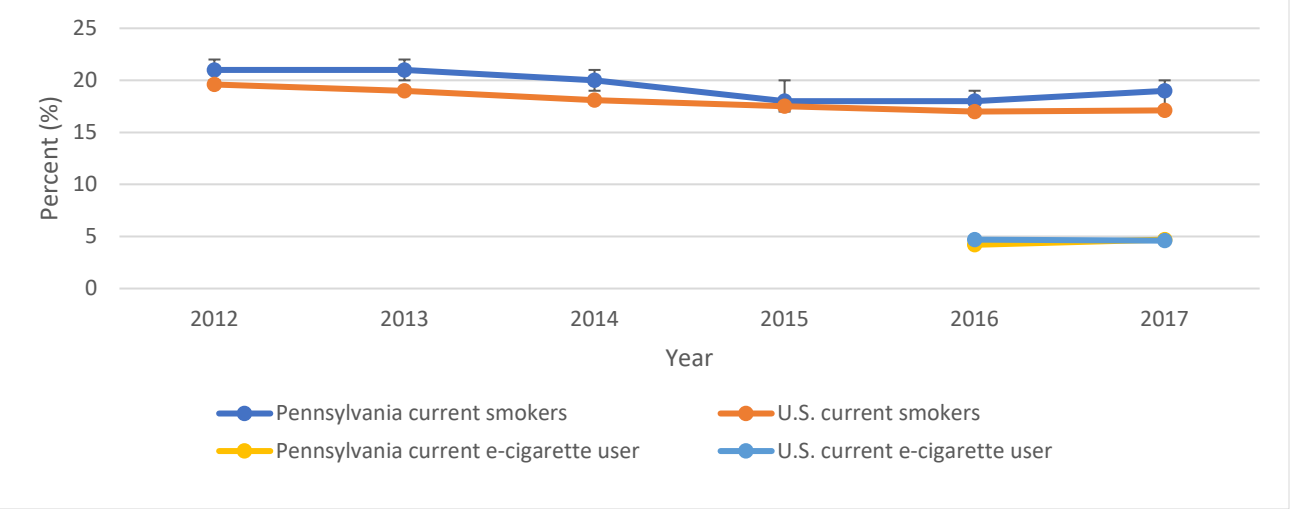
Tobacco Use and Exposure

Tobacco use remains the leading preventable cause for death and disease in the United States. According to the U.S. Centers for Disease Control and Prevention (CDC), cigarette smoking causes 480,000 deaths annually, or about one out of every five deaths.[1] According to the CDC, more than 16 million Americans are living with a disease caused by smoking. For every smoking-related death, there are at least 30 people living with a serious smoking-related illness such as cancer, heart disease, lung diseases, strokes and numerous other lifelong health diseases. Exposure to secondhand smoke also poses serious health threats, including heart disease, lung cancer and stroke among adults and asthma attacks, bronchitis and pneumonia, and sudden infant death syndrome (SIDS) among children.[2]

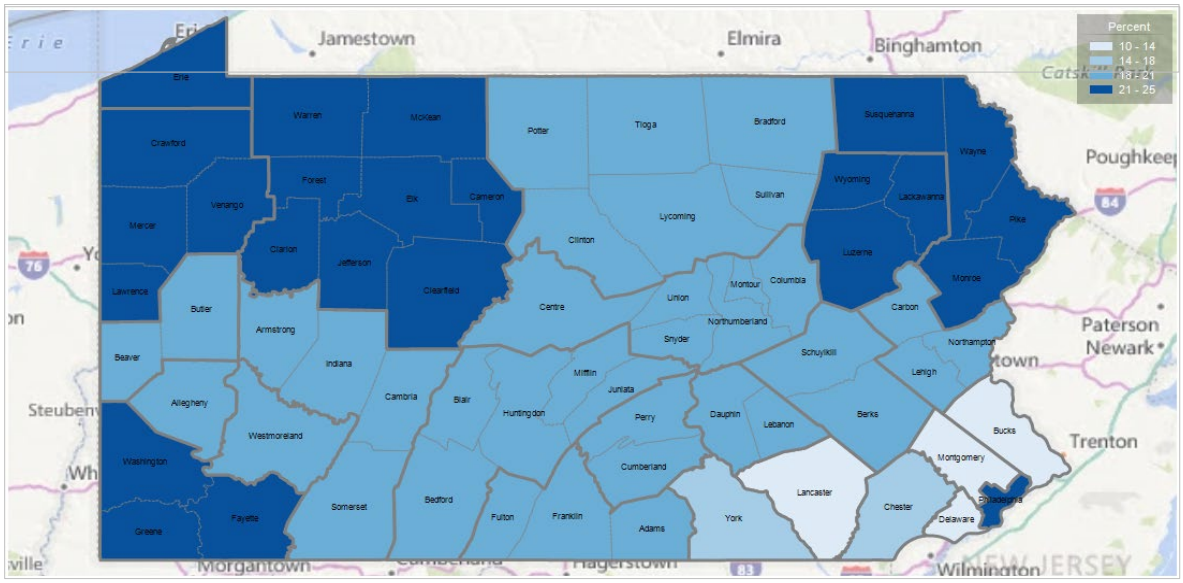
Figure 3.1 Percent of U.S. and Pennsylvania Population that are Current Cigarette Smokers (2012-2017) and E-cigarette Users (2016-2017)[3,4]



In Pennsylvania, 19 percent of adults were current smokers in 2017.[5] This is relatively unchanged from the past few years but is higher than the smoking rate of 17.1 percent in adults in the country.[6] It is not clear yet whether e-cigarettes will impact tobacco rates in the longer term.

According to the 2017 Youth Risk Behavior Survey (YRBS), 18.7 percent of high school students in Pennsylvania reported current use of any tobacco product, which was defined as one or more days of use of any tobacco product in the past 30 days. E-cigarettes were more likely to be used than cigarettes among high school students (11.3 percent vs. 8.7 percent). Use of any tobacco product was higher among male students (22.2 percent) than among female students (15 percent) in high schools.[7]

Figure 3.2 Percent of Pennsylvania Population that are Current Cigarette Smokers, Adults, by Region, 2015-2017[8]

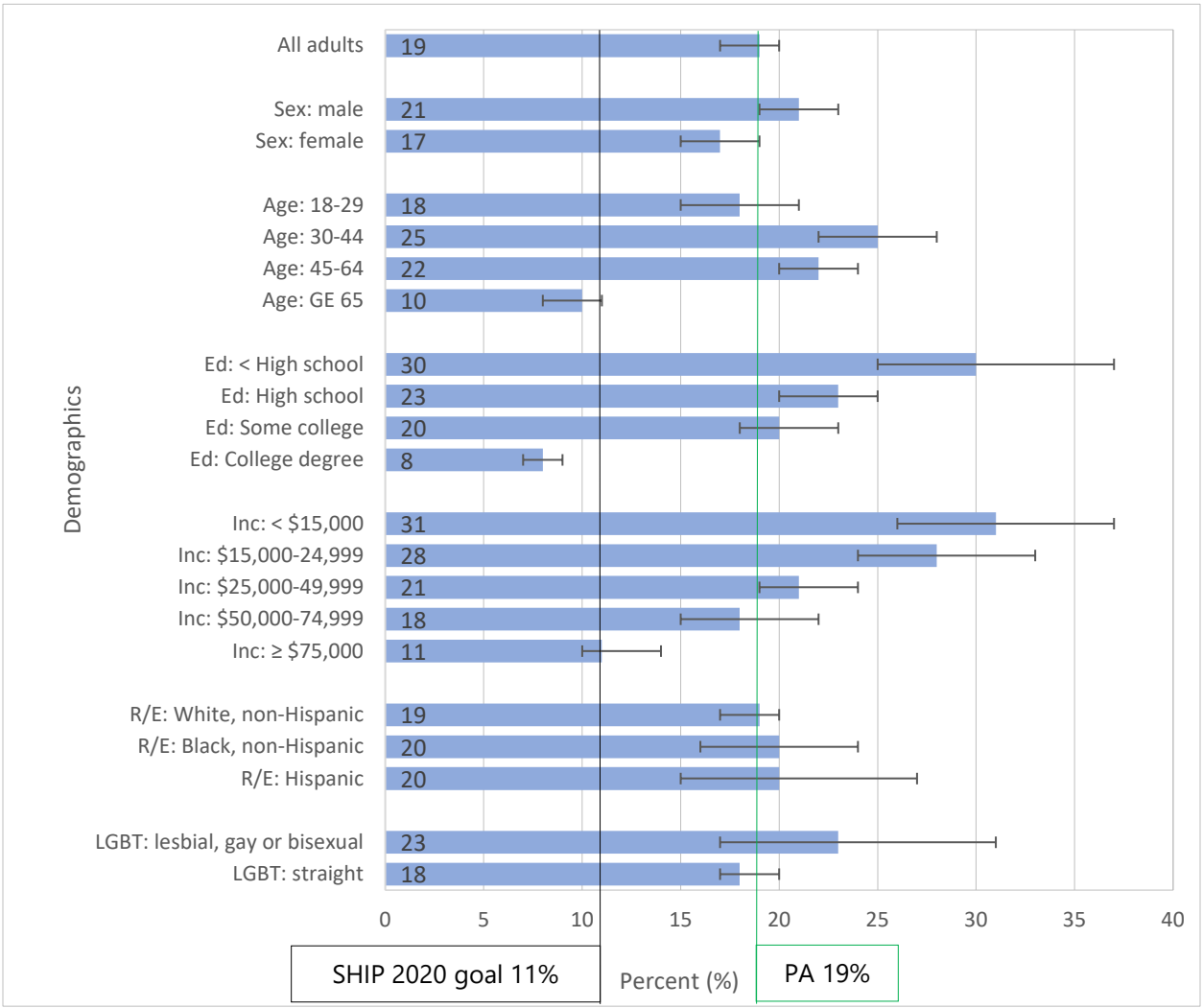


Percent (%) **10-14** **14-18** **18-21** **21-25**

County Differences

Based on the BRFSS data, the average cigarette smoking rate was 18 percent in Pennsylvania from 2015 through 2017,[9] with varied prevalence of cigarette use across counties. Cigarette smoking rates were highest (25 percent) in the rural counties of Lackawanna, Luzerne and Wyoming in the northeast region. Similarly, the cigarette smoking rate was also high in the counties of Crawford, Lawrence, Mercer and Venango in the northwest region. The cigarette smoking rates were lowest in Bucks (10 percent), Lancaster (11 percent), Delaware (11 percent) and Montgomery (11 percent) in the southeast region.

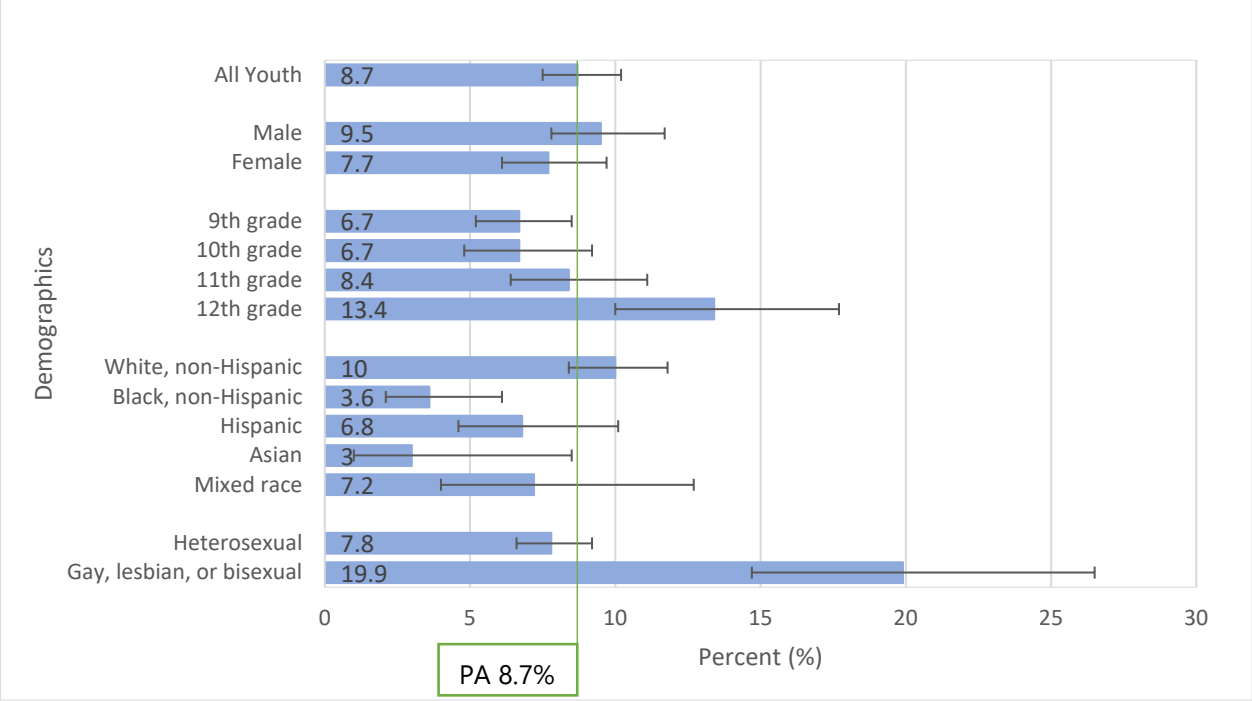
Figure 3.3 Percent of Pennsylvania Population that are Current Cigarette Smokers, Adults by Demographic, 2017[10]



Demographics of Pennsylvania's Smokers

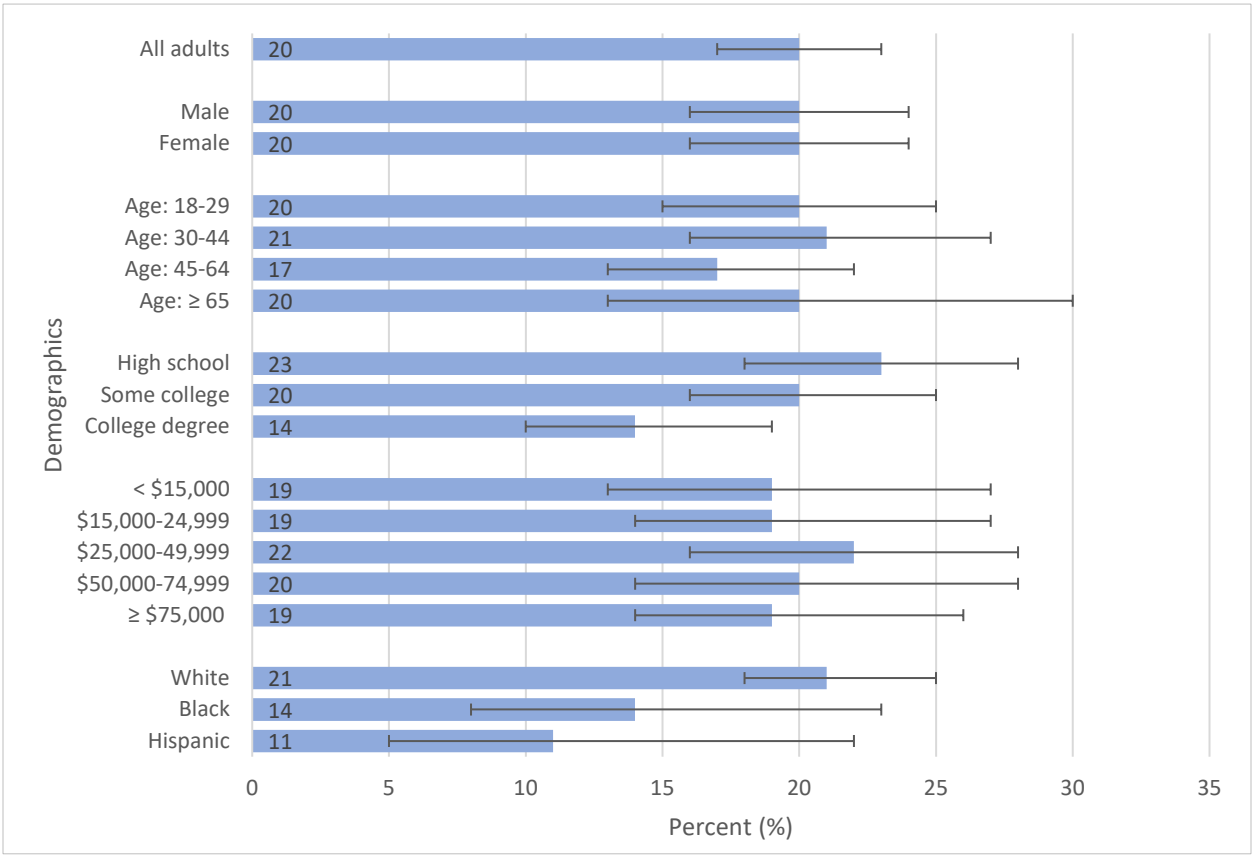
According to the BRFSS data, 21 percent of males and 17 percent of females smoked in Pennsylvania in 2017, consistent with the national and state trends in the past few years. Cigarette smoking rates were highest in adults aged 30-44 years (25 percent), followed by adults aged 45-64 years (22 percent). Of note, the cigarette smoking rate was particularly high among adults aged 25 years or older without a high school diploma (30 percent) and among adults with an annual household income of less than $15,000 (31 percent). Cigarette smoking rates were inversely associated with educational level and annual household income. By sexual orientation, cigarette smoking rates were higher in the lesbian, gay and bisexual population (23 percent) than in the heterosexual population (18 percent).[11]

Figure 3.4 Percent of Pennsylvania Population that are Current Cigarette Smokers, High School Students, by Demographic, 2017[12]



According to the 2017 YRBS, the prevalence of current cigarette smoking was highest among 12th grade students (13 percent), followed by 8 percent among 11th grade students, and 7 percent among 9th and 10th grade students. By race and ethnicity, current cigarette smoking was highest among white students (10 percent) among all races, followed by Hispanics (6.8 percent) and mixed-race students (7.2 percent). Black and Asian students had the lowest smoking rates of 3.6 percent and 3 percent, respectively. There is a large disparity in the smoking rates between the LGBT population and heterosexual students (19.9 percent vs. 7.8 percent).

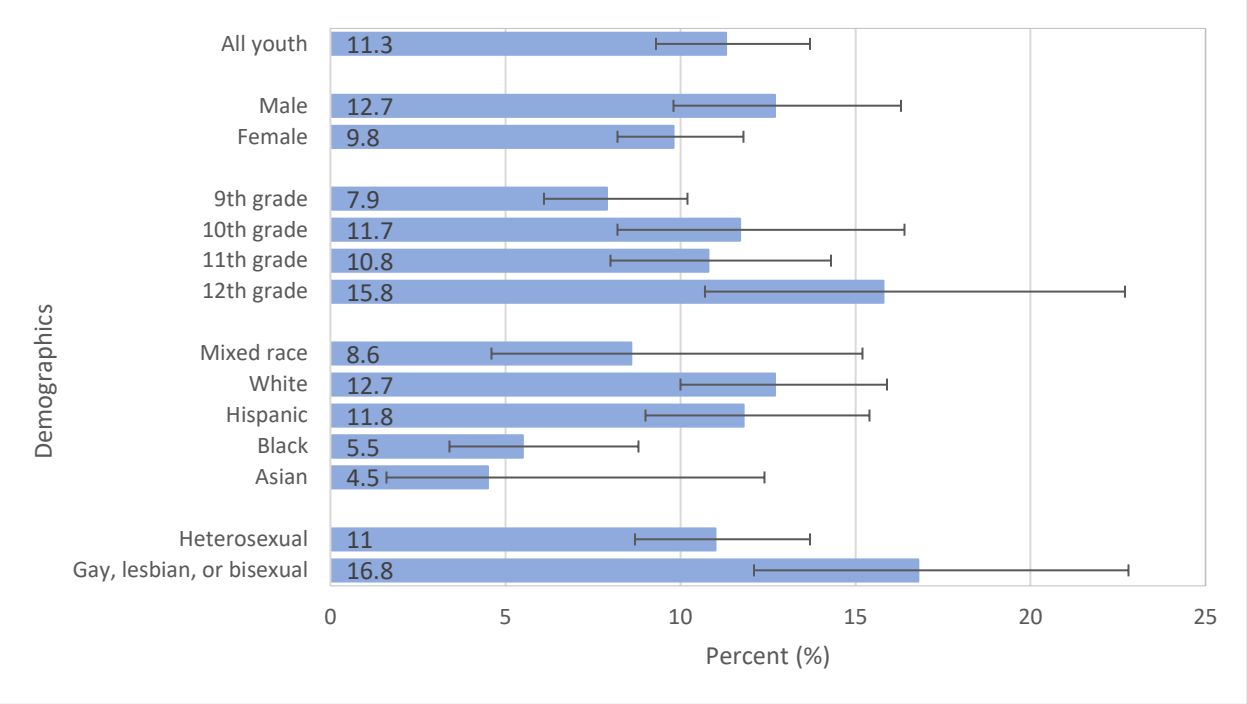
Figure 3.5 Percent of Pennsylvania Population that Currently Use E-cigarettes, Adults, by Demographic, 2017[13]



BRFSS began to include questions about use of e-cigarettes in 2016. Data collected in 2017 show that 11 percent of individuals with an annual income greater than $75,000 used electronic vaping products, slightly higher than those with an annual income between $15,000 and $24,999 (10 percent) in Pennsylvania. By race and ethnicity, 8 percent of white adults used e-cigarettes every day, higher than that among Hispanics (3 percent) and four times that of blacks (2 percent) in Pennsylvania.

According to YRBS, in 2017, 11.3 percent of Pennsylvania high school students used an electronic vaping product. The percent of male students who used electronic vaping products was higher than female students (12.7 percent vs. 9.8 percent). The percent of white students who used electronic vaping products was higher than any other race and ethnicity.

Figure 3.6 Percent of Pennsylvania Population that Currently Use Electronic Vaping Products, High School Students, by Demographic, 2017[14]



Public Health Implications

Nationally, tobacco use remains the leading cause of preventable death, disability and disease.[15]

- Every year, nearly half a million Americans prematurely die from smoking or exposure to second hand smoke.[16]
- Another 16 million Americans live with a serious illness caused by smoking.[17]
- The U.S. spends about $170 billion each year to treat smoking related illnesses in adults.[18]
- Over $156 billion in lost productivity due to premature death from smoking or/and secondhand smoking.[19]
- Each day, about 2,000 youth (younger than 18 years) smoke their first cigarette.[20]

In Pennsylvania, cigarette smoking costs over $14 billion in health care expenses and lost productivity each year.[21]

- Annual health care costs directly related to smoking exceed $6.3 billion.
- Medicaid costs for smoking exceed $2 billion.
- The federal and state tax burden on Pennsylvania residents from smoking-related government expenditures is $1,026 per household.
- Productivity losses caused by smoking exceed $5.7 billion.

Studies have found that youth are twice as sensitive to tobacco advertisement as adults and are more likely to be influenced by cigarette marketing than by peer pressure. One-third of underage experimentation with smoking can be attributed to tobacco company advertising. The tobacco industry spends $9.5 billion on marketing each year. Of that, it's estimated that $443.9 million is spent for Pennsylvania marketing each year.[22]

Pennsylvania's Role

Healthy People 2020

Pennsylvania's goals for Healthy People 2020 are to:

- Reduce tobacco-related morbidity and mortality among all Pennsylvanians;
- Change community norms through state-advised, community-driven systems that create environments in which it is uncommon to see, use or be negatively impacted by tobacco products and tobacco smoke pollution (secondhand smoking);
- Achieve an age-adjusted prevalence rate of 12 percent or less for adult tobacco users; and
- Reduce current smoking rates for grades nine through 12 to less than 16 percent.

Pennsylvania Tobacco Prevention and Control Program (2018–2022)[23]

This strategic plan is a coordinated effort between the Pennsylvania Department of Health, key partners and other stakeholders to significantly decrease tobacco-related morbidity, mortality and economic costs in Pennsylvania. The plan identifies the following five goals:

- **PREVENT** initiation of all tobacco product use among youth and young adults;
- **PROMOTE** cessation efforts among adults and youth to address all tobacco product use;
- **ELIMINATE** exposure to secondhand smoking;
- **IDENTIFY AND ELIMINATE** all tobacco product disparities; and
- **ENHANCE** Pennsylvania's role as a nationally recognized leader in tobacco control programs and policies.

Intervention Strategies

The Pennsylvania Tobacco Control Program was established by the Department of Health (DOH) Bureau of Health Promotion and Risk Reduction, Division of Tobacco Prevention and Control (DTPC) under Chapter 7 of Act 2001-77, the Tobacco Settlement Act. Pennsylvania's evidence-based statewide tobacco control program is comprehensive, sustainable and accountable; it uses a coordinated effort to establish smoke-free policies and social norms to promote and assist tobacco users to quit and to prevent initiation of tobacco use. The program's mission is to reduce disease, disability and death related to tobacco use.

Substance abuse effort: preventing youth access

The Pennsylvania DOH is responsible for the oversight and implementation of the annual Synar Survey of retail outlets that sell tobacco to determine the rate of illegal sales of tobacco to youth under 18 years old. This survey is a federal requirement of the Substance Abuse Prevention and Treatment Block Grant, and since 2002, the goal of the Substance Abuse and Mental Health Service Administration (SAMSHA) has been 20 percent or less. In Pennsylvania, illegal sales of tobacco to youth under the age of 18 have been measured at 10 percent or less since 2004. In 2017, the rate was 7.3 percent (with a 95% confidence interval of 0.5 percent to 9.2 percent).[27]

FDA enforcement initiative

In 2010, Pennsylvania was selected as one of 15 states to contract with the Food and Drug Administration (FDA) to enforce the Family Smoking Prevention and Tobacco Control Act by conducting inspections of tobacco retail establishments across the state. This act requires the FDA to limit access to tobacco products among young population, impose age restrictions for the purchase of cigarettes and smokeless tobacco products, set restrictions on marketing, and to curb the appeal of these products to minors.

Every state in the initiative is required to identify adults to complete an FDA application and review process to become an FDA commissioned officer. Pennsylvania has 33 commissioned officers. Under the coordination of the DOH, Pennsylvania's officers conduct and report the outcomes of two types of FDA compliance checks on a minimum of 20 percent of the state's tobacco retail outlets:

- Youth access compliance checks ensure retailers are not selling tobacco to those younger than 18 years.
- Advertising and labeling checks ensure regulations are followed.

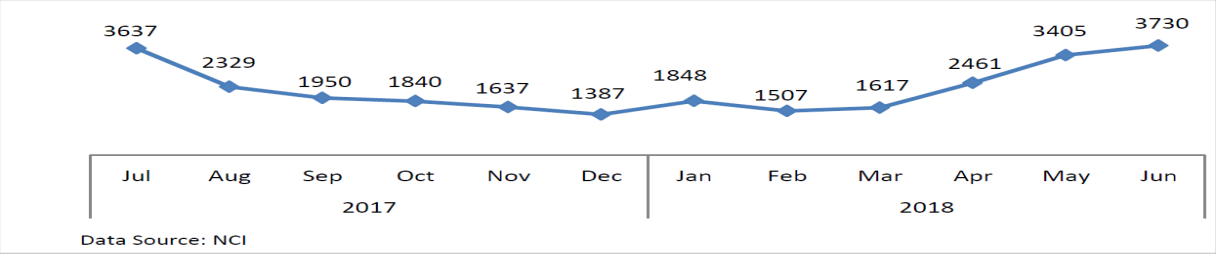
Pennsylvania's Free Quitline

Pennsylvania's Free Quitline is available 24 hours a day, seven days a week. English- and Spanish-speaking counselors are always available; speakers of other languages are available as needed.

Teen and adult tobacco users receive counseling from trained intake specialists and cessation counselors. After the initial call to the Quitline, callers who are ready to quit determine a quit date and are offered up to five free one-on-one counseling calls to assist them through the quitting process. The sessions are tailored to the individual needs of the caller, focusing on specific strategies and actions for that caller. Callers who are not ready to quit receive self-help materials and tailored fact sheets.

Smokers who use quit aids, like nicotine patches and counseling, are twice as likely to quit for good. The PA Free Quitline is now offering up to eight weeks of free nicotine patches and free cessation counseling to smokers in Pennsylvania.

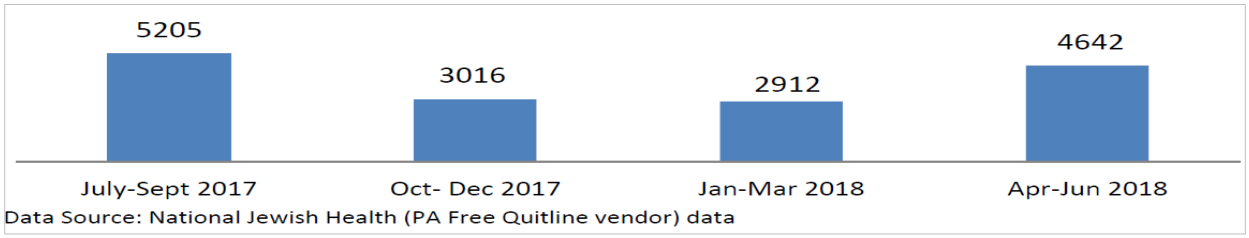
Figure 3.7 Pennsylvania Call Attempts to 1-800-QUIT-NOW[24]



The Pennsylvania Free Quitline (1-800-QUIT-NOW) is a proactive, multi-session telephone counseling program that is funded by the Pennsylvania Department of Health, Division of Tobacco Prevention and Control (DTPC). Since 2002, the PA Free Quitline has served over 385,000 callers.

Ongoing goals of the PA Free Quitline include increasing overall call volume, improving counseling retention, increasing service use among disparately impacted populations, increasing quits, and increasing Quitline awareness among the public and health care providers. To achieve these goals, in SFY 2017/2018, Pennsylvania supported PA Free Quitline NRT distribution, continued to offer additional supportive services (e.g., QuitLogix, text support), and consulted with a cessation workgroup made up of Regional Primary Contractors, DTPC staff and evaluation team members. From July 1,2017, to June 30, 2018, 15,775 tobacco users requested services from the PA Free Quitline. During this period, 9,723 tobacco users enrolled in PA Free Quitline counselling, receiving at least one counselling call. An additional 1,261 existing clients who had completed intake in previous fiscal years continued to receive services.

Figure 3.8 Tobacco Users Requesting Information From the PA Free Quitline by Quarter (July 2017-June 2018)[25]



Fax to Quit

Pennsylvania implemented two fax referral pilot projects in the northeast and northwest regions of the state, with an outcome goal of achieving a Quitline enrollment rate of at least 40 percent. DOH plans to expand the fax

referral initiative into other regions and will educate health care providers about effectively providing tobacco prevention and cessation services to lesbian, gay, bisexual and transgender populations through a continuing education initiative with the Pennsylvania Medical Society. From July 2017 to June 2018, there were 3,895 Fax to Quit referrals received in the commonwealth. Overall, 22 percent of fax referrals received resulted in enrollment.[26]

HealthyWoman Program

Beginning in 2009, the HealthyWoman Program increased support for tobacco cessation as part of outreach and awareness education services. The HealthyWoman program provides free mammograms, clinical breast exams, education on breast self-exams, Pap tests and pelvic examinations. Services are available to women aged 40 to 65 years who are low income and have limited or no insurance.

A cross-promotional brochure has been developed to increase awareness of free services available from the Quitline and, the HealthyWoman Program.

PA cAARds

To address the dual risk of tobacco use and diabetes, the DTPC and the Diabetes Prevention and Control Program developed the PA cAARds initiative. Through this effort, health care professionals from both fields are trained to ask patients about diabetes and smoking status, advise them about behaviors that will improve their health and refer them to appropriate resources.

Smoke Free Multi-Unit Housing

Beginning in October 2013, Pennsylvania's statewide Smoke Free Multi-Unit Housing initiative was launched because of a successful pilot in select regions of the commonwealth. DOH works with multi-unit housing associations, local housing authorities, local government officials, tenant associations and other stakeholders to explore opportunities to promote smoke free multi-unit housing. The statewide objective is to increase the number of people newly protected by smoke free policies in multi-unit housing. An online curriculum of how to implement a smoke-free policy in multi-unit housing properties like apartments and condominiums is used as a starting point for policy work. Fifty-three new multi-unit housing sites adopted smoke free policies, and, as a result, 22,350 residents were newly protected by multi-unit housing policies in 2018.[27]

Young Lungs at Play

In June 2010, DOH partnered with the Penn State Cooperative Extension to implement Young Lungs at Play in Pennsylvania. Through the creation of tobacco free parks, community playgrounds and recreational areas, this health policy change initiative aims to decrease smoking prevalence, teen smoking initiation and exposure to secondhand smoke. YLAP volunteers educate municipal officials, stakeholders and residents about the health and environmental consequences of tobacco use and promote policy change through the passage of tobacco free ordinances or resolutions that ban tobacco use in outdoor spaces where children play. YLAP signs are displayed in support of tobacco free ordinances, to increase awareness of tobacco bans.[28]

Figure 3.9 Young Lungs at Play Sign

In 2017-18, there have been 32 municipalities, 3 school districts and 59 organizations which have implemented outdoor tobacco free policies and 263 parks, playgrounds and other outdoor spaces became tobacco free with the result that 78 percent of children under the age of 15 currently live in municipalities/counties participating in Young Lungs at Play.[29]

Endnotes

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[10] Pennsylvania Behavioral Risk Pennsylvania Behavioral Risk Factor Surveillance System (2017). Retrieved from: https://www.phaim1.health.pa.gov/EDD/WebForms/BRFSSstate.aspx

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Obesity and Overweight

The U.S. Centers for Disease Control and Prevention (CDC) defines "overweight" in adults as a body mass index (BMI) of 25 to 29.9, "obesity" as a BMI of 30-39.9 and "morbid obesity" as a BMI of 40 or more. BMI is calculated by dividing a person's weight in pounds by height in inches squared.[1]

Figure 3.10 BMI Calculation[2]

$$\frac{\text{(weight in pounds)}}{\text{(height in inches) x (height in inches)}} \times 703$$

or,

$$\frac{\text{(weight in kilograms)}}{\text{(height in meters) x (height in meters)}}$$

In Pennsylvania, the percent of adults meeting the criteria as overweight or obese has increased over the past decade. By 2017, 35 percent of residents 18 years and older were considered overweight and 32 percent were considered to have obesity, identical to the U.S. rates for overweight and obesity for the same year.[3] Pennsylvania's SHIP goal is to decrease the percent of obese adults to 27 percent by December 2020.

Figure 3.11 U.S. and Pennsylvania Adults Obesity, Overweight, 2011-2017[4,5]

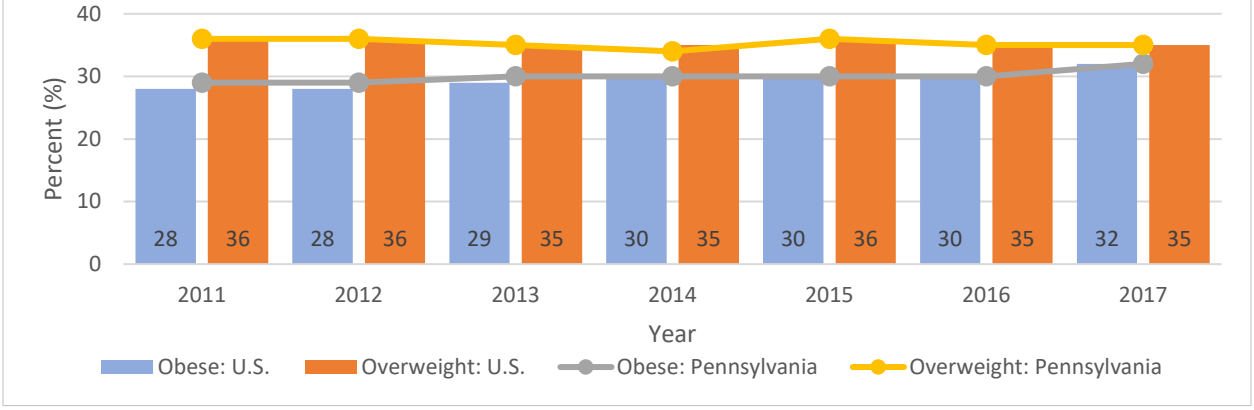
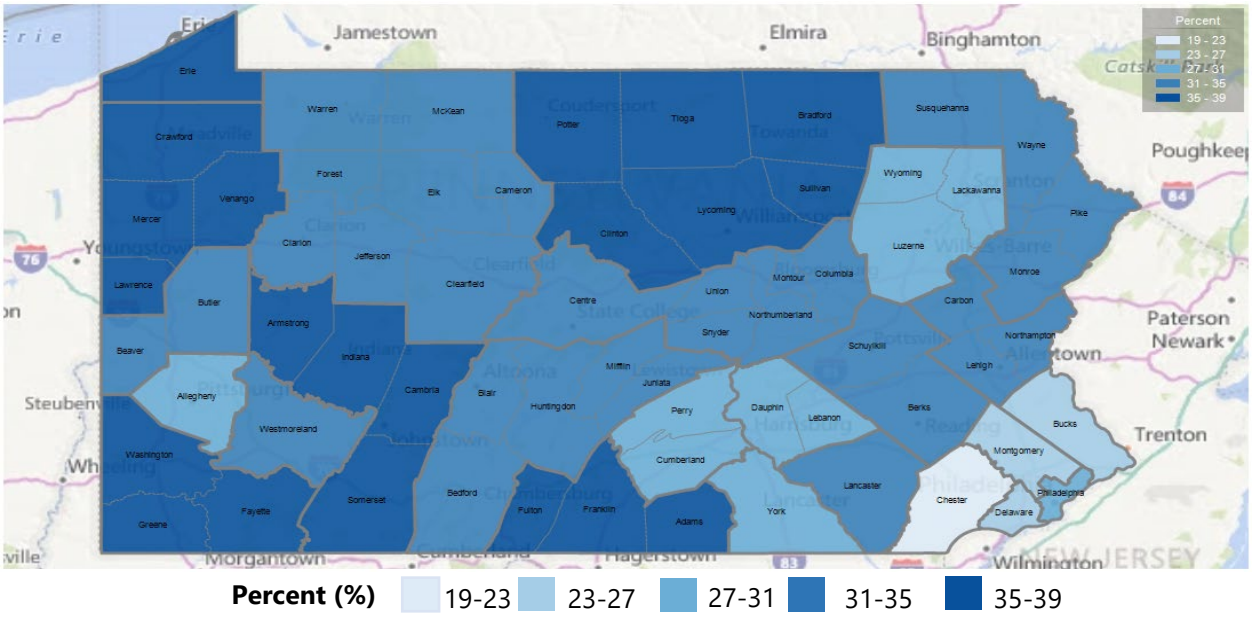


Figure 3.12 Pennsylvania Adults Who Have Obesity, by Region, 2015-2017[6]



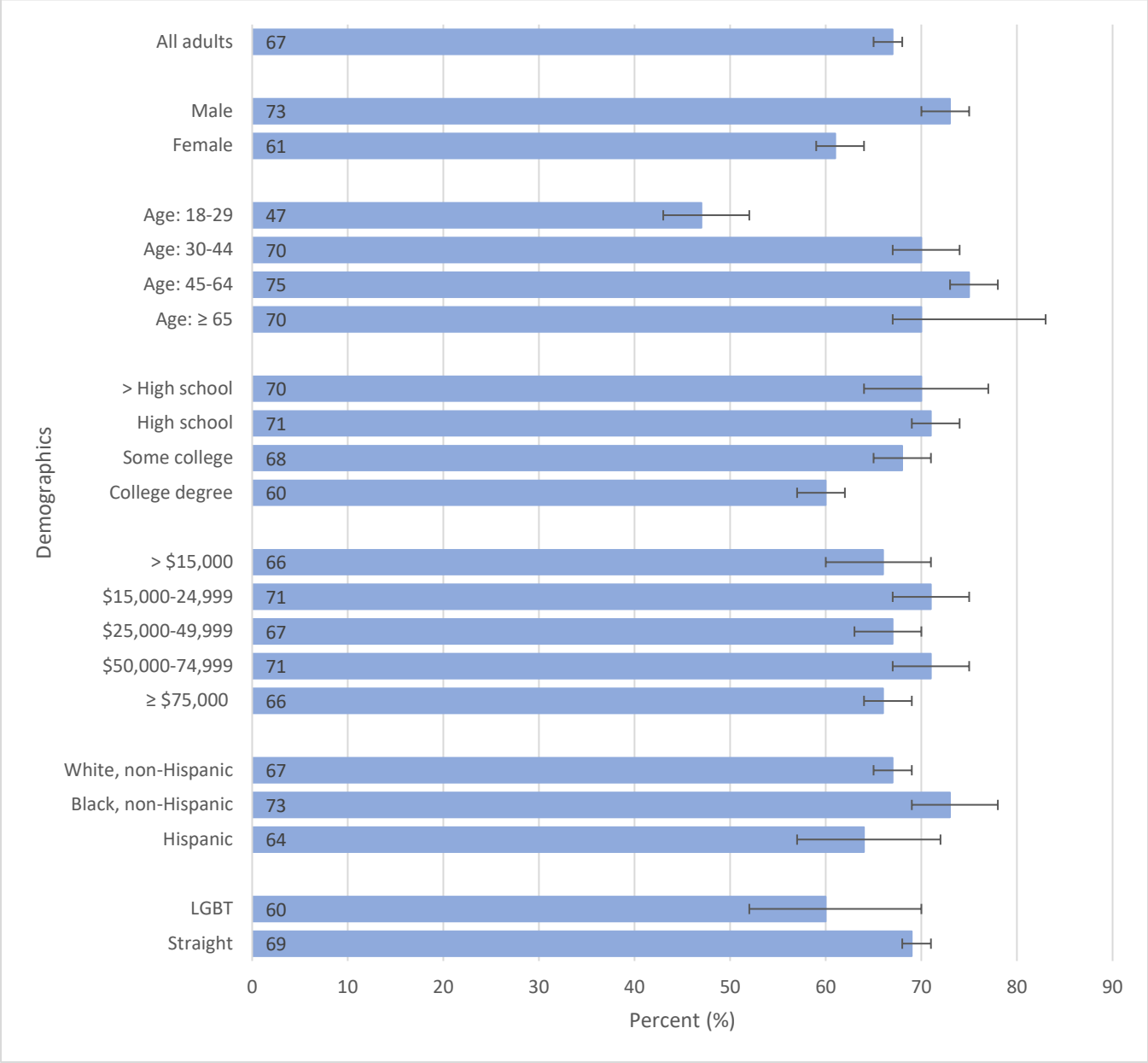
The highest rates of obesity (35-39 percent) are found in the northwest (Erie, Crawford, Mercer, Lawrence and Venango), southwest (Washington, Greene, Fayette, Somerset, Cambria, Indiana and Armstrong), north central (Potter, Tioga, Bradford, Clinton, Lycoming and Sullivan) and south central (Fulton, Franklin and Adams) regions of the state.

Demographics

As shown in below in Figure 3.13 a significantly lower percentage of Pennsylvania adults between the ages of 18 and 29 years old were overweight or had obesity compared to adults of other age groups in 2017. Female residents were significantly less overweight or obese than males (61 and 73 percent, respectively).

Higher rates of obesity and overweight were seen in non-Hispanic black residents (73 percent) compared with non-Hispanic white residents (67 percent).

Figure 3.13 Pennsylvania Adults Who Have Obesity or Overweight, by demographic, 2017[7]



Youth

From age two through 20 years of age, persons have different body fat; therefore, health care providers must rely on BMI-for-age rather than standard BMI adult measurements.[8] BMI-for-age is plotted on separate growth charts to determine the percentile ranking, with the child's own numbers plotted for easy comparison with normative curves and same-age peers.

Body mass index (BMI) should not be used as the sole tool for determining overweight and obesity in children. Physically active children may have higher BMIs due to the presence of more muscle, which weighs more than fat.[9] Consulting a health care provider and tracking growth over time are more important than a one-time measurement. In addition, it's important for all children, regardless of BMI, to be active and eat healthy foods.

Youths with overweight and obesity are at higher risk of health problems, such as high blood pressure, type 2 diabetes, heart disease, asthma, joint problems, gallstones and some forms of cancer. They are also at higher risk of developing these conditions in adulthood.[10,11]

Table 3.1 Childhood BMI-for-Age Weight Status Categories and Corresponding Percentiles[12]

Weight Status	Percentile Range
Underweight	Less than the 5th percentile
Healthy weight	5th percentile to less than the 85th percentile
Overweight	85th to less than the 95th percentile
Obese	Equal to or greater than the 95th percentile

In Pennsylvania, 16.4 percent of children in grades K to six and 18.9 percent of children in grades seven to 12 were reported as having obesity during the 2016-17 school year. The national Healthy People 2020 (HP2020) goals for childhood weight are: to decrease the rate of obesity to 15.7 percent for children in grades K to six and to 16.1 percent for those in grades seven through 12. Pennsylvania childhood obesity rates have not yet reached the Healthy People 2020 goals.[13]

Table 3.2 Children With Obesity by Age Group, Pennsylvania, 2013-2016 and HP Goal 2020[14]

Category	2013-14	2014-15	2015-16	2016-17	HP2020 Goal
Percent of children grades K-6 who have obesity (BMI at or above 95th percentile)	16.4	16.5	16.7	16.4	15.7
Percent of children grades 7-12 who have obesity (BMI at or above 95th percentile)	18.3	18.6	19.0	18.9	16.1

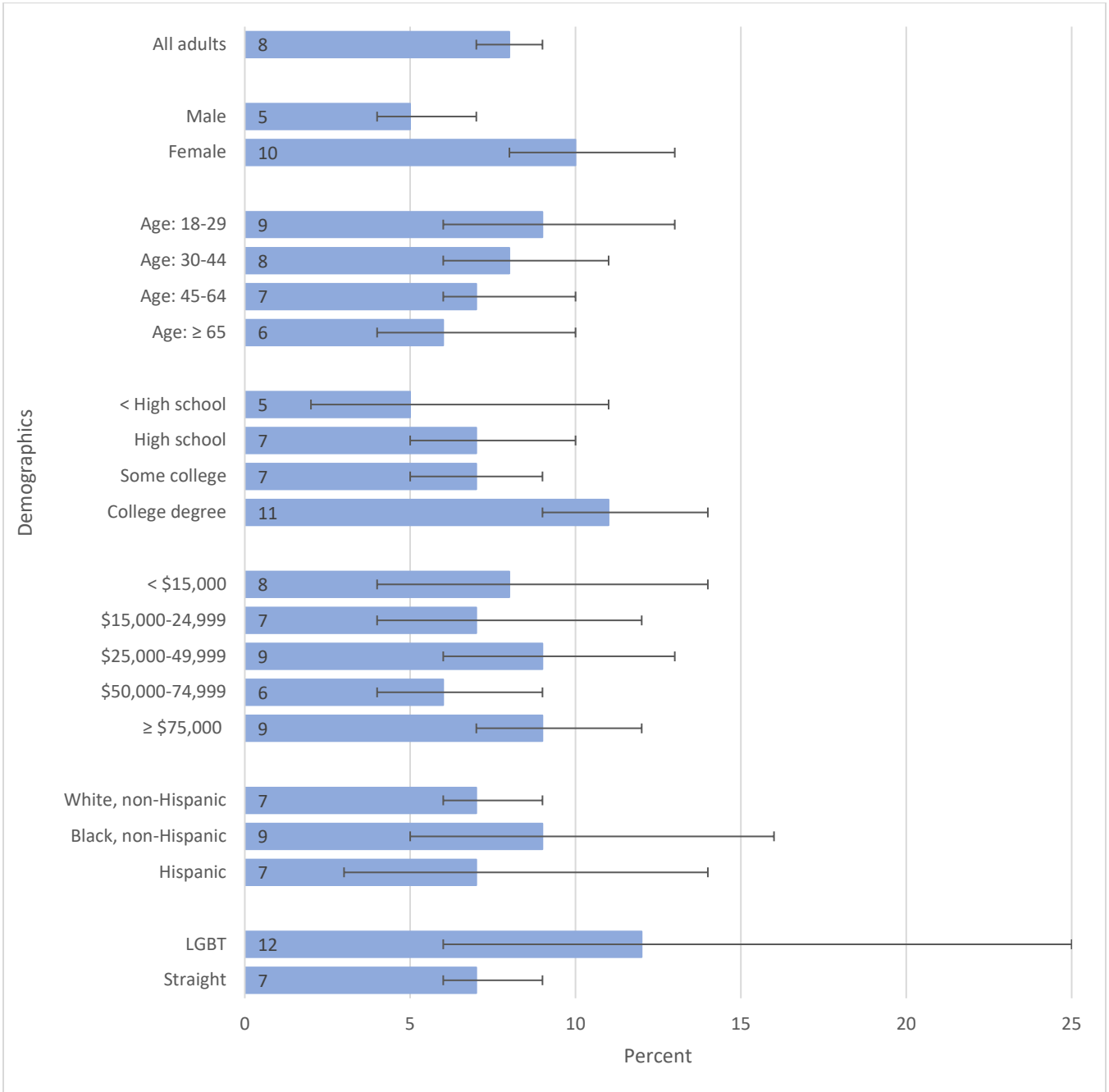
Risk and Protective Factors

The physiological target for obesity prevention is balancing energy intake with the energy needed for bodily functions and physical activity, to prevent the accumulation of excess body fat. Evidence of upward trends in BMI indicates positive energy balance at a population level: on average, people are consuming energy more than their energy expenditure. While there are many factors related to being overweight or obese, the primary focus is on habits related to nutrition and physical activity. Diets high in fruits and vegetables and low in fat and sugar help protect against the development of obesity. Likewise, adequate energy expenditure through physical activity is also a protective factor.[15]

Of Pennsylvania adults, 53 percent participate in the recommended 150 minutes of physical activity or the vigorous equivalent of 75 minutes each week. Those with lower family incomes are less likely to engage in recommended levels of physical activity (see the section below on physical activity for additional details).

Dietary guidelines recommend consuming at least five servings of fruits and vegetables each day to help protect against obesity. In 2017, 92 percent of Pennsylvania residents and 90 percent of U.S. residents said they eat less than the recommended number of servings each day. In Pennsylvania, females are twice as likely to have consumed the minimum recommended servings of fruits and/or vegetables each day than males. See figure 3.14 below for more information.

Figure 3.14 Consumes at Least Five Servings of Fruits and/or Vegetables Every Day, Adults, by Demographic, Pennsylvania, 2017[16]



Intervention Strategies

Pennsylvania employs a variety of obesity prevention and wellness promotion initiatives, as described below. These fall into several categories:

- Community-based interventions; and
- School-based interventions.

Obesity Prevention and Wellness Section, Pennsylvania Department of Health

The Obesity Prevention and Wellness Section focuses on creating supportive nutrition environments in multiple sectors, including early care and education centers (ECEs), schools, worksites and communities. The department is working with partners to promote the adoption of and implementation of food service guidelines/nutrition standards, which include addressing sodium in worksites, ECEs and schools. In communities, the department is working with partners to increase access to healthy foods and beverages by providing access to healthier food options via the Healthy Pantry initiative. In communities and birthing facilities, the department is working to implement interventions supportive of breastfeeding. The department is also working with school districts to implement policies and practices that create supportive nutrition environments.

Educating Practices/Physicians in their Communities (EPIC): pediatric obesity evaluation, treatment and prevention in community settings (2011-2019)

The purpose of EPIC is to deliver an educational curriculum about childhood obesity screening, treatment and prevention within primary care practice settings to address protocols to:

- Ensure universal childhood obesity screening;
- Identify appropriate patient education materials to prevent and treat overweight children; and
- Refer patients to community resources such as weight management programs, nutritionists and dietitians.

WalkWorks (Pilot from 2010-2012; 2014-ongoing)

This program provides funding and technical assistance to numerous communities (through an application process) to develop activity-friendly walking routes and adopt plans or policies that prioritized safe and accessible transportation for all users, regardless of age, ability or zip code. Through this program, WalkWorks partners have implemented 89 community-based walking routes, or activity-friendly routes, in 21 counties. These walking routes utilize existing sidewalks and provide connectivity to community destinations such as schools, parks, community centers, grocery stores and historical sites. Twelve communities, such as boroughs or townships, have adopted health in all policies. Five boroughs or townships have adopted active transportation plans, which is a comprehensive set of strategies to ensure better options for biking, walking and transit. Lastly, one county adopted a complete streets and vision zero policy while one borough adopted a complete streets policy. WalkWorks anticipates having 11 communities adopt a health in all policies resolution, eight communities adopt active transportation plans and three communities adopt complete streets policies by Sept. 30, 2019. Additional information, including access to all 89 walking routes, are available at www.pawalkworks.com.

Safe Routes to School and Capacity Building Mini-Grant Programs[17] (2012-ongoing)

Pennsylvania Nutrition and Physical Activity Self-Assessment for Child Care (PA NAP SACC) Mini-Grant Program

PA NAP SACC strives to prevent childhood obesity by improving nutrition environments and increasing opportunities for physical activity in early childhood education centers (ECE). Using a web-based self-assessment tool and the principles of continuous quality improvement, ECEs receive technical assistance to make changes to nutrition and physical activity practices and policies, in accordance with national standards for obesity prevention. Mini-grants support ECE implementation of sustainable action plan goals.

School Wellness Mini-Grant Program

The goal of the school wellness program is to prevent childhood obesity by improving school nutrition environments and increasing opportunities for physical activity throughout the school day. Using a modified version of the School Health Index and principles of continuous quality improvement, school wellness councils receive technical assistance to make their school environments healthier. Mini-grants support school implementation of sustainable action plan goals.

Nutrition Links

Nutrition Links, from the Penn State Cooperative Extension, offers free nutrition education programs to participants eligible for public assistance to develop the knowledge and skills necessary to achieve a healthful diet on a limited budget. Nutrition Links staff provide thousands of Pennsylvania's limited-resource residents with education on topics such as food and nutrition safety, food preparation and food budgeting.[18]

Endnotes

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Physical Activity

Regular physical activity and exercise are critically important for the health and well-being of people of all ages. Research has demonstrated that virtually all individuals can benefit from regular physical activity, whether moderate or vigorous. People can benefit from 30 minutes of brisk walking five or more times a week. Regular physical activity helps prevent risk factors for disease and protect against multiple chronic diseases, including heart disease, some cancers, type 2 diabetes and depression. It also helps to control weight, contributes to healthy bones and reduces falls among the elderly. Despite the well-known benefits of physical activity, most adults and many children lead a relatively sedentary lifestyle and are not active enough to achieve these health benefits.[1]

Based on the Behavioral Risk Factor Surveillance Survey (BRFSS), 24.9 percent of Pennsylvanians in 2017 did not participate in any physical activities in the past month, just lower than the national average of 25.6 percent.[2]

Since it is well-documented that physical inactivity is strongly connected to chronic disease, a shift is needed to increase access to and opportunities for physical activity. One of the best ways to increase physical activity is to better design our communities to allow for utilizing modes of active transportation.[3]

Active transportation is any self-propelled, human-powered mode of transportation, such as walking or bicycling. Many Pennsylvania residents view walking and bicycling within their communities as unsafe due to heavy traffic and a scarcity of sidewalks, crosswalks and bicycle facilities.[4] Improving these elements could encourage active transportation, such as children biking to school, families walking to the playground or employees walking to work. Safe and convenient opportunities for active transportation also expand access to transportation networks for people without cars.

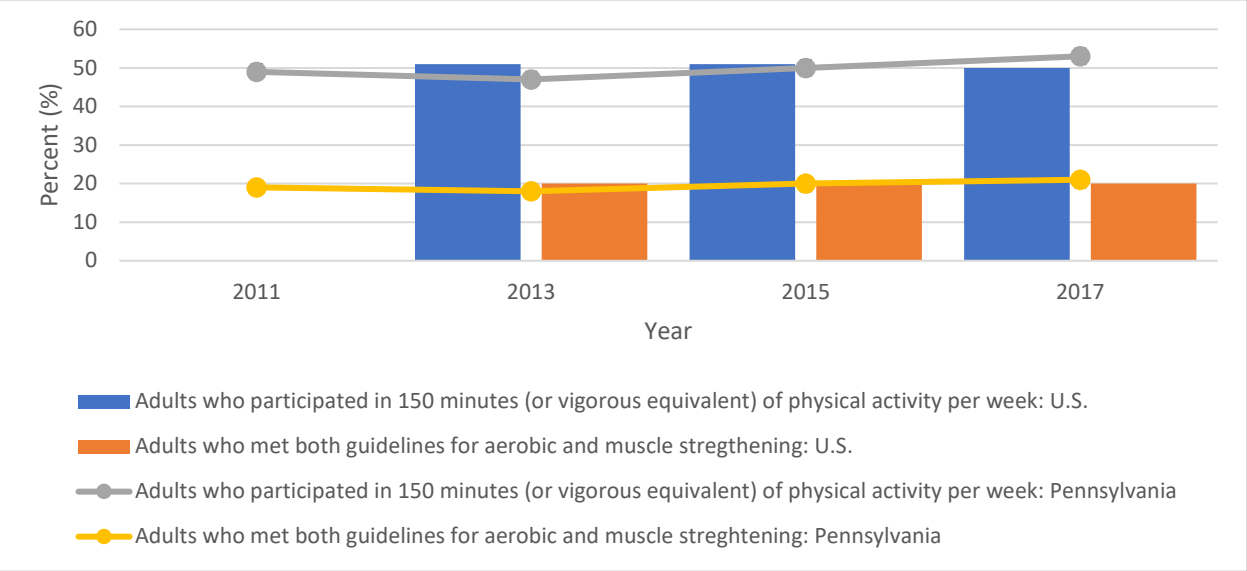
According to the Second Edition of the Physical Activity Guidelines, adults caring for preschool-aged children should encourage active play (light, moderate or vigorous intensity) and aim for activity throughout the day. School-aged children and adolescents should get 60 minutes or more of moderate-to-vigorous activity daily. Activities may include walking very briskly, bicycling, hiking and jogging. Adults should strive to move more and sit less throughout the day and aim to get between 150-300 minutes a week of moderate intensity activity.

Pennsylvania's Role

Healthy People 2020

The HP2020 target for the percent of adults who engage in "vigorous or moderate" physical activity is 47.9 percent. Pennsylvania's adult population exceeds this goal, at 53 percent, but not all populations in the state do equally well.

Figure 3.15 U.S. and Pennsylvania Adult Residents Who Participated in Recommended Amount of Exercise, 2011-2017[5,6]



Age, sex, and race and ethnicity

Among age groups, adults 18 to 24 years old reported the highest level of participation in recommended levels of moderate or vigorous exercise, at 59 percent.

Just over half of men (54 percent) and women (52 percent) in Pennsylvania said they participated in 150 or more minutes of physical activity per week. By racial and ethnic group, no significant difference in responses was detected.

Income and education

For adult residents of Pennsylvania, participation in physical activity was positively associated with income. The percent who participated in at least 150 minutes of physical activity per week was highest for those in the $50,000 or greater household income.

A similar trend was seen for physical activity and education. Among all education levels, college graduates had the highest percent of respondents who said they participated in 150 or more minutes of physical activity as recommended. The percent who met this goal decreased as the amount of education decreased. See Figure 3.16 for details.

Figure 3.16 Pennsylvania Adult Residents Who Engaged in 150 Minutes (or Vigorous Equivalent) of Physical Activity per Week, 2017[7]

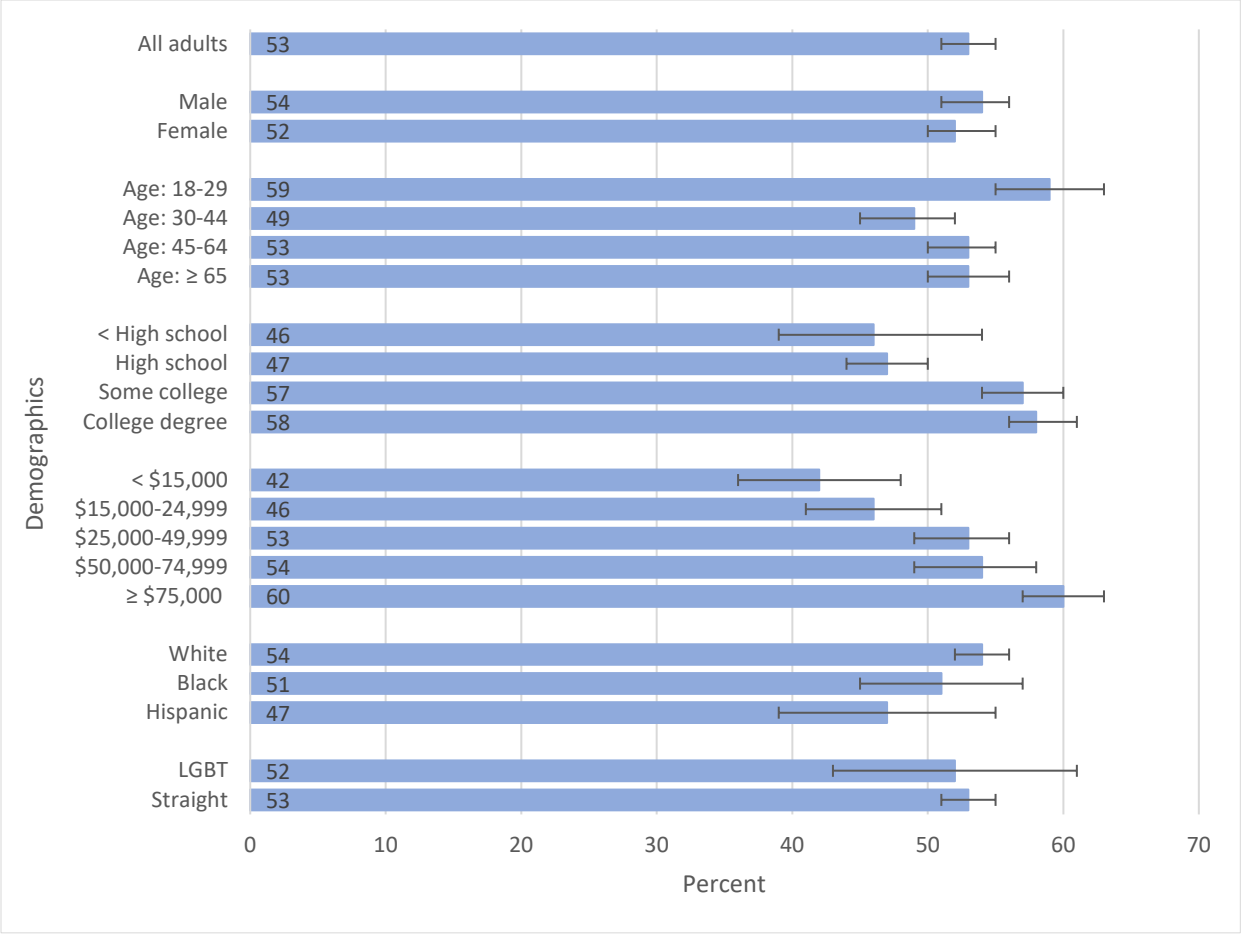
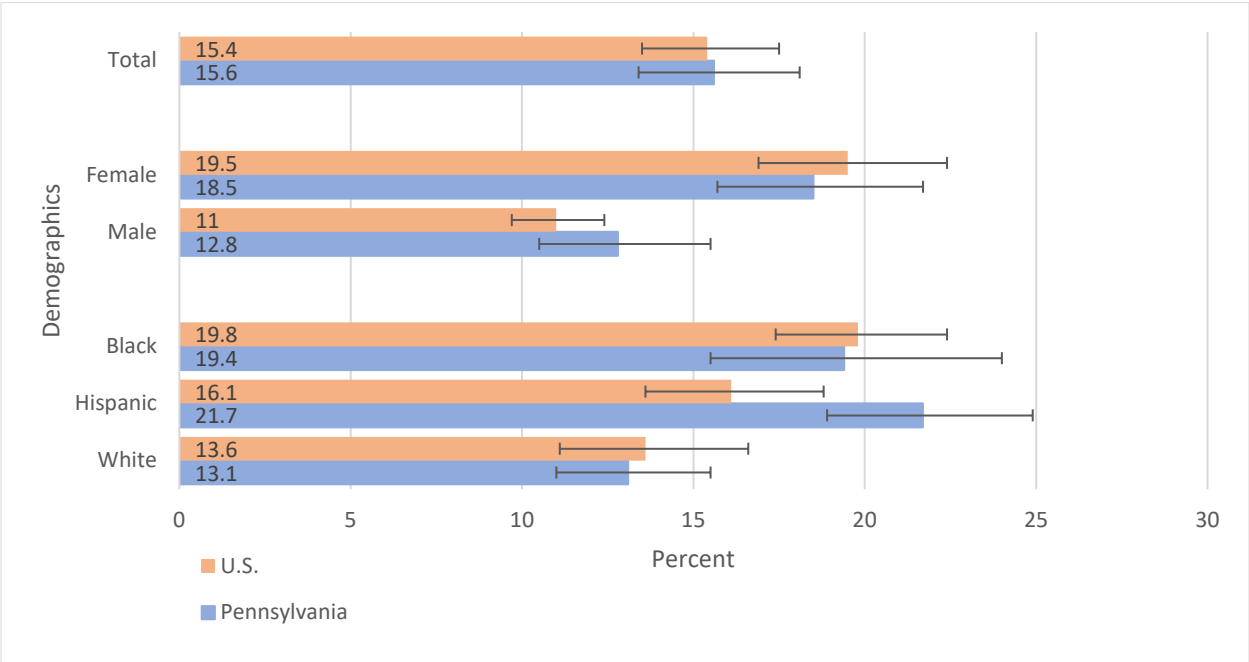


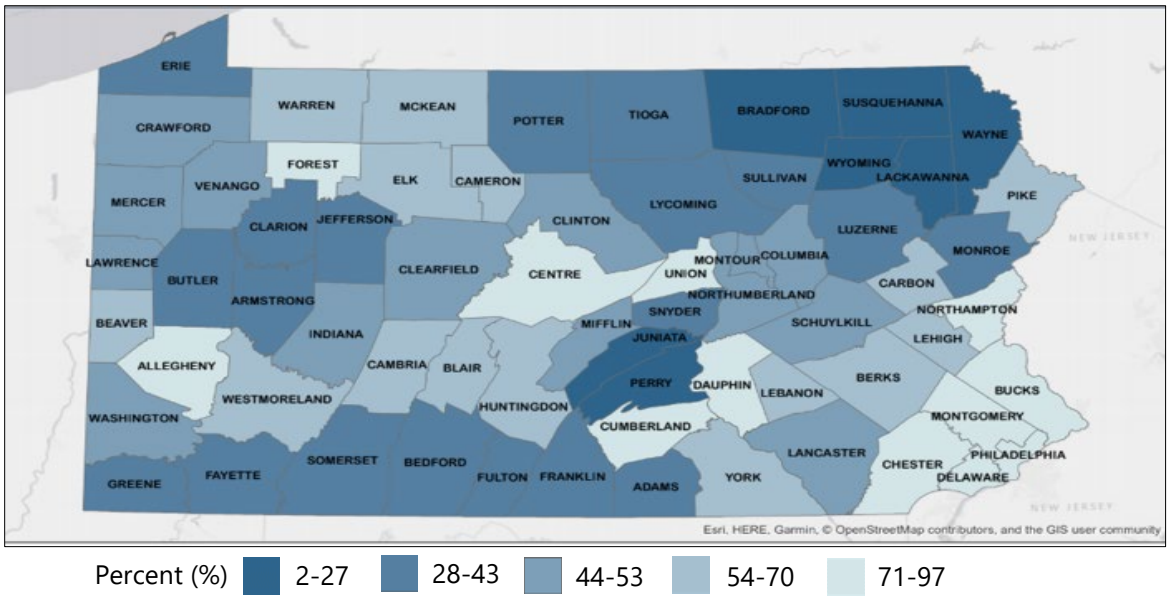
Figure 3.17: U.S.[8] **and Pennsylvania**[9] **Youth Who Were Not Physically Active for at Least 60 Minutes on at Least 1 Day a week, 2017**



Youth

Data in 2017 shows that 15.6 percent of youth in Pennsylvania were not physically active for a total of at least 60 minutes on at least one day (during the seven days prior to the survey), which is nearly identical to the national rate of 15.4 percent.[10]

Figure 3.18 Pennsylvania Adult Residents in Proximity to Locations for Physical Activity[11]



This indicator measures the percentage of individuals in a county who live reasonably close to a location for physical activity. Individuals are considered to live reasonably close to a location for physical activity if:

- They reside in a census block within a half mile of a park;
- In urban census blocks: they reside within one mile of a recreational facility; or
- In rural census blocks: they reside within three miles of a recreational facility.

Locations of physical activity are defined as parks or recreational facilities. Parks include local, state and national parks. Recreational facilities include YMCAs as well as a wide variety of facilities including gyms, community centers, dance studios and pools. The counties of Forest, Allegheny, Centre, Cumberland, Union and Dauphin have the highest access to places for physical activity. Next are Delaware, Philadelphia, Chester, Montgomery, Bucks, Northampton and Pike. The counties with the least access to facilities for physical activity are Susquehanna, Bradford, Wayne, Wyoming, Lackawanna, Juniata and Perry.

Intervention Strategies

Safe Routes to School

The Pennsylvania Department of Transportation has implemented the Safe Routes to School program, which is a national initiative to create safe, convenient and enjoyable opportunities for children to walk and bicycle to and from school. It is built on collaborative partnerships that often involve educators, parents, city planners, business and community leaders, and health care providers. The Safe Routes to School initiative incorporates the "5 Es": engineering, education, encouragement, enforcement and evaluation. This program is designed to increase

children's physical activity and play a critical role in reversing the national trend of childhood obesity and inactivity.

Comprehensive School Physical Activity Programs (CSPAP)

This initiative supports the creation of a cadre of trainers across the state who provide free training to school districts on the CSPAP framework. CSPAP is multi-component approach by which school districts and schools use all opportunities for students to be physically active, meet the nationally-recommended 60 minutes of physical activity each day, and develop the knowledge, skills, and confidence to be physically active for a lifetime.

School Wellness Mini-Grant Program

The school wellness program strives to increase opportunities for physical activity throughout the school day and implement high-quality physical education curriculum. Using a modified version of the School Health Index and principles of continuous quality improvement, school wellness councils receive technical assistance to incorporate intentional movement through recess or classroom energizers. Participating districts receive personalized training and technical assistance to evaluate and improve physical education curriculum, as well as increase student physical activity through recess. Mini-grants support school implementation of sustainable action plan goals.

State Physical Activity and Nutrition (SPAN) Program

This program promotes physical activity at the state and community level, as well as in early childhood education (ECE) settings in targeted communities. Communities are selected based on obesity risk and prevalence. Interventions include support for community planning and transportation initiatives that support safe and accessible physical activity, as well as supporting ECEs in their development and promotion of embedded physical activity standards.

WalkWorks (Pilot from 2010-2012; 2014-ongoing)

This program provides funding and technical assistance to numerous communities (through a competitive application process) to develop activity-friendly walking routes and adopt plans or policies that prioritize safe and accessible transportation for all users, regardless of age, ability or zip code. Through this program, WalkWorks partners have implemented 89 community-based walking routes, or activity-friendly routes, in 21 counties. These walking routes utilize existing sidewalks and provide connectivity to community destinations such as schools, parks, community centers, grocery stores and historical sites. 12 communities, such as boroughs or townships, have adopted Health in All Policies. Five boroughs or townships have adopted active transportation plans, which is a comprehensive set of strategies to ensure better options for biking, walking, and transit. Lastly, one county adopted a Complete Streets and Vision Zero policy while one borough adopted a Complete Streets policy. WalkWorks anticipates having 11 communities adopt a Health in All Policies resolution, eight communities adopt active transportation plans and three communities adopt Complete Streets policies by September 30, 2019. Additional information, including access to all 89 walking routes, are available at www.pawalkworks.com.

Pennsylvania Nutrition and Physical Activity Self-Assessment for Child Care (PA NAP SACC) Mini-Grant Program

PA NAP SACC strives to increase opportunities for physical activity in early childhood education centers (ECE). Using a web-based self-assessment tool and the principles of continuous quality improvement, ECEs receive technical assistance to improve physical activity practices and policies, in accordance with national standards for obesity prevention. Mini-grants support ECE implementation of sustainable action plan goals.

Safe and Healthy Communities Initiative

This initiative supports three county and two municipal health departments to implement a variety of healthy lifestyle interventions that strive to improve the overall health and safety of communities. Each intervention is focused on the prevention of chronic disease by addressing modifiable risk factors, such as lack of physical activity. Interventions have included Complete Streets designs and policies that create safe communities regardless of whether people walk, bike or roll. Additionally, Active Living by Design creates walking trails, and worksite wellness initiatives that encourage local businesses to implement policies that promote physical activity among employees.

Endnotes

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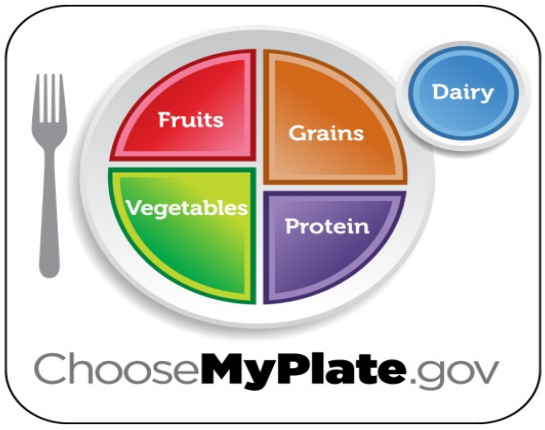
Nutrition

According to the World Health Organization (WHO), preventable risk factors associated with increased mortality and morbidity include poor infant feeding practices, childhood malnutrition (under-nutrition and over-nutrition), diabetes and obesity, among others. In adults, diabetes and being overweight or obese increase the risk of cardiovascular disease and several types of cancer. These risks also contribute to non-fatal diseases such as arthritis and loss of vision due to diabetic retinopathy. [1]

In June 2011, the U.S. Department of Agriculture (USDA) replaced the traditional "food pyramid" with MyPlate. This food group symbol serves as an easy-to-understand aid to help consumers adopt healthy eating habits. It is a visual cue that encourages the presentation of a healthy plate, consistent with the 2010 Dietary Guidelines for Americans. A key recommendation of these guidelines is increased fruit and vegetable consumption.[2]

Figure 3.19 MyPlate Nutrition Guidance, U.S. Department of Agriculture[3]



According to the U.S. Centers for Disease Control and Prevention (CDC), fruits and vegetables contribute important nutrients for the human body. Eating fruits and vegetables lowers the risk of developing many chronic diseases and can help with weight management. Creating greater access to quality and affordable fruits and vegetables nationwide is an important step towards increasing their consumption. According to the CDC, only 12.2 percent of adults meet the daily fruit intake recommendation of 1.5-2 cups; and only 9.3 percent of adults meet the recommended daily amount of vegetables (2-3 cups per day).[4]

Healthy People 2020

The Healthy People 2020 nutrition objectives seek to increase consumption of fruits and vegetables in persons aged 2 years and older. For fruits, the goal is 0.93 equivalents per 1,000 calories; for vegetables, it is 1.16 cup equivalents per 1,000 calories, with an emphasis on dark green vegetables, orange vegetables and legumes.[5]

The CDC 2015-2020 dietary guidelines recommend that adults consume 1.5–2 cups of fruits and 2–3 cups of vegetables per day. In 2015 only 11.7 percent of adults meet the daily fruit intake recommendation and only 8.4% of adults meet the daily vegetable intake recommendation in Pennsylvania. This compares to the national figures of 12.2 percent and 9.3 percent respectively.[6]

Age, sex, and race and ethnicity

Between 2011 and 2017, the overall proportion of Pennsylvania adults who reported eating five or more servings of fruits and vegetables daily has declined steadily. In 2017, residents age 65 and over were less likely than other adult age groups to report having the recommended intake of fruits and vegetables each day. Women were more

likely than men to report eating five or more servings of fruits/vegetables daily. No differences in consumption of fruits and vegetables were noted by race or ethnicity.

Income and education

The effect of income, which was earlier observed to be directly proportional with eating five or more servings of fruits and vegetables daily, has eroded over the years. Also, Pennsylvania adult residents who reported having a college degree were more likely than other surveyed adults to report five or more servings of fruits and vegetables daily.

Youth

Of Pennsylvania youth in 2017, 7.4 percent said they had not eaten any vegetables in the seven days prior to the survey, which closely parallels the national rate of 7.2 percent. Males (9.4 percent) were more likely than females (5.3 percent) to have not eaten vegetables.

Eight (7.9) percent of ninth through 12th graders in Pennsylvania in 2017 reported that they had not eaten fruit in the seven days prior to the survey. This rate was higher than the national findings of 5.6 percent.[7]

Figure 3.20 U.S. and Pennsylvania Youth Who Did Not Eat Vegetables in Past Week, by Demographic, 2017[8]

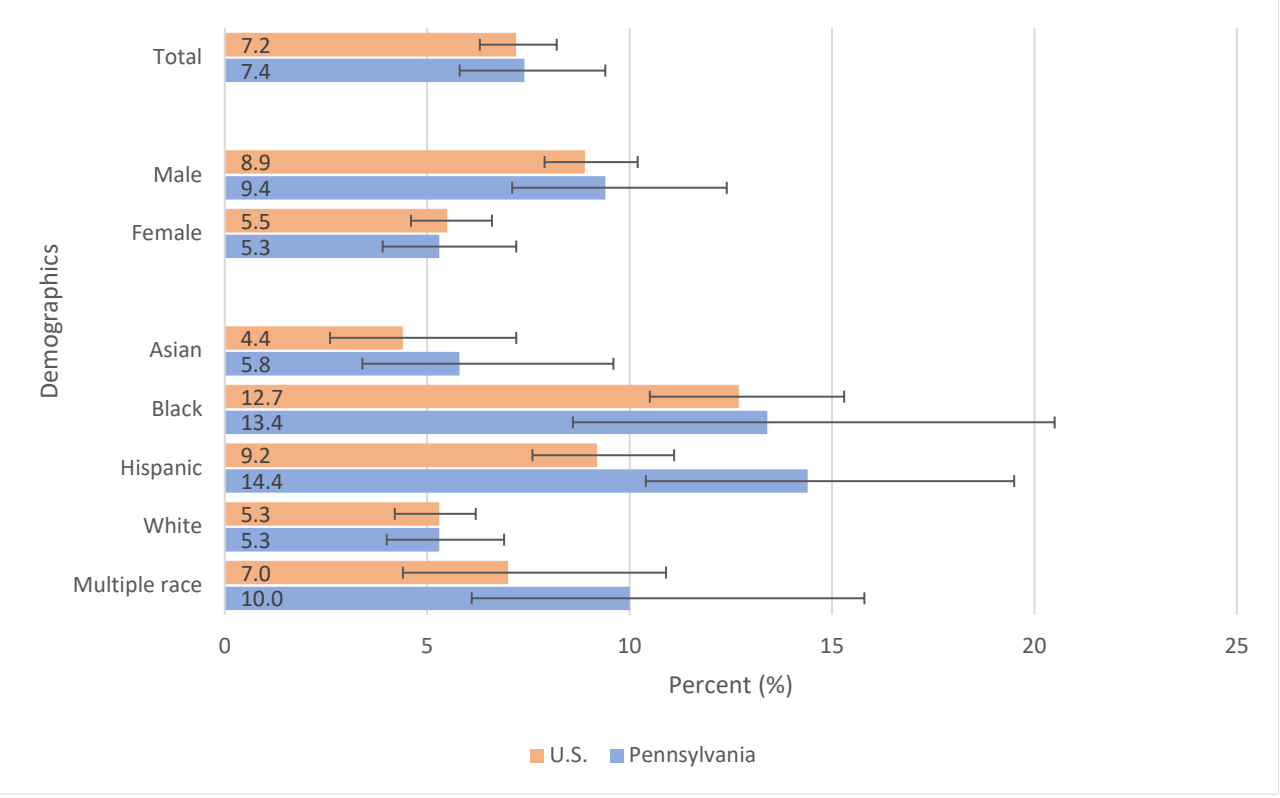


Figure 3.21 U.S. and Pennsylvania Youth Who Did Not Eat Fruit or Drink 100% Fruit Juices in Past Week, by Demographic, 2017[9]

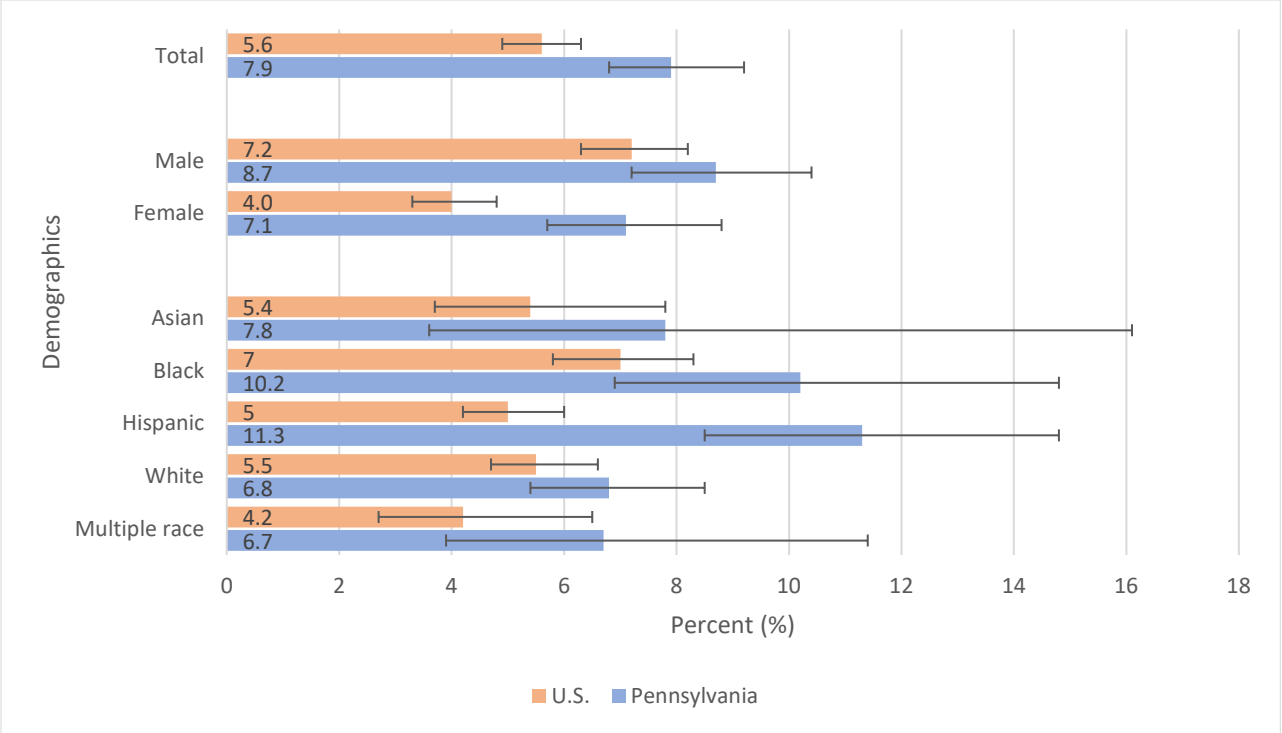
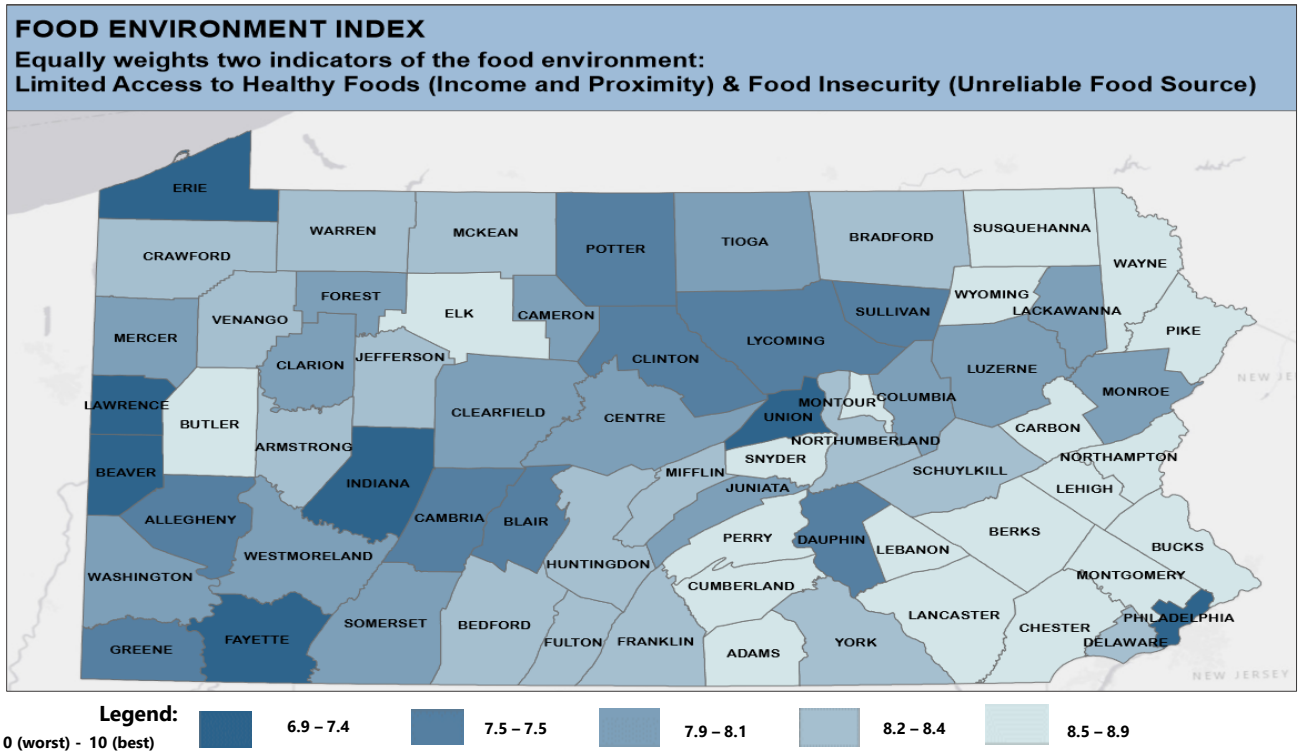


Figure 3.22 Food Environment Index[10]



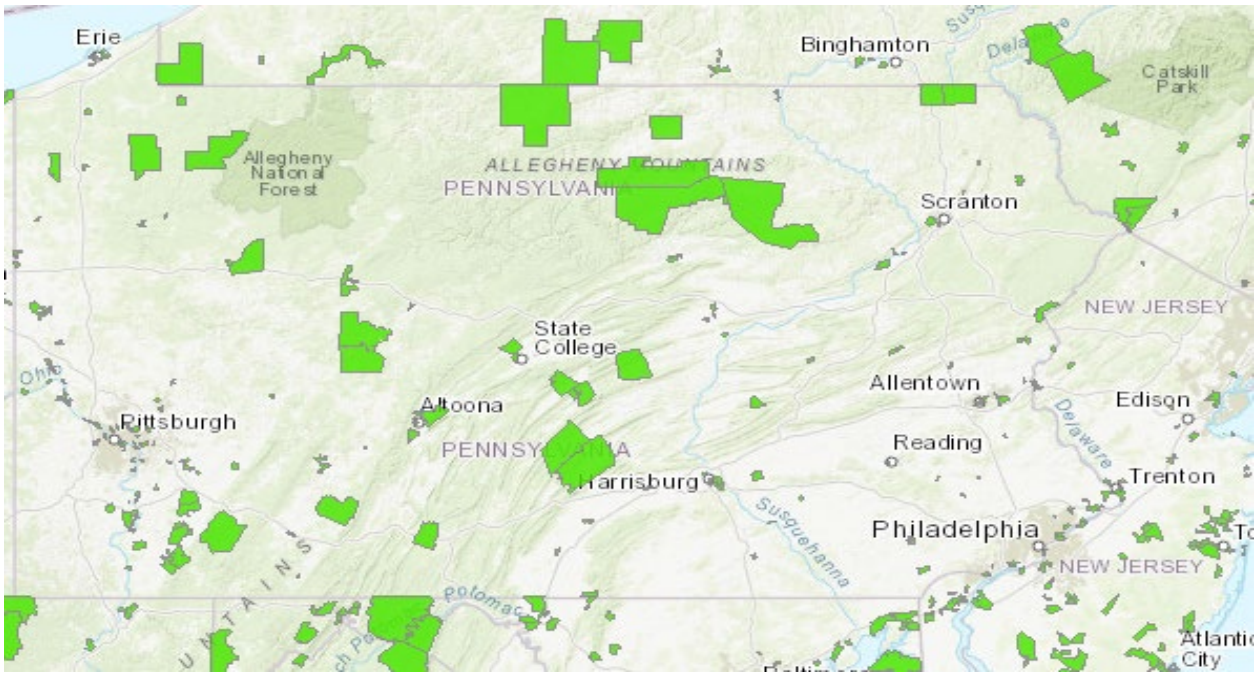
This is an index calculated for assessing the food environment based on two equally weighted indicators – limited access to healthy foods, on the basis of income and proximity, and food insecurity, being measured as people with an unreliable food source. The higher the rank, the better the food environment. The counties have a range of 6.9 to 8.9. Susquehanna, Wayne, Wyoming, Pike, Snyder, Perry, Cumberland, Adams, Lebanon, Lancaster, Chester,

Montgomery, Bucks, Berks, Northampton, Carbon and Lehigh rate the highest, while Erie, Lawrence, Fayette, Beaver, Indiana, Union and Philadelphia have the lowest rankings.

Food deserts

Food deserts are defined as parts of the country vapid of fresh fruit, vegetables and other healthful whole foods, usually found in impoverished areas. This is largely due to a lack of grocery stores, farmers' markets and healthy food providers. “Low access” to a healthy grocers or supermarket means that the market is more than a mile away in urban areas and more than 10 miles away in rural regions.[11]

Figure 3.23 Food Deserts: Pennsylvania, 2015[12]



Intervention Strategies

Safe and Healthy Communities Initiative

This provides funds to support interventions that promote and provide increased access to healthy foods. Interventions have included: start-up and support for community gardens, development of farmers markets in areas of low-income populations, and initiatives to help local stores provide healthy food options promoted through signage and product placement.

Obesity Prevention and Wellness Section, Pennsylvania Department of Health

Th Obesity Prevention and Wellness Section (Section) promotes health and supports healthy environments and behaviors across Pennsylvania state systems and communities -- in settings such as schools, child care programs, work sites, parks, hospitals and worksites. The section works to improve systems, social and physical environments to make healthy choices easier, safer, cheaper and more convenient, to make the healthy choice the easy choice. Section strategies focus on creating supportive nutrition environments in multiple sectors, including early care and education centers (ECEs), schools, worksites and communities. The DOH is working with partners to promote the adoption of and implementation of food service guidelines/nutrition standards in worksites, ECEs, hospitals and in community settings where people gather. In communities, the department is also working with partners to

increase access to healthy foods and beverages by providing access to healthier food options via the Healthy Pantry initiative. In addition, in communities and birthing facilities, the department is working to implement interventions supportive of breastfeeding. Work with school districts also continues to implement policies and practices that create supportive nutrition environments. The Section is also working to increase safe and accessible physical activity through WalkWorks by supporting local communities to develop and adopt active transportation plans and policies to improve pedestrian, bicycle and transit transportation systems and increase connectivity to everyday destinations.

School Wellness Mini-Grant Program

The school wellness program strives to create supportive nutrition environments in schools. Using a modified version of the School Health Index and principles of continuous quality improvement, school wellness councils receive technical assistance to implement healthier nutrition practices and policies. Mini-grants support school implementation of sustainable action plan goals.

Educating Physicians in their Communities, Breastfeeding Education, Support and Training (EPIC BEST) (2015-2019)
EPIC BEST is a quality improvement program that is focused on continuity of care by:

- Improving breastfeeding support through community-based primary care practices, such as pediatric, family medicine and OB/GYN settings; and
- Providing a training with the latest research to increase breastfeeding duration after the mother and baby leave the birthing facility.

Pennsylvania Healthy Pantry Initiative (2018-ongoing)
The Pennsylvania Healthy Pantry Initiative increases access to healthy foods for one of Pennsylvania's most vulnerable populations, those with food insecurity, by:

- Nudging pantry clients toward healthier options with layout and material changes to store and display healthy food and beverage;
- Providing direct nutrition education to pantry clients; and
- Creating nutrition policies at program partner organizations.

Through SPAN, the department is focused on creating supportive nutrition environments in multiple sectors, including early care and education centers (ECEs), worksites and communities.

Food service guidelines in community settings (2019 -ongoing)

- Food service guidelines create healthy food environments and increase the availability of healthy foods at cafeterias, cafes, grills, snack bars, concession stands, vending machines and where social functions are held.
- The department is collaborating with local health departments to implement food service guidelines in community settings.

Good Food, Healthy Hospitals (2018-ongoing)

Good Food, Healthy Hospitals aims to increase the availability of healthy food and beverage options by:

- Promoting the adoption of and implementation of food service guidelines/nutrition standards in participating health systems and hospitals; and
- Creating healthy food environments to reach both worksites and communities in cafeterias, cafes, grills, snack bars, concession stands, vending machines and catering events.

Keystone 10 (2015-ongoing)

Keystone 10 implements interventions supportive of breastfeeding by:

- Supporting birthing facilities in the safe implementation of evidence-based maternity care practices that mirror the 10 steps to successful breastfeeding; and
- Providing training and technical assistance to birthing facility staff.

Pennsylvania Nutrition and Physical Activity Self-Assessment for Child Care (PA NAP SACC) Mini-Grant Program

PA NAP SACC strives to improve nutrition environments in early childhood education centers (ECE). Using a web-based self-assessment tool and the principles of continuous quality improvement, ECEs receive technical assistance to improve nutrition practices and policies, in accordance with national standards for obesity prevention. Mini-grants support ECE implementation of sustainable action plan goals.

Endnotes

[1] World Health Organization. (2013). *World health statistics 2013*. Retrieved from http://www.who.int/gho/publications/world_health_statistics/2013/en/index.html

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Alcohol and Drugs

Alcohol and drug use/abuse pose numerous risks to the health and well-being of Pennsylvania residents. According to the National Survey on Drug Use and Health (NSDUH), Pennsylvania's rate of substance use disorder in the past year for residents 12 years of age and older was 6.9 percent (NSDUH 16-17 comparison), and the national average is 7.4 percent.[1]

According to the Centers for Disease Prevention and Control, there were 70,237 drug overdose deaths in the United States in 2017. The age-adjusted rate of overdose deaths in the United States increased by 9.6 percent from 2016 to 2017. Pennsylvania had the third highest overdose death rate in the country (44.3 per 100,000) behind only West Virginia (57.8 per 100,000) and Ohio (46.3 per 100,000). Pennsylvania also had a significant increase (16.9 percent) in the rate of overdose deaths from 2016 to 2017.[2]

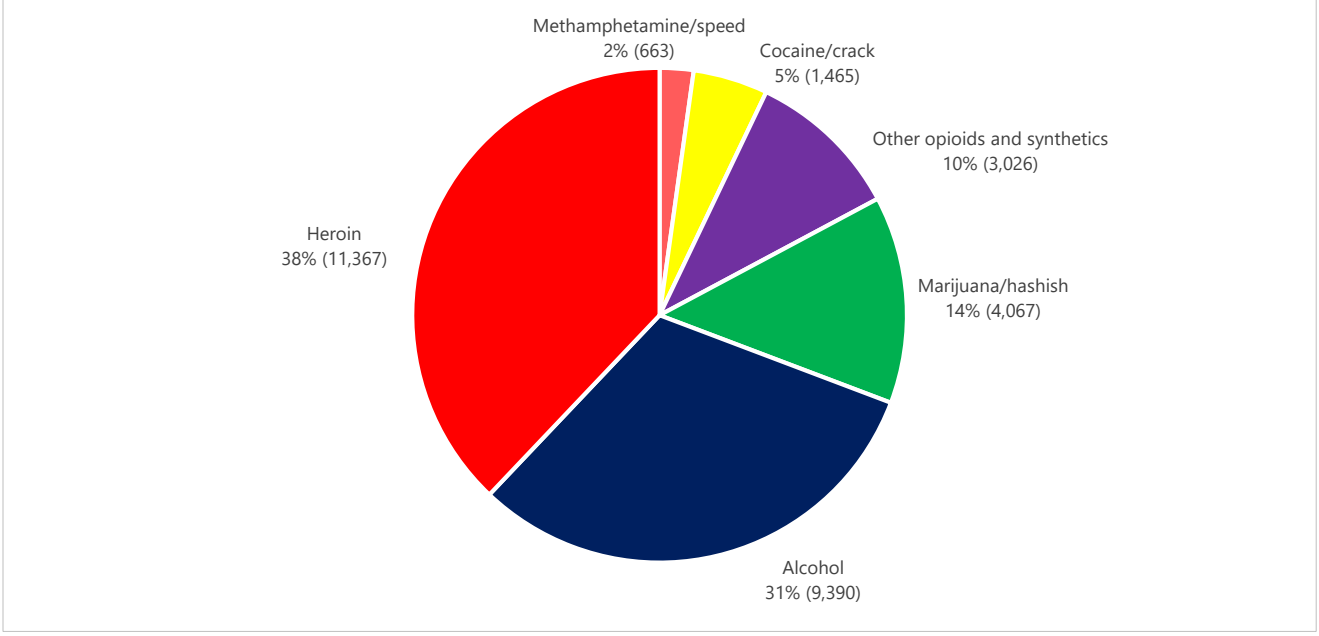
Substance abuse and dependence

NSDUH data shows that substance use disorder in the past year among the U.S. population 12 and older was 7.4 percent, which represents a slight decrease from 2016 (7.6 percent). The 18-25-year-old age group continues to have the highest percentage of substance use disorder at 14.9 percent. In Pennsylvania, those numbers are 6.9 percent (12 and older) and 15.2 percent (18-25), respectively.[3] Licensed drug and alcohol treatment providers in Pennsylvania that receive federal, state or local funds from the Department of Drug and Alcohol Programs (DDAP) are required to report the treatment services they provide to the Pennsylvania Web Infrastructure for Treatment Services (PA WITS) program. Providers not receiving federal, state or local funds from DDAP are not required to report to PA WITS. Therefore, the statistics generated from PA WITS should not be interpreted as a full representation of all drug and alcohol treatment services in Pennsylvania.

In the 2016-17 state fiscal year (SFY) there were 31,285 admissions to treatment reported, representing 24,711 unique clients. The number of admissions is greater than the number of unique clients in part because clients move through a continuum of care, with a new admission occurring each time they move into a new level of care. Although reported admissions have been on the decline in the past five years, this should not be considered a direct reflection of a decrease in the need for treatment or services provided. Single county authorities (SCAs) and providers report that they have been treating fewer clients due to less funding for services. The report also states that in addition to funding issues, the expansion of Medicaid has allowed individuals to receive treatment without using SCA dollars, which is the basis for the data reported by DDAP.

As shown in Figure 3.25, the most common primary substance of abuse was heroin (38 percent). In addition to heroin, alcohol (31 percent), marijuana/hashish (14 percent), other opiates/synthetics (10 percent) and cocaine/crack (5 percent) account for 98 percent of total admissions. The remaining 2 percent is methamphetamine/speed and “other drugs.”

Figure 3.24 Substance Abuse and Dependence Treatment Admissions in Pennsylvania, by Primary Drug of Choice, 2016-2017[4]



Age, sex, race and ethnicity

Males accounted for 71.5 percent of those admitted to treatment, which is well above the percent of males in Pennsylvania's population (48.9 percent). The age group with the highest percentage of admissions to treatment continues to be the 25-34-year-old age group (39.3 percent). The percentage of African-Americans in treatment (12.8 percent) is above the total Pennsylvania population of African-Americans (11.5 percent), while the percentage of Hispanics in treatment is slightly above Hispanics in the general population (7.1 percent and 6.3 percent, respectively).[5]

White residents were admitted twice as often than African-American residents for heroin abuse (40 percent, compared with 16 percent, respectively), while African-Americans (30 percent) were three times as likely as whites (10 percent) to be admitted for marijuana/hashish and cocaine/crack abuse (13 percent and 3 percent, respectively).[6]

Hispanics were admitted for alcohol at nearly the same rate as non-Hispanics (30.2 percent and 30.7 percent, respectively), while non-Hispanics were more likely to be admitted for other opiates/synthetics (10 percent versus 5 percent).[7]

Primary drugs of use differ among age groups. Marijuana/hashish admissions are most likely to be in the 14 and under age group. While heroin use has increased among all age groups, it's most prevalent among the 25-34-year-old age group (46 percent), while alcohol remains the primary drug of choice for those 55 and over (61 percent).[8]

According to the NSDUH, the highest rate for past-year illicit drug or alcohol dependence or abuse was 15.2 percent among persons aged 18-25 years. This is a slight decrease from the previous year and a 4.4 percent decrease from 2010-2011. The national average for the 18-25 age group is 14.9 percent.[9] The percentage of abuse/dependence among all age groups has been trending down since 2010.

Table 3.3 Illicit Drug or Alcohol Dependence or Abuse in the Past Year by Age Group, Pennsylvania, 2010-11, 2015-16, 2016-17[10]

	12 to 17			18 to 25			26+		
	2010-11	2015-16	2016-17	2010-11	2015-16	2016-17	2010-11	2015-16	2016-17
Illicit drugs or alcohol	7.0%	3.6%	3.2%	19.6%	16.7%	15.2%	7.3%	6.4%	5.9%
Illicit drugs only	4.3%	2.5%	2.5%	7.7%	6.9%	6.6%	1.7%	2.0%	2.0%
Alcohol only	4.2%	2.1%	1.5%	15.6%	11.9%	10.3%	6.0%	5.0%	4.5%

Alcohol

Data from the 2017 Behavioral Risk Factor Surveillance System (BRFSS) indicates that 56 percent of Pennsylvania adults 18 and older had at least one drink of alcohol within the past 30 days;18 percent engaged in binge drinking; and 6 percent were heavy drinkers (defined as two or more drinks per day for males and one or more for females). Pennsylvania's rate of binge drinking has remained consistent over the past seven years, staying between 17 and 19 percent.[11]

NSDUH data from 2016-2017 indicates that 56.4 percent of Pennsylvanians aged 12 or older drank alcohol in the past month, and 26.8 percent reported binge drinking in the past month. The rates for past month alcohol use and binge drinking were significantly higher among persons 18-25 years old.[12]

In 2017, the Pennsylvania Youth Survey (PAYS) was conducted in schools with grades six, eight, 10 and 12. Results showed that alcohol continues to be the most frequently used substance among sixth-, eighth-, 10^{th-} and 12^{th-} graders. Lifetime prevalence of alcohol use was found to range from a low of 17 percent for sixth-graders to a high of 69 percent for 12^{th-}graders. Past-30-day prevalence of alcohol use ranged from a low of 3 percent for sixth-graders to a high of 36 percent for 12^{th-}graders.[13]

Prescription drugs

In 2016-2017, 4.2 percent of Pennsylvania residents aged 12 and older reported nonmedical use of prescription pain relievers in the past year. By comparison, the rate for the general U.S. population was slightly lower at 4.1 percent. Among 18-25-year-old Pennsylvania residents, the rate increased to 7.1 percent, which is a decrease from 2015-2016 (7.6 percent).[14]

Illicit drugs

According to the NSDUH, 10.9 percent of the U.S. population aged 12 and older used an illicit drug in the past month, and 51.2 percent used alcohol in the past month. For Pennsylvania, 10.1 percent of persons aged 12 or older used an illicit drug, and 56.4 percent used alcohol in the past 30 days.[15]

Table 3.4 Use of Alcohol or Drugs in the Past Month by Age Group, Pennsylvania, 2010-11, 2015-16, 2016-17[16]

	12 to 17			18 to 25			26+		
	2010-11	2015-16	2016-17	2010-11	2015-16	2016-17	2010-11	2015-16	2016-17
Alcohol use – past month	14.1%	10.0%	10.1%	65.1%	62.3%	60.3	57.7%	59.7%	60.8%
Binge alcohol use – past month	8.0%	5.5%	5.5%	43.5%	44.7%	42.5%	23.3%	27.6%	26.7%
Marijuana use – past month	7.2%	6.3%	5.6%	18.3%	20.0%	21.4%	4.0%	6.6%	6.5%
Illicit drug (not marijuana) – past month	4.1%	2.2%	2.0%	7.5%	7.6%	7.8%	2.4%	3.1%	2.8%

For most substances, use typically increases through adolescence, peaks between the ages of 18 and 25 and then decreases through adulthood. A comparison of NSDUH results from 2010-2011 and 2016-2017 shows that past month use of marijuana, past month use of alcohol and past month binge drinking have increased among those aged 26 and older. For youth aged 12 to 17, past month use of marijuana, past month alcohol use, and past month binge drinking decreased from 2010-2011 to 2016-2017. In 2016-2017, Pennsylvania ranked 28th among the 50 states for 12-17 years old who reported use of alcohol in the past 30 days. Pennsylvania's 10 percent is slightly higher than the national average of 9.5 percent.[17]

According to 2016-2017 NSDUH data, 8.2 percent of Pennsylvania residents ages 12 and older used marijuana in the past month; by comparison, the rate for the general U.S. population was 9.2 percent. The percent of adults 18-25 years old in Pennsylvania who reported past month use of marijuana in 2016-2017 was 21.4 percent, which is equal to the national rate for that age group.[18] Lifetime prevalence of marijuana use among youth, as measured by the 2017 PAYS, ranges from a low of just under 1 percent (0.9) for sixth-graders to a high of 38.1 percent for 12th-graders.[19]

In 2016-2017, 3.4 percent of Pennsylvanians aged 12 or older reported past month use of illicit drugs other than marijuana, which is equal to the national rate.[20] The 2017 PAYS found that marijuana (9.3 percent) remains, by far, the most used illicit drug in the past 30 days. According to PAYS, past 30 days marijuana use has remained steady since 2009, with a low of 9 percent in 2015 and a high of 9.5 percent in 2009.[21]

According to the 2017 PAYS, past 30 day use of illicit drugs other than marijuana found 1.1 percent used inhalants, 0.4 percent used crack cocaine, 0.1 percent used methamphetamine and 0.1 percent used heroin.[22]

Youth Perception of Alcohol and Drug Use

Perception of risks associated with substance use is an important determinant of whether a person engages in substance use. People who perceive high risks of harm are less likely to use drugs than those people who perceive low risks of harm.[23]

According to the 2017 PAYS, a large majority of Pennsylvania students reported that their parents believe it is "wrong" or "very wrong" for them to smoke marijuana (90 percent), smoke cigarettes (94 percent) or drink alcohol regularly (89 percent).[24]

According to findings from the NSDUH, 25 percent of students 12-17-years old assigned "great risk of harm" to smoking marijuana once a month and 41 percent assigned "great risk of harm" to having five or more alcoholic beverages once or twice a week.[25]

Table 3.5 Youth Perception of "Great Risk of Harm" for Marijuana and Alcohol, Pennsylvania, 2010-2011, 2015-2016, 2016-2017[26]

	Ages 12 to 17		
	2010-2011	**2015-2016**	**2016-2017**
Smoking marijuana once a month	27.7%	26.7%	25.2%
Having 5 or more drinks of alcoholic beverage once or twice a week	38.7%	42.5%	41.2%

According to the 2017 PAYS, a large majority of Pennsylvania students reported that their parents believe it is "wrong" or "very wrong" for them to smoke marijuana (90 percent), smoke cigarettes (94 percent) or drink alcohol regularly (89 percent).[27]

Driving under the influence

Two percent of students surveyed in the 2017 PAYS reported driving under the influence of alcohol, and 3.5 percent said they drove under the influence of marijuana. The percent of students who reported driving under the influence of alcohol or marijuana increased with age; 5.5 percent of high school seniors reported at least one drinking and driving incident (down 3 percent from 2013), and 10.3 percent of high school seniors reported driving after consuming marijuana (down 2 percent from 2013).[28]

The Pennsylvania Department of Transportation (PennDOT) reported that, in 2017, there were 10,346 alcohol-related crashes, an increase of less than 1 percent from 2016. Alcohol-related traffic fatalities decreased from 297 in 2016 to 293 in 2017. On average, there were 28 alcohol-related traffic crashes each day in Pennsylvania. Twelve percent of all holiday crashes involved alcohol in 2017, and 37 percent of fatalities that occurred during holiday weekends were related to alcohol use.[29] Over the last five years alcohol-related traffic fatalities have been trending downward.

In 2016, there were 46,752 arrests made for DUI in Pennsylvania, according to data from the Pennsylvania State Police Uniform Crime Reporting System (UCR). Persons arrested for DUI in 2016 were predominantly male (74.7 percent), white (82.8 percent), and 25 years of age and older (77.1 percent).[30]

Drug abuse violations

The Pennsylvania State Police UCR includes data on arrests for various drug abuse violations, including those related to unlawful possession, distribution, growing, manufacture and creation of narcotic drugs.

In 2016, there were 58,019 arrests made in Pennsylvania for drug abuse violations, a 1.4 percent increase from the previous year. Persons arrested for drug abuse offenses in 2016 were predominantly male (78 percent) and white (67.6 percent).[31]

Intervention strategies

A variety of evidence-based substance abuse prevention, intervention and treatment programs are in place in Pennsylvania. Treatment providers across the state use approaches such as motivational interviewing (MI), therapy cognitive behavioral therapy (CBT), the Matrix Model and contingency management. Health care providers use screening, brief intervention, and referral to treatment (SBIRT) as a comprehensive, integrated, public health

approach to the delivery of early intervention and treatment services for persons with substance use disorders, as well as those who are at risk of developing these disorders. Evidence-based prevention programs being implemented include curriculum-based educational programs for youth such as ''Too Good for Drugs" and "LifeSkills Training," parenting programs such as the Strengthening Families Program: For Parents and Youth 10-14 and Guiding Good Choices, youth mentoring programs such as Big Brothers Big Sisters, and programs seeking to change community norms, policies and practices, such as Communities Mobilizing for Change on Alcohol. In addition, the student assistance program, which is required to be implemented in all school districts, has been an effective strategy for identifying and helping students overcome issues including alcohol and drugs that pose a barrier to a student's success.

Endnotes

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Mental Health

Healthy People 2020 "Mental Health and Mental Disorders" objectives define mental health as "a state of successful performance of mental function, resulting in productive activities, fulfilling relationships with other people, and the ability to adapt to change and cope with challenges."[1] Mental health is essential to personal well-being, family and interpersonal relationships, and the ability to contribute to one's community.

Poor mental health is characterized by changes in thinking, mood and/or behavior associated with distress and/or impaired functioning. It can be classified into depression, anxiety and major psychotic disorders (e.g., schizophrenia, manic/depressive illness). It can contribute to a host of problems, including disability, pain or death. Poor mental health is many times called "mental illness," and it can be classified using the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) of the American Psychiatric Association. Mental disorders refer to a broad range of conditions, from those that are temporary and self-limiting, to ones that are devastating and lifelong.

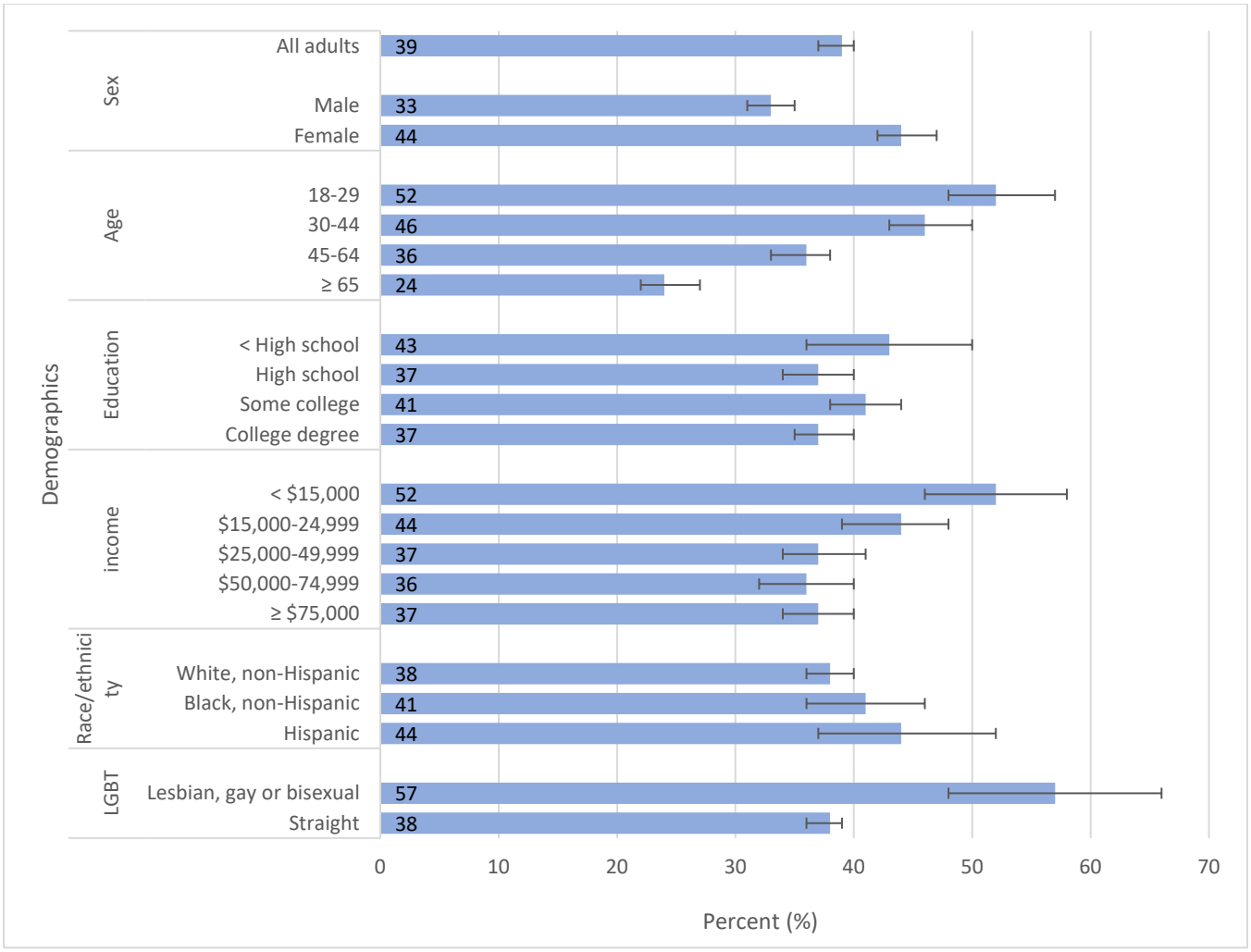
For adults, the economic costs of mental health disorders can include loss of productivity (e.g., days of work missed, dropping out of the workforce, increased use of medical care, legal issues) and personal costs (e.g., anguish from symptoms of depression and anxiety, failed or troubled relationships, suicide). For youth, the costs of poor mental health can include hampered psychological development, poor school performance, dropping out of school, drug use, delinquency, early pregnancy, sexually transmitted diseases, accidents and suicides. Parents also experience the costs of their children's mental disorders, including loss of productivity in terms of missed work days, dropping out of the work force to care for their children, anxiety, depression and stress.[2]

According to the National Institute of Mental Health, 18.5 percent of U.S. adults lived with a mental illness in 2016-2017, a slight increase from 2015-2016 (18.1 percent). Mental illnesses vary in severity, ranging from mild to moderate to severe. NIMH uses two broad categories to describe these conditions: any mental illness (AMI) and serious mental illness (SMI). AMI encompasses all recognized mental illnesses. SMI is a smaller and more severe subset of AMI. Women (21.7 percent) had a higher prevalence of AMI than men (14.5 percent). Young adults (aged 18-25) had the highest prevalence of AMI among all adult age groups at 22.1 percent. The prevalence of AMI was highest among adults reporting two or more races (26.5 percent).[3]

The percent of adults 18 and older in Pennsylvania with AMI (17.9 percent) was slightly below the national average for 2016-2017. Young adults in Pennsylvania (aged 18-25) with AMI increased just under 2 percent from 22.65 in 15-16 to 24.38 in 16-17, both of which are slightly above the national average for this age group.[4]

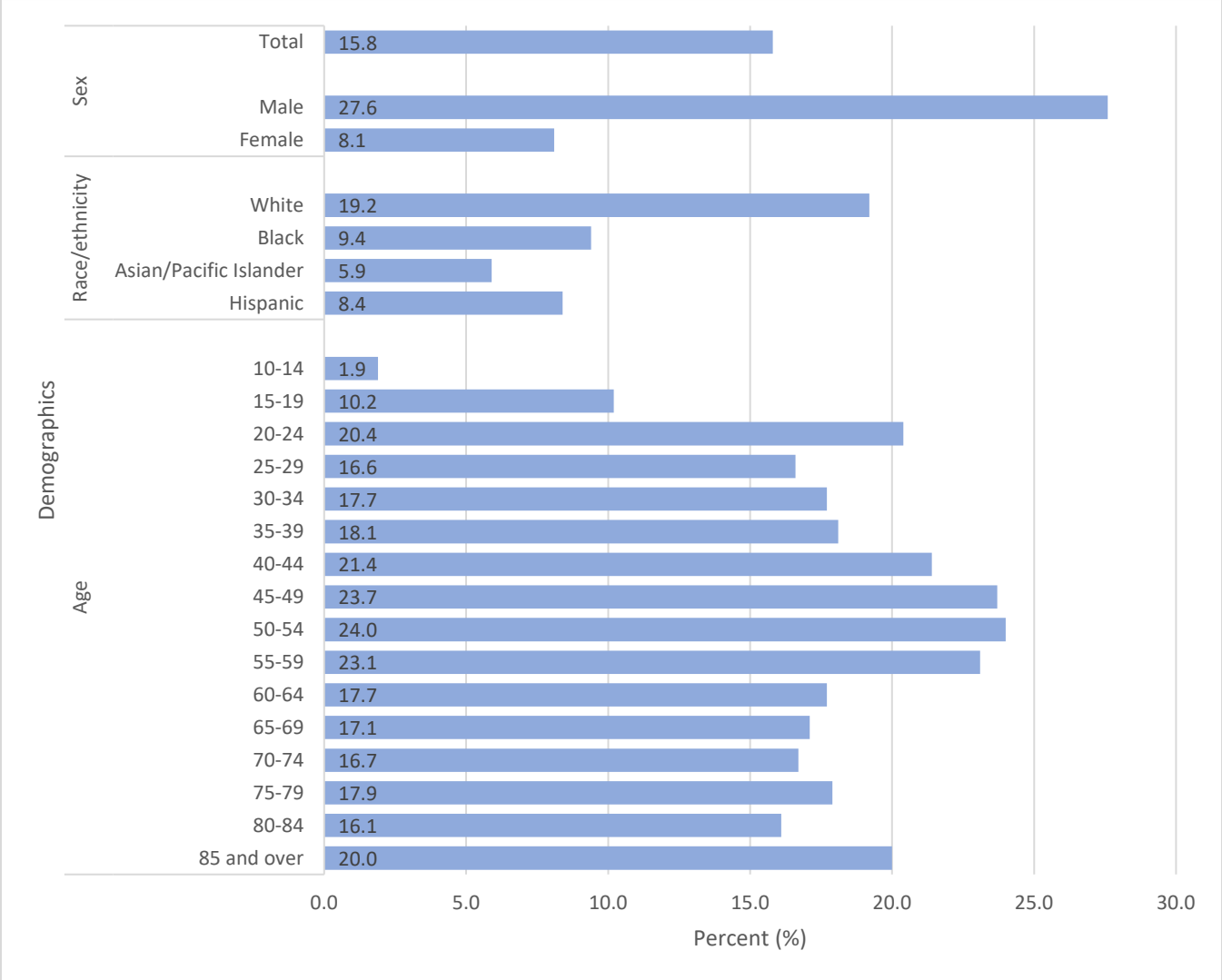
The percent of adults 18 and older in Pennsylvania that had serious thoughts of suicide in the past year decreased from 4.4 percent in 2015-2016 to 4.3 percent in 2016-2017; both statistics are slightly above the national average for adults 18 and older (4 percent and 4.2 percent, respectively). Young adults (18-25) had the highest percent of serious thoughts of suicide (9.3 percent) of any age group. This is a slight increase from 2015-2016 and is just below the national average of 9.6 percent for young adults.[5]

Figure 3.25 Mental Health Not Good One or More Days in the Past Month, by Demographics, Pennsylvania adults 2017[6]



According to the Behavioral Risk Factor Surveillance System (BRFSS), 39 percent of adult Pennsylvania residents reported their mental health was "not good" one or more days in the past month in 2017. Females (44 percent) were more likely than males (33 percent) to report having one or more "not good" mental health days in the past month. People that identify as LGBT were most likely to report having one or more "not good" mental health days in the past month (57 percent).[7]

Figure 3.26 Pennsylvania Crude/Age-Specific Suicide Rates per 100,000 Residents, 2017[8]



According to the CDC, there were 15.9 suicides per 100,000 Pennsylvania residents in 2017. Male suicide rates (27.6 per 100,000) are over three times that of females (8.1 per 100,000). Whites are more than two times as likely to die by suicide than any other race. The 50-54-year-old age group has the highest age-adjusted rate of suicides per 100,000 (24.3) than any other age group.[9]

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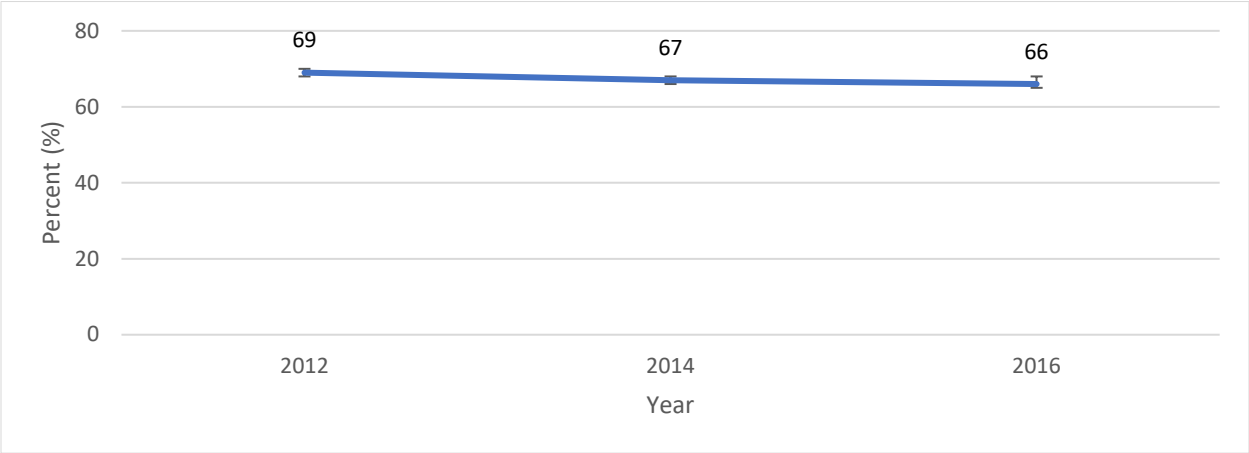
Oral Health

Oral diseases range from dental caries and tooth decay to degenerative conditions of the supporting gums and bone tissues to oral cancers. These cause pain and disability for millions of Americans, and some affect a person's overall health. A growing body of evidence links oral health, particularly periodontal (gum) disease, to both chronic and acute health conditions, including diabetes, heart disease and stroke. Many systemic diseases also manifest in the oral cavity. In some cases, symptoms appear in the mouth before they are expressed elsewhere in the body.[1]

The Healthy People 2020 "Oral Health" goal is to increase the proportion of children, adolescents and adults who used the oral health care system in the past 12 months. Specifically, according to the state's Department of Health, Pennsylvania's goal is to increase the percentage of adults who have visited a dentist over the past year by 10 percent of the baseline, set by the 2008 Behavioral Risk Factor Surveillance System (BRFSS). According to the 2018 survey, 69 percent of all Pennsylvania adults visited a dentist in the past year.[2]

From 2012 to 2016, the percent of adults who visited the dentist in the past year has decreased by 3 percent from 69 percent to 66 percent.

Figure 3.27 Percent of Adults Who Visited a Dentist in the Past Year, Pennsylvania, 2014-16[3]



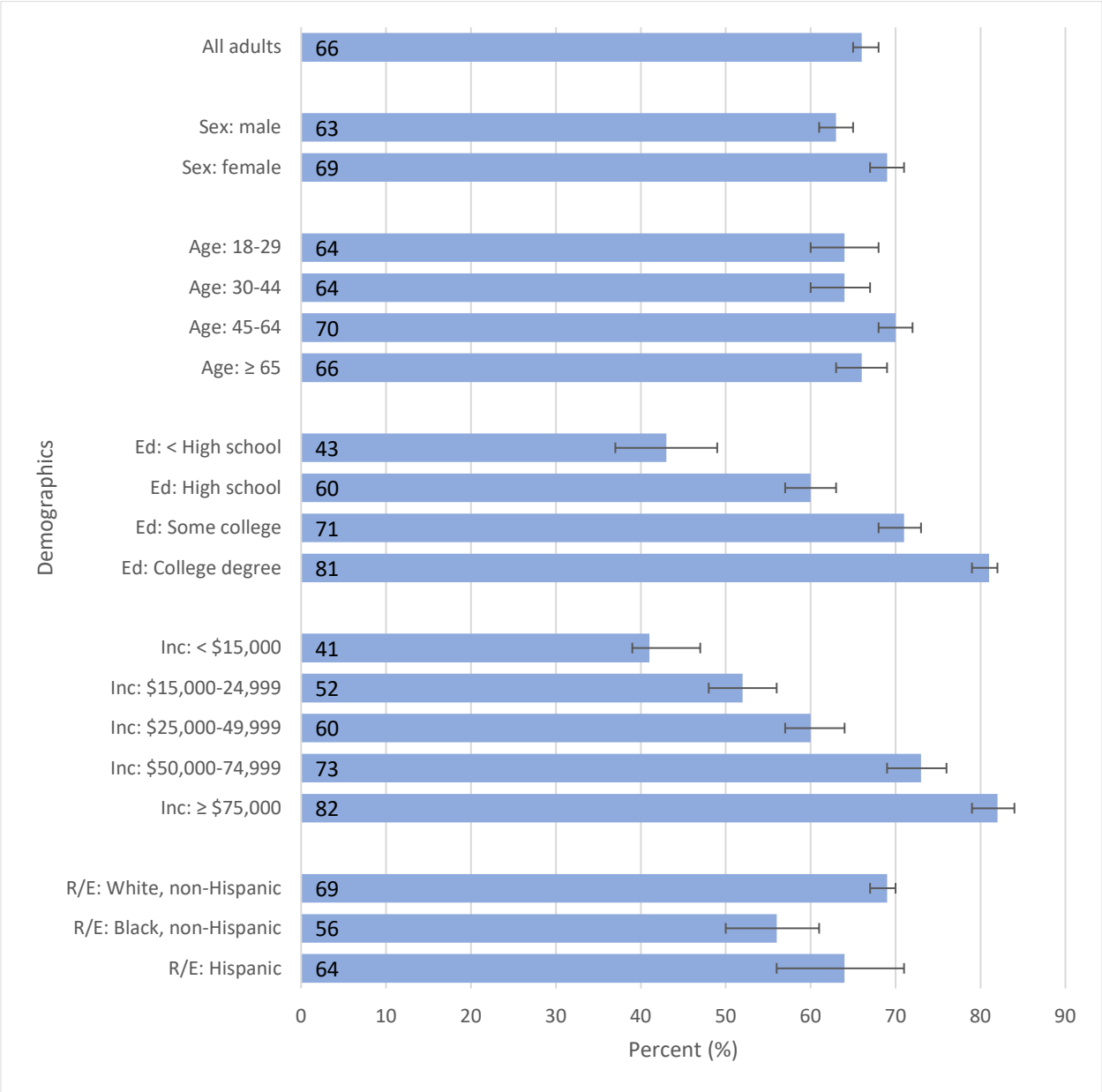
Age, sex, race and ethnicity

Pennsylvania adults age 65 and older were less likely to have visited the dentist (66 percent), compared with those ages 45 to 64 years old (70 percent). The age groups 18-29 and 30-44 were the least likely to have visited the dentist in the past year (64 percent). Fewer of Pennsylvania's male population reported they had visited the dentist (63 percent), compared with female residents (69 percent). For 2016, Pennsylvania's black, non-Hispanic adults reported having visited a dentist in the past year significantly less (56 percent) than the state's white, non-Hispanic adults (69 percent).[4]

Income and education

Pennsylvania adults who reported household incomes of less than $15,000 were significantly less likely to have visited a dentist in the past year than other Pennsylvania adults. Less than half (41 percent) had received dental care. In addition, those who had not completed high school or earned an equivalent degree were significantly less likely to report they had visited a dentist in the past year, compared with those who had a high school diploma or more education.[5]

Figure 3.28 Percent of Adults Who Visited a Dentist in the Past Year, by Demographics, Pennsylvania, 2016[6]



Intervention Strategies

Community water fluoridation

According to the American Dental Association (ADA), fluoridation of community water supplies is simply an adjustment of the existing, naturally occurring fluoride levels in drinking water to an optimal level recommended by the U.S. Public Health Service for the prevention of tooth decay. In 2015, the U.S. Department of Health and Human Services published a new recommendation, replacing its 1962 Drinking Water Standards related to community water fluoridation — the controlled addition of a fluoride compound to a community water supply to achieve a concentration optimal for dental caries prevention.[1] For these community water systems that add fluoride, PHS now recommends an optimal fluoride concentration of 0.7 milligrams/liter (mg/L). Fortifying water with fluoride is similar to fortifying milk with vitamin D, table salt with iodine, or bread and cereal with folic acid. Studies conducted over the past 70 years have consistently shown that fluoridation of community water supplies

is safe and effective in preventing dental decay in both children and adults. Simply by drinking water, residents can benefit from fluoride's cavity protection, whether at home, work or school. By comparison, in 2014, 74.4 percent of the U.S. population on public water systems, or a total of 211,393,167 people, had access to fluoridated water.[7]

Fluoride varnish

On April 1, 2010, the Pennsylvania Department of Public Welfare (DPW), now Department of Human Services (DHS), Office of Medical Assistance Programs (OMAP), adopted the policy of compensating physicians and Certified Registered Nurse Practitioners (CRNPs) to provide topical application of fluoride varnish to the teeth of Medical Assistance enrolled youth. Between Oct. 1, 2010, and Sept. 30, 2011, about 6,625 youth received topical dental fluoride varnish by non-dental providers.

Endnotes

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