activity; and (4) drink zero sweetened beverages.⁴³⁶

- Military OneSource, a DOD program that provides resources to active-duty service members and their families, has health and wellness coaches who can help service members and their dependents with weight management.⁴³⁷

In addition to department-wide efforts, each service branch has its own program to help its troops stay healthy.

Veterans

In 2014, the U.S. Department of Veterans Affairs (V.A.) estimated that 78 percent of veterans were overweight or had obesity.⁴³⁸ A longitudinal study of nearly half a million veterans of the Iraq and Afghanistan wars found that those who suffer post-traumatic stress disorder and depression are at the greatest risk of obesity.⁴³⁹

The V.A.'s National Center for Health Promotion and Disease Prevention coordinates the V.A.'s MOVE! program, an evidence-based weight-management and exercise initiative. Every V.A. Medical Center and many V.A. outpatient clinics offer the MOVE! program to help veterans lose weight and increase their physical activity. Since 2015, the program has also offered a phone app called MOVE! Coach that allows veterans to monitor, track, and receive feedback on their weight, diet, and exercise goals in a 19-week guided program.⁴⁴⁰

The State of Obesity

Recommendations

National obesity rates for both American adults and youth are at historic highs,⁴⁴¹ and disparities persist across racial, economic, and geographic groups. Over the past several decades, the availability and consumption of calories per-person has increased; more meals are prepared outside the home; highly processed, high calorie, low-nutrient foods and beverages are now ubiquitous; there are more sedentary working hours and recreational activities, parents have safety concerns (both real and perceived) regarding children’s outdoor times, and there’s been a decrease in physical activity and physical education. Policy and programmatic efforts to decrease obesity rates among children and adults, to prevent new cases of obesity, and to promote health equity have met considerable challenges and have not yet overcome the countervailing forces.

Obesity is a chronic disease and its causes are multifactorial, far-reaching, and often entrenched—which necessitates a corresponding response. This means a systems-approach with changes across public policy and key sectors that shape the nation into one where healthy choices are available and easy for everyone to make. This includes

broad changes to reduce structural and historic inequities, targeted obesity-prevention programs in communities with the highest needs, and the scaling and spreading of evidence-based initiatives. Many existing or pending policies and programs present opportunities to initiate or support the types of changes that are necessary.



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Trust for America's Health's recommendations focus on feasible action steps that target the causes of the epidemic, and the programs and policies that are most likely to reverse it. Each of the recommendations are shaped by two key principles:

1. Apply a multisector, systems

approach: The magnitude of the obesity problem and the difficulties addressing it illustrate the need for multisector collaborations and multidisciplinary approaches. Isolated efforts are insufficient to move obesity rates. Multisector collaborations that involve but are not limited to public health, healthcare, education, transportation, business, social-service, and military are more likely to achieve results. Ideally these collaborations would make systemic changes to communities to ensure all residents are able to easily make healthy choices. For example, a multisector systems-approach to increasing healthy food access could include a variety of policies and programs, like financial incentives for local farmers to grow fruits and vegetables and food distributors to carry healthy, affordable items; pricing, promotion, placement, and availability of healthy foods in grocery stores; farmers' markets that accept SNAP payments; zoning

considerations that support healthy food establishments and discourage ones that sell junk food; and economic assistance to families who cannot afford healthful foods.

2. Focus on communities with the highest rates of obesity first, particularly those with low historic investment and structural inequities related to poverty, racism, and other social and economic factors. While obesity affects all populations, some groups have higher levels than others, often associated with factors beyond their control. Prioritizing communities with the highest levels of obesity is a matter of equity and offers the greatest opportunity to make progress. In order to be effective, however, these communities may need higher levels resources for technical assistance and capacity building, as well as the flexibility to culturally and contextually adapt approaches.

The remainder of this section focuses on specific recommendations in five areas.

STRENGTHEN FEDERAL BEST PRACTICES TO BUILD STATE AND LOCAL CAPACITY AND REDUCE DISPARITIES

While obesity is a nationwide epidemic, its causes and effects vary by community. The federal government has a wealth of programs and resources that could empower effective, locally tailored solutions. Agencies should empower communities by providing a backbone of flexible support, funding, and technical assistance best suited to a state's or community's specific needs.

Recommendations for federal government:

- **Expand statewide obesity-prevention programs:** Congress should fully fund CDC's Division of Nutrition, Physical Activity and Obesity's SPAN grants for all 50 states and the District of Columbia. State health departments use SPAN to implement effective multisector campaigns that combat obesity based on the latest research. Current CDC funding only supports 16 states out of 50 approved applications.
- **Develop a best-practices guide:** Congress should ensure that every state public health agency receives skilled assistance in promoting active living and healthy eating by funding CDC's Division of Nutrition, Physical Activity and Obesity to develop and disseminate a guide to implement statewide, effective obesity-prevention programs. Such an evidence-informed guide would provide the support needed to successfully implement the SPAN grants.
- **Increase funding to eliminate disparities:** Congress should increase funding for CDC's REACH program so that it can expand to community organizations that deliver effective local, culturally appropriate, obesity-related programs to those who bear a disproportionate burden of chronic disease. Current funding only supports 31 grantees (261 applications are approved but unfunded).
- **Support multisector collaborations that address the social determinants of health:** Congress should create a social-determinants-of-health program at CDC that funds states and local agencies and nonprofits to promote meaningful partnerships between public health and other sectors, such as transportation, housing, community planning, and education. While not exclusively focused on obesity, such a program can create community conditions that foster optimal health, including access to healthy foods, safe places to be physically active, and other initiatives that reduce poverty and discrimination.
- **Adapt grantmaking practices to account for differential needs, resources, and capacity:** Federal agencies should consider disease burden and social context when determining grantmaking eligibility criteria, so that communities with the greatest health-related needs can benefit from competitive grant mechanisms.

Congress should ensure that every state public health agency receives skilled assistance in promoting active living and healthy eating by funding CDC's Division of Nutrition, Physical Activity and Obesity.

MAKE PHYSICAL ACTIVITY AND THE BUILT ENVIRONMENT SAFER AND MORE ACCESSIBLE

While most individuals can take steps to be active, there are often social, economic, and environmental barriers that should be addressed, such as: modifying community design so it is easier and safer for people to walk, bike, or roll; strengthening public-transportation options; ensuring that children have daily opportunities for physical activity inside and outside of school; and creating accessible recreational options for people of all ages, abilities, and incomes. While some communities have made progress, obstacles to physical activity are disproportionately greater in those communities where social and economic conditions have resulted in a lack of safe space for physical activity, few recreational facilities, underfunded school systems, and car-dependent transportation.

Recommendations for federal government:

- **Fund programs that support physical education implementation efforts:** Congress should increase funding for the Student Support and Academic Enrichment grant program—under Title IV, Part A of the Every Student Succeeds Act—minimally until it reaches its authorized level of \$1.6 billion. Student Support and Academic Enrichment grant recipients can use the funding to support health and physical education, among other activities.
- **Prioritize evidence-based physical-activity guidelines:** Congress should codify and appropriate funds for HHS to publish Physical Activity Guidelines for Americans at least every 10 years based on the most current scientific

and medical knowledge, including information for population subgroups, as needed. Appropriations should also fund communication, dissemination, and support for the guidelines. Since the release of the 2008 Physical Activity Guidelines for Americans, the percentage of adults meeting the guidelines increased from 18.2 percent to 24.3 percent by 2017.⁴⁴²

- **Make active transportation more accessible:** Congress should increase funding for transportation projects like pedestrian and bicycle facilities, recreational trails, and Safe Routes to Schools (SRTS) projects by requiring that at least 10 percent of the Surface Transportation Block Grant program is set aside for transportation alternatives. This will ensure that Complete Streets Policies, SRTS, and similar programs are available to states and communities, while providing maximum flexibility for innovation.
- **Make physical activity safer:** The U.S. Department of Transportation should add SRTS, Vision Zero, Complete Streets, and non-infrastructure projects as eligible initiatives of the Highway Safety Improvement Program. This would allow for more types of biking, walking, and rolling projects to qualify for 100 percent federal funding without a state match requirement.
- **Support incorporation of physical-activity components into infrastructure funding:** Congress should ensure that all federal infrastructure bills mandate state adoption of Complete Streets principles as a condition for the receipt of federal funding for major transportation projects.

Recommendations for state and local government:

- **Prioritize schooltime physical activity:** States and local education agencies should prioritize physical activity in their educational plans, like policies that ensure that all students receive at least 60 minutes of physical education or activity during each school day. Schools should also consider adopting approaches that lengthen physical education classes, increasing recess and unstructured outdoor playtime, and strengthening SRTS options. States should consider using the Every Student Succeeds Act Title I and/or IV funding for physical education and other physical-activity opportunities.⁴⁴³
- **Make communities safer for physical activity and active transportation:** States and cities should enact Complete Streets and other complementary streetscape design policies to improve active transportation and increase outdoor physical-activity opportunities.
- **Encourage outdoor play:** States should build upon the successful federal “Every Kid Outdoors” program—which provides fourth-graders with a free-entry park pass for themselves and their families to visit federal public lands—to include state-managed lands. The American Academy of Pediatrics states that outdoor play “can serve as a counterbalance to sedentary time and contribute to the recommended 60 minutes of moderate to vigorous activity per day.”⁴⁴⁴

PRIORITIZE HEALTHY EATING BY MAKING CHANGES ACROSS THE FOOD SYSTEM

The money the federal government spends on anti-hunger programs (like SNAP) and nutrition-assistance programs (like WIC) make critical differences in the health of millions of Americans. Food insecurity can be a root cause of obesity. An expansion in the scope and funding levels for these programs would allow them to help more people. Changes are also necessary at all levels of the food system. In addition, families need support to make the necessary changes in their eating habits. Special attention is necessary for those communities with the greatest barriers to healthy food access, such as limited incomes and a lack of local stores with healthy produce.

Recommendations for federal government:

- **Extend benefits in SNAP:** Congress must ensure that all eligible children and families have access to important food-security programs, like the Supplemental Nutrition Program (SNAP), by opposing any legislative or regulatory efforts that would effectively limit SNAP eligibility, reduce the value of benefits, or impose any other barriers to participating, such as work requirements.
- **Make nutrition a tenet of SNAP:** Without decreasing access or benefit levels in SNAP, USDA and Congress should identify opportunities to improve diet quality, such as piloting voluntary programs that test healthier eating strategies, adding nutrition as a core program tenet, and more closely aligning with Dietary Guidelines for Americans. Additionally, USDA should continue to strengthen the highly effective GusNIP, which supports projects that increase fruit and vegetable purchases among SNAP beneficiaries.
- **Ensure guidelines are evidence-based:** USDA must ensure that efforts to update the Dietary Guidelines for Americans occur in a transparent and evidence-based manner. USDA should resist unscientific recommendations from food-industry members and others with conflicts of interest, particularly those that have a potentially negative impact on obesity. Updated guidelines must include recommendation for pregnant women, infants, and toddlers through 24 months, as required by law.
- **Extend benefits and scope of the WIC Program:** The Special Supplemental Nutrition Program for Women, Infants and Children (WIC) program has proved effective at reducing obesity and promoting good health.^{445,446} Congress should increase funding for WIC to reach more eligible participants. In addition it should extend eligibility to children through the age of 6 and to postpartum mothers through the first two years after the birth of a baby. Congress should fund the WIC Breastfeeding Peer Counseling Program, which has also proved to be effective in reducing obesity,^{447,448} at its fully authorized amount of \$90 million.
- **Expand access to the Child and Adult Care Food Program:** Congress should expand the Child and Adult Care Food Program (CACFP) by allowing the option of a third meal service during the day (typically a snack or supper), increasing reimbursements to support healthier standards, streamlining program operations and paperwork, and continuing

[Congress] should extend [WIC] eligibility to children through the age of 6 and to postpartum mothers through the first two years after the birth of a baby.

funding for CACFP nutrition and wellness education and program efforts. Low-income preschoolers attending CACFP-participating child-care centers are less likely to be obese than similar children attending nonparticipating centers.⁴⁴⁹

- **Align Child Nutrition Reauthorization with evidence:** USDA should implement evidence-based nutrition standards in Child Nutrition Reauthorization efforts, including alignment with the Dietary Guidelines for Americans for sodium, whole grains, fat, and added sugars. Congress should use reauthorization to protect evidence-based nutrition standards, like in WIC, CACFP, and other programs, and it should provide more technical-assistance funding and reimbursement to programs.
- **Implement regulations in a timely manner:** FDA should ensure no further delays to the implementation of the updated Nutrition Facts Panel, currently scheduled to begin in 2020, and Congress should dedicate at least \$6 million in appropriations for FDA's Nutrition Innovation Strategy consumer-awareness education campaigns for both the Nutrition Facts Panel and menu labeling, so that Americans can make informed choices about what they eat.

Recommendations for state and local government:

- **Build on national standards:** States should strengthen school nutrition beyond the 2012 federal government standards, including the length of meal time, appropriate times for the meals, and recess before lunch.
- **Ensure all children have access to healthy school meals:** States and local education agencies should offer nutritious school-meal programs and should expand flexible school breakfast programs, such as second-chance breakfasts, breakfast on-the-go, and breakfasts in classrooms. All eligible schools should opt to participate in the USDA Community Eligibility Provision, which provides universal free meals and can help mitigate lunch-shaming trends. Schools should use CDC's Whole School, Whole Community, Whole Child framework, which provides information on the components of a school nutrition environment.
- **Guarantee healthy eating in governmental agencies:** States should adopt the Food Service Guidelines⁴⁵⁰ for foods and beverages procured for government food-service facilities and vending machines at all state agencies.

CHANGE HOW THE NATION MARKETS AND PRICES UNHEALTHY FOODS AND BEVERAGES

From infancy through adulthood, Americans are exposed to effective advertising via television, radio, new media, online, and retail ads encouraging the consumption of fast food, soda, and calorie-dense low-nutrient food products. While these messages reach virtually all populations, research shows that companies disproportionately market to children of color.^{451,452} Research shows television advertising for unhealthy snacks and sugary drinks that target Black youth increased by 50 percent over the last 5 years.⁴⁵³ While the industry has made some modest adjustments to their practices, companies still spent \$9.3 billion in 2017 on the marketing of soda, fast food, candy, and unhealthy snacks to children.⁴⁵⁴ Given the failure of widespread self-regulation by the food industry, federal officials should reconsider how to protect the health of Americans. Additionally, there is now a substantive and growing body of evidence that shows that increasing the price, through excise taxes, of unhealthy items like sugary drinks reduces consumption (similar to pricing strategies that helped decrease smoking rates), especially when that revenue goes to programs and services that improve population health.

Recommendations for federal government:

- **End unhealthy food marketing to children:** Congress should close tax loopholes and eliminate business-cost deductions related to advertising of unhealthy food and beverages to children on television, the internet, and places frequented by children, like movie theaters and youth sporting events. It is projected that eliminating advertising subsidies for unhealthy foods and beverages



would prevent approximately 129,000 cases of obesity over a decade while generating approximately \$80 million annually in tax revenue.⁴⁵⁵

Recommendations for state and local governments

- **Discourage unhealthy options:** States should increase the price of sugary drinks, through an excise tax, with tax revenue allocated to local efforts to reduce health and socioeconomic disparities. A sugary-drink tax is the most cost-effective strategy to address childhood obesity, leading to the potential prevention of 575,000 cases of childhood obesity and a healthcare savings of \$31 per dollar spent over 10 years.⁴⁵⁶ State elected officials should avoid being influenced by the financial contributions of soda companies and by industry-led campaigns to pass state preemption laws that prohibit local action to tax these unhealthy foods.
- **Enforce healthy foods marketing:** States should enforce the USDA local school wellness policies final rule, which requires that only food and beverages meeting the Smart Snacks standards be marketed on school campuses during the school day, and states should go further to address all forms of marketing, including brand marketing.
- **Reduce unhealthy food marketing to children:** Local education agencies should incorporate strategies in their local wellness policies that further reduce unhealthy food and beverage marketing and advertising to children and adolescents, like by prohibiting coupons, sales, and advertising around schools and school buses, as well as by banning sugary drinks as branded sponsors of youth sporting events.⁴⁵⁷

WORK WITH THE HEALTHCARE SYSTEM TO CLOSE GAPS

When healthcare, public health, and community sectors work together, they can improve care and support individuals better than each sector can do alone. Higher rates of chronic conditions, like obesity, combined with lower access to healthy options and higher rates of un- or underinsurance result in greater reliance on advanced care, like emergency services, and higher treatment costs. All healthcare payors should work to establish quality measures that prioritize screening and counseling to prevent obesity and, when necessary, to cover obesity-related services that meet the National Academy of Medicine health-equity definition of “providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status.”⁴⁵⁸

Recommendations for federal government:

- **Enforce preventive-services recommendations:** By law, most insurance plans must cover preventive services, with no cost-sharing, that are recommended by the U.S. Preventive Services Task Force (USPSTF) with a grade of A or B. While there are several grade A or B obesity-related USPSTF recommendations, including referrals to intensive behavioral interventions for adults⁴⁵⁹ and children,⁴⁶⁰ there is great variability of actual implementation or uptake of these recommendations across insurers. HHS, the U.S. Department of Labor, and U.S. Treasury Department should jointly communicate to insurers that they require coverage

All healthcare payors should establish quality measures that prioritize screening and counseling to prevent obesity and, when necessary, to cover obesity-related services that meet the National Academy of Medicine health-equity definition of “providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location and socioeconomic status.”

of grade A and B recommendations by publishing FAQs, something the departments have previously done on other USPSTF recommendations. Insurance plans should also incorporate quality measures that incentivize screening and counseling for overweight and obesity, with an emphasis on prevention.

- **Improve healthcare provider knowledge:** The Centers for Medicare and Medicaid Services (CMS) should educate doctors and other healthcare providers on how to refer to community-based behavioral interventions and encourage eligible patients to use covered obesity-related treatments, like intensive behavioral therapy. Additionally, CMS should educate providers on opportunities to partner with other sectors, such as the Produce Prescription pilot program under GusNIP.

Recommendations for state/local governments:

- **Establish linkages across sectors:** Public health departments should partner with and/or convene healthcare and community partners to increase the availability of and

participation in obesity-prevention or control initiatives with a particular emphasis on communities that are disproportionately affected by obesity. Such efforts may include: identifying and promoting evidence-based policies that improve community conditions; supporting processes that guarantee community members’ views are central when setting goals and strategies; providing counsel and referral strategies to better use electronic health records; establishing referrals to and funding for the Diabetes Prevention Program, ParkRx, and other community-based programming; employing community health workers in low-resourced areas to connect residents with relevant safety-net and social-support resources; and aligning state/local efforts to national initiatives (such as CDC’s Million Hearts).

- **Cover pediatric weight-management programs:** Medicaid should reimburse providers for evidence-based comprehensive pediatric weight-management programs and services, such as Family-Based Behavioral Treatment programs and Integrated Chronic Care Models.⁴⁶¹

APPENDIX: Obesity-Related Indicators and Policies by State

	Nutrition Assistance/Policies			Economics of What We Eat	
	Supplemental Nutrition Assistance Program Participation (2016)*	Special Supplemental Nutrition Program for Women, Infant, and Children Participation (2016)**	Preemption of Local Food and Nutrition Policies (March 2018)***	Food Investments Ranking (2018)†	Sales Tax on Soda (2018)‡
	What percentage of eligible people participate in SNAP?	What percentage of eligible people participate in WIC?	Does the state have laws preempting local food and nutrition promotion policies?	How does the state rank based on 2017 per capita spending levels for key USDA programs?	Is soda subject to a sales tax?
Alabama	87%	57%	√	38	Yes ^a
Alaska	71%	43%		10	N/A
Arizona	74%	50%	√	22	No ^c
Arkansas	72%	49%		35	Yes ^e
California	72%	66%		13	Yes ^d
Colorado	78%	43%		32	Yes ^d
Connecticut	91%	49%		18	Yes ^d
Delaware	99%	52%		21	N/A
D.C.	97%	54%		N/A	Yes ^d
Florida	92%	54%	√	46	Yes ^d
Georgia	86%	48%	√	43	No ^c
Hawaii	84%	53%		9	Yes ^a
Idaho	84%	43%		47	Yes ^a
Illinois	100%	45%		42	Yes ^e
Indiana	80%	51%		24	Yes ^d
Iowa	88%	47%		23	Yes ^d
Kansas	77%	52%	√	29	Yes ^a
Kentucky	76%	53%		16	Yes ^d
Louisiana	84%	52%		31	No ^c
Maine	90%	53%		4	Yes ^d
Maryland	91%	68%		17	Yes ^d
Massachusetts	91%	55%		5	No ^c
Michigan	100%	56%	√	11	No ^c
Minnesota	84%	60%		20	Yes ^d
Mississippi	83%	52%	√	30	Yes ^a
Missouri	89%	51%		41	Yes ^b
Montana	87%	38%		6	N/A
Nebraska	80%	53%		15	No ^c
Nevada	83%	55%		26	No ^c
New Hampshire	80%	47%		33	N/A
New Jersey	81%	54%		37	Yes ^d
New Mexico	100%	45%		1	No ^c
New York	93%	56%		12	Yes ^d
North Carolina	86%	54%	√	40	Yes ^d
North Dakota	62%	50%		49	Yes ^d
Ohio	85%	51%	√	27	Yes ^d
Oklahoma	82%	55%		39	Yes ^a
Oregon	100%	56%		8	N/A
Pennsylvania	99%	52%		25	Yes ^d
Rhode Island	100%	62%		3	Yes ^d
South Carolina	80%	46%		34	No ^c
South Dakota	83%	49%		28	Yes ^a
Tennessee	93%	43%	√	44	Yes ^b
Texas	73%	57%		48	Yes ^d
Utah	70%	39%	√	45	Yes ^b
Vermont	100%	55%		2	No ^c
Virginia	75%	48%		36	Yes ^b
Washington	100%	55%		7	Yes ^d
West Virginia	95%	50%		14	Yes ^d
Wisconsin	94%	48%	√	19	Yes ^d
Wyoming	56%	54%		50	No ^c
Total	85%	55%	12 states	N/A	35 states

Sources and notes:

*U.S. Department of Agriculture¹

These are estimated participation rates using the best available data and analytic models. For most of these estimates, there is a 90 percent chance the true participation rate falls within 6 percentage points of the estimate. Estimated participation rates of 100 percent are the result of differences between data sources; they should not be interpreted to mean that every eligible person participated in SNAP.

**U.S. Department of Agriculture²

These values capture eligibility and participation across all WIC participant categories (infants, children up to age 5, pregnant women, and postpartum women). Note that eligibility can vary across states and localities based on income unit, income period, and income limits. This data excludes territories for states, includes territories in "total."

***Pomeranz, et al.³

These laws limit local innovation by prohibiting local governments from regulating several areas, including nutrition labeling, food and beverage taxes, food safety, and food-based health disparities (e.g. food deserts). Preemption policies across the country are changing rapidly, and these data do not capture laws passed after March 2018, such as the bill passed in California in June 2018 preempting new local beverage or food taxes for 12 years.

†Union of Concerned Scientists⁴

Ranking ranges from 1 (most per capita spending) to 50 (least per capita spending) and captures spending levels (i.e. federal grant dollars per number of residents or SNAP participants) for key USDA programs that complement and enhance SNAP. The ranking also includes percent of farmers markets accepting SNAP and other federal nutrition program benefits.

‡Tax Foundation⁵

- a. Soda considered grocery and groceries are subject to sales tax
- b. Soda considered grocery and groceries taxed at lower rate than sales tax base
- c. Soda considered grocery but groceries exempt from sales tax
- d. Groceries exempt from sales tax, but soda is not
- e. Groceries taxed at lower rate than sales tax base, but soda is not

1 U.S. Department of Agriculture. Estimates of State Supplemental Nutrition Assistance Program Participation Rates in 2016. Food and Nutrition Service, March 2019. <https://fns-prod.azureedge.net/sites/default/files/resource-files/Reaching2016-Summary.pdf> (accessed July 29, 2019).

2 Trippe C, Tadler C, Johnson P, et al. National- and State-Level Estimates of WIC Eligibility and WIC Program Reach in 2016. Final report: Volume 1. U.S. Department of Agriculture, February 2019. <https://fns-prod.azureedge.net/sites/default/files/resource-files/WICEligibles2016-Volume1.pdf> (accessed July 29, 2019).

3 Pomeranz JL, Zellers L, Bare M, and Pertschuk M. State Preemption of Food and Nutrition Policies and Litigation: Undermining Government's Role in Public Health. American Journal of Preventive Medicine, 56(1): 47-57, 2019.

4 Union of Concerned Scientists. 50-State Food System Scorecard. Food and Agriculture, June 2018. <https://www.ucsusa.org/food-agriculture/food-system-scorecard#bycategory> (accessed July 29, 2019).

5 Loughhead K. Sales Taxes on Soda, Candy, and Other Groceries 2018. Fiscal Fact, No. 598, Tax Foundation, July 2018. <https://files.taxfoundation.org/20180706104150/Tax-Foundation-FF598-Groceries-Soda-Candy.pdf> (accessed July 29, 2019).

	Early Child Care and Education*			K-12 School Nutrition**		
	Healthy Eating (2018)	Physical Activity (2018)	Nutritional Standards (2018)	Comprehensiveness of School Nutrition Policies (2017-2018)	Smart Snacks Standards (2017-2018)	Food Marketing (2017-2018)
	Does the state require licensed ECE programs to have healthy eating policies?	Does the state require licensed ECE programs to have time for daily physical activity?	Does the state require licensed ECE programs to provide meals and snacks that meet general USDA and/or CACFP standards?	How comprehensive are state policies promoting nutrition in schools?	Do state laws meet Smart Snacks Standards for all grade levels?	Does the state restrict marketing of unhealthy foods/beverages in schools?
Alabama	√ ^{LQ}	√ ^{LQ}	√ ^L	Low		
Alaska	√ ^L	√ ^L	√ ^L	No		
Arizona	√ ^L	√ ^L		Low		
Arkansas	√ ^{LQ}	√ ^{LQ}	√ ^L	Moderate	√	
California	√ ^L	√ ^L		Moderate		√ ^b
Colorado	√ ^{LQ}	√ ^{LQ}	√ ^L	Moderate		
Connecticut	√ ^L	√ ^L		Low		
Delaware	√ ^{LQ}	√ ^{LQ}		Low		
D.C.	√ ^L	√ ^L	√ ^L	Moderate	√	√ ^b
Florida	√ ^L	√ ^L	√ ^L	Moderate	√	
Georgia	√ ^{LQ}	√ ^{LQ}	√ ^L	Low	√	
Hawaii	√ ^L	√ ^L	√ ^L	Low		
Idaho	√ ^Q	√ ^Q		No		
Illinois	√ ^L	√ ^L		Low	√	
Indiana	√ ^{LQ}	√ ^{LQ}		Low	√	
Iowa	√ ^{LQ}	√ ^L	√ ^L	Moderate	√	
Kansas	√ ^L	√ ^L		Low		
Kentucky	√ ^L	√ ^L		Moderate	√	
Louisiana	√ ^L	√ ^L	√ ^L	Low		
Maine	√ ^L	√ ^{LQ}		Low		√ ^a
Maryland	√ ^{LQ}	√ ^{LQ}	√ ^{LQ}	Low		
Massachusetts	√ ^{LQ}	√ ^{LQ}	√ ^L	Moderate		
Michigan	√ ^{LQ}	√ ^{LQ}	√ ^Q	Low		
Minnesota	√ ^{LQ}	√ ^{LQ}	√ ^L	Low		
Mississippi	√ ^L	√ ^L	√ ^L	Moderate	√	
Missouri	√ ^L	√ ^L		Low		
Montana	√ ^{LQ}	√ ^L	√ ^Q	Low		
Nebraska	√ ^{LQ}	√ ^{LQ}	√ ^{LQ}	No		
Nevada	√ ^{LQ}	√ ^{LQ}	√ ^Q	Low		
New Hampshire	√ ^L	√ ^L	√ ^L	Low	√	
New Jersey	√ ^{LQ}	√ ^{LQ}	√ ^L	Low	√	√ ^a
New Mexico	√ ^{LQ}	√ ^{LQ}	√ ^L	Moderate	√	
New York	√ ^{LQ}	√ ^{LQ}	√ ^{LQ}	Low		
North Carolina	√ ^L	√ ^L	√ ^L	Low		
North Dakota	√ ^{LQ}	√ ^{LQ}	√ ^{LQ}	Low		
Ohio	√ ^L	√ ^L	√ ^L	Low		
Oklahoma	√ ^L	√ ^{LQ}	√ ^L	Low	√	
Oregon	√ ^{LQ}	√ ^{LQ}	√ ^L	Low		
Pennsylvania	√ ^{LQ}	√ ^{LQ}		Low		
Rhode Island	√ ^L	√ ^{LQ}	√ ^L	Moderate	√	
South Carolina	√ ^{LQ}	√ ^{LQ}	√ ^{LQ}	Low	√	
South Dakota	√ ^L	√ ^L		No		
Tennessee	√ ^L	√ ^L	√ ^L	Moderate	√	
Texas	√ ^{LQ}	√ ^L		Low		
Utah	√ ^{LQ}	√ ^{LQ}	√ ^L	Low	√	
Vermont	√ ^L	√ ^L	√ ^L	Low		
Virginia	√ ^L	√ ^L	√ ^L	Moderate		√ ^b
Washington	√ ^{LQ}	√ ^{LQ}		Low		
West Virginia	√ ^L	√ ^L	√ ^L	Comprehensive	√	√ ^b
Wisconsin	√ ^{LQ}	√ ^{LQ}	√ ^{LQ}	Low		
Wyoming	√ ^L	√ ^L		Low		
Total	25 states both licensing and QRIS; 25 states only licensing; 1 state only QRIS	25 states both licensing and QRIS; 25 states only licensing; 1 state only QRIS	6 states both licensing and QRIS; 26 states only licensing; 3 states only QRIS	1 state comprehensive; 13 moderate; 33 low; and 4 no coverage	18 states	6 states

Sources and notes:

*Healthy, Kids, Healthy Future Technical Assistance Program⁶

√ = State has either licensing regulations, QRIS Standards, or both.

L= licensing regulations; Q = Quality Rating and Improvement Systems Standards

**Chriqui, et al.⁷

Comprehensiveness was assessed based on the percentage of key nutrition-related topics covered by state education policies, which ranged from 0 (AK, ID, NE, SD) to 86 percent (WV). Topics included marketing of healthy foods, standards for foods outside traditional school meals, and provisions for unpaid school meal debts. The two subsequent indicators - Smart Snacks Standards and Food Marketing - are also included as topics.

a. Recommend marketing be consistent with Smart Snacks standards

b. Require marketing be consistent with Smart Snacks standards

6 Healthy Kids, Healthy Future Technical Assistance Program. Summary of Obesity Prevention Standards in State Quality Rating and Improvement Systems (QRIS) and Licensing Regulations. Washington, DC: Healthy Kids, Healthy Future, April 2019. <https://d3knp61p33sjvn.cloudfront.net/2019/04/TAmemo-Obesity-Prevention-Standards-in-Licensing-and-QRIS.pdf> (accessed July 29, 2019).

7 Chriqui J, Stuart-Cassel V, Piekarz-Porter E, et al. Using State Policy to Create Healthy Schools—Coverage of the Whole School, Whole Community, Whole Child Framework in State Statutes and Regulations, School Year 2017-2018. Chicago, IL: The Institute of Health Research and Policy, University of Illinois at Chicago, 2EMT Associates, 3Child Trends, January 2019. https://www.childtrends.org/wp-content/uploads/2019/01/WSCCState-PolicyReportSY2017-18_ChildTrends_January2019.pdf (accessed July 29, 2019).

	K-12 School Nutrition			K-12 School Physical Activity ***			
	School Breakfast Program (2017-2018)*		Community Eligibility Provision (2018-2019)**	Comprehensiveness of School Physical Activity Policies (2017-2018)	National Physical Education Standards (2017-2018)	Physical Activity Throughout the Day (2017-2018)	Recess (2017-2018)
	What percentage of the children in the School Lunch Program are in the School Breakfast Program?	What percentage of schools in the School Lunch Program are in the School Breakfast Program?	What percentage of eligible districts have adopted the community eligibility provision?	How comprehensive are state policies promoting physical education and activity in schools?	Does the state address or refer to the National Physical Education Standards within state PE curriculum laws?	Does the state have laws that address providing physical activity throughout the day (e.g., during classroom breaks)?	Does the state have laws that address providing physical activity through recess?
Alabama	60%	97%	38%	Moderate	√		√ ^c
Alaska	55%	93%	75%	Moderate	√	√ ^a	√ ^c
Arizona	55%	95%	48%	Moderate	√		
Arkansas	66%	99%	43%	Moderate		√ ^a	√ ^c
California	56%	91%	39%	Moderate			√ ^c
Colorado	60%	85%	28%	Moderate	√	√ ^a	√ ^c
Connecticut	51%	85%	60%	Moderate		√ ^a	√ ^d
Delaware	63%	100%	82%	Moderate	√		
D.C.	68%	99%	88%	Moderate	√	√ ^a	√ ^c
Florida	51%	99%	64%	Moderate	√		√ ^d
Georgia	60%	97%	74%	Moderate	√		
Hawaii	40%	97%	93%	Low			
Idaho	57%	96%	55%	Low	√		
Illinois	50%	84%	50%	Moderate			
Indiana	51%	91%	53%	Moderate		√ ^a	√ ^c
Iowa	44%	93%	29%	Low		√ ^b	
Kansas	50%	94%	15%	Low			
Kentucky	66%	98%	93%	Moderate	√	√ ^a	
Louisiana	61%	95%	86%	Moderate	√	√ ^a	
Maine	61%	97%	48%	Low			
Maryland	62%	99%	48%	Moderate	√		
Massachusetts	54%	84%	54%	Low	√		
Michigan	59%	92%	37%	Low			
Minnesota	55%	88%	38%	Moderate	√	√ ^a	√ ^c
Mississippi	60%	96%	45%	Comprehensive	√	√ ^a	√ ^c
Missouri	61%	94%	47%	Moderate		√ ^a	√ ^d
Montana	59%	91%	80%	Moderate	√		
Nebraska	44%	84%	27%	Low			
Nevada	62%	94%	86%	Low			
New Hampshire	44%	91%	33%	Moderate	√	√ ^a	√ ^c
New Jersey	59%	83%	50%	Low			
New Mexico	70%	96%	85%	Moderate	√	√ ^a	
New York	52%	95%	82%	Moderate			
North Carolina	58%	99%	69%	Low			
North Dakota	51%	89%	100%	Low			
Ohio	57%	88%	64%	Moderate	√		
Oklahoma	58%	98%	62%	Moderate	√	√ ^a	√ ^c
Oregon	55%	96%	64%	Moderate	√		
Pennsylvania	51%	93%	46%	Moderate			
Rhode Island	53%	97%	22%	Moderate	√	√ ^b	√ ^d
South Carolina	63%	100%	69%	Comprehensive	√	√ ^a	√ ^c
South Dakota	46%	86%	63%	Low	√		
Tennessee	65%	98%	67%	Low		√ ^b	
Texas	63%	100%	40%	Moderate	√		√ ^c
Utah	39%	90%	81%	Low			
Vermont	70%	97%	81%	Moderate	√	√ ^a	√ ^c
Virginia	61%	98%	53%	Moderate		√ ^a	√ ^d
Washington	47%	94%	40%	Moderate	√	√ ^a	
West Virginia	84%	99%	98%	Moderate	√	√ ^a	√ ^d
Wisconsin	52%	83%	46%	Moderate			
Wyoming	46%	94%	86%	Low	√		
Total	57%	93%	53%	2 states comprehensive; 33 moderate; 16 low	29 states	22 states	20 states

Sources and notes:

*Food Research and Action Center⁸

**Food Research and Action Center⁹

Community eligibility allows high-poverty schools and school districts to offer free meals to all students, and it eliminates the need for household school meal applications.

***Chriqui, et al.¹⁰

Comprehensiveness is assessed based on the percentage of key physical education and physical activity related topics covered by state education policies, which ranged from 8 (HI) to 75 percent (MS and SC). Topics included the extent and content of physical education standards, as well as opportunities for physical activity throughout the day. The three subsequent indicators are also included topics.

a. Encourages providing physical activity throughout the day

b. Requires providing physical activity throughout the day

c. Addresses or requires recess less than daily

d. Requires daily recess

8 Girouard D, FitzSimons C, and Rosso R. School Breakfast Scorecard, School Year 2017-2018. Washington, DC: Food Research and Action Center, February 2019. <https://www.frac.org/wp-content/uploads/school-breakfast-scorecard-sy-2017-2018.pdf> (accessed July 29, 2019).

9 Maurice, A, Rosso R, Fitz-Simons C, and Furtado K. Community Eligibility: The Key to Hunger-Free Schools, School Year 2018-2019. Washington, DC: Food Research and Action Center, May 2019. <https://frac.org/wp-content/uploads/community-eligibility-key-to-hunger-free-schools-sy-2018-2019.pdf> (accessed July 29, 2019).

10 Chriqui J, Stuart-Cassel V, Piekarz-Porter E, et al. Using State Policy to Create Healthy Schools—Coverage of the Whole School, Whole Community, Whole Child Framework in State Statutes and Regulations, School Year 2017-2018. Chicago, IL: The Institute of Health Research and Policy, University of Illinois at Chicago, 2EMT Associates, 3Child Trends, January 2019. https://www.childtrends.org/wp-content/uploads/2019/01/WSCCStatePolicyReportSY2017-18_ChildTrends_January2019.pdf (accessed July 29, 2019).

	Built Environment					
	Food Infrastructure Ranking (2018)*	Farmers Markets (2017)**	Shared-Use Agreements (2018)***	Complete Street Policies (2018)†	Neighborhood Sidewalks/Walking Paths (2016-2017)†	Neighborhood Parks/Playgrounds (2016-2017)†
	How does the state rank on distribution of healthy food retailers, number of farmers' markets, and other food infrastructure?	How many farmers' markets per 100,000 residents are in the state?	Does that state have a policy that recommends (✓) or requires (✓✓) schools to allow communities to access to school recreational facilities outside of school hours?	Does the state have a Complete Streets Policy with mandatory requirements? (✓) Do the requirements include clear actions that demonstrate the state's intent to meet the needs of all users? (✓✓)	What percentage of children live in neighborhoods with sidewalks/walking paths?	What percentage of children live in neighborhoods with parks/playgrounds?
Alabama	44	2.9	✓		50%	52%
Alaska	36	5.3			69%	72%
Arizona	39	1.3	✓		83%	79%
Arkansas	48	3.6	✓		56%	57%
California	6	1.9	✓✓	✓✓	90%	87%
Colorado	8	2.8	✓	✓✓	92%	89%
Connecticut	15	4.3	✓	✓✓	68%	77%
Delaware	7	3.8	✓	✓	70%	72%
D.C.	N/A	7.8	✓	✓✓	98%	94%
Florida	18	1.2	✓	✓✓	80%	74%
Georgia	37	1.5	✓	✓✓	58%	64%
Hawaii	3	6.9	✓✓	✓	83%	89%
Idaho	33	3.7	✓		75%	71%
Illinois	32	2.6	✓	✓✓	87%	88%
Indiana	40	2.9	✓	✓	70%	63%
Iowa	11	7.3	✓		78%	76%
Kansas	10	4.0	✓		77%	77%
Kentucky	43	2.9	✓		61%	60%
Louisiana	42	1.7	✓	✓✓	55%	57%
Maine	2	7.2	✓	✓	60%	70%
Maryland	13	2.7	✓✓	✓	81%	82%
Massachusetts	12	4.7	✓	✓✓	85%	81%
Michigan	23	3.4	✓	✓	74%	77%
Minnesota	25	3.5	✓✓	✓✓	76%	86%
Mississippi	41	2.8	✓	✓	40%	47%
Missouri	31	4.2	✓	✓	67%	72%
Montana	20	6.7	✓		71%	74%
Nebraska	21	5.1			88%	83%
Nevada	16	1.3	✓	✓✓	90%	81%
New Hampshire	34	7.1	✓		58%	68%
New Jersey	27	1.7	✓	✓✓	85%	90%
New Mexico	28	3.4	✓	✓	75%	71%
New York	14	3.4	✓	✓✓	80%	89%
North Carolina	9	2.5	✓	✓	57%	58%
North Dakota	35	8.6	✓		79%	81%
Ohio	22	2.9	✓✓		72%	73%
Oklahoma	50	1.8	✓		49%	63%
Oregon	4	4.1	✓	✓	80%	79%
Pennsylvania	26	2.4	✓		72%	80%
Rhode Island	17	3.4	✓	✓	76%	83%
South Carolina	38	2.7	✓	✓	52%	55%
South Dakota	49	4.7	✓		79%	77%
Tennessee	45	1.9	✓	✓✓	50%	57%
Texas	47	0.8	✓		77%	74%
Utah	46	1.4	✓✓	✓✓	92%	88%
Vermont	1	14.9		✓✓	66%	75%
Virginia	19	3.0		✓	67%	71%
Washington	5	2.3	✓	✓	77%	80%
West Virginia	30	5.1	✓		52%	59%
Wisconsin	24	5.3	✓		71%	79%
Wyoming	29	8.3	✓		80%	77%
Total	N/A	2.7	6 states require; 41 recommend; 4 have no policy	16 states have policies with intent; 15 have policy without clear action/intent; 20 have no policies	75%	76%

Sources and notes:

* Union of Concerned Scientists¹¹
 Ranking ranges from 1 (highest level of food infrastructure) to 50 (lowest level of food infrastructure) and is based on number of farmers markets per 100,000 residents; number of food hubs per 1 million residents; number of food policy councils, coalitions, or networks per 1 million residents; capacity for food waste composting (index); and percentage of census tracts with at least one healthy food retailer within a half-mile of tract boundary.

** Centers for Disease Control and Prevention¹²
 *** Safe Routes to School¹³
 A state's Complete Streets policy can vary widely in true effect on decision making around roads. Stronger policies include language like "shall" or "must" that require follow-through on core actions. Weaker policies may refer to general Complete Streets principles without defining the specific considerations or processes to be followed.

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	Healthcare Coverage						
	Medicaid Coverage of Diabetes Prevention Program (as of 2018)*	State Medicaid Coverage of Obesity Prevention and Treatment Services (2017)**			State Employee Coverage of Obesity Prevention and Treatment Services (2017)**		
	Does the state's Medicaid coverage include the Diabetes Prevention Program?	Does the state's Medicaid coverage include Nutritional Consultation?	Does the state's Medicaid coverage include Pharmacotherapy?	Does the state's Medicaid coverage include Bariatric Surgery?	Does state employee healthcare coverage include Nutritional Consultation?	Does state employee healthcare coverage include Pharmacotherapy?	Does state employee healthcare coverage include Bariatric Surgery?
Alabama			√ ⁱ	√ ^{d,h}	√		√
Alaska				√ ^h	√	Undetermined	√
Arizona		√ ^h	√ ^{g,h}	√ ^d	√ ^h		√
Arkansas	√ ^c	Undetermined	Undetermined	√ ^d	√ ^{c(1)}		√ ^{i,j}
California	√ ^b	√ ^{c(2+)}	√ ^{e,g}	√	Undetermined	√ ^g	√
Colorado				√	√ ^d		√ ^g
Connecticut				√ ^d	√ ^{c(3)}	√	√
Delaware		Undetermined	√ ^d	√ ^d	√ ^{d,h}		√
D.C.		Undetermined		√ ^h	√ ^h	√ ^{a,g}	√
Florida		√ ^g		√	√ ^{d,g}		√ ^g
Georgia		√ ^{c(12)}		√	√ ^{b(3),d}		
Hawaii		Undetermined	√ ^b	√	Undetermined	√ ^{g,h}	√
Idaho			√ ^e	√ ^d	Undetermined		
Illinois				√	√ ^{b,d}	√ ^{g,h}	√ ^g
Indiana				√	√ ^h		√
Iowa				√ ^d	√ ^{c(10),g}		√ ^g
Kansas			√	√	√	√	√
Kentucky		√		√ ^h	√	√ ^{e,j}	√
Louisiana			√ ^{b,d}	√ ^{d,k}	√ ^{c(4),g}		
Maine		√ ^h		√ ^d	√ ^{c(10)}	√	√
Maryland	√ ^c			√ ^h	√		√
Massachusetts		Undetermined		√	√ ^{c(4),g}	√ ^{d,g}	√
Michigan		Undetermined	√ ^{d,k}	√ ^{d,h}	√ ^{c(6),g}	√ ^g	√ ^j
Minnesota	√ ^a	√		√	√ ^{c(3)}	√ ^g	√
Mississippi					√ ^{c(4)}		√ ^j
Missouri		Undetermined		√ ^d	√ ^{c(6)}	√ ^g	√
Montana	√ ^a				√ ^{c(3)}		
Nebraska				√ ^d	Undetermined		√ ^k
Nevada				√ ^d	√ ^{g,j}	√ ^{g,j}	√
New Hampshire		√ ^{c(1),g}	√ ^g	√ ^h	√ ^{c(3)}		√ ^d
New Jersey	√ ^b	Undetermined	√ ^g	√ ^{g,h}	√ ^{c(3)}	Undetermined	√
New Mexico		√ ^{c,g}		√	√ ^{a,e,g}	√ ^{e,h}	√
New York		Undetermined		√ ^h	√	√ ^e	√
North Carolina				√ ^d	√ ^{c(4)}	√	√
North Dakota		√ ^{c(4)}	√ ^e	√ ^d	√ ^{c(4)}	√ ^{g,h}	√
Ohio		√ ^{d,f}		√	√ ^{c(2+)}		√
Oklahoma		√ ^{c(6),d}		√ ^{d,f}	√ ^{c(3)}	Undetermined	√ ^{g,k}
Oregon	√ ^c	√ ^j	Undetermined	√ ^b	√ ^{c(4+)}	√ ^{g,h}	√ ^k
Pennsylvania	√ ^c			√ ^k	√ ^{c(2)}		
Rhode Island		√ ^h	√ ^{b,c}	√	√ ^{c(6)}	√ ^h	√
South Carolina		√	√ ^d	√ ^{d,k}			
South Dakota		√ ^{g,i}		√ ^d	Undetermined	√ ^h	√ ^j
Tennessee		√ ^g		√	√ ^{c(3)}	√ ^h	√ ^j
Texas				√ ^d	Undetermined		√ ^{a,b,g}
Utah		√ ^{c(2),g}		√ ^d	Undetermined		
Vermont	√ ^a	√ ^{c(3),f}		√ ^d	√ ^{c(3),h}		√
Virginia		Undetermined	√ ^{d,e}	√	√ ^{c(1+)}	√ ^{a,e,g}	√ ^j
Washington				√ ^d	√ ^b		√
West Virginia		√ ^{h,j}		√	√ ^{c(2),d}		√ ^{i,k}
Wisconsin		Undetermined	√ ^b	√ ^k	√ ^h		√ ^{g,i}
Wyoming		√ ^{c(12)}		√	Undetermined	√ ^{b,e}	Undetermined
Total	9 states	21 states	16 states	49 states	42 states	23 states	43 states

Sources and notes:

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- a. Currently covering (as of 2018)
- b. Passed legislation to cover the program by 2018, with plans for implementation in 2019
- c. MD and OR participated in a CDC-funded demonstration project in 2018; AR and PA conducted pilots with Medicaid Managed Care Organizations in 2018

**Jannah, et al.¹⁶

Undetermined indicates that program materials were silent on coverage or provided inadequate and/or contradictory evidence of coverage for a given service for nonpregnant adult beneficiaries (21+) with obesity; actual reimbursement may or may not have been available in these states.

Pharmacotherapy included a review of coverage for FDA-approved medications indicated for chronic weight management (orlistat, lorcaserin, phentermine-topiramate, naltrexone-bupropion, and liraglutide) and short-term weight management (benzphetamine, diethylpropion, phendimetrazine, and phentermine).

- a. discount only and/or significant cost-sharing applies (> 50% of expected cost)
- b. lifetime cap on service (# indicates specified quantity limit)
- c. annual cap on service (# indicates specified quantity limit)
- d. comorbidity required
- e. severe obesity only
- f. service offered only through specified program and/or setting
- g. coverage not specified by all plans
- h. scope of services and/or coverage criteria unclear
- i. temporary provision through pilot program
- j. co-enrollment in related program / service required
- k. atypical prior authorization and/or coverage criteria specified

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