

TEXAS CANCER PLAN 2012



A STATEWIDE
CALL TO
ACTION FOR
CANCER
RESEARCH,
PREVENTION,
AND CONTROL



CANCER PREVENTION & RESEARCH
INSTITUTE OF TEXAS



CANCER PREVENTION & RESEARCH INSTITUTE OF TEXAS

April 2012

The Honorable Rick Perry
The Honorable David Dewhurst
The Honorable Joe Straus
Members of the Texas Legislature
All Texans

In accordance with its statutory charge to ensure that Texas has a comprehensive and timely cancer plan, the Cancer Prevention and Research Institute of Texas (CPRIT) submits this *Texas Cancer Plan* (the *Plan*) to the people of Texas. The *Plan* identifies the challenges and issues that affect our state and presents a comprehensive set of goals, objectives, and strategic actions to help inform and guide communities in the fight against cancer.

As our knowledge about cancer continues to evolve, new questions and opportunities for tackling the disease emerge. For example, we now know that cancer is not one disease but rather many diseases. In fact, the face of cancer is as diverse as the population and geographic landscape of Texas. Each patient's cancer is unique, and so the approach to treating each individual must also be unique.

We also know that some Texans are affected by cancer to a greater degree than others. Cancer disparities exist and include but are not limited to age, race/ethnicity, income, insurance status, and geographic area. Defining the exact causes of cancer disparities and taking action to close the gap between health equity and inequity present a complex challenge for Texas. Therefore, the *Texas Cancer Plan* is and must be the state's *call to action*. It will take the combined and coordinated actions of providers, policy makers, planners, advocates, educators, and researchers to reduce the burden of cancer disparities in Texas.

While CPRIT has statutory responsibility for facilitating the development of the *Plan* and supporting its implementation, the overall outcome and success of the *Plan* will depend on the cooperation, collaboration, and resources of the many stakeholders throughout our great state. Indeed, every Texan has a role to play in the fight against cancer.

Now, more than ever, is the time for Texans to stand up and fight this terrible disease. Texans did just that in 2007, when they voted to create CPRIT. Now it's time for CPRIT to join with other stakeholders in Texas to fulfill the promise made to Texans: to be innovative, to invest in the future, to instill hope, and, ultimately, to get Texas closer to a day without cancer.

Respectfully submitted,

A handwritten signature in black ink that appears to read "James M. Mansour".

Jimmy Mansour
Chairman

A handwritten signature in black ink that appears to read "Bill Gimson".

Bill Gimson
Executive Director

Table of Contents

Executive Summary	2
INTRODUCTION	5
<i>Purpose</i>	5
<i>The Cancer Burden in Texas</i>	5
<i>Principles</i>	5
Call to Action	6
THE CONTINUUM OF CANCER RESEARCH, PREVENTION, AND CONTROL	8
<i>Primary Prevention and Risk Reduction</i>	8
<i>Screening and Early Detection</i>	9
<i>Diagnosis, Treatment, and Palliation</i>	10
<i>Quality of Life and Survivorship</i>	10
<i>Infrastructure</i>	11
<i>Research and Commercialization</i>	13
<i>Disparities and Priority Populations</i>	14
ACTION PLAN FOR CANCER RESEARCH, PREVENTION, AND CONTROL	17
Appendices	35
<i>Definitions</i>	35
<i>Resources</i>	37
<i>References</i>	38
<i>Measures</i>	40

Executive Summary

In 2012, it is estimated that over 110,000 Texans will be told, “You have cancer.” These individuals, along with their friends and families, will join thousands of other Texans who are fighting for hope and a cure for this dreaded disease. It is also estimated that in 2012 over 39,000 Texans will lose their lives to cancer—more than 100 Texans lost each day to the disease. Almost every Texan, whether connected through friends or family members, has been affected by cancer.

Cancer also places a huge economic burden on individuals and the state. The total annual cost associated with cancer in the state is estimated to be \$28 billion. This figure includes costs associated with direct medical care, as well as indirect costs due to lost productivity from illness and premature death.

Empowered by hope, partnership, and determination, Texans have decided to take on cancer. To guide this effort, organizations, institutions, community leaders, planners, coalition members, cancer survivors, and family and friends affected by cancer from across the state have come together to help develop and implement the *Texas Cancer Plan* (the *Plan*), the statewide blueprint for cancer prevention and control in Texas. The *Plan* addresses the entire spectrum, from cancer research, prevention, and control areas including risk reduction, early detection and screening, to diagnosis, treatment, palliation, quality of life, survivorship, research, and commercialization. Identifying the challenges and issues that affect our state, the *Plan* presents a set of goals, objectives, and strategic actions to help inform and guide communities and partners in the fight against cancer.

Priority areas for 2012–2016, selected by experts in the field of cancer prevention and control and public health, are a subset of the goals and objectives included within this plan. These priorities were selected based upon review of cancer trends, health disparities, and available evidence-based strategies that, if implemented in systematic and comprehensive ways, will have a significant impact on the human and economic cancer burden in Texas.

Priority areas for 2012–2016 include:

• Decrease tobacco initiation and use, and exposure to secondhand smoke

According to the Centers for Disease Control and Prevention (CDC), tobacco use is the single most preventable cause of disease, disability, and death in the United States.¹ Almost one-third of all cancer deaths are related to tobacco and tobacco accounts for almost 90% of deaths from lung cancer.² In 2012, it is estimated that 14,500 Texans will be diagnosed with lung cancer and another 10,600 will die from the disease.³ Lung cancer is extremely costly to the state of Texas. The estimated direct cost of cancer care for lung/bronchus cancer in Texas in 2007 was \$1 billion.⁴ There are many evidence-based interventions that can effectively decrease tobacco initiation and use that, if implemented, can significantly reduce the number of tobacco-related deaths in Texas.

• Increase screening and early detection for breast, cervical, and colon and rectum cancers

Breast cancer is the most common cancer among women in Texas.⁵ In 2012, it is estimated that 16,000 women in Texas will be diagnosed with breast cancer and that another 2,800 will die from the disease.⁶ Breast cancer is also costly to the state of Texas, with estimated direct costs of \$923.7 million in 2007.⁷ Studies suggest that routine mammography screening can significantly reduce deaths from breast cancer; however, a recent survey showed that 30% of women age 40 and older reported not having had a mammogram in the last two years.^{8,9}

Of all cancers, cervical cancer is one of the most preventable and detectable through regular screening; however, a recent survey showed that 24% of women age 18 and older reported not having a cervical cancer screening within the past 3 years.^{10,11} In 2012, it is estimated that more than 1,200 women in Texas will be diagnosed with cervical cancer and that another 400 will die from the disease.¹² For 2007, the estimated direct cost of cancer care for cervical cancer in Texas was \$77.4 million.¹³

In Texas and the United States, colorectal cancer is the third most commonly diagnosed cancer in men and women and the second leading cause of deaths overall.¹⁴ In 2012, it is estimated that more than 10,600 Texans will be diagnosed with colorectal cancer and that another 3,700 will die from the disease.¹⁵ Like breast and cervical cancer, colorectal cancer is also costly to the state of Texas. For 2007, the estimated direct cost of cancer care for colorectal cancer in Texas was over \$1 billion.¹⁶ According to the CDC, if people age 50 and older had routine colorectal cancer screenings, at least 60% of deaths from the disease could be avoided.¹⁷ Unfortunately, a recent survey showed that only 53% of Texans age 50 and over reported having a colorectal cancer screening.¹⁸

- **Reduce pain and suffering from cancer through coordinated supportive care**

Whether at the point of diagnosis or at the end of lives, Texans who have been diagnosed with cancer deserve access to quality supportive care, or palliative care—regardless of stage at diagnosis and age. Palliative care addresses the emotional, physical, practical, and spiritual aspects of cancer. It can help with issues such as pain, nausea, fatigue, insomnia, anxiety, depression, constipation, appetite loss, and weight changes. Studies show that timely palliative care improves quality of life for patients, and in some cases, can extend life. Unfortunately, as of 2009, only 42% of Texas hospitals with at least 50 beds report offering some type of palliative care program; this is staggeringly lower than the national average of 63%.²⁰ Even fewer programs exist in hospitals with fewer than 50 beds. Another barrier facing provision of quality palliative care services is the lack of physicians who specialize in palliative medicine. Currently, there are 221 board-certified palliative care physicians in Texas.

- **Reduce cancer health disparities**

Cancer health disparities are associated with issues such as income, education level, insurance coverage, race/ethnicity, geographic location, and gender. For example, poorer and less educated groups are more likely to die from cancer compared to their affluent and better educated counterparts.²¹ In addition, blacks have the highest overall rates for new cancer cases and deaths compared to other racial/ethnic groups.²² According to the American Cancer Society, disparities predominantly occur from inequities in work, wealth, income, education, housing, and overall standard of living, as well as social barriers to accessing high-quality cancer prevention, control, and treatment services.²³ Cancer health disparities are also costly. In the U.S., the annual costs of racial/ethnic disparities are estimated to be almost \$197 billion, and the costs of socioeconomic cancer disparities are almost \$37 billion.²⁴

- **Increase opportunities to access and participate in clinical trials**

Virtually all of the most effective treatment methods that are used today were once part of a clinical trial. A clinical trial is designed to show how a certain approach—for instance, a promising drug, a new surgical procedure, a new diagnostic test, or a possible way to prevent cancer—affects the people who receive it.²⁵ Clinical trials are critical because they allow researchers to test the best cancer prevention, detection, and treatment ideas. In order to test such promising ideas in the shortest time possible, more people must participate in clinical trials. Unfortunately, a recent study showed that only 3.3% of Texans over the age of 18 participated in a clinical trial as part of their cancer treatment.²⁶ Furthermore, participation rates in clinical trials are especially low for groups such as racial and ethnic minorities, women, and the elderly.²⁷

By focusing comprehensive, evidence-based, and coordinated efforts toward these priorities, Texans can take on cancer. The overall success of the *Plan* will depend on the cooperation, collaboration, and resources of many stakeholders from across the state. Indeed, Texas' role in the fight against cancer requires synergy between each of these efforts in order to have a major impact on the human and economic cancer burden.

AT A GLANCE – The Sixteen Goals of the *Texas Cancer Plan*:

Primary Prevention and Risk Reduction – *Promoting change in behavior, policy, environment, or other systems to prevent or reduce the risk of developing cancer*

- **Goal 1:** Reduce incidence and mortality from lung cancer and other tobacco-related cancers
- **Goal 2:** Reduce cancer risk related to obesity
- **Goal 3:** Increase adoption of evidence-based nutrition behaviors and physical activity behaviors shown to reduce cancer risk
- **Goal 4:** Reduce the incidence and mortality of skin cancers resulting from solar and artificial ultraviolet radiation
- **Goal 5:** Increase vaccination rate for vaccines shown to reduce the risk of cancer
- **Goal 6:** Reduce cancer risk related to environmental carcinogens

Screening and Early Detection – *Increasing risk-appropriate and timely screening services to detect pre-cancerous changes or cancers as early as possible, when treatment is more likely to be successful*

- **Goal 7:** Increase proportion of early stage diagnosis through screening and early detection to reduce deaths from breast cancer
- **Goal 8:** Reduce deaths and number of new cases of cervical cancer through screening and early detection
- **Goal 9:** Reduce the number of deaths from and new cases of colon and rectum cancer through screening and early detection
- **Goal 10:** Develop and implement screening and early detection methods for other cancers

Diagnosis, Treatment, and Palliation – *Ensuring that all patients receive timely and effective diagnostic, treatment, and supportive care*

- **Goal 11:** Increase timely access to quality cancer diagnostic, treatment, and palliation services for all Texans

Quality of Life and Survivorship – *Improving the health and well-being of cancer survivors, from the point of diagnosis throughout treatment, and beyond*

- **Goal 12:** Promote overall health and well-being of people affected by cancer

Infrastructure – *Developing and strengthening a sustainable framework to support delivery of the most appropriate prevention and care services*

- **Goal 13:** Develop or strengthen the infrastructure supporting the delivery of the most appropriate cancer prevention and care services

Research and Commercialization – *Accelerating the discovery, development, and dissemination of innovation in cancer prevention and treatment that holds the potential to reduce the burden of cancer*

- **Goal 14:** Support the highest quality and most innovative research that will enhance the potential for medical or scientific breakthroughs in cancer
- **Goal 15:** Increase opportunities to access and participate in cancer research and clinical trials
- **Goal 16:** Improve patient care by accelerating the movement of prevention interventions, therapeutics, and diagnostics into practice

INTRODUCTION

Purpose

The *Texas Cancer Plan* (the *Plan*) aims to reduce the cancer burden across the state and improve the lives of all Texans. As the statewide action plan for cancer initiatives, the *Plan* identifies the challenges and issues that affect our state and presents a set of goals, objectives, and strategic actions to help inform and guide communities and partners in the fight against cancer. The *Plan* is not an all-inclusive list of goals, objectives, and strategic actions. Rather, the intent of the *Plan* is to provide a coordinated, prioritized, and actionable framework that will help guide efforts to fight the human and economic burden of cancer in Texas. The *Plan* was developed with input provided by organizations and institutions, community leaders, planners, coalition members, cancer survivors, and family and friends affected by cancer from across the state.

By state statute, Texas Health and Safety Code Chapter 102 Section 102.002(3), the Cancer Prevention and Research Institute (CPRIT) is charged with the responsibility of facilitating the development of the *Plan* and supporting its implementation. However, the overall outcome and success of the *Plan* depends on the cooperation, collaboration, and resources of many stakeholders from across the state.

The Cancer Burden in Texas

Cancer represents more than 100 distinct diseases, all characterized by uncontrolled reproduction of abnormal cells in the body. Each type of cancer possesses distinct risk factors and manifestations that necessitate different prevention measures and treatments. Some cancers are preventable, while others are successfully treated, even cured, if detected early enough. Survival rates vary greatly, depending on cancer site, stage at diagnosis, access to care, and a host of other factors. There is no single cause or cure for cancer.

Cancer is the leading cause of death in Texas among persons under the age of 85.⁴ Texas cancer incidence and mortality rates had decreased slightly in recent years; however, the number of cases and deaths is now increasing each year with the growth and aging of the population. In 2012, the Texas Cancer Registry (TCR) estimates that 110,000 Texans will be diagnosed with cancer and 39,000 will die of the disease.⁵ This equates to more than 100 Texans dying each day from cancer.

Cancer is second only to cardiovascular disease as the most costly chronic disease in the United States.⁶ A cancer diagnosis often means lengthy, costly treatments. The financial costs in medical care and lost productivity are staggering, bankrupting families and burdening health care systems. Texas must continue to invest in prevention and research efforts that will help Texans reduce their risk of developing cancer, or detect it early, when treatments are more successful and less costly.

Principles

The goals, objectives, strategic actions, and targets included in this plan were developed with consideration of the following principles:

- Focusing on the **CONTINUUM** of cancer research, prevention, and control—primary prevention and risk reduction, early detection, diagnosis, treatment, survivorship and quality of life, infrastructure, research, and commercialization
- Defining **MEASURABLE** and **REALISTIC** targets based on review of available baseline and trend data for cancer prevention and control key measures in Texas (e.g., cancer mortality and incidence rates, screening rates, etc.), with consideration of factors such as available resources, barriers, and capacity for implementation of strategic actions
- Aligning with national **PRIORITIES** related to cancer, such as those defined by Healthy People 2020
- Including **EVIDENCE-BASED** guidelines and best practices for cancer research, prevention, and control, such as those recommended by the Guide to Community Preventive Services, Cancer Control P.L.A.N.E.T., and the U.S. Preventive Services Task Force
- Addressing cancer health **DISPARITIES** and priority populations

Call to Action

What can YOU do?

The *Texas Cancer Plan* aims to reduce the cancer burden in Texas and improve the lives of all Texans. The overall success of the *Plan* will depend on the cooperation, collaboration, and resources of many stakeholders across the state.

Below are a few examples of what you can do to help work toward the goals presented in the *Plan*. Use these examples, and think of other actions you can take to reduce the burden of cancer in your community and throughout Texas.

If you are a hospital



- Ensure that your cancer cases are reported in a timely manner.
- Collaborate to sponsor navigation and survivorship programs.
- Collaborate to sponsor community screening and education programs.
- Seek or maintain accreditation through American College of Surgeons, The Joint Commission, etc.
- Implement tobacco-free policies at your facility.

If you are a local health department



- Support policy, environmental, and systems changes for cancer control.
- Provide cancer prevention awareness information and screening programs to citizens.
- Provide navigation services for clients.
- Collaborate in community prevention campaigns.
- Work with physicians to promote screening programs and case reporting.

If you are a community-based organization



- Support policy, environmental, and systems changes for cancer control.
- Provide cancer prevention awareness information and screening programs for clients.
- Provide navigation services for clients.
- Encourage participation in clinical trials.
- Collaborate to provide community prevention programs.

If you are an employer



- Seek or maintain **CEO Cancer Gold Standard™** accreditation.
- Implement tobacco-free policies at your facility.
- Provide healthy foods in vending machines and cafeterias.
- Encourage employees to increase physical activity.
- Collaborate with hospitals to host screening events.
- Use reminders and implement programs (i.e., paid time off for screenings, bringing screenings to the worksite) to reduce barriers and to encourage employees to have regular cancer screenings.

What can YOU do?

If you are a school/university



- Include cancer prevention messages in health classes.
- Provide healthy foods in vending machines and cafeterias.
- Increase physical education requirements.
- Make your entire campus a tobacco-free environment.

If you are a faith-based organization



- Provide cancer prevention information to members.
- Learn how to provide healthy potlucks and meeting meals.
- Provide space for physical activity programs.
- Encourage members to get cancer screening tests on time.

If you are a physician



- Provide culturally relevant counseling, information, and referrals for cancer screening tests.
- Adhere to guidelines and best practices for prevention, treatment, and supportive care.
- Refer patients to smoking cessation, physical activity, and nutrition programs.
- Be sure your cancer cases are reported in a timely manner.
- Find out how to enroll patients in clinical trials.
- Make appropriate referrals to hospice for end-of-life care.

If you are a legislator



- Raise constituents' awareness about cancer prevention and control programs in your district and help establish new programs where needed.
- Sponsor or support legislation and funding that promotes cancer research, prevention and control.
- Ensure that all Texans have access to health care and to screening and early detection services.
- Ensure that tobacco settlement funds are used for reducing tobacco use and for cancer control purposes.

If you are a Texan



- Stop using tobacco products or never start.
- Eat more fruits and vegetables and maintain a healthy weight.
- Increase your daily physical activity.
- Know when to be screened and do it on schedule.
- Support comprehensive tobacco-free environment policies.
- If diagnosed, consider enrolling in a clinical trial.
- Show your support and care for those who are diagnosed.
- Volunteer with your hospital, health department, faith community, or local community-based organization.

THE CONTINUUM OF CANCER RESEARCH, PREVENTION, AND CONTROL

Primary Prevention and Risk Reduction

Although it is not entirely clear why some individuals develop cancer and others do not, research has identified certain risk factors that increase the chance that a person will develop cancer in his or her lifetime.³¹ Cancer risk factors include but are not limited to:

- Growing older
- Tobacco
- Sunlight/indoor tanning
- Alcohol
- Poor diet, lack of physical activity, or being overweight
- Some viruses and bacteria
- Family history of cancer
- Ionizing radiation
- Certain chemicals and other substances
- Certain hormones



Some risk factors are related to behaviors that can be avoided, while other risk factors, such as age or family history, cannot be avoided. Two key elements necessary to prevent and reduce the risk of developing cancer are the support and implementation of comprehensive, evidence-based, culturally relevant, and state-of-the-art strategies that give communities the knowledge, skills, and resources they need to improve their health and the health of those around them.

Tobacco use is the single most preventable cause of disease, disability, and death in the United States.³² Although the number of adults and youth in Texas who currently smoke is on a downward trend, smoking continues to kill more people each year than alcohol, AIDS, car crashes, illegal drugs, murders and suicides combined.^{33,34} It is estimated that in 2008, over 18,000 Texans died from tobacco-related cancers.³⁵ Cigarette smoking has been linked to cancers of the lung, oral cavity and pharynx, larynx, esophagus, bladder, pancreas, kidney, cervix, stomach, and acute myeloid leukemia cancers.³⁶ Smokeless tobacco is not a safe alternative to cigarettes, as it contains high concentrations of carcinogens that increase the risk of cancer of the mouth, throat, larynx, and esophagus.³⁷ Reducing deaths from tobacco-related cancers requires evidence-based, comprehensive, and coordinated efforts to prevent initiation of tobacco use, increase tobacco cessation, and reduce secondhand smoke exposure.

Research suggests that about one-third of cancer deaths are related to risk factors such as overweight or obesity, physical inactivity, and poor nutrition.³⁸ For example, studies suggest that a high-fat diet is a risk factor for cancers of the colon, uterus, and prostate; and being overweight and physical inactivity are risk factors for cancers of the breast, colon, esophagus, kidney, and uterus.³⁹ Although some strategies have been identified to address these risk factors, there remains a need for further research to determine effective ways to engage individuals and communities in adopting behaviors promoting a healthy diet, physical activity, and maintenance of a healthy weight.

Some infectious diseases have been found to be associated with certain types of cancer. For example, the human papillomavirus (HPV) has been found to be associated with cervical, vulvar, vaginal, penile, anal, and a few head and neck (oropharyngeal) cancers. Vaccines can help reduce cancer risk associated with infectious disease. The HPV vaccine has been proven effective to prevent most cervical cancers and some vaginal and vulvar cancers.⁴⁰ In addition, the hepatitis B vaccine can help reduce the risk of developing liver cancer.⁴¹

Many cases of skin cancer could be prevented by protection from and avoidance of ultraviolet radiation that is found in the sun's rays, sun lamps, and indoor tanning.⁴² Educational and policy interventions in primary school and outdoor recreation settings are recommended to improve behaviors associated with skin cancer risk.⁴³

Although the full extent of environmental influences has yet to be determined, there is a growing body of evidence that links environmental exposures to cancer. Issues that impede further linkage determinations include limited research relating to the study of types and magnitude of environmental contaminants and the effects of lifetime human exposure to combinations of chemicals or other agents; inadequate exposure measurement tools; and lack of policy related to regulation of hazardous exposures.⁴⁴



Many risk factors associated with cancer, such as tobacco use, obesity, and physical inactivity, have been identified as risk factors for other chronic diseases. Therefore, it is important to work with other initiatives addressing shared risk factors in order to maximize resources, coordinate messaging for the public, and to avoid duplication of effort across programs. In addition, further research to determine the causes and risks of developing cancer, as well as the strategies needed to help prevent it, remains a critical need.

Screening and Early Detection

Risk-appropriate screening for certain types of cancers can have a significant impact on the cancer burden in Texas, reducing overall new cases and deaths from the disease. The recommended age to begin screening, as well as the methodologies used, vary by each cancer type as well as other factors. Screening and early detection are often referred to as secondary prevention, because detecting precancerous changes or cancer at its earliest stages can “prevent” suffering or mortality from cancer that has progressed to a state where treatment is less likely to be successful.

Routine screenings for the following cancer types are currently recommended for the general population:⁴⁵

- Breast cancer
- Cervical cancer
- Colorectal cancer

Find recommendations for screening and early detection of cancer:
U.S. Preventive Services Task Force
American Cancer Society
Centers for Disease Control and Prevention

The age and frequency at which a person should be screened for cancer varies by a number of factors, including but not limited to the type of cancer screening, age, family history, genetics, exposure to certain types of viruses, and lifestyle factors.

Although it is evident to the public health community that screening for certain types of cancer in the general population can decrease incidence and mortality from the disease, adherence to screening recommendations within the population continues to be a challenge. Several complex and often intertwined barriers that deter individuals from getting screened must be addressed in order to increase screening rates and therefore reduce cancer incidence and mortality throughout the state.

Issues that affect screening adherence may vary by region and population, and can include:

- Awareness of screening recommendations in the target population
- Navigation/referral procedures within the healthcare system
- Availability of screening facilities in a given service area
- Distance and time to screening services
- Screening facility hours of operation
- Availability of screening services in non-clinical settings (e.g., mobile mammography)
- Availability of transportation to get to screening
- Insurance status (insured, uninsured, underinsured) and screening costs
- Cultural, social, and linguistic differences

Find recommendations for addressing barriers to cancer screening:
The Community Guide (Centers for Disease Control and Prevention)
National Cancer Institute: Research Tested Intervention Programs (RTIPs)

Though there are other screening methodologies that have been shown to detect cancer, additional research is needed to determine whether these methods will ultimately have an impact on incidence and mortality, and whether they should be recommended for the general population or for subgroups that are at higher risk for certain types of cancer. Support for research towards the development and improvement of screening technologies continues to be a critical need in Texas and around the globe.



Continued support for timely and reliable data collection, analysis, and surveillance that informs the public health community of screening rates and trends will help the state assess the cancer burden and monitor progress of initiatives aimed at meeting goals and objectives within the *Plan*.

Diagnosis, Treatment, and Palliation

Quality follow-up care is an essential component of the cancer prevention and control continuum. Timely and appropriate care following screening services ensures that patients are adequately counseled about the results of their screening tests and, if needed, ensures patients are referred for further diagnostic testing and appropriate treatment. Quality cancer diagnostic results help inform all areas of patient care planning, including staging, treatment, palliation, rehabilitation, and surveillance for late effects and recurrent disease. An accurate diagnosis can also determine if a patient's family members are at higher risk for the disease, which calls for a more thorough family history and/or genetic testing so that a patient's relatives may be referred to appropriate counseling, screening, and follow-up services.

Changes in detection and treatment methodologies, clinical recommendations, and health care industry practices often present challenges in getting the best care to patients. One way to improve the quality of cancer care for patients in Texas is to increase the number of facilities approved by the American College of Surgeons (ACoS) Commission on Cancer (CoC) Approvals Program. Approved cancer programs offer a full range of medical services along with a multidisciplinary team approach to patient care. As of 2011, there are 86 CoC-accredited cancer programs in Texas.⁴⁶ Some essential elements of these programs include:⁴⁷

- Access to state-of-the-art clinical services and equipment for all phases of the cancer prevention and control continuum: primary prevention, screening/early detection, diagnostics, treatment, rehabilitation, and support services
- A multidisciplinary team approach to coordinate patient care
- Up-to-date clinical trials and treatment information for patients
- A cancer registry and database that follows patients throughout life
- Ongoing monitoring and evaluation of patient outcomes

What is palliative care?

Palliative care, or supportive care, is given with the intent to improve a cancer patient's quality of life. Supportive care should begin at diagnosis and continue through treatment, follow-up care, and the end of life, regardless of the patient's cancer prognosis. It addresses the emotional, physical, practical, and spiritual aspects of cancer. Family members may also receive palliative care. The goal of palliative care is not to cure disease, but to provide comfort care. It can help with issues such as pain, nausea, fatigue, insomnia, anxiety, depression, constipation, appetite loss, and weight changes.

Quality of Life and Survivorship

Due to advances in early detection and treatment, today there are more cancer survivors, living longer after diagnosis, than ever before. It is estimated that 457,000 Texans who were diagnosed with cancer in the last ten years are alive today.⁴⁸ As this population continues to grow, so does the need for access to evidence-based or recommended survivorship programs and services such as patient navigation, treatment and care plans, culturally and linguistically appropriate outreach and education, and effective symptom management. Satisfying this need requires application of comprehensive cancer prevention and control strategies, from professional education and training to public awareness and education, health systems and policy change, research, and surveillance.

A critical component in arming survivors with the information needed to confront the physical, psychological, and socioeconomic issues that may arise during and after treatment is the survivorship care plan. The Institute of Medicine (IOM) recommends that all cancer survivors receive an individualized survivorship care plan from their provider that is clearly explained to them.⁴⁹ Several types of care plans exist, but elements common to them include information about a patient's treatment or healthcare team, medical history, diagnosis, treatment, follow-up care, and resources. Having this information in one place helps inform and prepare survivors and their care teams for issues that may arise during and after treatment.

In addition to survivorship care plans, the IOM provides additional recommendations for easing the transition from cancer patient to survivor. These include but are not limited to:⁵⁰

- Awareness about the needs of cancer survivors, including acceptance of survivorship as a distinct phase of cancer care
- Reimbursement for survivorship care plans
- Development of quality assurance programs that monitor and improve survivorship care
- Support for pilot programs to test models of coordinated, interdisciplinary survivorship care in communities and across systems of care
- Support for development or expansion of state cancer control plans to include survivorship care
- Support to provide education and training opportunities for health care professionals to address issues related to the health and well-being of cancer survivors
- Actions to eliminate workplace discrimination based on cancer history
- Enactment of policies to ensure cancer survivors have access to affordable and adequate health insurance
- Support of survivorship research initiatives

Find a survivorship care plan:

The American Cancer Society website has links to several survivorship care plans. Learn more at www.cancer.org.

For more information about survivorship care recommendations from the IOM, visit www.iom.edu.

Cancer is a disease that affects people of all age groups—including children and adolescents. Approximately 1,200 young Texans ages 0–19 are diagnosed with cancer each year.⁵¹ Advancements in diagnosis and treatment for childhood and adolescent cancers have led to improved survival, and have also revealed a new host of questions and issues related to the unique needs of this population. Such issues that must be examined and addressed include but are not limited to: physical and psychological effects of treatment, integration back into social and educational systems, insurance coverage needs, long-term care, and risks of treatment late effects and of developing other cancers later in life.

As the number of cancer survivors in Texas continues to grow, members of the public health community, including advocates, practitioners, health plan administrators, researchers, service organizations, and elected officials, must be prepared to meet the unique and often complex challenges that survivors face during and after treatment. From providing access to a comprehensive survivorship care plan that can help monitor and plan care, to enacting policies that will support survivors in the workplace and provide appropriate health insurance coverage, Texas has many opportunities to improve the health and well-being of cancer survivors.

Infrastructure

Implementing a comprehensive cancer control plan requires focus on all areas of cancer prevention: primary, secondary, and tertiary prevention. Due to advances in technology, treatment, data collection and analysis, quality care standards and prevention research, there are proven strategies and interventions that can reduce the burden of cancer. However, implementing such strategies in a systematic and culturally relevant way—in a state with 254 counties and a diverse population that exceeds 25.1 million people—presents a unique set of challenges that must be addressed in order to make a significant impact on the cancer burden in Texas.



Most Texas counties are designated as medically underserved areas and health professional shortage areas. This highlights two critical and inseparable needs for cancer control: increased numbers and distribution of public health services, and increased numbers and distribution of well-trained health professionals. Increasing services for the public must be accomplished with consideration of the following: ensuring provision of quality, culturally appropriate, accessible, and affordable preventive care. Likewise, increasing numbers and distribution of a well-trained health professional workforce requires implementing measures that will improve health professional knowledge, practice behaviors, and system support. Programs and systems that promote careers in the health field with a specialization in cancer can help address the workforce shortage in Texas.

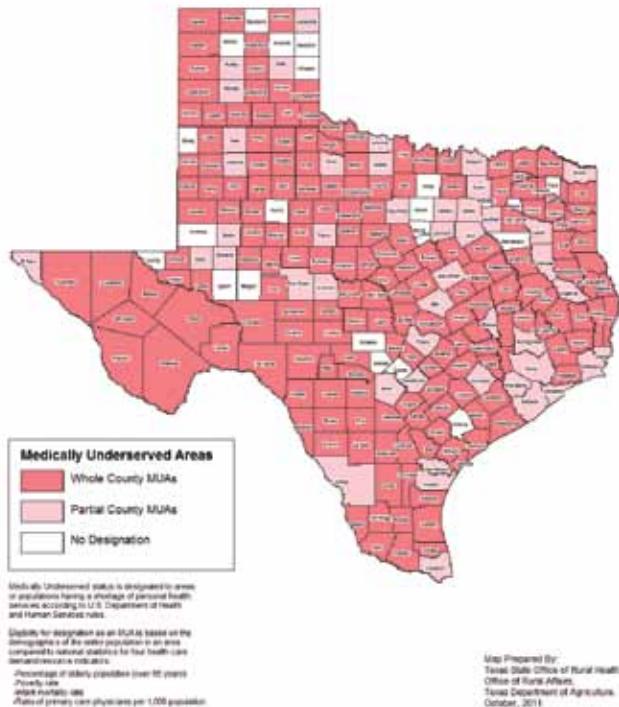
The cancer control infrastructure of individual communities must also be strengthened. It is paramount that leaders, advocates, providers, planners, businesses, hospitals and clinics, and public health experts come together to address the unique cancer control challenges within their community. Whether prioritizing efforts, planning activities, advocating for policy change, disseminating awareness messages to the public, or pursuing grant funding to implement programs, members of communities benefit when working together to tackle community problems. By promoting this “community of solution” approach, existing entities within a community can mobilize resources and avoid duplication of efforts in order to maximize impact.

In order to measure progress against goals, both at the state and community level, Texans must have access to reliable and quality data, such as that provided by the Texas Cancer Registry and Behavioral Risk Factor Surveillance System programs at the Department of State Health Services. Support for consistent funding dedicated to the infrastructure of programs such as these will continue to promote outcome-driven cancer research, prevention, and control in Texas.

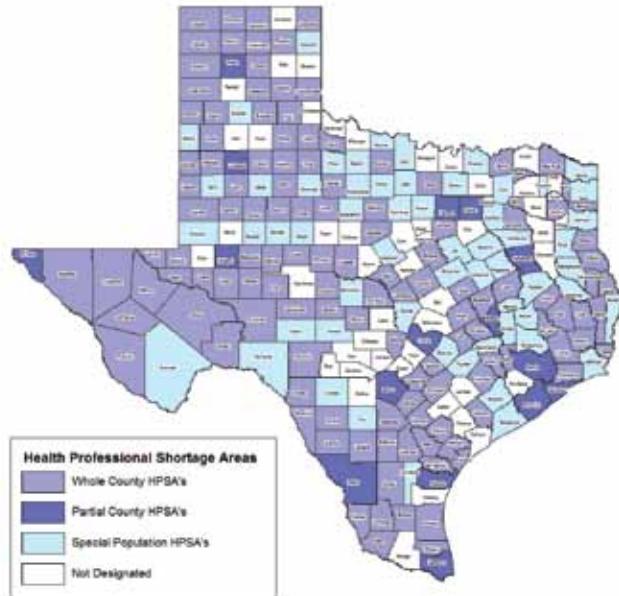
Learn more about comprehensive cancer control strategies for communities:

National Comprehensive Cancer Control Program
The Cancer Alliance of Texas
Cancer Control P.L.A.N.E.T.

MEDICALLY UNDERSERVED AREAS



HEALTH PROFESSIONAL SHORTAGE AREAS



Research and Commercialization

The opportunity to expedite research that explores the causes of cancer and discoveries that have potential to improve risk reduction, early detection, treatment, and quality of life has never been greater than it is today. Virtually all of the most effective treatment methods that are currently used were once part of a research study, or clinical trial.

Learn more about clinical trials:

National Cancer Institute

National Comprehensive Cancer Network

The Statewide Clinical Trials Network of Texas

Find clinical trials:

National Cancer Institute

U.S. National Institutes of Health at ClinicalTrials.gov



Continued research is necessary if there is to be a significant change in the prevention, early detection, and treatment of cancer in Texas and around the globe. One approach to accelerating the discovery and the development of innovation into results is through a “team science” concept that brings together multidisciplinary approaches (prevention, basic biology, clinical science, statistics, bioinformatics, computer science, imaging, etc.) as well as multidisciplinary partners (academic health institutions, governmental and nongovernmental organizations, and public and private companies). This collaborative approach stimulates creativity and efficiency and has extraordinary potential to change the landscape of cancer research, prevention, and cancer control in Texas. Investment and support for smaller scale, higher risk research projects that are novel in concept and yet hold great potential for impact remains a critical need as well.

Established in 2010 with a grant from CPRIT, the Statewide Clinical Trials Network of Texas (CTNeT) is an oncology research network model that promotes collaboration among Texas-based academic and community cancer centers to offer patients innovative clinical trials that are based upon the molecular characterization of their individual cancers. The mission of CTNeT is to transform cancer research by combining the innovative science of the cancer centers in Texas with the expertise and resources of academic and community oncologists throughout the state.

Commercialization is an integral part of the research-to-practice continuum because it accelerates the movement of prevention, screening, diagnostic, and treatment tools and therapies that have the potential to improve patient care and public health. In addition, commercial investments are beneficial to Texans because of the potential impact on workforce and economic return on investment, including job creation, boosts in economic activity and state revenue, and reduction in health care costs.

Texans have an important role in research promotion:

- **Participation in clinical trials:** A recent study showed that only 3.3% of Texans over the age of 18 participated in a clinical trial as part of their cancer treatment (BRFSS, 2010).
- **Community-based participatory research:** This type of research invites members of a community to participate in all aspects of a research study, from planning to implementation.
- **Advocacy:** Texans can express support for continued funding of research (across the spectrum) that has the potential to impact patient care and public health.





Disparities and Priority Populations

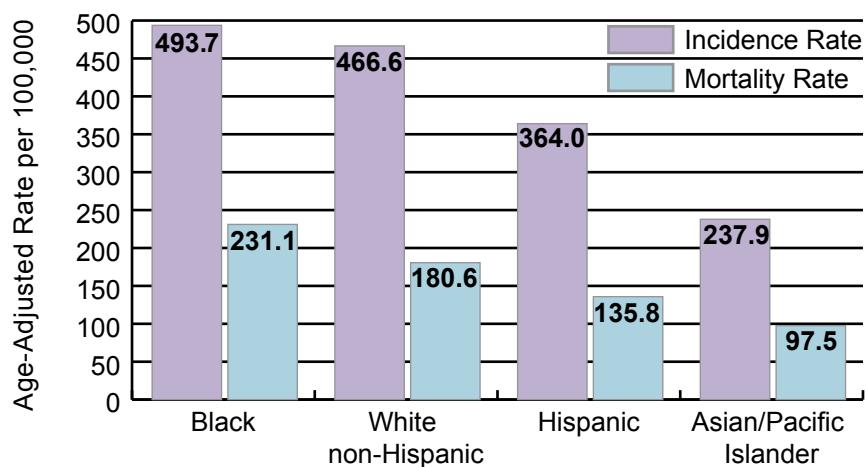
Some segments of the Texas population are affected by cancer to a greater degree than others. For example, some racial and ethnic groups are more likely than others to have cancer discovered at a later stage, leading to higher mortality rates. Eliminating cancer disparities due to factors such as socio-economic status (income, education level, insurance coverage, etc.), race, ethnicity, geographic location, and sex is a cross-cutting aim of the *Plan*. The issues described in this section are threaded throughout the continuum of cancer prevention and control and are therefore specifically highlighted in this section because of their significant contribution to the cancer prevention and control landscape of Texas. These unique issues present challenges as well as opportunities and should be considered when reviewing and implementing any section included in this plan.

Defining the exact causes of cancer disparities is complex. The factors that contribute to disparities are often inter-related issues such as socioeconomic status, culture, and health system factors. According to the American Cancer Society, disparities predominantly occur from inequities in work, wealth, income, education, housing, and overall standard of living, as well as social barriers to accessing high-quality cancer prevention, control, and treatment services. Therefore, it is imperative that planners, policy makers, providers, advocates, and others consider these factors in their efforts to lessen the burden of cancer in Texas.

Race/Ethnicity

Cancer incidence and mortality rates vary by race and ethnicity (Figure I). Further variation is seen when reviewing rates by cancer site. Overall, blacks have cancer incidence and mortality rates that exceed those of whites and other racial/ethnic groups.⁵³ The greatest differences are seen in men, where black males have an incidence rate 1.2 times higher and a mortality rate 1.4 times higher than non-Hispanic whites.⁵⁴ Disparities become more apparent among female counterparts when looking at specific cancer sites. For example, Hispanic women have higher incidence rates of cervical cancer compared with other racial/ethnic groups; however, black women suffer higher mortality rates for cervical cancer than other racial/ethnic groups.

Figure I – Overall Cancer Incidence and Mortality Rates by Race/Ethnicity, 2004–2008, Texas



Rates are average annual rates per 100,000, age-adjusted to the 2000 U.S. Standard Population.
Source: Texas Cancer Registry, 1995–2008, SEER*Stat mortality file created 3/31/2011.

Low-Income/Uninsured Populations

Low-income populations face financial barriers to accessing cancer prevention and treatment resources. During 2009, 17% of the people in Texas were below poverty level, compared to the national rate of 14%.⁵⁵ The median household income in Texas in 2009 was \$48,286. In addition, Texas has the highest percentage of uninsured people of any state, estimated at 27% in 2007, or 5,765,132 people.



Education

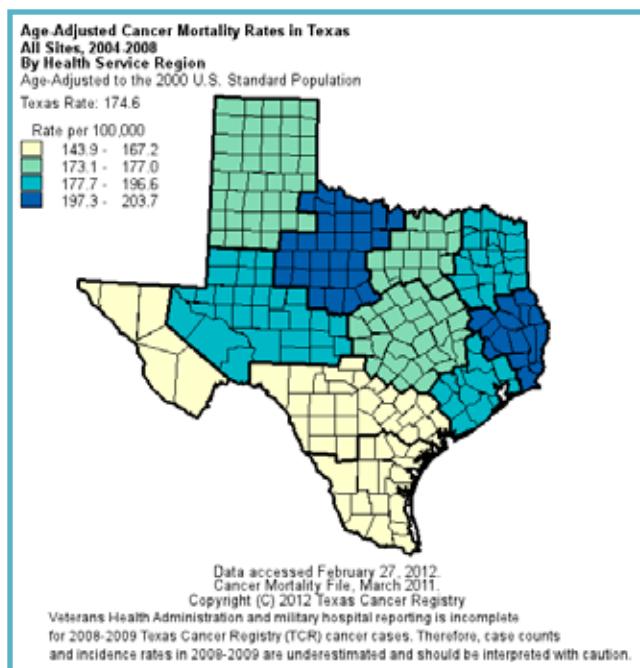
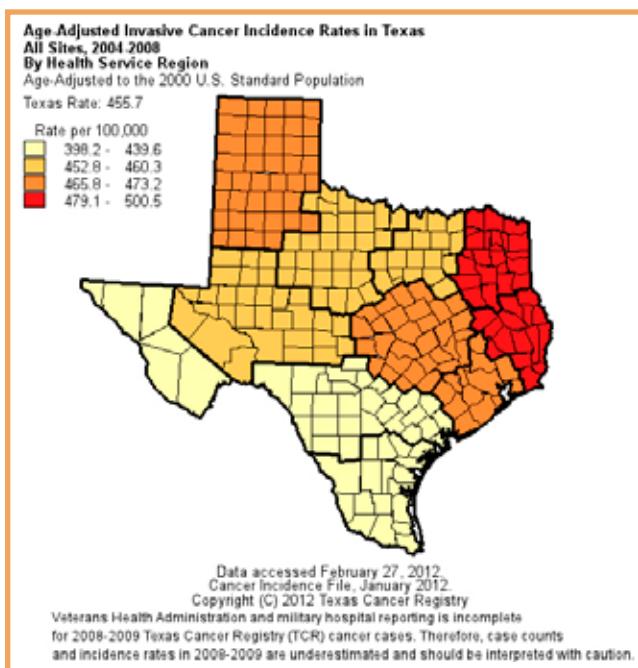
Populations with lower education bear a greater share of the cancer burden. As of 2010, 20% of the population has less than a high school education.⁵⁶

Age

The risk of developing cancer increases with age. Over 95% of cancer deaths occur among Texans who are age 45 years or older.⁵⁷ In Texas, as in the nation, the growing number of older adults will increase the number of people affected by cancer, thereby making prevention efforts all the more necessary.

Geographic Area

Cancer incidence and mortality rates also vary by geographic area. The reason for these differences are likely due to variation in cancer risk factors (for example, tobacco use) and population demographics within an area, including age, racial/ethnic makeup, income, and insurance coverage.⁵⁸



Rural Texans are an especially underserved population. These Texans tend to be older, have low income, and be less likely to have insurance than their urban counterparts. In terms of total incidence and mortality in the state, rural counties in Texas share a greater cancer burden than their urban counterparts.⁵⁹ Residents of rural areas often have less contact and fewer visits with physicians and, in general, lower levels of available preventative care. One reason for this is the distance residents of rural areas must travel to receive cutting-edge care delivered by sites such as NCI-designated cancer centers.

Additional information on cancer disparities, including statistics, can be found through the Texas Cancer Registry and the American Cancer Society.

Children and Adolescents

Each year in Texas, almost 1,200 children and adolescents younger than 20 years of age are diagnosed with cancer. Approximately 200 children and adolescents die of cancer each year, making cancer the most common cause of disease-related mortality for Texans 0–19 years of age.

Texas Cancer Registry



Cancer is manifested differently in children; the most common cancer sites are blood and bone marrow, brain, lymph nodes, nervous system, kidneys, and soft tissues. Cancer during childhood and adolescence can cause financial, physical, and psychosocial challenges for many Texas families, both during treatment and in the years of adjustment that follow.

The universally accepted standard of care for childhood cancer is participation in clinical trials. To ensure that children with cancer in Texas have access to state-of-the-art care, it is critically important to provide the infrastructure and resources to overcome current barriers to participation in standard-of-care clinical trials.

Children and youth also benefit from programs of cancer prevention. Interventions for prevention of cancers related to ultraviolet radiation, tobacco, obesity, and certain viruses should begin at an early stage to minimize risk for developing cancer later in life.



ACTION PLAN FOR CANCER RESEARCH, PREVENTION, AND CONTROL

Goals

Objectives

Strategic Actions

Definitions

The following definitions were adopted by the *Texas Cancer Plan* revision work group to be used as a guide in drafting the goals, objectives, and strategic actions included in this document:

GOALS are broad and lofty statements of general purpose to guide planning. These should be few in number and focus on aspects of highest importance to the *Plan*.

OBJECTIVES offer specific and measurable milestones. Baselines will be established where possible; however, data may not always be available to set a starting baseline.

STRATEGIC ACTIONS are the activities that could and should be undertaken to accomplish the goals and objectives of the *Plan*. This is not intended to be a comprehensive list of all possible strategic actions. Rather, it is a list of focused, specific, evidence-based (where possible), and action-oriented strategies that could have a significant impact on accomplishing goals of the *Plan*, if implemented.

Abbreviations

AAAHC	Accreditation Association for Ambulatory Health Care
AAP	American Academy of Pediatrics
ACoS	American College of Surgeons
ACS	American Cancer Society
BRFSS	Behavioral Risk Factor Surveillance System
CAPC	Center to Advance Palliative Care
CDC	Centers for Disease Control and Prevention
CoC	Commission on Cancer
CPRIT	Cancer Prevention and Research Institute of Texas
CTNeT	Clinical Trial Network of Texas
DSHS	Department of State Health Services
HPV	Human Papillomavirus
IOM	Institute of Medicine
NAACCR	North American Association of Central Cancer Registries
NCCN	National Comprehensive Cancer Network
NCI	National Cancer Institute
NHPCO	National Hospice and Palliative Care Organization
TCR	Texas Cancer Registry
USPSTF	United States Preventive Services Task Force
YRBSS	Youth Risk Behavior Surveillance System

Goal 1

Reduce incidence and mortality from lung cancer and other tobacco-related cancers

Objectives

- 1.1** Decrease the percentage of youth who report smoking cigarettes or using smokeless tobacco on one or more of the previous 30 days
- 1.2** Decrease the percentage of adults who report smoking cigarettes or using smokeless tobacco on one or more of the previous 30 days
- 1.3** Reduce exposure to secondhand smoke

Target

By 2016, 100% of Texans will be protected by statewide, comprehensive smoke-free legislation.



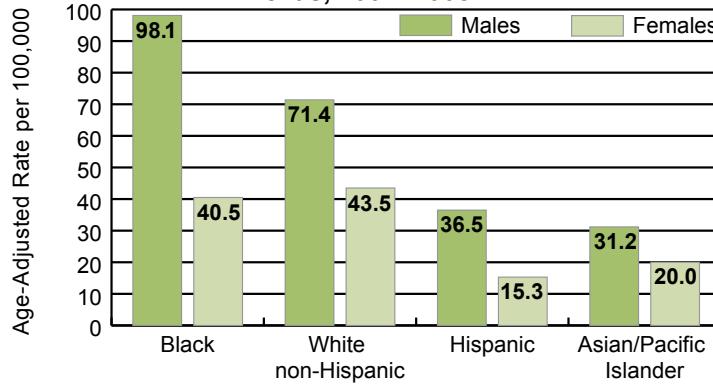
Tobacco Use

Measure	Baseline	2016 Target
% of high school students who report smoking cigarettes on one or more of the previous 30 days	17.4% (YRBSS, 2011)	13.0%
% of adults who report smoking cigarettes on one or more of the previous 30 days	16.0% (BRFSS, 2010)	13.0%
Age-adjusted mortality rate, lung cancer	46.1 per 100,000 (TCR; 2008)	34 per 100,000

Strategic Actions

- Implement policy, systems, and environmental change and other evidence-based strategies that decrease tobacco use and initiation and exposure to secondhand smoke.
Evidence-based strategies may include:
 - Promoting and implementing tobacco-free environment policies statewide.
 - Conducting youth- and adult-focused counter-marketing campaigns statewide.
 - Increasing prices of cigarettes and other tobacco products.
 - Expanding access to and promoting use of comprehensive tobacco cessation programs and services.
- Advocate for and dedicate consistent and reliable funding for tobacco control at the level recommended by the CDC.
- Improve health professional knowledge, practice behaviors, and system support related to increasing provision of or referral to tobacco cessation services.
- Conduct statewide messaging campaigns about the dangers of secondhand smoke.
- Promote the adoption of CEO Gold Standard™ for worksites.
- Implement evidence-based strategies to decrease disparities in gender, racial/ethnic populations, and rural communities related to incidence and mortality from tobacco-related cancers.

Lung Cancer Mortality Rates by Race and Ethnicity, Texas, 2004–2008*



Rates are average annual rates per 100,000, age-adjusted to the 2000 U.S. Standard Population.
Source: Texas Cancer Registry, 1995–2008, SEER*Stat mortality file created 3/31/2011.

Goal 2

Reduce cancer risk
related to obesity

Objectives

- 2.1** Increase the percentage of youth who are at a healthy weight
- 2.2** Increase the percentage of adults who are at a healthy weight

Strategic Actions

- Implement policy, systems and environmental change, and other evidence-based strategies that reduce the risk of cancer related to obesity.
Evidence-based strategies may include:
 - Implementing evidence-based school and youth community programs that promote healthy weight.
 - Implementing evidence-based worksite and adult community programs that promote healthy weight.
 - Conducting adult-awareness campaigns statewide on the links between obesity, diabetes, and risk of cancer.
 - Promoting built environment and policy approaches designed to provide opportunities for people to be more physically active and have easy access to healthy foods.
- Advocate for and dedicate consistent and reliable funding for implementation of evidence-based obesity prevention and control programs and policies.
- Improve health professional knowledge, practice behaviors, and system support related to increasing provision of or referral to counseling and services that promote obesity reduction and control.
- Encourage breastfeeding.
- Promote the adoption of CEO Gold Standard™ for worksites.

Healthy Weight

Measure	Baseline	2016 Target
% of high school students who are at a healthy weight	68.5% (YRBSS, 2011)	75%
% of adults who are at a healthy weight	30.9% (BRFSS, 2010)	36%

ALERT

The percentage of adults and high school students having a healthy weight continues to decline. To reduce cancer risk related to obesity, more Texans must achieve and maintain a healthy weight.

Source: BRFSS, 2010



Goal 3

Increase adoption of evidence-based nutrition behaviors and physical activity behaviors shown to reduce cancer risk

Objectives

- 3.1** Increase the percentage of youth who follow evidence-based physical activity guidelines¹
- 3.2** Increase the percentage of adults who follow evidence-based physical activity guidelines²
- 3.3** Increase the percentage of youth and adults who follow evidence-based nutrition guidelines³ (at least 5 fruits and vegetables a day)

Sources for national guidelines:

¹ Physical Activity Guidelines for Americans, 2008

² Physical Activity Guidelines for Americans, 2008

³ Dietary Guidelines for Americans, 2010

Strategic Actions

- Implement policy, systems, and environmental change and other evidence-based strategies that increase the adoption of nutrition and physical activity behaviors.
Evidence-based strategies may include:
 - Implementing evidence-based school and youth community programs that promote good nutrition and physical activity.
 - Implementing evidence-based worksite and adult community programs that promote good nutrition and physical activity.
 - Conducting adult-awareness campaigns statewide on the links between nutrition and physical activity and risk of cancer.
 - Promoting built environment and policy approaches designed to provide opportunities for people to be more physically active and have easy access to healthy foods.
- Advocate for and dedicate consistent and reliable funding for implementation of evidence-based nutrition and physical activity recommendations shown to reduce cancer risk.
- Improve health professional knowledge, practice behaviors, and system support related to increasing provision of or referral to counseling and services that promote nutrition and physical activity guidelines.
- Promote the adoption of CEO Gold Standard™ for worksites.
- Promote alcohol consumption of no more than 2 drinks per day for men and one drink per day for women (ACS).

Nutrition and physical activity

Measure	Baseline	2016 Target
% of adults who were physically active for a total of 150 minutes per week	64.6% (BRFSS, 2009)	75%
% of high school students who ate fruits and vegetables 5 or more times per day	18.5% (YRBSS, 2011)	26%
% of adults who ate fruits and vegetables 5 or more times per day	23.8% (BRFSS, 2009)	30%

Did You Know?

Research suggests that about one-third of cancer deaths are related to risk factors such as overweight or obesity, physical inactivity, and poor nutrition.

Source: ACS, 2010



Goal 4

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

Objectives

- 4.1** Increase the percentage of youth and young adults who have completed the recommended HPV vaccine series according to national guidelines
- 4.2** Promote Hepatitis B vaccine and adoption of CDC recommendations for hepatitis screening

Sources for national guidelines:
CDC, AAP

Strategic Actions

- Implement policy, systems, and environmental change and other evidence-based strategies that address infectious disease causes related to cancer.
Evidence-based strategies may include:
 - Conducting a statewide awareness campaign on the link between infectious diseases and cancer risk.
 - Advocating to make Immtrac, the state immunization registry, an opt-out program, and to use Immtrac for adults.
 - Implementing evidence-based programs that promote immunization of high risk adults against Hepatitis B and teens and pre-teens of both sexes against HPV.
 - Promote demonstration projects and research on screening for liver cancer.
- Improve health professional knowledge, practice behaviors, and system support related to increasing provision of or referral to immunizations against HPV and Hepatitis B.

Vaccination rates

Measure	Baseline	2016 Target
% of adolescents, aged 13–17 years, who completed 3 doses of the HPV vaccine	27% (National Immunization Survey – Teen, 2009)	50%

Risk Factor

The most significant risk factor for liver cancer is chronic infection with hepatitis B virus and hepatitis C virus. The hepatitis B vaccine is recommended for all children as well as adults at risk. At this time, there is no vaccine for hepatitis C.

Source: CDC, 2011



Goal 5

Reduce skin cancer risk resulting from solar and artificial ultraviolet radiation

Objectives

- 5.1 Promote skin cancer prevention behavior among youth, adolescents, and adults
- 5.2 Reduce the incidence of and mortality from melanoma

Sources for national guidelines:
CDC, ACS

ALERT

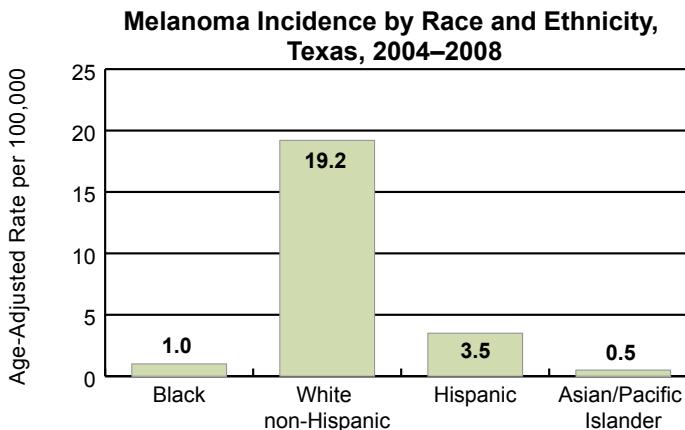
Rapid increases in melanoma, the most deadly form of skin cancer, have occurred among white women aged 15 to 39 years and among white men older than 65. Texans can lower their risk of melanoma by practicing sun safety when outdoors, and avoiding the use of tanning beds and sun lamps.

Sources: NCI, ACS 2011



Strategic Actions

- Implement policy, systems, and environmental change and other evidence-based strategies that increase the adoption of ultraviolet radiation safety behaviors.
Evidence-based strategies may include:
 - Advocating for eliminating the use of tanning beds.
 - Implementing evidence-based school, worksite, and community programs that promote sun safety.
 - Conduct statewide awareness campaigns on the link between solar radiation and risk of skin cancer (settings such as parks, schools, daycare centers, worksites, and beaches).
- Conducting statewide awareness campaigns on recognizing the early signs and symptoms of skin cancer.



NOTE: Melanoma incidence is historically under-reported nationally and in Texas. Diagnosis and treatment often occur in out-patient settings, resulting in non-reporting or cases being reported years after diagnosis. Current efforts to improve melanoma reporting will initially result in increases in melanoma cases and rates.

Rates are average annual rates per 100,000, age-adjusted to the 2000 U.S. Standard Population. Source: Texas Cancer Registry, 1995–2008, SEER*Stat incidence file cutoff 11/24/2010.

Skin cancer

Measure	Baseline
Age-adjusted incidence rate, melanoma of the skin	12.8 per 100,000 (TCR, 2008)
Age-adjusted mortality rate, melanoma of the skin	2.5 per 100,000 (TCR, 2008)

Goal 6

Reduce the risk of cancers related to environmental carcinogens

Objectives

- 6.1** Promote evidence-based policies, systems, and environmental changes that reduce exposure for workers and communities to known environmental carcinogens
- 6.2** Promote research related to environmental carcinogens

Strategic Actions

- Implement evidence-based policies, programs, and system changes to increase transparency and information sharing among the public, researchers, regulatory agencies, and industry about environmental carcinogens.
- Advocate for and dedicate consistent and reliable funding for evidence-based epidemiologic and environmental monitoring and research across the life course (*in utero* and childhood, workplace, and multi-generational exposures).
- Advocate for system changes and training programs to prevent community and workplace exposure to carcinogens.
- Improve health professional knowledge, practice behaviors, and systems support related to known and emerging environmental carcinogens.

Environmental Exposures

Although the full extent of environmental influences on cancer has yet to be determined, there is a growing body of evidence that links environmental exposures to cancer.

Source: NCI, 2008–2009 Annual Report, President's Cancer Panel



Goal 7

Increase proportion of early stage diagnosis through screening and early detection to reduce deaths from breast cancer

Objectives

- 7.1 Increase proportion of women who receive breast cancer screening according to national guidelines
- 7.2 Reduce the rate of late-stage diagnosis of breast cancer

Sources for national guidelines:
CDC, USPSTF, ACS

ALERT

The percentage of Texas women getting screened for breast cancer has declined. In order to increase early detection of breast cancer, when treatment is more likely to be successful, more eligible women must get screened according to current recommendations.

Source: BRFSS, 2010



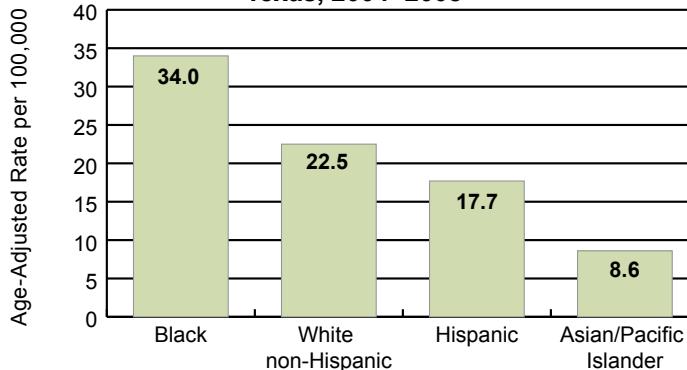
Breast cancer

Measure	Baseline	2016 Target
% of women age 40 and over who have had a mammogram within the past two years	70.1% (BRFSS, 2010)	80%
Rate per 100,000 female breast cancer diagnoses at late stage (regional and distant)	40.5 per 100,000 (TCR, 2008)	35 per 100,000
Age-adjusted mortality rate, female breast cancer	21.8 per 100,000 (TCR, 2008)	18 per 100,000

Strategic Actions

- Increase and improve access to care by reducing structural and financial barriers.
Evidence-based strategies may include:
 - Increasing hours of operation.
 - Increasing access to transportation services.
 - Increasing mobile and other alternative screening opportunities.
 - Increasing access to insurance coverage.
 - Promoting investments in and increasing availability of patient navigation services.
 - Using best practice models for increasing collaboration among service providers to ensure continuum of care (access to treatment).
 - Ensuring appropriate follow-up for those who receive abnormal breast-cancer screening results.
- Using evidence-based interventions, provide education on breast cancer and promote screening guidelines and awareness of insurance coverage options, including all underserved populations.
- Promote the provision of screening services through medical homes, accountable-care organizations, and other emerging models of healthcare delivery.
- Increase availability and utilization of electronic medical records and implementation of clinical system changes to increase utilization of evidence-based cancer screening.
- Improve health professional knowledge, practice behaviors, and system support related to improving service delivery.
- Implement evidence-based interventions related to diagnosis, treatment, and palliation to decrease disparities in racial/ethnic populations, populations with less education, underserved adolescents and young adults, and underserved geographic areas of the state.

Female Breast Cancer Mortality by Race and Ethnicity, Texas, 2004–2008



Rates are average annual rates per 100,000, age-adjusted to the 2000 U.S. Standard Population. Source: Texas Cancer Registry, 1995–2008, SEER*Stat mortality file created 3/31/2011.

Goal 8

Reduce deaths and number of new cases of cervical cancer through screening and early detection

Objectives

- 8.1 Increase proportion of women who receive cervical cancer screening according to national guidelines
- 8.2 Reduce rate of invasive cervical cancer

Sources for national guidelines:
CDC, USPSTF, ACS

ALERT

Cervical cancer in Texas can be eradicated. Unfortunately, the percentage of women getting screened has declined. More eligible women must get screened for cervical cancer, according to current recommendations. In addition, the HPV vaccine has been proven effective to prevent most cervical cancers.

Sources: BRFSS, CDC 2010



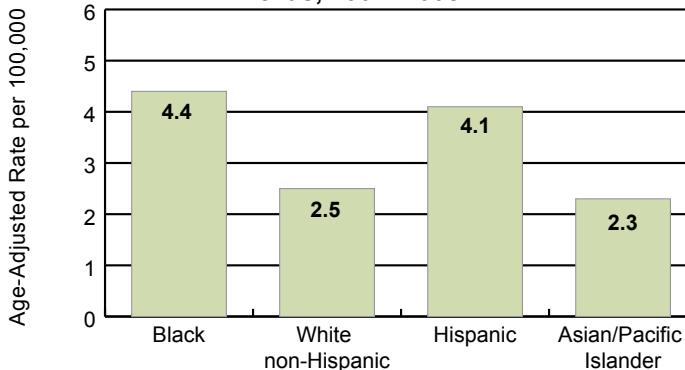
Cervical cancer

Measure	Baseline	2016 Target
% of women age 18+ who have had a Pap test within the past three years	76.4% (BRFSS, 2010)	85%
Rate per 100,000 cervical cancer diagnoses at invasive stage (local, regional, and distant)	8.2 per 100,000 (TCR, 2008)	7 per 100,000
Age-adjusted mortality rate, cervical cancer	3.0 per 100,000 (TCR, 2008)	2 per 100,000

Strategic Actions

- Increase and improve access to care by reducing structural and financial barriers.
Evidence-based strategies may include:
 - Increasing hours of operation.
 - Increasing access to transportation services.
 - Increasing alternative screening opportunities.
 - Increasing access to insurance coverage.
 - Promoting investments in and increasing availability of patient navigation services.
 - Using best practice models for increasing collaboration among service providers to ensure continuum of care (access to treatment).
 - Ensuring appropriate follow-up for women who receive abnormal cervical-cancer screening results.
- Using evidence-based interventions, provide education on cervical cancer and promote screening guidelines and awareness of insurance coverage options, including all underserved populations.
- Promote the provision of screening services through medical homes, accountable-care organizations, and other emerging models of healthcare delivery.
- Increase availability and utilization of electronic medical records and implementation of clinical system changes to increase utilization of evidence-based cancer screening.
- Improve health professional knowledge, practice behaviors, and system support related to improving service delivery.
- Implement evidence-based interventions related to diagnosis, treatment, and palliation to decrease disparities in racial/ethnic populations, populations with less education, underserved adolescents and young adults, and underserved geographic areas of the state.

Cervical Cancer Mortality by Race and Ethnicity, Texas, 2004–2008



Rates are average annual rates per 100,000, age-adjusted to the 2000 U.S. Standard Population. Source: Texas Cancer Registry, 1995–2008, SEER*Stat mortality file created 3/31/2011.

Goal 9

Reduce the number of deaths and new cases of colon and rectum cancer through screening and early detection

Objectives

- 9.1 Increase proportion of adults who receive colon and rectum cancer screening according to national guidelines
- 9.2 Reduce the rate of invasive colon and rectum cancer

Sources for national guidelines:
CDC, USPSTF, ACS

Did You Know?

According to the CDC, if people age 50 and older had routine colorectal cancer screenings, at least 60% of deaths from the disease could be avoided.

Source: CDC, 2011



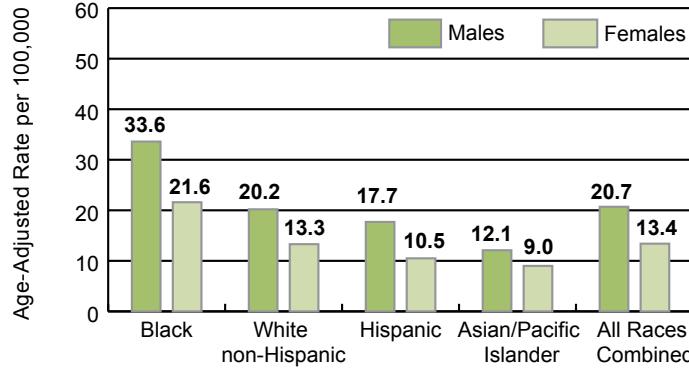
Colon and rectum cancer

Measure	Baseline	2016 Target
% of adults age 50+ who have had a sigmoidoscopy or colonoscopy	53.3% (BRFSS, 2010)	75%
Rate per 100,000 colon and rectum cancer diagnoses at invasive stage (local, regional, and distant)	37.4 per 100,000 (TCR, 2008)	27 per 100,000
Age-adjusted mortality rate, colon and rectum cancer	15.8 per 100,000 (TCR, 2008)	12 per 100,000

Strategic Actions

- Expand capacity for colon and rectum cancer screening and follow-up.
- Increase and improve access to care by reducing structural and financial barriers.
Evidence-based strategies may include:
 - Increasing hours of operation.
 - Increasing access to transportation services.
 - Increasing alternative screening opportunities.
 - Increasing access to insurance coverage.
 - Promoting investments in and increasing availability of patient navigation services.
 - Using best-practice models for increasing collaboration among service providers to ensure continuum of care (access to treatment).
 - Ensuring appropriate follow-up for men and women who receive abnormal colon and rectum screening results.
 - Increasing trained workforce who can perform colon cancer screenings.
- Using evidence-based interventions, provide education on colon and rectum cancer and promote screening guidelines and awareness of insurance coverage options, including all underserved populations.
- Promote the provision of screening services through medical homes, accountable-care organizations, and other emerging models of healthcare delivery.
- Increase availability and utilization of electronic medical records and implementation of clinical system changes to increase utilization of evidence-based cancer screening.
- Improve health professional knowledge, practice behaviors, and systems support related to improving service delivery.
- Develop, evaluate, and promote new technologies that will increase public demand and utilization of screening.
- Implement evidence-based interventions related to diagnosis, treatment, and palliation to decrease disparities in racial/ethnic populations, populations with less education, underserved adolescents and young adults, and underserved geographic areas of the state.

Colorectal Cancer Mortality Rates by Race and Ethnicity, Texas, 2004–2008*



Rates are average annual rates per 100,000, age-adjusted to the 2000 U.S. Standard Population. Source: Texas Cancer Registry, 1990–2008, SEER*Stat mortality file created 3/31/2011.

Objectives

- 10.1** Promote education about prostate cancer, including screening
- 10.2** Develop and implement more effective screening and early detection methods that can differentiate between aggressive and indolent cancers for which there is no benefit from treatment
- 10.3** Develop and implement novel methods for screening and early detection, including imaging technologies, genomics, and proteomics

Strategic Actions

- Provide education on prostate cancer and prostate cancer screening, including the known risks and possible benefits.
- Increase awareness of and implementation of new evidence-based screening and early detection methods into routine practice.
- Promote demonstration projects and continued study of emerging screening technologies.
- Promote evaluation of emerging screening methodologies that have an evidence base.

Screening Technologies

Support for research towards the development and improvement of screening technologies continues to be a critical need in Texas and around the globe.



Goal 11

Increase timely access to quality cancer diagnostic, treatment, and palliation services for all Texans

Objectives

- 11.1** Promote awareness, education, and advocacy efforts aimed at increasing the number of patients who receive high quality care
- 11.2** Promote timely access to and utilization of care for individuals who are under-insured or uninsured, or do not qualify for financial assistance programs
- 11.3** Promote timely and appropriate referral to hospice care and informed decision-making
- 11.4** Promote appropriate pain and symptom management among cancer survivors

Strategic Actions

- Actively promote adoption of quality standards of care according to national guidelines (Commission on Cancer, NCCN, etc.)
- Encourage hospitals/facilities to pursue advanced certification for palliative care.
- Develop, implement, and evaluate public and health professional education and advocacy plans to support adoption and practice of existing standards of quality care for all patients.
- Increase standardized training for and utilization of patient navigators and community health workers in both clinic and community settings across the continuum of cancer care.
- Develop, implement, and evaluate education and advocacy plans to support an increase in the number of hospitals and treatment facilities with Commission on Cancer accreditation in underserved areas of Texas.
- Gather data and report on patient/survivor experiences with diagnosis, treatment, and post-treatment care plans.
- Implement evidence-based policy and systems change to increase and improve delivery of care and reduce structural and financial barriers.
- Implement evidence-based interventions related to diagnosis, treatment, and palliation to decrease disparities in racial/ethnic populations, populations with less education, underserved adolescents and young adults, and underserved geographic areas of the state.

ALERT

As of 2009, only 42% of Texas hospitals with at least 50 beds report offering some type of palliative care program; this is staggeringly lower than the national average of 63%.

Source: CAPC, National Palliative Care Research Center, 2009



Palliation

Measure	Baseline	2016 Target
Palliative Care Scorecard (Center to Advance Palliative Care, 2011)	Grade of C on a scale of A–F	Grade of A
Pain Scorecard (Pain and Policy Studies Group, 2008)	Grade of C on a scale of A–F	Grade of A

Goal 12

Promote overall health and well-being of people affected by cancer

Objectives

- 12.1** Promote availability of and access to culturally relevant survivorship programs and services designed to improve quality of life
- 12.2** Promote availability of and access to evidence-based or recommended survivorship services in order to maximize survival
- 12.3** Promote providing cancer survivors with a written summary of treatment and care plan

Strategic Actions

- Promote delivery of essential elements in core survivorship programs and services by participating in ongoing state and national activities.
- Assess compliance with survivorship policies, programs, and activities relative to the recommendations from the IOM.
- Promote use of standards for delivery of survivor services developed by national organizations (NHPCO, CAPC, ACoS, etc.).
- Develop and evaluate curricula based on the IOM recommendations that target health-profession students, community health workers, and health professionals.
- Train health-profession students, community health workers, and health professionals using established curricula.
- Encourage the incorporation of survivorship curricula that include cultural competency and communication skills into professional education and training programs.
- Develop and enhance patient-centered navigation systems and pathways based on best practices to ensure optimum care across the continuum of cancer survivorship.
- Promote collaboration among organizations to identify and implement evidence-based programs with appropriate adaptations for the needs of the population served.
- Advocate for policies and funding for implementation of evidence-based survivorship programs shown to improve quality of life.
- Increase knowledge of survivorship issues for the general public, cancer survivors, health care professionals, and policy makers.
- Promote availability of caregiver support services.

Childhood Cancer Survivors

Survivors of childhood and adolescent cancers are a particularly vulnerable population. Each year, almost 1,200 children and adolescents are diagnosed with cancer. Their cancer treatment can have lifelong consequences and interfere substantially with their physical development, education, and work as adults.

Source: TCR, 2011



Survivor care

Measure	Baseline
% of cancer survivors, ages 18+ years, who received a written summary of their cancer treatments	Data on these measures is to be collected beginning in 2012 (BRFSS)
% of cancer survivors, ages 18+ years, who received written instruction for cancer follow-up	

Goal 13

Develop or strengthen the infrastructure supporting the delivery of the most appropriate cancer prevention and care services

Objectives

- 13.1** Increase the number and distribution of quality, accessible, and affordable facilities, equipment, technology, and cancer prevention and care services
- 13.2** Increase the number of well-trained health professionals serving rural and other health professional shortage areas
- 13.3** Enhance and protect existing cancer data systems, including the Texas Cancer Registry, BRFSS, and YRBSS, to monitor and support outcome-driven cancer research, prevention, and control

ALERT

Texas has the highest percentage of uninsured population of any state, estimated at 27%.

Source: US Census Bureau, 2010



Infrastructure

Measure	Baseline
% of uninsured population	27% (US Census Bureau, 2010)
Number of counties with health professional shortage areas (HPSA)	216/254 counties (Kaiser Family Foundation, 2011)
Number of Medically Underserved Areas: Whole and Partial Counties	Whole County: 179 Partial County: 44 (Texas DSHS, 2011)

Strategic Actions

- Advocate for and dedicate consistent and reliable funding to strengthen the infrastructure supporting the collection of quality cancer data and delivery of quality cancer prevention and care.
- Build leadership and partnerships in underserved communities to provide and promote systems and social policy changes supporting cancer prevention activities.
- Identify and promote awareness of existing facilities and resources and fully implement evidence-based strategies and interventions to build and sustain healthy communities.
- Increase the number of accredited facilities (ACoS, the Joint Commission, AAAHC, etc.) in areas of need.
- Increase the number of NCI-designated cancer centers in the state.
- Promote collaborations that facilitate transition of young adult and childhood cancer survivors to adult health care systems.
- Develop and adopt disaster preparedness plans for cancer patients.
- Increase data collection and enhanced data elements for electronic health records and health information exchanges.
- Promote careers in health care with specialized focus on cancer from high school through graduate education.
- Address projected shortages in cancer workforce geographically and by specialty.
- Advocate for adoption of state and federal policies to maintain an adequate supply of standard cancer treatment drugs.
- Improve health professional knowledge, practice behaviors, and systems support related to improving cultural competency and implementing policy and systems change that increases provision of or referral to services.
- Develop and strengthen communication channels to facilitate translation of research into practice.
- Advocate for appropriate payment for prevention services and the continuum of cancer care services.
- Maintain NAACCR Gold Standard Certification for the TCR.
- Enhance awareness and promote use of cancer data for research, prevention, and control.
- Monitor *Texas Cancer Plan* goals and objectives.
- Build capacity to expand and provide BRFSS measures annually and provide actionable local level data for both BRFSS and YRBSS.

Goal 14

Support the highest quality and most innovative research that will enhance the potential for medical or scientific breakthroughs in cancer

Objectives

- 14.1** Enhance and expand research capabilities and collaboration of public or private institutions of higher education with other public or private entities that will promote a substantial increase in both the quality and quantity of cancer research
- 14.2** Emphasize rapid and open dissemination and translation of research to practice and to the community

Strategic Actions

- Promote funding opportunities across the spectrum of cancer research:
 - Prevention
 - Early detection
 - Basic
 - Clinical and translational
 - Dissemination
 - Community-based participatory research
 - Public Health Systems and Services Research (PHSSR).
- Utilize a conflict-of-interest-free review process that selects exemplary research projects with the highest potential for impact.
- Encourage funding of projects with a level of risk that is commensurate with their potential impact.
- Recruit highly qualified researchers at different career stages with goals of increasing the quality, diversity, geographic distribution, and size of the workforce.
- Promote development of infrastructure that supports high quality research in geographically underserved areas of the state.
- Include the voice of the advocate/survivor in the clinical and community health research process.
- Engage the advocacy community in advocating for funding to support research across the continuum.
- Promote research training and diversity of trainees at all levels.

Research

Texas is home to some of the world's best research institutions. With the creation of CPRIT, Texas is positioned to be a frontrunner in groundbreaking research efforts.



Goal 15

Increase opportunities to access and participate in cancer research and clinical trials

Objectives

15.1 Increase awareness, participation, and retention of eligible patients, including those from diverse and under-represented populations, in cancer clinical trials

Strategic Actions

- Expand geographic (community) reach of clinical trials to provide patients and physicians with local access to novel therapeutics and cancer treatments.
- Develop, implement, and evaluate education and advocacy plans to increase public and professional awareness, knowledge, and adoption of clinical trials, focusing on the use of tissue donation opportunities and the challenges of personalized medicine.
- Increase infrastructure resources necessary to implement childhood cancer clinical trials.
- Develop, implement, and evaluate education and advocacy plans to increase infrastructure resources for clinical trials, focusing on:
 - Systems and technologies to support personalized medicine
 - Use of electronic health records and health information exchanges
 - Maintaining a user friendly database of current clinical trials
- Encourage researchers applying for federal, state, or other funds to incorporate meaningful community participation in their research design and throughout the clinical trial process.
- Build community education and community capacity for understanding and supporting clinical research, including the dissemination of results to community members.

Cancer research and clinical trials

Measure	Baseline	2016 Target
% of adults, age 18+ years, who participated in a clinical trial as part of their cancer treatment	3.3% (BRFSS, 2010)	5%

CTNeT

CTNeT, established in 2010 with a grant from CPRIT, is a state-wide clinical trials network that will make innovative clinical trials more accessible to people across the state.



Goal **16**

Improve patient care by accelerating the movement of prevention interventions, therapeutics, and diagnostics into practice.

Objectives

- 16.1** Increase the life science infrastructure and number of jobs, and develop a diverse workforce as a result of public and private investments
- 16.2** Increase statewide economic development as a result of public and private investments

Strategic Actions

- Promote funding opportunities that support company formation, relocation, and commercialization activities.
- Utilize a conflict-of-interest-free review process that selects exemplary companies and projects with the highest potential for patient, public, and economic impact.
- Support infrastructure in the state's academic institutions to promote efficiencies in cancer research (e.g., core facilities and shared instrumentation grants).
- Increase opportunities for research into and commercialization of new and more effective screening and early detection methods.

Progress

Texas is committed to improving patient care by moving new drugs, diagnostics, and therapies from research labs into clinical practice more rapidly.



Appendix I

Definitions*

Accountable-Care Organizations

Networks of health care professionals and health care facilities, such as hospitals, that work together to coordinate care for patients.⁶¹

Built Environment

Fabricated structures and surroundings that provide the setting for human activities.

Carcinogen

Any substance that causes cancer.

Clinical Trial

A type of research study that tests how well new medical approaches work in people. These studies test new methods of screening, prevention, diagnosis, or treatment of a disease.

Comprehensive Smoke-Free Laws

Laws that prohibit smoking in indoor areas of worksites, restaurants, and bars.

Culturally Relevant

Delivering programs, services, materials, instructions, and other information to the public that is appropriate for the intended audience. Demographic factors to consider include but are not limited to: gender, education, language, race and ethnicity, disability, sexual identity, geographic location, and age.

Disparities (Health)

Differences in the incidence, prevalence, and mortality of a disease and the related adverse health conditions that exist among specific population groups. Disparities affect many populations, including racial and ethnic minorities, residents of rural areas, women, children and adolescents, the elderly, and people with disabilities.

Evidence-Based (Method)

A strategy for explicitly linking public health and clinical practice recommendations to scientific evidence of the effectiveness and/or other characteristics of such practices.

Genomics

The study of the relationship between genes, the environment, and behaviors in order to understand why some people get sick and others do not.

Healthy Weight

A person whose body mass index (BMI), which is calculated based on height and weight, is less than 25.

Hospice

A program that provides special care for people who are near the end of life, and for their families, either at home, in free-standing facilities, or within hospitals.

Indolent cancer

A type of cancer that grows slowly.

Informed Decision Making

Occurs when a care provider provides the patient with current information regarding the risks and benefits of a medical procedure so that the individual can make a decision regarding what action to take.

Life Science Infrastructure

Development or enhancement of organizations that will provide valuable programs and services to strengthen the ability to commercialize innovative, new products for the diagnosis, treatment, or prevention of cancer and to establish infrastructure that is critical to the development of a robust life sciences industry.

Medical Home

A place where patients are cared for by a physician who leads the medical team that coordinates all aspects of their preventative, immediate, and long-term needs using the best available evidence and appropriate technology.⁶²

Palliation

Relief of symptoms and suffering caused by cancer and other life-threatening diseases. Palliation helps a patient feel more comfortable and improves the quality of life, but does not cure the disease.

Patient-Centered

A practice model in which patients are active participants in their own health and well-being throughout all aspects of care for preventive, acute, and chronic needs.⁶³

Patient Navigation

Guiding someone through the health care system to help him or her get timely, coordinated care. This can involve navigating a patient to prevention, screening and early detection, follow-up for abnormal results, treatment, survivorship services, and end-of-life care. Patient navigators may connect patients to resources that include, but are not limited to, financial assistance, counseling, language translation, and transportation.

Personalized Medicine

A form of medicine that uses information about a person's genes, proteins, and environment to prevent, diagnose, and treat disease.

Proteomics

The study of the structure and function of proteins, including how they interact with each other inside cells.

Quality (Health Care)

Care that is provided at the appropriate time and in an appropriate way to achieve the best results possible.⁶⁴

Quality of Life

The overall enjoyment of life. Many clinical trials assess the effects of cancer and its treatment on the quality of life. These studies measure aspects of an individual's sense of well-being and ability to carry out various activities.

Secondhand Smoke

Smoke that comes from the burning of a tobacco product and smoke that is exhaled by smokers. Inhaling secondhand smoke is called involuntary or passive smoking.

Survivors

People who have been diagnosed with cancer and those people in their lives who are also affected by the diagnosis, including family members, friends, and caregivers.

Survivorship

The personal, physical, psychosocial, and economic issues of living with cancer, from diagnosis until the end of life.

Survivorship Care Plan

An individualized plan provided to cancer patients that summarizes diagnosis, treatment, coordination of future care, and availability of local support.

Underserved Populations

Populations who are most at risk for poor health issues and who experience barriers related to accessing health care due to factors such as gender, level of education and income, insurance status, race and ethnicity, immigration, disability, sexual identity, geographic location and age.

* From the National Cancer Institute, Centers for Disease Control and Prevention, and Cancer Prevention and Research Institute of Texas (unless otherwise noted)

Appendix II

Resources

- ❖ American Academy of Pediatrics: <http://www.aap.org/>
- ❖ Accreditation Association for Ambulatory Health Care: <http://www.aaahc.org>
- ❖ American Cancer Society: <http://www.cancer.org/>
- ❖ American College of Surgeons: <http://www.facs.org/cancer/>
- ❖ Cancer Alliance of Texas: <http://www.cancerallianceoftexas.org/>
- ❖ Cancer Control P.L.A.N.E.T.: <http://cancercontrolplanet.cancer.gov/>
- ❖ Cancer Prevention and Research Institute of Texas: <http://www.cprit.state.tx.us/>
- ❖ Center to Advance Palliative Care: <http://www.capc.org/>
- ❖ Centers for Disease Control and Prevention: <http://www.cdc.gov/>
- ❖ CEO Cancer Gold Standard™ : <http://www.cancergoldstandard.org/>
- ❖ Commission on Cancer: <http://www.facs.org/cancer/coc/cocar.html>
- ❖ Guide to Community Preventive Services: <http://www.thecommunityguide.org/>
- ❖ Healthy People 2020: <http://www.healthypeople.gov/2020/>
- ❖ Institute of Medicine: <http://www.iom.edu/>
- ❖ ImmTrac – Texas Immunization Registry: <http://www.dshs.state.tx.us/immunize/immtrac/>
- ❖ National Cancer Institute: <http://www.cancer.gov/>
- ❖ National Cancer Institute Research Tested Intervention Programs: <http://rtips.cancer.gov/rtips/>
- ❖ National Comprehensive Cancer Control Program: <http://www.cdc.gov/cancer/ncccp/>
- ❖ National Comprehensive Cancer Network: <http://www.nccn.org/>
- ❖ National Hospice and Palliative Care Organization: <http://www.nhpco.org/>
- ❖ National Immunization Survey – Teen: http://www.cdc.gov/nchs/nis/data_files_teen.htm
- ❖ Smoke-free Texas: <http://www.smokefreetexas.org/>
- ❖ Statewide Clinical Trials Network of Texas: <http://www.ctnet.org/>
- ❖ Texas Behavioral Risk Factor Surveillance System: <http://www.dshs.state.tx.us/chs/brfss/>
- ❖ Texas Department of Agriculture – Office of Rural Affairs: <http://www.agr.state.tx.us/>
- ❖ Texas Youth Risk Behavior Surveillance System: <http://www.dshs.state.tx.us/chs/yrbs/>
- ❖ Texas Cancer Registry: <http://www.dshs.state.tx.us/tcr/>
- ❖ The Joint Commission: <http://www.jointcommission.org/>
- ❖ U.S. Food and Drug Administration: <http://www.fda.gov/>
- ❖ U.S. National Institutes of Health – ClinicalTrials.gov: <http://clinicaltrials.gov/>
- ❖ U.S. Preventive Services Task Force: <http://www.uspreventiveservicestaskforce.org/>

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Appendix IV

Measures

Goal	Objective	Metric	Baseline & Data Source	Recommended Target (2016) and % Change from Baseline
1.0 Reduce incidence and mortality from lung cancer and other tobacco related cancers	1.1 Decrease the percentage of youth who report smoking cigarettes or using smokeless tobacco on one or more of the previous 30 days 1.2 Decrease the percentage of adults who report smoking cigarettes or using smokeless tobacco on one or more of the previous 30 days 1.3 Reduce exposure to secondhand smoke	% of high school students who report smoking cigarettes on one or more of the previous 30 days % of high school students who report using smokeless tobacco on one or more of the previous 30 days % of adults who report smoking cigarettes on one or more of the previous 30 days % of adults who report using smokeless tobacco on one or more of the previous 30 days # of Texas cities and % of Texans covered by comprehensive Smoke-Free Workplace Ordinances Age-adjusted mortality rate, lung cancer	17.4% (YRBSS, 2011) 6.2% (YRBSS, 2011) 16.0% (BRFSS, 2010) 3.2% (BRFSS, 2010) 45% of Texans living in incorporated areas (8.8 million); 0% of Texans living in unincorporated areas; 5.5 million Texans live in unincorporated areas. Total: 14.3/25 million (57%) (smokefreetexas.org 2011 and Texas State Data Center)	13.0% Δ 25% 5.0% Δ 19% 13.0% Δ 19% 2.0% Δ 38% 100% of Texans; statewide comprehensive smoke-free law 34 per 100,000 Δ 26%
2.0 Reduce cancer risk related to obesity	2.1 Increase the percentage of youth who are at a healthy weight 2.2 Increase the percentage of adults who are at a healthy weight	% of high school students who are at a healthy weight % of adults who are at a healthy weight	68.5% (YRBSS, 2011) 30.9% (BRFSS, 2010)	75% Δ 9% 36% Δ 17%

Measures (continued)

Goal	Objective	Metric	Baseline & Data Source	Recommended Target (2016) and % Change from Baseline
3.0 Increase adoption of evidence-based nutrition behaviors and physical activity behaviors shown to reduce cancer risk	<p>3.1 Increase the percentage of youth who follow evidence-based physical activity guidelines^a</p> <p>3.2 Increase the percentage of adults who follow evidence-based physical activity guidelines^b</p> <p>3.3 Increase the percentage of youth and adults who follow evidence-based nutrition guidelines (at least 5 fruits and vegetables a day)^c</p>	<p>% of high school students who were physically active for a total of at least 60 minutes per day on five or more of the past seven days</p> <p>% of adults who were physically active for a total of 150 minutes per week</p> <p>% of high school students who ate fruits and vegetables 5 or more times per day</p> <p>% of adults who ate fruits and vegetables 5 or more times per day</p>	<p>44.5% (YRBSS, 2011)</p> <p>64.6% (BRFSS, 2009)</p> <p>18.5% (YRBSS, 2011)</p> <p>23.8% (BRFSS, 2009)</p>	<p>54% Δ 20%</p> <p>75% Δ 16%</p> <p>26% Δ 41%</p> <p>30% Δ 26%</p>
4.0 Increase vaccination rate for vaccines shown to reduce the risk of cancer	<p>4.1 Increase the percentage of youth and young adults who have completed the recommended HPV vaccine series according to national guidelines^d</p> <p>4.2 Promote Hepatitis B vaccine and adoption of CDC recommendations for hepatitis screening</p>	% of adolescents, aged 13–17 years, who completed 3 doses of the HPV vaccine	27% (National Immunization Survey –Teen, 2009)	50% Δ 85%
5.0 Reduce skin cancer risk resulting from solar and artificial ultraviolet radiation	<p>5.1 Promote skin cancer prevention behavior among youth, adolescents, and adults.^e</p> <p>5.2 Reduce the incidence and mortality from melanoma</p>	<p>Age-adjusted incidence rate, melanoma of the skin</p> <p>Age-adjusted mortality rate, melanoma of the skin</p>	<p>12.8 per 100,000 (TCR, 2008)</p> <p>2.5 per 100,000 (TCR, 2008)</p>	

^a Source for national guidelines: *Physical Activity Guidelines for Americans, 2008* <http://www.health.gov/paguidelines/>

^b Source for national guidelines: *Physical Activity Guidelines for Americans, 2008* <http://www.health.gov/paguidelines/>

^c Source for national guidelines: *Dietary Guidelines for Americans, 2010* <http://www.cnpp.usda.gov/dietaryguidelines.htm>

^d Source for national guidelines: *Physical Activity Guidelines for Americans, 2008* <http://www.health.gov/paguidelines/>

^e Sources for national guidelines: Centers for Disease Control and Prevention, American Academy of Pediatrics

Measures (continued)

Goal	Objective	Metric	Baseline & Data Source	Recommended Target (2016) and % Change from Baseline
7.0 Increase proportion of early stage diagnosis through screening and early detection to reduce deaths from breast cancer	7.1 Increase proportion of women who receive breast cancer screening according to national guidelines ^f 7.2 Reduce the rate of late-stage diagnosis of breast cancer	% of women age 40 and over who have had a mammogram within the past two years Rate per 100,000 female breast cancer diagnoses at late stage (regional and distant) Age-adjusted mortality rate, female breast cancer	70.1% (BRFSS, 2010) 40.5 per 100,000 (TX Cancer Registry, 2008) 21.8 per 100,000 (TX Cancer Registry, 2008)	80% Δ 14%
8.0 Reduce deaths and number of new cases of cervical cancer through screening and early detection	8.1 Increase proportion of women who receive cervical cancer screening according to national guidelines ^g 8.2 Reduce rate of invasive cervical cancer	% of women age 18+ who have had a Pap test within the past three years Rate per 100,000 cervical cancer diagnoses at invasive stage (local, regional and distant) Age-adjusted mortality rate, cervical cancer	76.4% (BRFSS, 2010) 8.2 per 100,000 (TX Cancer Registry, 2008) 3.0 per 100,000 (TX Cancer Registry, 2008)	
9.0 Reduce the number of deaths and new cases of colon and rectum cancer through screening and early detection	9.1 Increase proportion of adults who receive colon and rectum cancer screening according to national guidelines ^h 9.2 Reduce the rate of invasive colon and rectum cancer	% of adults age 50+ who have had a sigmoidoscopy or colonoscopy Rate per 100,000 colon and rectum cancer diagnoses at invasive stage (local, regional, and distant) Age-adjusted mortality rate, colon and rectum cancer	53.3% (BRFSS, 2010) 37.4 per 100,000 (TX Cancer Registry, 2008) 15.8 per 100,000 (TX Cancer Registry, 2008)	75% Δ 41%

^f Sources for national guidelines: Centers for Disease Control and Prevention, American Cancer Society

^g Sources for national guidelines: Centers for Disease Control and Prevention, U.S. Preventive Services Task Force, American Cancer Society

^h Sources for national guidelines: Centers for Disease Control and Prevention, U.S. Preventive Services Task Force, American Cancer Society

Measures (continued)

Goal	Objective	Metric	Baseline & Data Source	Recommended Target (2016) and % Change from Baseline
11.0 Increase timely access to quality cancer diagnostic, treatment, and palliation services for all Texans	11.1 Promote awareness, education, and advocacy efforts aimed at increasing the number of patients who receive high quality care 11.2 Promote timely access to and utilization of care for individuals who are under- and uninsured or do not qualify for financial assistance programs 11.3 Promote timely and appropriate referral to hospice care and informed decision making based on this information 11.4 Promote appropriate pain and symptom management among cancer survivors	Palliative Care Scorecard (Center to Advance Palliative Care http://www.capc.org) Pain Scorecard (Pain and Policy Studies Group, University of Wisconsin School of Medicine and Public Health http://www.painpolicy.wisc.edu/Achieving_Balance/PRC2008.pdf)	Grade of A on a scale of A–F Grade of C	Grade of C on a scale of A–F Grade of A
12.0 Promote overall health and well-being of people affected by cancer	12.1 Promote availability of and access to culturally relevant survivorship programs and services designed to improve quality of life 12.2 Promote availability of and access to evidence-based or recommended survivorship services in order to maximize survival 12.3 Promote providing cancer survivors with a written summary of treatment and care plan	% of cancer survivors age 18+ who received a written summary of their cancer treatments % of cancer survivors age 18+ who received written instruction for cancer follow-up % of pediatric cancer survivors who receive written instruction for cancer follow-up	Data to be collected beginning in 2012 (BRFSS) Data to be collected beginning in 2012 (BRFSS)	

Measures (continued)

Goal	Objective	Metric	Baseline & Data Source	Recommended Target (2016) and % Change from Baseline
13.0 Develop or strengthen the infrastructure supporting the delivery of the most appropriate cancer prevention and care services	13.1 Increase the number and distribution of quality, accessible, and affordable facilities, equipment, technology, and cancer prevention and care services 13.2 Increase the number of well trained health professionals serving rural and other health professional shortage areas 13.3 Enhance and protect existing cancer data systems, including the Texas Cancer Registry, BRFSS, and YRBSS to monitor and support outcome-driven cancer research, prevention, and control	Number of ACoS accredited facilities Number of certified mammography facilities Number of NAPBC certified breast centers % of uninsured population Number of counties with health professional shortage areas (HPSA) Number of Medically Underserved Areas: Whole and Partial Counties	86 (facs.org , 2011) 529 (www.accessdata.fda.gov , 2011) 15 NAPBC certified breast centers (http://napbc-breast.org/resources/find.html , 2011) 27% (US Census Bureau) 216/254 counties (statehealthfacts.org , 2011) Whole County: 179 Partial County: 44 (www.dshs.state.tx.us)	
15.0 Increase opportunities to access and participate in cancer research and clinical trials	15.1 Increase awareness, participation, and retention of eligible patients, including those from diverse and underrepresented populations, in cancer clinical trials	% of adults age 18+ who participated in a clinical trial as part of their cancer treatment	3.3% (BRFSS, 2010)	5% Δ 52%

About CPRIT

In 2007, Texas voters overwhelmingly approved a constitutional amendment establishing the Cancer Prevention and Research Institute of Texas (CPRIT) and dedicating up to \$3 billion to invest in groundbreaking cancer research and prevention programs and services in Texas. Passionately committed to the war on cancer, CPRIT focuses on expediting the innovation and commercialization of cancer research, in turn increasing the potential for a medical or scientific breakthrough and enhancing access to evidence-based prevention programs and services.

By state statute, CPRIT is charged with the responsibility of facilitating the development of the *Texas Cancer Plan* and supporting its implementation. However, the overall outcome and success of the *Plan* will depend on the cooperation, collaboration, and resources of the many stakeholders throughout our great state. CPRIT's strategic direction and funding opportunities will align with the *Plan* but will, by necessity, be a subset of the *Plan*.

More information about CPRIT can be found by visiting www.cprit.state.tx.us.

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CPRIT would like to thank the members of the Texas Cancer Plan revision work group for generously donating their time and expertise in contributing to this plan. These individuals include:

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Texas Cancer Plan 2012



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