4 PROMOTE CANCER PREVENTION AND SCREENING

UT CoPHII's Recommendations:

- **Expand and improve prevention and screening efforts using population data.**
- **Disseminate evidence-based community cancer prevention strategies targeting tobacco control.**
- **Expand HPV cancer prevention and colorectal cancer screening.**
- **Address emerging cancer prevention needs, including chronic hepatitis.**

PROMOTE CANCER PREVENTION AND SCREENING

Cancer in Texas

Cancer, the second leading cause of death in Texas, is not a single disease, but many diseases characterized by the uncontrolled growth and spread of abnormal cells in the body. According to the American Cancer Society, approximately 1 in 2 men and 1 in 3 women alive today will develop some type of cancer in his or her lifetime. In 2018, 121,860 new cancer cases and 41,030 cancer deaths are expected in Texas.

Like many health conditions, there are substantial racial, ethnic and geographic disparities related to cancer in Texas. Overall cancer-related death rates are approximately 15% higher in Black than White Texans, and rates of cancer are significantly higher in northeast Texas than the rest of the state. Other variations include increased rates of cervical and liver cancer in South Texas and higher rates of mortality due to cancer in rural areas in general.

More than half of cancer cases are attributable to preventable causes (as shown in table 4-1).

Individual Prevention

One broad area of opportunity in cancer prevention is related to the effects of personal behaviors and actions an individual may take. These behaviors and actions include tobacco use, physical inactivity, poor diet, obesity, sun exposure, and underuse of cancer-related vaccines and early detection tests.

Exposure to tobacco is the single most relevant risk factor for lung cancer and at least 12 other cancers, accounting for about 30% of all cancer deaths (as shown in Table 4-1). Tobacco also contributes to heart and lung disease, leading to 20% of overall premature deaths in the U.S. Obesity has been found to contribute to approximately 20% of all cancers diagnosed, which encompasses up to 14 types of cancer. Use of vaccines can prevent some cancers.

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41,030
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1 in 3 women
alive today will develop some type of cancer in her lifetime

Photo: Wyatt McSpadden, courtesy of MD Anderson Cancer Center.

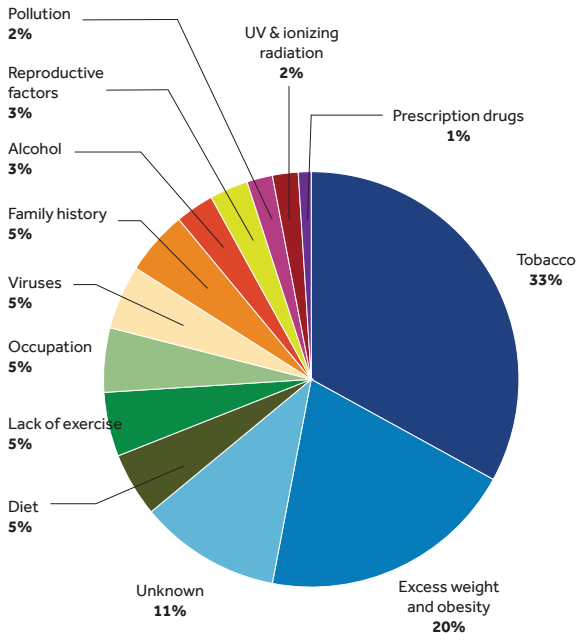
Several viruses have been linked to cancer, such as the human papilloma virus (HPV), which causes cancers of the cervix in women and is a cause of head and neck cancers in men as well as other cancers. Vaccination against HPV is the greatest opportunity to eradicate HPV-related cancers, but the HPV vaccine is underutilized in Texas, with disparate rates of uptake and completion among boys and girls. Hepatocellular cancer can be prevented by vaccination against hepatitis B and treatment of hepatitis C virus. Incidence and mortality from liver cancer has been increasing in Texas. Other common cancers that are preventable include skin cancers, which can be prevented by reducing exposure to UV radiation from the sun and indoor tanning.

Population-Level Prevention

A second important area of opportunity for cancer prevention comes at the population level. Efforts in this realm are typically led by governmental and health care organizations, often in partnership with nonprofits and other community organizations. These include policy interventions, educational initiatives aimed at the public and health care professionals, and the delivery of community-based prevention services. This approach parallels the individual approach above and supports its success.

Policy-related actions include efforts such as addressing environmental tobacco smoke exposure, raising the minimum age for purchase of tobacco products, and placing limitations on tanning bed access for minors. Public educational programs to raise awareness of cancer risk and opportunities to reduce cancer risk, and professional education to improve knowledge of prevention and screening guidelines, are critical constructs to successful cancer prevention.

While risk factors to decrease cancer incidence can be addressed, cancer mortality may also be addressed through screening, as several cancers have high-cure rates if diagnosed early through evidence-based screening. For example, screening



Preventable Causes of Cancer
Data based on Colditz, et al. Sci Trans Med., 2012 & Wolin, et al., Oncologist, 2010

Table 4-1. Exposure to tobacco is the single most important risk factor for lung cancer and at least 15 other cancers, accounting for about 30% of all cancer deaths.

Tobacco Use	**30% of all cancers**		
	Lung	Bronchus	Cervix
	Mouth and throat	Kidney	Acute Myeloid Leukemia
	Esophagus	Renal	Trachea
	Stomach	Pelvis	Larynx
	Colon and rectum	Urinary Bladder	
	Liver	Pancreas	
Obesity	**20% of all cancers**		
	Colorectal	Liver	Breast (postmenopausal)
	Gall bladder	Thyroid	Endometrial
	Stomach	Meningioma	Prostate
	Kidney	Pancreatic	Multiple myeloma
	Esophageal	Ovarian	

tests for colon cancer, breast cancer, and cervical cancer are underutilized and difficult to access in specific rural and urban areas across Texas.

The Texas Cancer Plan , which is based on the Centers for Disease Control's (CDC) National Comprehensive Cancer Control initiative, serves as a guide to cancer prevention needs and practices across the state. The MD Anderson Cancer Center Population Health Improvement Plan, developed as part of the CoPHII initiative, is another example (see Table 4-2).

The UT System is a National Leader in Cancer Treatment, Research and Control

UT System institutions have served as leaders not only in cancer treatment but also in developing, testing and delivering evidence-based cancer prevention strategies in hard-to-reach and underserved communities. The UT System includes three NCI-designated cancer centers: MD Anderson Cancer Center, the Simmons Cancer Center at UT Southwestern, and the Mays Cancer Center at UT Health San Antonio, as well as six health-related institutions that deliver cancer care for their local populations. UT System institutions contribute significantly to risk assessment, community engagement, prevention, and early screening efforts funded by the Cancer Prevention Research Institute of Texas (CPRIT), the National Cancer Institute, the CDC, the Centers for Medicare & Medicaid Services' 1115 Medicaid Waiver DSRIP funds, and philanthropic sources. Concern exists regarding the availability of these critical funding streams in the future.

UT System institutions utilize these funding sources to investigate and develop methods, deliver cancer prevention and screening programs, and test best models to address care needs in Texas. Research driven by the UT System institutions promotes the use of population data and risk assessments to improve prevention and screening efforts across Texas.

The goal is to use existing data to align current resources and efforts across UT System institutions to more effectively and efficiently reach populations most in need of cancer prevention, screening and treatment services. Meanwhile, UT System is committed to efforts within its own workforce to promote tobacco free campuses, wellness and screening programs, and evidence-based cancer prevention practices to mitigate disparities.

Leadership across the UT System should be able to utilize data to track population health patterns of cancer and identify emerging needs in specific populations across Texas. These efforts will improve understand of the local behavioral and environmental indicators associated with cancer risks at the geographic and demographic levels, and will more efficiently facilitate dissemination of cancer prevention, screening, and treatment efforts. This process will also facilitate partnerships with local health departments and community organizations to maximize dissemination and implementation efforts.

A poster from a campaign developed by the UT System Eliminate Tobacco Use initiative, which brings together tobacco control representatives from all 14 UT institutions and System administration.

As next steps in promoting cancer prevention and screening, the members of UT CoPHII recommend the following:

- Expand and improve prevention and screening efforts using population data.
- Disseminate evidence-based community cancer prevention strategies targeting tobacco control.
- Expand HPV cancer prevention and colorectal cancer screening.
- Address emerging cancer prevention needs, including chronic hepatitis.

Methods to achieve these goals :

- Use population health data to identify key subpopulation needs and cancer risks to target screening and prevention practices.
- Identify evidence-based cancer prevention, screening, and treatment strategies for dissemination and implementation across the UT System.
- Integrate treatment protocols and practices across the UT System and within communities to promote cancer prevention and screening.
- Promote wellness and screening among UT System and State of Texas employees.
- Initiate regular meetings with NCI-designated cancer centers within the UT system along with other UT health-related institutions that have an interest in cancer control programs.
- Inventory existing cancer control activities supported by the cancer centers and UT components.
- Review population-based cancer data to identify trends and emerging issues and gaps in prevention initiatives with attention to disparately impacted populations.
- Develop goals and set priorities related to cancer control within the areas of policy, education and service.
- Evaluate impact of existing programs and develop collaborative initiatives to address gaps.
- Collaborate to identify and seek external funding and provide resource expertise for advocacy efforts.
- Integrate Community Health Workers (CHW) into cancer prevention implementation and dissemination efforts to reach vulnerable populations.

Examples

- MD Anderson Cancer Center's mobile mammography program serves as a model to increase access to screening services for low-income, uninsured, asymptomatic women in Harris and Fort Bend counties by providing free screening mammograms in collaboration with community clinics. The program reduces common barriers to care including transportation, cost, and access. Additionally, the MD Anderson colorectal cancer screening program provides free testing and evaluation in collaboration with community clinics and specialty providers across Southeast Texas. These programs are supported by DSRIP funds and CPRIT grants.

- The UT Southwestern–affiliated Moncrief Cancer Center has expanded its catchment region to provide cancer prevention and survivorship services to rural populations in 36 counties to the west of Dallas and Fort Worth. Moreover, in 2016, UT Southwestern and Texas Health Resources aligned to create Southwestern Health Resources, which will be one of the largest health networks in the state. The partnership serves as an example to address community cancer services and programs.

- Twelve prevention grants from CPRIT to UT Southwestern support breast cancer prevention and early detection in the rural counties of North Texas, cancer genetic services for rural and underserved patients, community-wide cancer survivorship programming, and evidence-based colorectal cancer screening for the uninsured. One notable program is Moncrief's $1.1 million custom-built 18-wheeler, which provides mobile, comprehensive cancer survivorship services. Funded by DSRIP, professionals on board this van offer cancer surveillance using mammography or colonoscopy as well as cervical, colorectal, and breast cancer screening. Through new funding from CPRIT, and a partnership with UT Health Science Center at Tyler, this project is being expanded to northeast Texas.

- UT Health San Antonio has identified a specific area of need in its population – liver disease. Investigators are developing efforts to increase screening, identify at-risk groups, and develop prevention and treatment programs to address the specific needs of their community. Specifically, they have partnered with The University of Texas at San Antonio to develop the San Antonio Life Sciences Institute, a cooperative cancer research initiative to foster research and workforce development in the area through joint

MD Anderson Cancer Center's mobile mammography van provides free screening mammograms, in collaboration with trusted community clinics, to women in Harris and Fort Bend counties.

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doctoral programs and research projects in biomedicine and biotechnology.

- The Project ECHO (Extension for Community Health care Outcomes) model adopted by MD Anderson Cancer Center for cervical cancer prevention and treatment in low-resource settings was developed by Dr. Arora at the University of New Mexico. The program builds capacity to reach and serve distant primary care delivery through case-based learning and co-management of patients by using videoconferencing technology. Providers receive direct input on case management from MD Anderson Cancer Center specialists and can earn Continuing Medical Education and Continuing Nursing Education credits. Current community partners include Federally Qualified Health Centers in the Rio Grande Valley, community clinics for the underserved in Houston, and community clinics in Laredo. The ECHO model is also used by MD Anderson to support a CPRIT-funded program to assist primary care clinicians in training programs to provide improved evidence-based services for cancer survivors in collaboration with UTMB, UT Health Science Center at Tyler and UT Austin Dell Medical School. The ECHO model affords greater capacity and reach using evidence-based, acceptable technologies. It stands to increase access to care in rural areas as well as to increase local capacity to serve and diagnose cancer at earlier stages and prevent cancer-related disparities in mortality and morbidity.

- UT Southwestern has a series of federal (NIH, AHRQ) and state (CPRIT) funded grants that have developed and implemented population health outreach strategies in Dallas County's Parkland Health and Hospital System. These interventions have dramatically increased rates of screening for colorectal and hepatocellular cancer among the large population of uninsured patients in Dallas County. Also through the Parkland safety-net system, UT Southwestern, with funding from NCI, is following cohorts of ~80,000 primary-care patients through the colon cancer screening process and ~180,000 patients for cervical screening. The NCI funding for this effort has recently been renewed for five years, which will allow UT Southwestern to ultimately collect more than a decade of data.

The Project ECHO (Extension for Community Health care Outcomes) program at MD Anderson Cancer Center uses videoconferencing technology to provide mentoring to primary care clinicians managing patients at risk for cervical cancer.

Table 4-2. MD Anderson's cancer prevention goals, drawn from the institution's population health strategic plan.

Primary Prevention Goals	Increase vaccination rate to reduce the risk of infectious disease related to cancer
	Eliminate the use of tobacco and reduce morbidity and mortality from tobacco-related cancers
	Increase adoption of evidence-based nutrition and physical activity behaviors shown to reduce obesity and cancer risk
	Reduce exposure to solar and artificial ultraviolet (UV) radiation to prevent skin cancer
Cancer Early Detection Goals	Increase proportion of early stage diagnosis through screening and early detection to reduce deaths from colon and rectum cancer, cervical cancer, prostate cancer, lung cancer, and breast cancer.
Cross-Cutting Goal	Reduce health disparities
Systems Goal	Develop and strengthen the infrastructure supporting the delivery of the most appropriate cancer prevention care services
Research Goals	Increase opportunities to access and participate in cancer research and clinical trials
	Support innovative research that will enhance the potential for medical and scientific breakthroughs in cancer
Supplemental Goal	Promote quality of life and overall health and well-being for cancer survivors and their caregivers