

2023-2033

Pennsylvania Cancer Control Plan

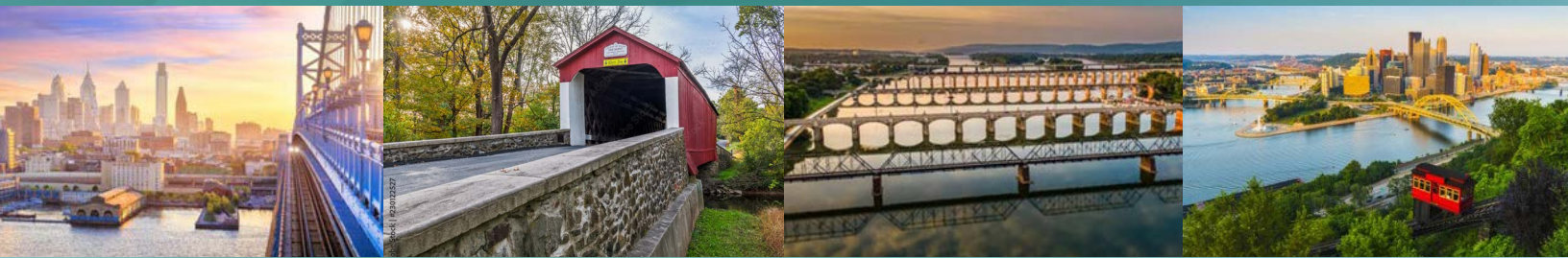


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TRAIL ▶

ACKNOWLEDGEMENTS

The Pennsylvania Cancer Control Plan 2023-2033 (Plan) is the result of ongoing collaboration among individuals and organizations committed to improving the state's cancer incidence and mortality rates. Appreciation is extended to everyone who contributed to the development of the new Plan, especially the co-chairs and members of the Pennsylvania Cancer Coalition (PCC) who guided the process. Pennsylvania (PA) has a strong cancer community, demonstrated by the involvement and collective efforts of the PCC, numerous other partners, and agencies working together to address the burden of cancer through implementation of the [2019-2023 Pennsylvania Cancer Control Plan](#). These partners continue to invest their time, resources, and expertise to identify cancer priorities and update the new Plan to guide cancer prevention and control activities using a health equity lens.

INTRODUCTION

Cancer continues to be the second leading cause of death in PA. In 2019, over 79,004 new cancers were diagnosed and 27,703 people died from cancer in PA. Addressing the state cancer burden requires strategic planning and coordination. This is achieved through a network of coalition partners and stakeholders with a shared vision and mission, who use their combined knowledge, expertise, and resources to plan, develop and implement the state cancer control plan.

The Plan was developed using tools and resources from the US Centers for Disease Control and Prevention (CDC) National Comprehensive Cancer Control Program (NCCCP) and with contributions from the PA Department of Health's Division of Cancer Prevention and Control, Cancer Registry, Health Statistics, and Epidemiology. This document provides an overview of PA's cancer burden and disparities in cancer. It also establishes cancer control priorities and actions to be taken for cancer prevention, early diagnosis, optimum treatment, and care of survivors.

[The Pennsylvania Cancer Coalition](#) (PCC) is the official statewide cancer coalition. The PCC is an all-volunteer organization with representation from a wide variety of sectors which include public and private institutions, health systems, academia, government, non-profits, advocacy groups, and residents from across the state. Its mission is to engage organizations and other cancer partners in the implementation of the Plan. The PCC is committed to achieving health equity across the cancer continuum by growing and strengthening its membership to include partners and organizations who are trusted members of under-resourced and underrepresented populations experiencing the highest incidences of cancer and related disparities.

The PCC co-chairs and workgroup leaders provide organizational structure, facilitate communication among members and guide implementation efforts through the development of annual action plans. Coalition success is dependent on a common agenda, shared goals with measurements, coordination of activities, continuous communication, and leveraged resources. [The Pennsylvania Comprehensive Cancer Control Program](#) (PA CCCP) provides technical assistance and resources to support the PCC and Plan implementation.

PLAN PURPOSE

The Plan serves as the blueprint, providing coalition partners and stakeholders with a coordinated framework to guide state cancer efforts to reduce cancer incidence and mortality. Cancer registry and surveillance data are used to identify the highest-burden cancers and the populations and/or geographic areas most affected by cancer and cancer risk factors.

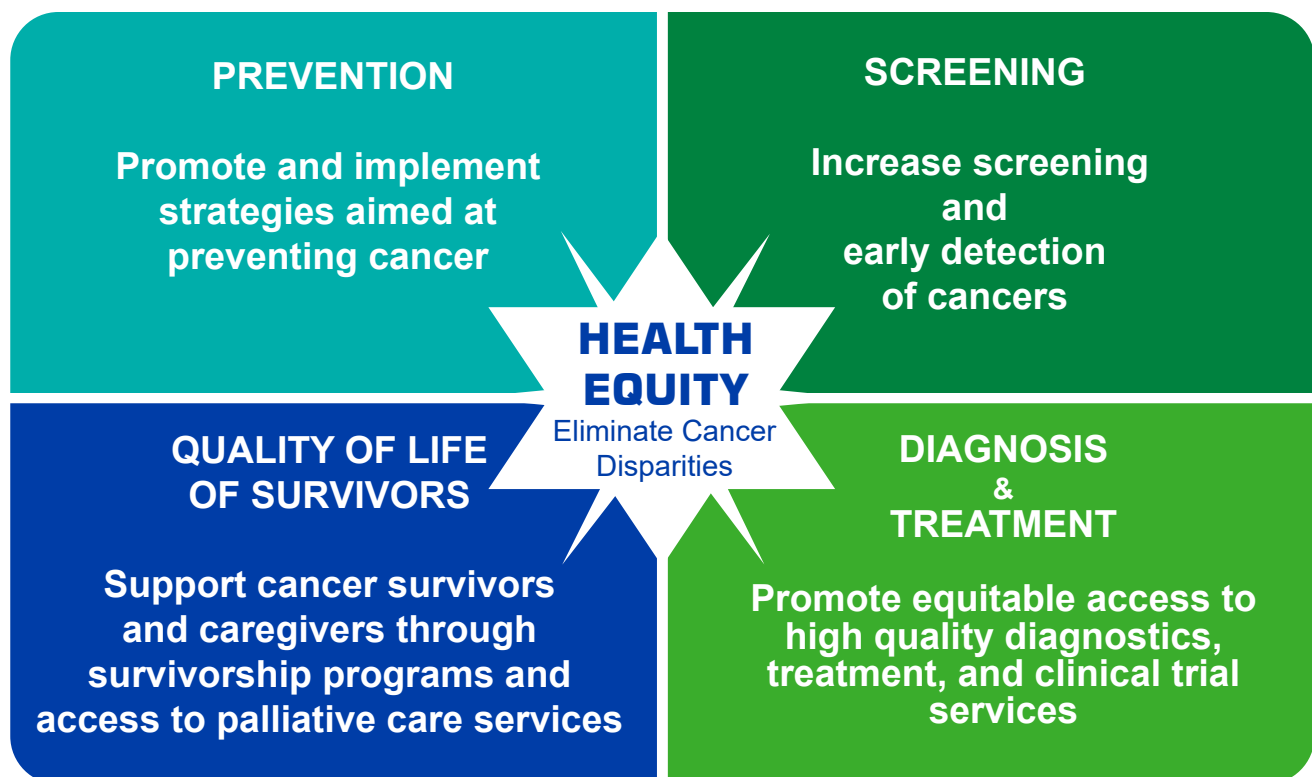
The Plan encompasses the entire cancer control continuum of the total population, in PA, from birth to end of life. However, certain populations experience an increased cancer burden due to social, economic, and environmental factors. To achieve health equity in cancer control, data were used to identify these populations. Strategies to reduce these disparities are incorporated into the Plan.

VISION

Reduce cancer burden for all Pennsylvanians regardless of age, gender, race/ethnicity, and social, economic, and physical determinants of health.

MISSION








Through collaboration and collective action, decrease cancer incidence and mortality in Pennsylvania by reducing health disparities and cancer risks, detecting, and treating cancers at an earlier stage and improving the quality of life of survivors.



PLAN IMPLEMENTATION

To guide comprehensive cancer control efforts, the Plan will be widely disseminated to coalition partners, health systems, insurance providers, state government agencies, policy, and legislative groups. The Plan will be publicly available through the PA Department of Health and PCC websites. The PCC will convene implementation teams and workgroups to address the goals; identify lead agencies and organizations to implement evidence-based interventions; and evaluate outcomes.

CANCER CONTROL FRAMEWORK

	PARTNERSHIPS	<p>The Pennsylvania Cancer Coalition The National Comprehensive Cancer Control Program:</p> <ul style="list-style-type: none"> • PA Comprehensive Cancer Control Program • PA Breast and Cervical Cancer Early Detection Program (PA BCCEDP) • Pennsylvania Cancer Registry 	
	QUALITY DATA	<p>PA cancer registry and health statistics data, population, and survey data are collected and analyzed to identify cancer priorities, health disparities, and cancer risk information. Data are used in the development, implementation, and evaluation of the Plan.</p>	
	GOALS	<p>The “big picture” or favorable outcome the PCC wants to achieve related to cancer incidence and mortality.</p>	
	OBJECTIVES	<p>The measurable aims to achieve goals. SMARTIE format: Specific, Measurable, Achievable, Realistic, Time-bound, Inclusive, and Equitable.</p>	
	STRATEGIES	<p>Implementation actions using Policy, Systems & Environmental Change (PSE) and Evidence-based Interventions (EBIs)</p>	
		<p>PSE</p> <p>PSE approaches can make healthy living easier and provide sustainable cancer prevention and control improvements where people live, work, play, and learn.</p>	<p>EBIs</p> <p>Science-based methods proven to improve health and prevent disease.</p>
	EQUITY	<p>Health equity is achieved when every person can live their healthiest life, including people in communities with a higher burden of cancer.</p>	
	EVALUATION	<p>A systematic method for collecting, analyzing, and using data to examine the effectiveness and efficiency of programs and to contribute to continuous program improvement. The Framework for Evaluation in Public Health is used for plan and coalition evaluation.</p>	

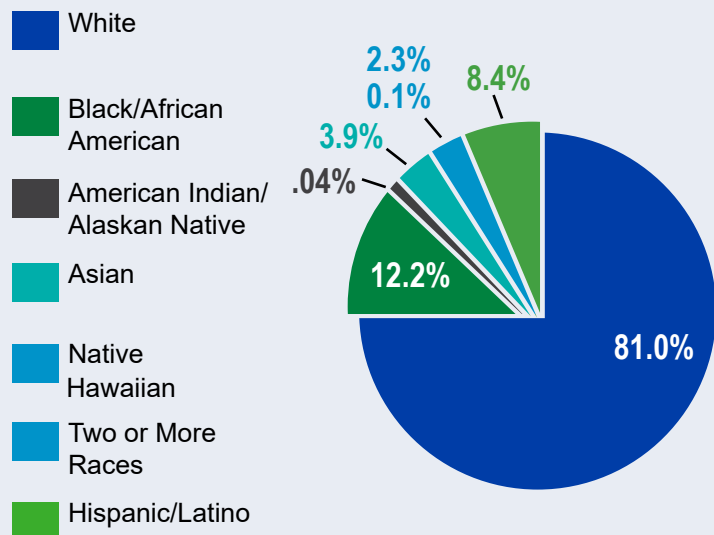
DEMOGRAPHIC SUMMARY

Pennsylvania has a diverse population, both demographically and culturally. PA is the 5th largest state in the country. The population has grown over the past decade to approximately 13 million residents. During this period:

- Population growth has been greatest in Hispanic and Asian/Pacific Islander populations
- PA has an Amish population of nearly 87,000
- The population over age 65 is 19%
- The population over age 40 is 51%, or 6.5 million people (2019)
- The population under age 18 is 20.6%
- The population (18+) identifying as LGBTQ+ is 4.1%
- PA ranks 16th in the nations for percent of the population with a disability
- Persons in poverty is 12.1%; children in poverty is 17%
- Racial and ethnic minority children in poverty is 28.75%¹
- Of PA's 67 counties, 48 are considered rural
- About 26% of PA's population live in a rural community
- There are 52 PA counties within the Appalachian region
- The definition of rural and urban in plan is based on population density

Source: Center for Rural Pennsylvania

2021 Pennsylvania Population by Race / Ethnicity



U.S. Census Bureau QuickFacts: Pennsylvania

English is not the primary language in 11.5% of PA homes. Use the interactive [Pennsylvania Languages Map](#) to inform messaging and communication to the public.

Rural Pennsylvania Counties



CANCER BURDEN

Complete [cancer burden data](#) including incidence, mortality, and trends are found on the PA Department of Health website. *Certain data may be suppressed if data is considered statistically unreliable or insignificant.*

2019 PA Cancer Statistics

PENNSYLVANIA'S LIFETIME RISK of
DEVELOPING CANCER: 1 in 2



PENNSYLVANIA'S LIFETIME RISK of
DYING FROM CANCER: 1 in 5



79,000
PENNSYLVANIANS were
DIAGNOSED with
CANCER



6% of
PENNSYLVANIANS are
CANCER
SURVIVORS



27,700
PENNSYLVANIANS
DIED from CANCER



THE 4 MOST DIAGNOSED CANCERS IN PA:
Breast, Colorectal, Lung, and Prostate

CHILDHOOD
CANCER INCIDENCE
RATE
20.6 per 100,000



BRAIN CANCERS and LEUKEMIA
ARE THE MOST DIAGNOSED CANCERS in
PENNSYLVANIANS UNDER
AGE 20



62.8% OF CANCERS OF THE ORAL CAVITY AND PHARYNX
ARE DIAGNOSED
AT THE LATE-STAGE



Source: PA Cancer Registry. 2019 Dataset

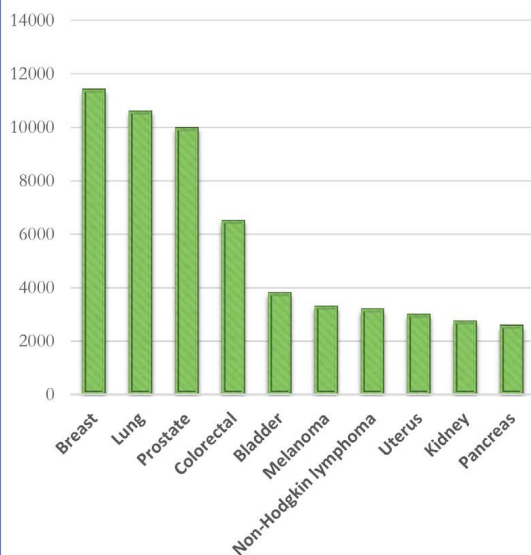
PA CANCER SUMMARY

The cancer burden summary identifies the cancer incidence and mortality trends in PA using the most current data available at the time of plan preparation. Data are updated annually.

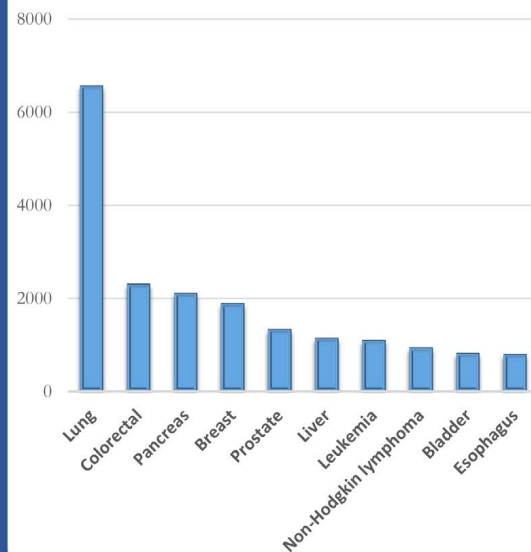
The Plan priorities are identified by aligning national priorities, indicators, and strategies with state cancer and surveillance data.

Plan emphasis is placed on areas of highest burden, known gaps, and where opportunity exists to implement policy, systems, and environmental approaches for long term sustainable improvements.

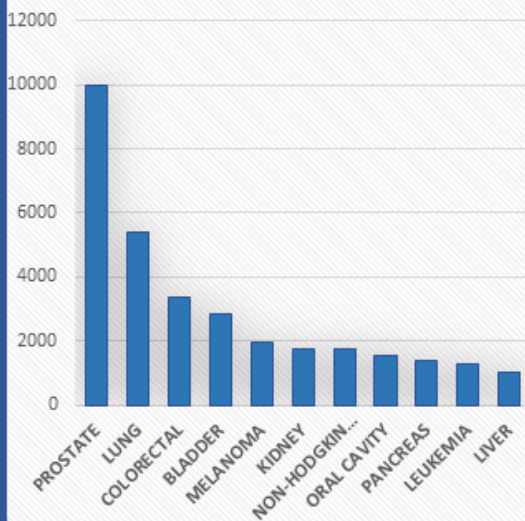
**2019 TEN MOST DIAGNOSED
CANCERS in PA**



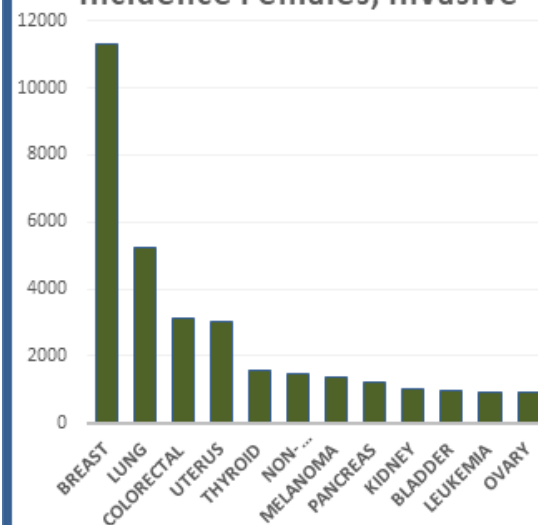
**2019 TEN HIGHEST CANCERS
for MORTALITY in PA**



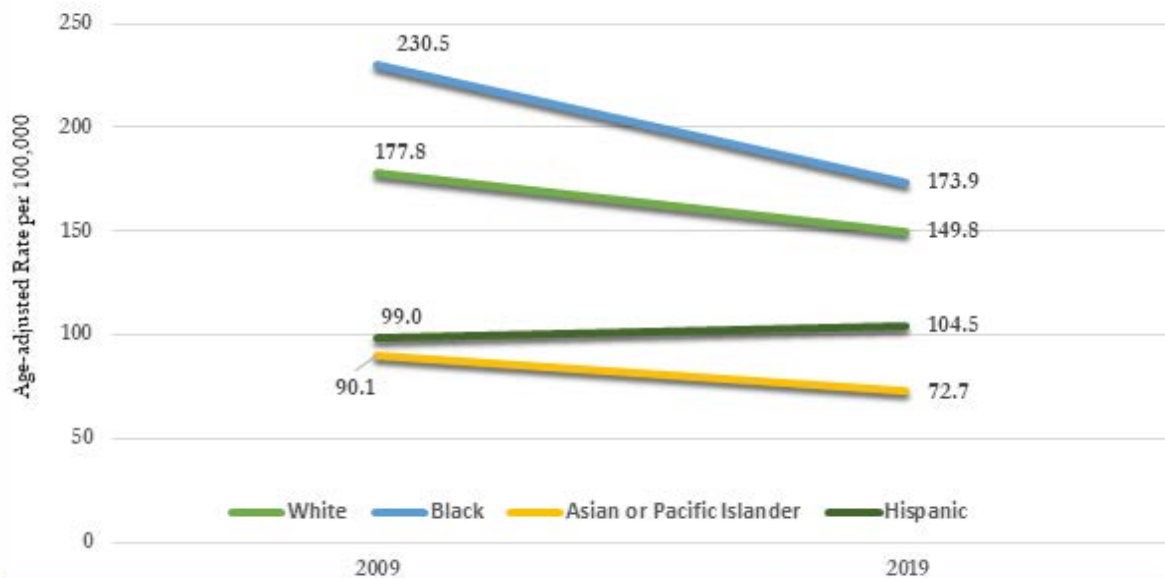
**2019 Pennsylvania Cancer
Incidence Males, Invasive**



**2019 Pennsylvania Cancer
Incidence Females, Invasive**



PA Cancer Mortality by Race and Ethnicity 2009-2019

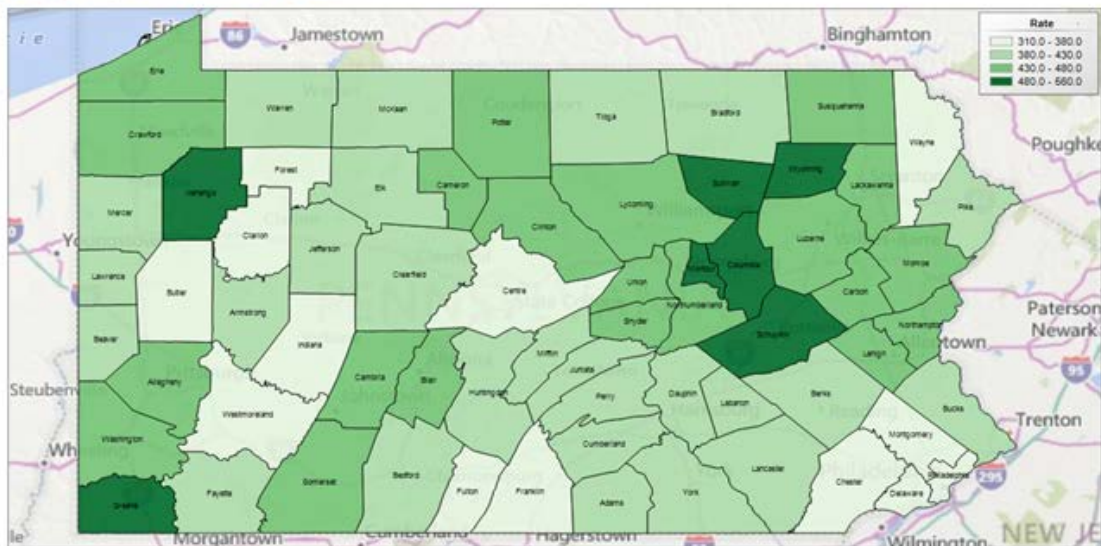


Enterprise Data Dissemination Informatics Exchange



Pennsylvania Cancer Incidence: Age-Adjusted Rates per 100,000

Primary Site or Type: All Cancers Year: 2020 Sex: Total Race/Ethnicity: All Races
Age: All Ages Stage: Invasive Distribution Type: Optimal



DISPARITIES AND SOCIAL DETERMINANTS OF HEALTH

Cancer in PA affects all populations regardless of race or ethnicity, age, sex, socioeconomic status, education, and geographic location. However, certain populations have an increased burden of cancer and poor health outcomes which result from social, economic, geographic, and environmental barriers or disadvantages known as **social determinants of health**.

Social Determinants of Health



Social Determinants of Health
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Healthy People 2030

Social determinants of health (SDOH) are the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks.

SDOH can be grouped into 5 domains:

- **Economic Stability**
- **Education Access and Quality**
- **Healthcare Access and Quality**
- **Neighborhood and Built Environment**
- **Social and Community Context**

HEALTHY PEOPLE 2030 SDOH DOMAIN GOALS:

- **Help people earn steady incomes that allow them to meet their health needs.**
- **Increase educational opportunities and help children and adolescents do well in school.**
- **Increase access to comprehensive, high-quality health care services.**
- **Create neighborhoods and environments that promote health and safety.**
- **Increase social and community support.**

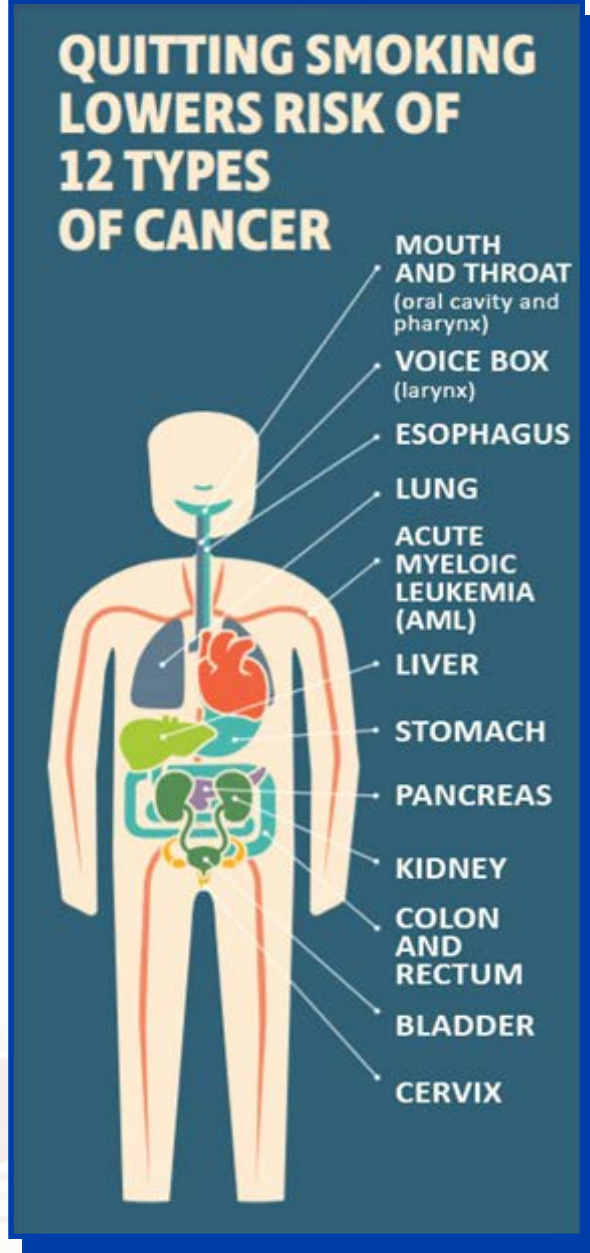
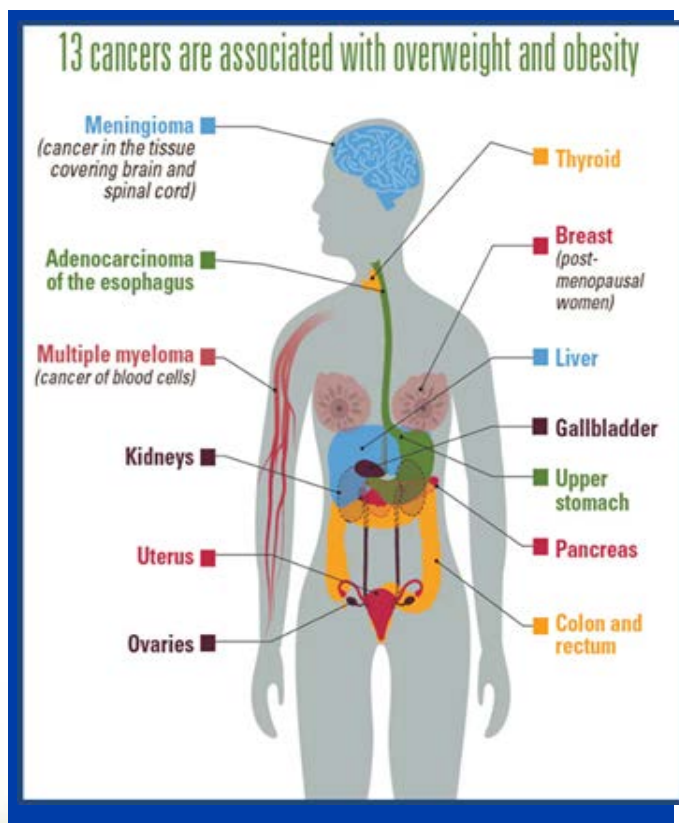
Just promoting healthy choices won't eliminate these and other health disparities. Instead, public health organizations and their partners in sectors like education, transportation, and housing need to take action to improve the conditions in people's environments.

REDUCING CERTAIN CANCER RISK FACTORS

Risk factors influence the chance of getting cancer and other chronic diseases. Cancer risk factors include exposure to chemicals or other substances, as well as certain behaviors. They also include things people cannot control, like age and family history. A family history of certain cancers can be a sign of a possible inherited cancer syndrome.⁴

Adults with disabilities are three times more likely to have heart disease, stroke, diabetes, or cancer than adults without disabilities (CDC,2020). These factors cannot be controlled but knowing and sharing family history with other family members and healthcare providers is important. Other cancer risk factors such as tobacco use disorder or obesity can be addressed to eliminate or reduce one's chances of getting cancer.

Steps can be taken to reduce risk factors at every age and even before birth by reducing exposure to tobacco and toxic chemicals. In early childhood and adolescence, vaccines and protection from UV radiation are examples of cancer risk reduction. Physical activity, access to healthy foods, reducing obesity, and avoiding exposure to tobacco reduce cancer risks for all ages.⁵



Population based surveys such as the [Behavioral Risk Factor Surveillance Survey \(BRFSS\)](#) can be used to quickly identify population risk factors by sex, age, race, education, and income.

Pennsylvania 2020 BRFSS Population Risk Factors											
Quick View	Alcohol	Exercise	No Provider	Healthcare Coverage	Health Literacy	Oral Health	Overweight or obese	Physical Impairment	Physical Health	Mental Health	Tobacco
Male	X		X	X		X	X				X
Female		X					X	X	X	X	
White							X				
Black		X		X	X	X	X	X			X
Hispanic		X	X	X	X	X	X	X	X	X	X
<65	X	X	X	X	X	X	X			X	X
≥65								X	X		
<25K Household Income	X	X	X	X	X	X	X	X	X	X	X
≥25K Household Income							X				
≤ High School		X	X	X	X	X	X	X	X	X	X
>High School (some college or more)		X							X		

The use of population survey data in combination with cancer registry data aids in identifying at risk populations and aid in the development of cancer risk reduction strategies. For example, in PA, combination of data shows that:



PA males have a 13% higher cancer incidence rate than females. Survey data show a higher percentage of males than females do not have a primary care provider. A goal to reduce the cancer incidence in males may include adopting policies that promote wellness and decrease barriers to care such as paid time off for wellness checks or health screenings.

HPV vaccination could **prevent more than 90% of cancers caused by HPV** from ever developing, yet the up-to-date HPV vaccination rate is only 48.8% for adolescents aged 13-17 living in rural communities compared to 63.8% in adolescents living in a principal city in PA. But the rate for one or more doses of the meningitis vaccine is greater than 90% for all adolescents in PA regardless of urbanicity.⁶ The data indicates that adolescents are getting some of the recommended vaccines but not all. This strategy needs to focus on provider and parent education rather than access.



Survey results from the [Pennsylvania LGBTQ Health Needs Assessment](#) reports 37.6% of LGBTQ+ in PA report barriers to seeking health care. A strategy to consider could be provider education and training to create a more inclusive medical setting incorporate culturally and linguistically appropriate standards (CLAS) or develop peer to peer navigation and support.

CANCER AND THE ENVIRONMENT

*The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic, and esthetic values of the environment. “(CONSTITUTION of the COMMONWEALTH OF PENNSYLVANIA. Article 1, § 27 amended to the state constitution in 1971)”*⁷

PA’s vast, diverse geography and wealth of natural resources have contributed to the state’s rich history in agriculture, iron and steel manufacturing, lumbering, fossil fuel extraction, transportation, and food processing.⁸ However, there are negative impacts⁹ from this industrial and economic growth such as climate change, loss of environmental habitats and biodiversity, higher levels of pollution, depletion of non-renewable resources and negative impacts on health.¹⁰

What are the environmental risk factors for cancer?

Through surveillance and tracking, scientists have observed a relationship between some cancers and the presence of certain environmental pollutants.¹¹ It is estimated that two-thirds of the cancer cases are caused by environmental factors across all populations.

Many factors, both inside and outside the body, can contribute to the development of cancer. Factors outside of the body which interact with humans are considered “*environmental*”.¹² In the Plan, environmental risk factors are broken down into 2 primary categories:

1. Environmental cancer risks over which individuals have some control

Individual lifestyle choices can reduce some environmental risks for cancers, including tobacco use, excessive alcohol consumption, making unhealthy food choices, lack of exercise, excessive sunlight exposure, and behaviors that increase exposure to certain viruses like HPV and Hepatitis.

However, people in under-resourced communities often face barriers which impede their ability to make healthy lifestyle choices due to a lack of access to affordable safer products, healthy food, health care, and preventive services. These cumulative risk factors are compounded by stress from job, housing, education, and health insecurity. Strategies to reduce exposure to these risk factors and reduce inequities include education to influence choices people make, increase access to safe and healthy foods and environments, and change in institutional and government policy and practice to address the root cause of these barriers so making healthy choices is possible.

2. Environmental cancer risks related to the built or natural environment

The built environment touches all aspects of life. It is generally described as man-made or modified structures that provide people with living, working, and recreational spaces.¹³ This includes the manufacturing and distribution systems that provide water, electricity, and consumer products; build and maintain roads, bridges, and transportation systems. Cancer risk factors associated with the built environment include pollution from manufacturing and man-made chemicals used in or around homes, schools, workplaces and outdoor or recreational spaces.

The **natural environment** also touches all aspects of life and includes air, soil, and water. Carcinogens produced through the natural environment present in various forms such as radiation, UV, naturally occurring gases and substances such as radon and arsenic and from environmental changes to the climate.¹⁴ These risks may be unknown or go undetected by individuals. Negative health effects may not be immediate but may occur after prolonged exposures.

Radon is an example of a natural environmental carcinogen. PA has one of the most serious radon problems in the country due to its geography and natural environment. An estimated **40 percent** of PA homes have radon levels above the Environmental Protection Agency’s action guideline of 4 picocuries per liter.

This naturally occurring radioactive soil gas can enter homes and other building types through cracks and openings in slab foundations and below grade wall contact. It is invisible and odorless. Radon is the second leading cause of lung cancer after smoking and is the leading cause of lung cancer among non-smokers. The Environmental Protection Administration (EPA) estimates that radon is responsible for 21,000 annual lung cancer deaths in the U.S. and considers radon a “Group A Human Carcinogen”.¹⁵

Reducing environmental exposures through PSE changes is a necessary and important component to improving the health of PA. All Pennsylvanians will benefit however, a particular focus is needed on communities and populations at highest risk. Children, cancer survivors, racial and ethnic minorities and others who experience social adversity are at increased risk for negative health outcomes if they are exposed to environmental contaminants.¹⁶

Collaboration is the key to reducing risk factor disparities

Reducing the burden of cancer and other chronic diseases is a challenge requiring diverse collaboration and the dissemination and adoption of effective interventions in multiple settings. Numerous organizations, state agencies and divisions must continue to work within their respective areas to advance health equity, eliminate disparities, and decrease or eliminate chronic disease risk factors for improved population health.

Below is a partial list of agencies that focus their work and strategic plans on various risk factors which contribute to PA's cancer and chronic disease burden. The NCCCCP encourages state comprehensive cancer control programs and coalitions to align goals and priorities, collaborate and leverage resources with these or similar agencies to maximize efforts toward shared population health objectives.

CANCER RISK FACTORS	AGENCY PARTNERSHIPS and RESOURCES
Tobacco use and secondhand smoke	Pennsylvania Division of Tobacco Prevention and Control , Pennsylvania Alliance to Control Tobacco (PACT)
Obesity in children adolescents and adults	Pennsylvania Department of Health Obesity Prevention and Wellness Program
Nutrition	Pennsylvania State Physical Activity and Nutrition (SPAN) , Women, Infants and Children (WIC) , Division of Food and Nutrition Resources , USDA Food and Nutrition Service
Physical Activity	Walk Works , PA Department of Conservation and Natural Resources (DCNR) , DCNR Statewide Comprehensive Outdoor Recreation Plan
Oral Health	Pennsylvania Oral Health Plan 2020-2030 , Pennsylvania Coalition of Oral Health
Prevention Immunizations	PA Department of Health Immunizations , Vaccines for Children Program , Pennsylvania Immunization Coalition Perinatal Hepatitis B Program , Perinatal Hepatitis C Program , Pennsylvania Viral Hepatitis Elimination Plan
Multiple priorities	State Health Improvement Plan
Environmental Risk Reduction	Pennsylvania Department of Environmental Protection PA Department of Health Environmental Justice: Office of Environmental Justice (pa.gov)

2023 - 2033

Pennsylvania Cancer Prevention and Control Plan

GOAL 1

HEALTH EQUITY

To achieve health equity, social determinants need to be addressed by implementing PSE changes across several domains and involving a wide range of stakeholders, industries, and government agencies working together. In 2022, the [Community Preventive Services Task Force \(CPSTF\)](#) prioritized health equity and social determinants of health in their work and recommendations. The [CDC's Division of Cancer Prevention and Control \(DCPC\)](#) is also working to advance health equity. Both organizations have resources available to guide the state cancer coalition and cancer control partners to incorporate advancing health equity across the cancer continuum.

OBJECTIVE 1:1

Reduce cancer-related disparities and risk factors by 2033

HEALTH EQUITY FOCUS

Racial and Ethnic Minorities, LGBTQ+, Rural Communities, Underserved Populations

STRATEGIES

- Use high-quality data and population surveillance to perform environmental scans to identify disproportionately high cancer burdens, social determinants of health and elevated environmental risks in populations and geographic areas across PA
- Increase health promotion to underserved populations including rural, veteran and persons with disabilities by utilizing evidence-based health literacy practices and interventions
- Work with community organizations in communities of high risk to understand their needs, ideas, and risk factors to develop prevention or intervention strategies
- Promote PSE changes to support workforce development of Community Health Workers to reduce barriers to cancer prevention, screening, diagnosis, and treatment
- Advance partnerships and leverage resources with other agency initiatives and strategic plans to improve health outcomes
- Promote cultural competency training for health care providers on minority populations, veterans, and people living with disabilities
- Provide culturally and linguistically appropriate services and education, specifically for populations experiencing health disparities
- Advance partnerships to advocate for policies to increase access to care for rural Pennsylvanians (transportation, telehealth, reducing financial barriers/out-of-pocket costs for cancer screening and services)
- Advance partnerships to promote policies to expand access to primary care services (e.g., free clinics, charitable clinics, rural health clinics, Federally Qualified Health Centers (FQHC)) in under-served areas

- Advance partnerships to advocate for equitable distribution of state and federal funding for sustainable financing for comprehensive cancer control efforts and implementation of the state cancer plan
- Advance partnerships to advocate for and promote policies that mitigate disproportionate cancer risks experienced by environmental justice communities

OBJECTIVE 1:2

Increase the number of coalition members who represent underserved populations and communities by 2033

HEALTH EQUITY FOCUS

Racial and Ethnic Minorities, LGBTQ+, Rural Communities, Veterans and ADA

STRATEGIES

- Perform annual cancer coalition membership and state cancer plan implementation evaluations to identify and recruit individuals and organizations to join the PCC to advance cancer health equity
- Increase multisector collaborations and relationships to address the needs and gaps in health and wellness services to support underserved communities
- Share updated data (cancer data, disparities) annually with PCC members, state legislators, community leaders and stakeholders
- Advance partnerships and coalition representation of environmental justice communities
- Develop and encourage the use of culturally and linguistically appropriate health education materials and messaging for coalition members and partners
- Develop a process to initiate “calls to action” of PCC members to increase engagement with decision and policymakers about cancer control priorities

GOAL 2

PREVENT CANCER

The most effective way to fight or reduce cancer is to prevent it from occurring in the first place. [The World Health Organization \(WHO\)](#) considers cancer prevention to be the most cost-effective long-term strategy for cancer control. Research suggests that cancer prevention efforts during early life and reducing harmful exposures of infants, young children, and adolescents can reduce their chances of getting cancer in the future. It is critical to build commitment as a foundation for any meaningful public health initiative, including safe, stable, nurturing relationships and environments for all children.

OBJECTIVE 2:1

Strengthen public protection from environmental carcinogens and cancer risk factors by 2033

HEALTH EQUITY FOCUS

Children and Adolescents, Rural, Racial and Ethnic Minorities, Low SES, Hi-risk occupations

STRATEGIES

- Educate the public by identifying and disseminating data sources and tools on environmental carcinogen exposure risks and safe alternatives
- Educate Pennsylvanians about safe drinking water, potential water carcinogenic contaminants, well water testing, certified water testing laboratories and available resources
- Increase and build public awareness of the effects of environmental lung carcinogens to increase demand for radon testing and availability of resources
- Educate parents about cancer risks to children associated with environmental exposures and strategies to reduce risks (radon, second hand smoke, exposure to household and other chemicals or pollutants)
- Educate employees and employers about environmental occupational risks such as carcinogenic chemicals, secondhand smoke, and UV exposure in the workplace to develop policies and/or safer alternatives to decrease employee exposure
- Educate health care providers on importance of environmental, social determinants and cancer risk assessments on all patients and the availability of resources
- Increase the capacity of healthcare providers and lung health programs to ask about radon testing in the patient's home, provide education, and testing resources
- Promote activities, programs, and initiatives to decrease adult and youth tobacco use identified in the [Tobacco Prevention Control Strategic Plan](#)
- Support educational campaigns and strategies to increase sun-protective behaviors in outdoor occupational settings
- Support educational campaigns and strategies to encourage sun protection among visitors to recreational and tourism settings
- Advance partnerships promoting the adoption of UV safety policies for schools, athletic teams, and employees

- Use data to educate the professional and policy-making community about risks associated with exposure to tobacco, radon, air pollution, chemical and other environmental cancer risk factors
- Advance partnerships to advocate for policies that increase protections from radon, radon testing and mitigation of schools, residential and commercial new builds, renter notification of radon levels
- Advance partnerships to explore and develop policies that incentivize the replacement of priority environmental carcinogens with safer alternatives
- Advance partnerships to support policy changes to close loopholes and exemptions in environmental protection laws (e.g., air and water quality, tobacco laws)
- Advance partnerships to advocate for and support policies to increase environmental justice (EJ), promote health equity, and allocate funding to create safe neighborhoods and greenspace in underrepresented communities and current EJ areas

OBJECTIVE 2:2

Increase the vaccination rates for vaccines shown to reduce the risk of cancer

HEALTH EQUITY FOCUS

Rural Adolescents, Racial and Ethnic Minorities

STRATEGIES

- Initiate HPV vaccination as cancer prevention starting at age 9
- Promote HPV vaccine catch-up through age 26
- Educate providers about the importance of a strong recommendation for HPV vaccination
- Provide education to providers and public on clinical shared decision-making regarding HPV vaccination of males and females aged 27-45
- Advance partnerships to engage in cancer risk and prevention education to increase community demand for HPV and hepatitis B vaccination
- Increase the implementation and utilization of standing orders and vaccine reminder and recall systems focused on adolescents in provider settings for nurses, pharmacists, and other health care providers as recommended by the [Community Guide](#)
- Educate a wide range of influencers about the importance of hepatitis B vaccination and hepatitis C screening as liver cancer prevention and on the most recent recommendations
- Expand capacity with coalition partners to raise awareness about viral hepatitis and incorporate hepatitis vaccine messaging along with HPV cancer prevention messaging
- Leverage resources through collaboration with [Viral Hepatitis Elimination Plan](#) workgroups and partners
- Include liver cancer prevention messaging when addressing risk reduction related to obesity, smoking, alcohol, and diet
- Advance partnerships to advocate for and support policies which reduce financial barriers and access to vaccines

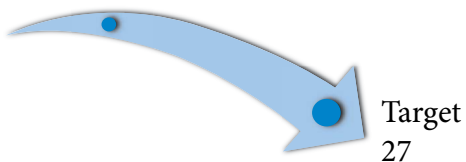
Goal 2: Cancer Plan Measures

2:1:1 Decrease lung cancer mortality from 35.7 to 27 through reduction of exposure to environmental lung carcinogens by 2033

Data Source: USCS, 2019

Baseline

35.7



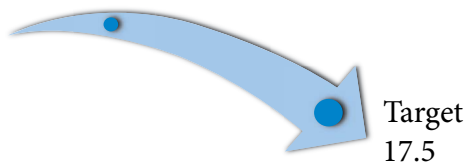
Target
27

2:1:2 Decrease the age-adjusted incidence of melanoma from 20.1 to 17.5 by 2033

Data Source: PA Cancer Registry, 2019

Baseline

20.1



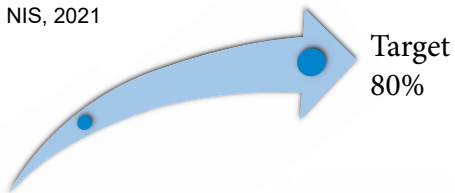
Target
17.5

2:2:1 Increase the number of adolescents, males, and females ages 13 to 17 who completed the HPV vaccination series from 68.7% to 80% by 2033

Data Source: NIS, 2021

Baseline

68.7%



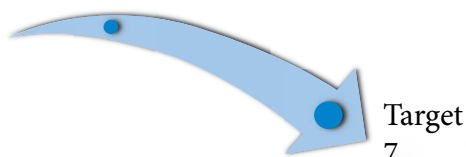
Target
80%

2:2:2 Decrease liver cancer incidence from 8.1 to 7 by 2033

Data Source: PA Cancer Registry, 2019

Baseline

8.1



Target
7

GOAL 3

SCREENING

Many types of cancer can be detected at an early stage before signs or symptoms are apparent. Screening for cancer and detecting cancers at an earlier stage can improve outcomes resulting in decreased cancer mortality and improved quality of life. The Community Preventive Services Task Force (CPSTF) recommends [multicomponent interventions](#) to increase screening for breast, cervical, colorectal, lung, and prostate cancers. Currently, lung and prostate cancer screening guidelines include [Shared Decision-making](#) between patient and provider.

OBJECTIVE 3:1

Increase screening for early detection of breast, cervical, colorectal, lung and prostate cancers using recommended national guidelines by 2033

HEALTH EQUITY FOCUS

Racial And Ethnic Minorities, Lower Social Economic Status (SES) Under-Served Rural Communities, LGBTQ+, Males

STRATEGIES

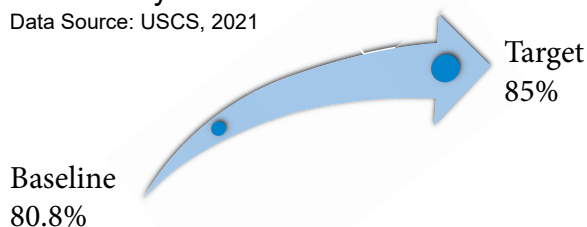
- Share best practice models on community education and engage trusted community agencies and organizations in cancer screening education and promotion
- Increase understanding of Shared Decision-making for lung and prostate cancer screening
- Conduct a small media awareness campaign about the importance of early detection
- Identify, use, and refer to screening facilities known to be culturally competent in delivering health services to minority populations, LGBTQ+, and individual with disabilities
- Promote employer policies to reduce barriers and increase screening with initiatives such as scheduling at worksites and where high-need individuals access other services
- Collaborate with tobacco control partners who implement evidence-based interventions for reducing cigarette smoking to incorporate lung cancer screening education
- Support provider education on the use of current screening guidelines and evidence-based interventions to increase cancer screening
- Support provider education to increase shared decision making for cancer screening
- Promote patient navigation to facilitate access to primary care services and timely access to screening
- Educate health systems, providers, staff, and navigators in cultural competency to promote cancer screening and related services in minority populations
- Reduce structural barriers and increase access to screening services (e.g., transportation assistance, flexible clinic hours, alternative screening sites (mobile mammography vans), childcare, and translation services
- Engage with partners to advocate for and support policies to reduced out-of-pocket costs to patients, including co-pays and deductibles

- Promote and support programs that provide free or low-cost recommended screenings to the underinsured and uninsured
- Monitor and disseminate information on policies introduced and passed regarding cancer screening, including attempts to address loopholes in coverage and costs associated with diagnostics and follow-up

Goal 3: Cancer Plan Measures

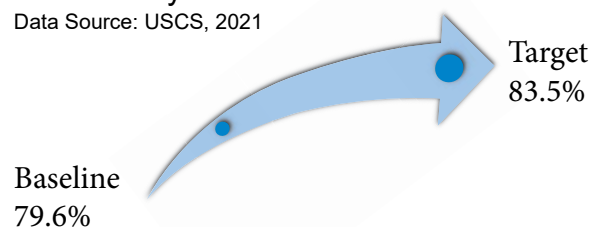
3:1:1 Increase the percentage of women age 50-74 who are up to date on breast cancer screening from 80.8% to 85% by 2033

Data Source: USCS, 2021



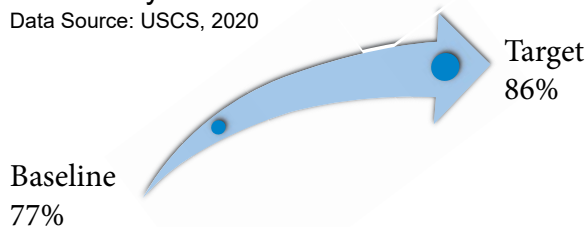
3:1:2 Increase the age-adjusted percentage of females aged 21-65 who received a cervical cancer screening from 79.6% to 83.5% by 2033

Data Source: USCS, 2021



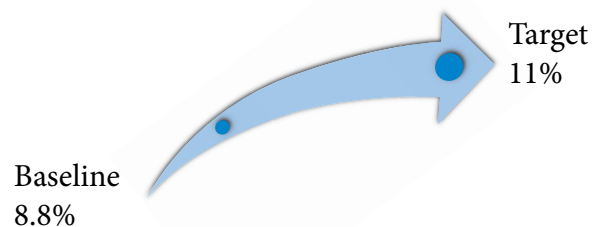
3:1:3 Increase the percentage of adults aged 45 to 75 who get screened for colorectal cancer from 77% to 86% by 2033

Data Source: USCS, 2020



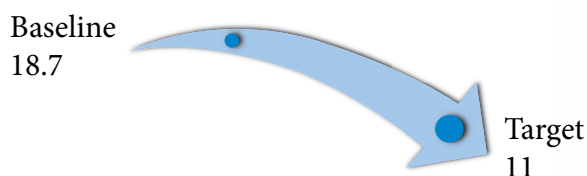
3:1:4 Increase the proportion of adults who receive lung cancer screening from 8.8% to 11.8% by 2033

Data Source: American Lung Assoc., 2022



3:1:5 Reduce the prostate cancer death rate from 18.7 to 17.2 by 2033

Data Source: PA Cancer Registry, 2019



GOAL 4

DIAGNOSIS & TREATMENT

Timely cancer screenings and early diagnosis of cancer provide the best chance of effective treatment. Knowledge of cancer risk factors and family history can aid in determining the need for additional surveillance, diagnostic, or treatment services such as genetic counseling, genetic testing, and genomic profiling.

Genes involved in many of the known [inherited cancer susceptibility syndromes](#) have been identified. Testing whether someone carries a harmful variant in one of these genes can confirm whether a condition is, indeed, the result of an inherited syndrome. Genetic testing is also done to determine whether family members have inherited the same variant as a family member who is known to carry a harmful (cancer susceptibility predisposing) variant. [Genetic Testing Fact Sheet - NCI \(cancer.gov\)](#)

OBJECTIVE 4:1

Increase the availability of and access to high-quality cancer diagnosis and treatment

HEALTH EQUITY FOCUS

Populations at high risk for Hereditary Cancers Syndromes

Racial and Ethnic Minorities

STRATEGIES

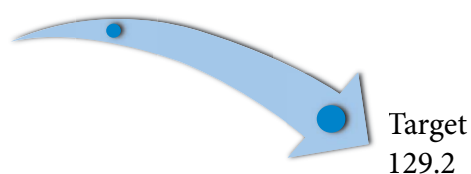
- Community-based education about Hereditary Breast and Ovarian Cancer syndrome, Lynch syndrome, and family history
- Increase the proportion of Pennsylvanians at risk who get genetic counseling and/or testing for hereditary breast and ovarian cancer
- Educate providers on the United States Preventive Services Task Force (USPSTF) recommendations and national guidelines for genetic counseling and testing
- Engage with partners to support and advocate for policies to reduce barriers and increase access to genetic counseling and testing in under-served areas in PA
- Develop partnerships to advocate for increase access to and reduced out of pocket expenses through insurance coverage for genetic testing and counseling services

Goal 4: Cancer Plan Measures

4:1:1 Reduce the overall cancer death rate from 152.7 (to 129.2 by 2033

Data Source: PA Cancer Registry, 2019

Baseline
152.7





GOAL 5

QUALITY of LIFE SURVIVORS

A person is a cancer survivor from the time of diagnosis through their lifespan. Navigating life experiences and challenges resulting from a cancer diagnosis can be difficult. Survivorship focuses on the health and well-being of cancer survivors. Increasing quality of life includes the physical, mental, emotional, social, and financial effects of cancer.

The World Health Organization states, “*Palliative care is explicitly recognized under the human right to health.*” Palliative Care is a team approach to improving the quality of life of patients (adults and children) and their families who are facing problems associated with life-threatening illness through the early identification, correct assessment, and treatment of pain and other problems, whether physical, psychosocial, or spiritual.

Clinical trial enrollment can be of benefit to cancer survivors, providing access to latest therapies, additional provider monitoring and assessment of health status, reduced or no cost for clinical trial drugs and therapies and the sense of contributing to science and helping future generations. Fewer than 1 in 20 adults with cancer enroll in clinical trials. Cancer clinical trial enrollment varies significantly between race and ethnicity, sex, age, cancer type. Racial and ethnic minorities, older adults, rural residents, and individuals of low socioeconomic status are underrepresented among participants in cancer-related trials.

OBJECTIVE 5:1

Improve the quality of life of cancer survivors

HEALTHY EQUITY FOCUS

Racial and Ethnic Minority, Rural, Children, Adolescents and Young Adults

STRATEGIES

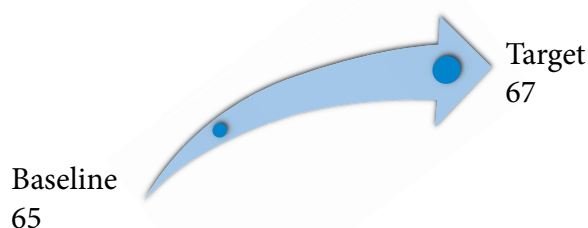
- Establish and disseminate surveillance surveys to assess the needs of cancer survivors and establish criteria for follow-up surveillance
- Increase participation of cancer institutes, health, and hospital systems who collaborate to report statewide clinical trial data to identify gaps in service
- Share and disseminate cancer survivor data to PCC members and other stakeholders to inform strategies aimed at increasing the quality of life of survivors
- Promote community education to increase knowledge about the growing cancer survivor population and issues surrounding cancer survivorship
- Implement survivor and community education to increase informed decision-making related to clinical trials
- Promote patient navigation or case management programs that facilitate access to care and clinical trials
- Educate oncology healthcare professionals regarding the benefits of developing a patient-centric process to increase enrollment into cancer clinical trials

- Promote campaigns aimed at increasing public awareness and knowledge of the benefits of palliative care
- Develop or adopt consistent CLAS messaging about palliative care for statewide use
- Promote systems change to integrate palliative care services into routine oncology service and promote provider specialty certification
- Promote provider education on the importance of addressing cancer survivorship and palliative care from diagnosis through long-term treatment effects and end-of-life care
- Promote provider education on the importance of psychosocial assessment of survivors and appropriate referrals
- Promote provider and community education about adult and pediatric palliative care vs. hospice services
- Educate providers on best practices for follow-up, long-term and transition care for pediatric cancer survivors
- Educate providers on the importance of routine wellness checks, screening, and risk reduction assessment (e.g., tobacco cessation, nutrition, and physical activity)
- Promote increased access to survivor wellness programs for pediatric and adults thru expansion to rural communities, patient navigation and community health worker education
- Use data to educate policy makers about the unique needs of cancer survivors and survivor health disparities
- Advance partnerships to advocate and support policies which reduce economic burden and insurance barriers related to health care and clinical trial participation for cancer survivors
- Advance partnerships to advocate for policies and funding to increase access to survivor services including palliative care, wellness services and telehealth in rural communities
- Educate policy makers and payors about the long-term physical and psycho-social needs of pediatric cancer survivors to promote continued affordable access to services

Goal 5: Cancer Plan Measures

5:1:1 Increase the five-year cancer survival rate for Pennsylvania from 65 to 67 by 2033

Data Source: PA Cancer Registry (Dashboard), 2022



CALL TO ACTION

Whether you are a cancer survivor, caregiver, policymaker, employer, educator, student, community leader, public health, or healthcare professional, your efforts for cancer prevention and control are critical in the fight against cancer.

Academic, Medical and Dental Communities

- | | |
|--|--|
| <ul style="list-style-type: none"> Educate physicians and trainees about facilitating informed decision-making around screening | <ul style="list-style-type: none"> Recruit and train more providers from disadvantaged minority backgrounds Collect and report on cancer-related data |
|--|--|

Cancer Survivors

- | | |
|--|---|
| <ul style="list-style-type: none"> Communicate your needs to your provider Stay up to date with routine medical and dental care Share personal experiences to help educate the public about the needs of survivors Talk to family members about the importance of sharing family history with the provider | <ul style="list-style-type: none"> Participate in survivorship surveys Mentor other survivors Consider joining an advocacy group or organization working to improve survivors' experience Gather information and knowledge about clinical trial participation |
|--|---|

Community Health Workers and Navigators

- | | |
|---|--|
| <ul style="list-style-type: none"> Stay up-to date on current screening guidelines Serve as a bridge between the patient and access to care, services, and resources Provide educational resources to patients, including cancer awareness information Provide community education on cancer risk reduction and wellness strategies Communicate with the patient's medical care team | <ul style="list-style-type: none"> Offer emotional support to cancer patients Participate in ongoing training related to CHW and navigator work Use performance indicators and quality metrics to demonstrate improved outcomes, value, and cost savings of navigation services to inform policy and advocate for funding |
|---|--|

Elected Officials and Policy Makers

- | | |
|--|---|
| <ul style="list-style-type: none"> Sponsor or support policies and/or legislation that provides funding for cancer prevention and control Promote system and funding changes that will increase access to cancer screenings, medications, and care Advance policies that help reduce the cancer burden for Pennsylvanians Support access to affordable health insurance Support policies that make it easier for Pennsylvanians to live healthy, tobacco-free lives | <ul style="list-style-type: none"> Promote systematic approaches that address issues related to health equity and social determinants of health (such as food insecurity, inadequate access to health care, transportation, and education) Cancer Caucus-stay up to date with state cancer burden data, meet regularly with subject matter experts to learn about cancer priorities Use state burden and disparities data to equitably allocate funding Enforce compliance of environmental protection laws and regulations |
|--|---|

Employers and Businesses

- Offer employee benefits that encourage wellness
- Implement tobacco-free policies
- Provide healthy foods and beverages in vending machines and cafeterias
- Incentivize employees to take time during the day for physical activity
- Educate employees about best practices for cancer screening and treatment
- Promote health and wellness at corporate events
- Seek out alternatives to toxic and hazardous workplace chemicals: ensure employee compliance with PPE
- Provide sun protection to employees who work outside
- Provide paid time off for recommended cancer screening and immunizations
- Provide affordable health insurance coverage and carry or offer short and long-term disability insurance for all employees
- Support cancer survivors so they can continue to be successful employees

Faith-based Organizations

- Provide spiritual support services for members during cancer treatment
- Encourage healthy lifestyle modifications
- Provide spiritual counseling services with a clergy member or representatives from multiple faiths
- Collaborate with the community to provide cancer prevention and screening programs
- Create a local action plan to reach members and reduce barriers to cancer screenings
- Provide cancer awareness information
- Join and actively participate in the PCC

Individuals

- Join the PCC
- Maintain a healthy weight by eating a healthy diet and being physically active
- Discuss your family health history with other family members and your healthcare provider
- Get screened for cancer according to national guidelines
- Stop smoking or vaping or never start
- Avoid secondhand smoke
- Limit alcohol consumption
- Wear sunscreen, seek shade, and wear protective eyewear and clothing when outdoors
- Stay up to date on cancer prevention vaccines: human papillomavirus vaccine (HPV) and hepatitis B vaccine (HBV)
- Test your home for radon
- Install a radon mitigation system if tested levels are above the EPA action level
- Avoid chemical fertilizers, pesticides, and insecticides
- Become familiar with carcinogen sources in the home along with non-toxic and other natural replacements
- Participate in research studies and volunteer with those whose lives are impacted by cancer
- Act for environmental justice in your community

Healthcare Providers: Medical and Dental

- Perform a cancer risk assessment on every patient
- Provide appropriate medical care, information, and referrals for survivors
- Provide cancer patients with a written summary of their cancer plan
- Perform a hereditary cancer risk assessment at each patient visit
- Offer patient navigators and community health workers for cancer screening, treatment, and survivorship
- Provide interpreter services or bilingual providers
- Refer to or integrate mental health services for cancer survivors
- Use electronic medical records and reminders to keep individuals up to date on cancer screenings and vaccinations
- Promote cancer prevention vaccines the same way/same day as other routine vaccinations
- Routinely ask patients about healthy behaviors such as smoking, alcohol use, poor diet, and physical activity
- Integrate tobacco treatment clinical practice guidelines into clinical protocols
- Incorporate wellness related to diet and exercise in patient treatment plans
- Connect patients and survivors to cancer research and clinical trials
- Submit accurate and timely cancer data to the cancer registry
- Make earlier referrals to palliative care, treatment and/or hospice for end-of-life care
- Explore alternative payment models to support community-based palliative care services
- Support initiatives and payment models that encourage providers to help patients complete advance directives

Health Systems or Health Care Organizations

- Collaborate to sponsor community screening programs. With treatment services lined up, if needed
- Educate providers on shared decision making
- Identify clinic and provider screening and vaccination rates
- Ensure access to cancer clinical trials
- Review clinical trial eligibility requirements to promote the inclusion of patients from racial and ethnic minority groups in oncology clinical trials
- Develop and offer palliative care services to patients and families
- Implement office-based reminders that identify patients due for cancer prevention and screening services
- Increase navigation services
- Participate in research

Health Insurers

- Cover routine cancer screening and diagnostic tests
- Support access to and coverage of smoking cessation classes, nutrition programs, mental health providers, and cancer treatment drugs
- Ensure no cost sharing for all recommended cancer screenings and immunizations
- Streamline access and reduce out-of-pocket costs to participate in cancer research and clinical trials
- Ensure palliative care and hospice services are fully covered services

Schools

- Provide healthy/whole or natural foods and drinks
- Provide daily recess and incorporate physical activity into regular classroom lessons
- Encourage sun-safe behaviors
- Provide educational opportunities for parents and students to learn about the HPV vaccine to prevent cancer
- Incorporate healthy living messages in classes
- Maintain smoke, tobacco, and vape-free campuses
- Choose natural and non-toxic cleaning products or companies
- Increase physical education requirements and physical activity opportunities
- Offer sun-protected play areas for children
- Provide educational opportunities for parents to learn about the importance of healthy food and physical activity for their family
- Educate school personnel on how to ease a student's or staff member's return to school after cancer treatment
- Provide counseling services for students whose parents are going through cancer treatment
- Test buildings for radon and other environmental risk factors

State and Local Health Departments and Community Organizations

- Collaborate to remove barriers to cancer prevention, screening, treatment, and support
- Provide or host cancer survivor support groups
- Provide or promote health screening events
- Promote patient navigation and community health worker programs
- Assist community members with signing up for insurance
- Support culturally and linguistically appropriate policies, systems, and environmental changes for cancer prevention and control
- Provide cancer information and resources that are appropriate for those you serve
- Ensure access to education about the dangers of radon, access to testing kits, and mitigation
- Encourage local government agencies to develop healthy living programs and clean air and water policies
- Be actively involved and promote the state's cancer plan

**JOIN THE
PENNSYLVANIA
CANCER COALITION!**

RESOURCES

Alcohol	<ul style="list-style-type: none"> • Alcohol and Cancer CDC • Alcohol Use and Cancer • Department of Drug and Alcohol Programs
Cancer Screening	<ul style="list-style-type: none"> • Home - PA Prostate Cancer Coalition • Home - PA Breast Cancer Coalition • National Breast and Cervical Cancer Early Detection Program CDC • American Cancer Society • USPSTF
CDC Best Practice Models	<ul style="list-style-type: none"> • https://ebccp.cancercontrol.cancer.gov/index.do#:~:text=The%20EBCCP%20(formerly%20RTIPs)%20website,immediate%20access%20to%20program%20materials. • https://www.cdc.gov/evaluation/tools/strategies/index.html • https://www.cdc.gov/screenoutcancer/ebi-planning-guides/index.htm • https://www.cdc.gov/cancer/dcpc/prevention/screening.htm
Coalition Resources	<ul style="list-style-type: none"> • Pennsylvania Cancer Coalition — PA Cancer Control Plan, Resources, Research, Membership (pacancercoalition.org) • The Guide to Community Preventive Services (The Community Guide)
Disability and Health	<ul style="list-style-type: none"> • Disability Inclusion CDC • Disability and Health Data System Explore by Location NCBDDD CDC
Environmental	<ul style="list-style-type: none"> • Radon Division (pa.gov) • Office of Environmental Justice (pa.gov) • Cancer-Causing Substances in the Environment - NCI • Home - Cancer & Environment Network of SWPA (censwpa.org) • Environmental Justice Areas Viewer (arcgis.com) • Pennsylvania Environmental Health Indicators Map (pa.gov) • American Childhood Cancer Organization • Indiana Childhood Cancer Toolkit • ATSDR - Resources for the Public (cdc.gov) • Environmental Health (pa.gov) • Contact Environmental Health (pa.gov) • Women For a Healthy Environment - Empowering Communities for a Healthier Tomorrow • Inflation Reduction Act Guidebook Clean Energy The White House • USGS Groundwater Data for Pennsylvania • Public Health Impacts of Climate Change Threats in Pennsylvania
Genetics and Genomics	<ul style="list-style-type: none"> • Pennsylvania Cancer Control Genetics/Genomics Toolkit (pacancercoalition.org) • Public Health Genomics CDC • Cancer genome research and precision medicine – NCI • Genetics and Cancer American Cancer Society • Risk Assessment and Screening Toolkit to Detect Familial, Hereditary and Early Onset Colorectal Cancer - National Colorectal Cancer Roundtable (ncrct.org)

Health Equity	<ul style="list-style-type: none"> • Pennsylvania Languages Map (arcgis.com) • Cancer Disparities - NCI • CLAS Standards Achieving Health Equity (cms.gov) • What is CLAS? - Think Cultural Health (hhs.gov) • PA LGBTQ Health Needs Assessment - Bradbury-Sullivan LGBT Community Center (bradburysullivancenter.org) • National LGBT Cancer Network (cancer-network.org) • Health Leadership Rural Health Care Pennsylvania Office of Rural Health PORH (psu.edu) • Rural Health (pa.gov) • Pennsylvania Diversity Council (padiversitycouncil.org) • LGBTQ-Breast-Health-Toolkit-final.pdf (komenpugetsound.org) • National LGBT Cancer Network (cancer-network.org) • National LGBT Cancer Network Colorectal Sub-Site – Just another WordPress site (cancer-network.org)
Health Literacy	<ul style="list-style-type: none"> • Health Literacy PA Health Literacy Coalition - https://healthliteracypa.org/
Hospice Care and Palliative Care	<ul style="list-style-type: none"> • Pennsylvania Hospice and Palliative Care Network (pahospice.org) • Hospice (pa.gov) • Home NHPCO
Insurance	<ul style="list-style-type: none"> • Home Pennie • Children's Health Insurance Program (CHIP) (pa.gov) • Medical Assistance (pa.gov) • Consumers Insurance Concerns (pa.gov) • Health Insurance Marketplace® HealthCare.gov
National Organizations, Roundtables	<ul style="list-style-type: none"> • Cancer CDC • American Cancer Society • National Comprehensive Cancer Control Program (NCCCP) CDC • We are GW Cancer GW Cancer Center (gwu.edu) • National Colorectal Cancer Roundtable • NIS-Teen – National Foundation for Infectious Diseases (nfid.org)
Nutrition	<ul style="list-style-type: none"> • Healthy Pantry Initiative • Welcome to Pennsylvania WIC (pa.gov)
Obesity	<ul style="list-style-type: none"> • Obesity (pa.gov) • Obesity and Cancer CDC
Other Data and Survey Resources	<ul style="list-style-type: none"> • USCS Data Visualizations - CDC • U.S. Census Bureau QuickFacts: Pennsylvania • The Burden of Cancer in Pennsylvania (pa.gov) • Teen Vax View Adolescent Vaccine Coverage Interactive Data NIS CDC • SEER Cancer Stat Facts

PA Cancer Data	<ul style="list-style-type: none"> • Cancer Statistics (pa.gov) • Cancer Registry (pa.gov)
Pediatric, Adolescent and Young Adult Resources	<ul style="list-style-type: none"> • https://www.cdc.gov/violenceprevention/pdf/essentials-for-childhood-framework508.pdf • Coping - Care for Childhood Cancer Survivors - NCI
Physical Activity	<ul style="list-style-type: none"> • Physical Activity (pa.gov) • Livestrong at the YMCA Livestrong
Policy	<ul style="list-style-type: none"> • Public Policy Resources American Cancer Society Cancer Action Network (fightcancer.org) • Cancer health policy ONS Voice • Federal Health Legislation - NCI (cancer.gov)
Research	<ul style="list-style-type: none"> • AACR CANCER PROGRESS REPORT
Survivorship	<ul style="list-style-type: none"> • 2022 State of Cancer Survivorship Survey - NCCS - National Coalition for Cancer Survivorship (canceradvocacy.org) • https://www.cancer.org/treatment/survivorship-during-and-after-treatment.html
Tobacco	<ul style="list-style-type: none"> • Strategic Plan PACT Pennsylvania Alliance to Control Tobacco (pactonline.org) • Quitting Tobacco (pa.gov) • Fast Facts and Fact Sheets Smoking and Tobacco Use CDC
Vaccine Preventable Cancers: HPV, HBV	<ul style="list-style-type: none"> • https://hpvroundtable.org • Vaccines That Can Help Prevent Cancer CDC • Vaccines and Immunizations CDC
Veterans	<ul style="list-style-type: none"> • Veterans Affairs Research on Cancer (va.gov) • US Veterans Affairs National Oncology Program Office (va.gov) • Cancer Risk for U.S. Veterans Cancer.Net • Resources for U.S. Veterans with Cancer Cancer.Net • ZERO Prostate Cancer Veterans ZERO - The End of Prostate Cancer (zerocancer.org)

Pennsylvania Department of Health

www.health.pa.gov

CITATIONS

¹[PA County Health Ranking, 2021](#)

²[SEER stage categories](#)

³[Social Determinants of Health - Healthy People 2030 | health.gov](#)

⁴[Risk Factors for Cancer - NCI](#)

⁵[Cancer Prevention Among Youth | CDC](#)

⁶[TeenVaxView | Adolescent Vaccine Coverage Interactive Data | NIS | CDC](#)

⁷[CONSTITUTION OF PENNSYLVANIA \(state.pa.us\)](#)

⁸[1861-1945: Era of Industrial Ascendancy | PHMC > Pennsylvania History \(state.pa.us\)](#)

⁹[Environmental Impact of Economic Growth – The Good Planet](#)

¹⁰[Environmental Impact of Economic Growth – The Good Planet](#)

¹¹[Cancer | Tracking | NCEH | CDC](#)

¹²<https://www.cancer.gov/about-cancer/causes-prevention/risk/substances>

[The Connection between Lung Cancer and Outdoor Air Pollution | American Lung Association](#)

¹³[Basic Information about the Built Environment | US EPA](#)

¹⁴[Climate Effects on Health | CDC](#)

¹⁵[Children's Environmental Health | Tracking | NCEH | CDC](#)

¹⁶[Radon Division \(pa.gov\)](#)

¹⁷[Preventing cancer \(who.int\)](#)

¹⁸<https://www.cdc.gov/cancer/dcpc/prevention/childhood.htm>

¹⁹[Essentials for Childhood |Violence Prevention|Injury Center|CDC](#)

²⁰[United States Cancer Statistics](#) BRFSS data used as baseline for consistency of future measures

²¹[United States Cancer Statistics](#) BRFSS data used as baseline for consistency of future measures.

²²[State Data | Pennsylvania | American Lung Association](#) data sourced from American College of Radiologists

