

The Health Status of Texas



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Introduction

The Texas Department of State Health Services (DSHS) vision statement is *A Healthy Texas*; its mission is to **improve health and well-being of Texans**. As part of its role as state health authority, DSHS periodically publishes a comprehensive review of the health status of the state and makes this report available to the public, health professionals, and the leadership of the state.



Over the past century, we have witnessed tremendous improvements in our ability to prevent, diagnose, treat, and even cure many diseases. Clean drinking water, safe food, vaccines, and various medications and medical practices have made quite a few diseases just a memory for many people in the world. These advancements are not universally available, however, as disparities exist in access and ability to pay

We have also become much more aware of how personal choices can impact health. Poor nutrition, physical inactivity, drug and alcohol abuse, and cigarette smoking are all known risk factors for a variety of diseases, injuries, and death. In some areas of even developed countries, children born today have shorter life expectancies than their parents had at birth. Solutions to today's health issues will require a combination of personal behavioral changes, social and cultural changes, and public health action.

Scope of the 2011 Texas Health Status report

The objective of this report is to provide:

- a summary of trends over time,
- estimates of the burden of disease across major population groups, and
- the status of public health intervention efforts (e.g., immunizations).

For each indicator, the information provided follows a simple structure:

- a description of the disease or health issue,
- a description of the risk factors associated with that disease or health issue (if known or appropriate),
- a summary of recent trends, and

- comparisons to national trends and benchmarks where appropriate and/or available.

In its broadest form, a review of the state's health status is extremely complex and ultimately requires complex analyses to fully depict the interplay between multiple interrelated health factors. This document is intended to provide descriptive information that serves as a starting point for discussions to begin the process of achieving greater understanding of health and health risks in Texas. It is beyond the scope of this report to analyze specific strategies for improving health or make recommendations about priorities for improving health in Texas.

Health Status Indicators

Health status indicators (health indicators) are quantitative or qualitative measures that collectively can be used to assess the health of a given population and the factors contributing to health. Health status indicators are collected by a broad group of stakeholders including government agencies, researchers, universities, medical professionals, and policy makers. It should be kept in mind that all of the data presented herein are estimates, as data may be collected for a sample of the population, data may be self-reported, and under-reporting occurs even for conditions required to be reported.

Texas Health Indicators Website

The Texas Department of State Health Services developed a Texas Health Indicators website. The site is designed to provide access to indicators of public health and well-being for all Texans. There are currently 60 indicators which include mortality, prevalence and incidence of disease, and potentially preventable hospitalizations. Additional indicators and enhancements to the website will be implemented over time. Each of the indicators on the website includes the following information:

- A description of the disease or health issue.
- A description of the risk factors associated with that disease or health issues.
- A summary of recent trends.
- Comparisons to national trends and benchmark.
- A regional and/or county map showing the rates for each year.

The website can be accessed from the following link: <http://healthindicators.dshs.texas.gov/>



David L. Lakey, M.D.

Commissioner, Texas
Department of State
Health Services

Thank you for taking the time to learn about health in Texas and helping us to complete our mission of improving the health of Texans.

Overview of Demographics, Mortality, and Perception of Health

Demographics

Texas has the second largest population in the United States (behind California), with approximately 25.4 million in 2010. Over 85% of the Texas population lives in metropolitan counties. The population of Texas has been steadily increasing for the past 10 years. In addition, there have been current and expected increases in the proportion of certain subpopulations, such as persons 65 years and older and Hispanics.

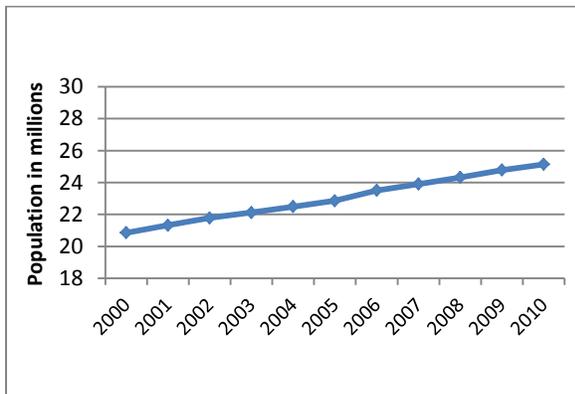


Figure 1. Texas Population in Millions.

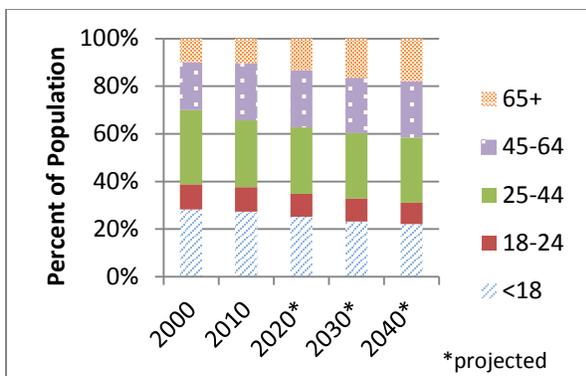


Figure 2. Estimated and Projected Percent of Texas Population in Certain Age Groups.

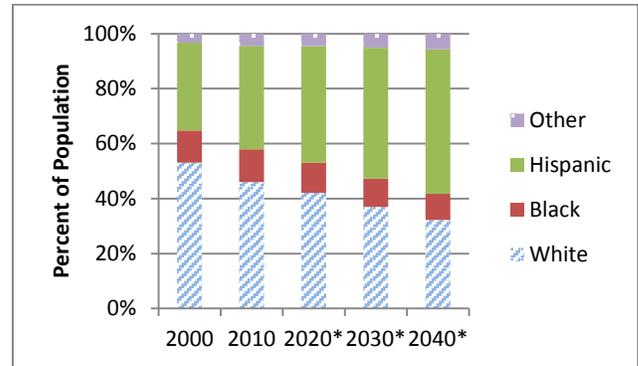


Figure 3. Estimated and Projected Percent of Texas Population by Race and Ethnicity.

Mortality and Life Expectancy

In 2010, average life expectancy for Texans at birth was 78.1 years, while the U.S. life expectancy was 78.7 years.

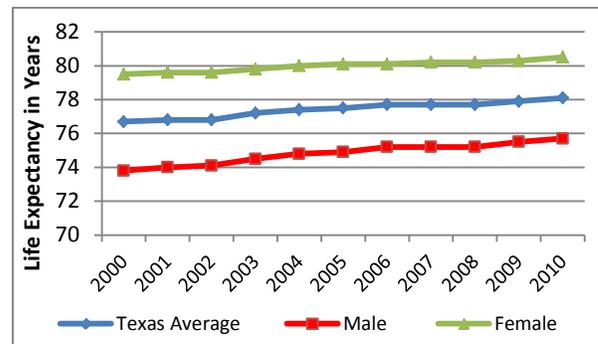


Figure 4. Life Expectancy in Texas by Gender.

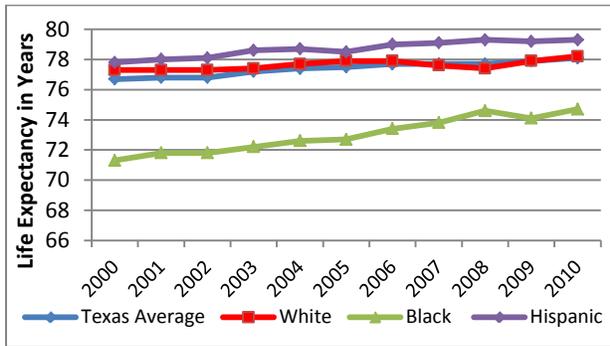


Figure 5. Life Expectancy in Texas by Race and Ethnicity.

The leading causes of death are the most frequently listed underlying causes for all deaths in a single year. Tracking the diseases or conditions that cause the most deaths provides information about the overall health of the population. A listing of the 10 leading causes of death by gender and age can be found in the appendix in Tables 2 and 3 (A-15).

In 2010, chronic diseases made up a majority of the leading causes of death in Texas and the U.S. Chronic diseases are generally characterized by multiple risk factors, a long period of development, a prolonged course of illness, non-contagious origin, functional impairment or disability, and low curability.

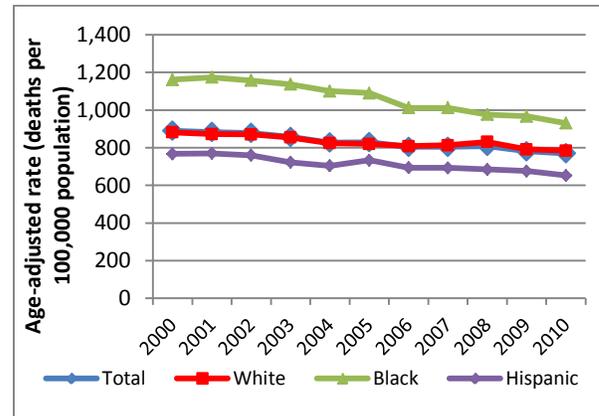


Figure 6. Overall Mortality in Texas by Race and Ethnicity.

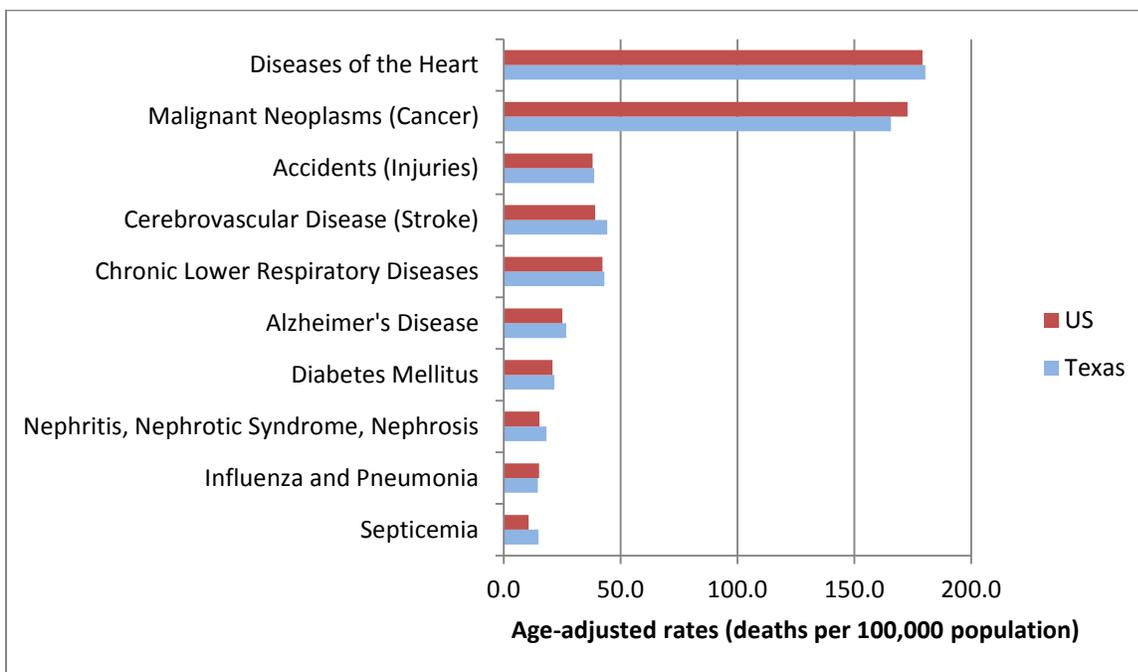


Figure 7. Top 10 Causes of Mortality in Texas and the U.S., 2010.

Perception of Health

When asked to assess their own health about 20% of Texans reported that their physical health was not good for 5 or more days in the past 30 days and about 20% of Texans reported that their mental health was not good for 5 or more days in the past 30 days. Perceptions of physical health and mental health were directly correlated with household income.

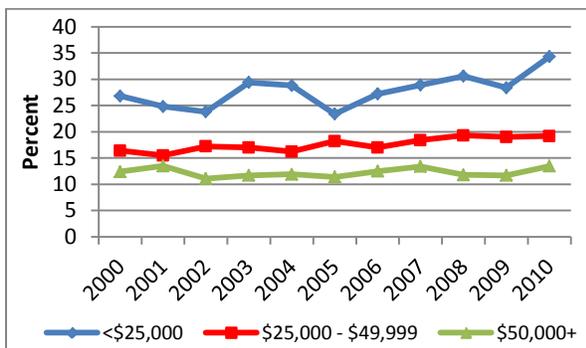


Figure 8. Age-Adjusted Prevalence of “Physical Health Not Good 5+ Days” in Texas by Income Level.

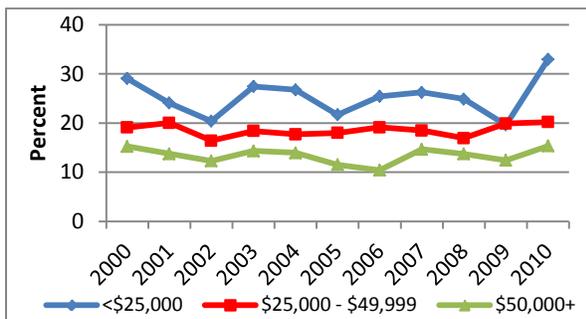


Figure 9. Age-Adjusted Prevalence of “Mental Health Not Good 5+ Days” in Texas by Income Level.

Behaviors, Environment & Health

Modifiable health risk behaviors (particularly tobacco use, poor nutrition, lack of physical activity, and excessive alcohol consumption) contribute to illness, suffering, and premature death related to chronic diseases. Research has increasingly confirmed that an individual's behaviors can significantly change their risk for chronic disease, disability and premature death.¹ In 2008 in Texas, five of the top six leading causes of death were chronic diseases associated with one or more of these behavioral risk factors.



Tobacco kills an estimated 24,000 Texans each year – more than alcohol, motor vehicle crashes, AIDS, drugs, homicides, suicides, and fires combined.² Tobacco use is associated with significantly increased risk of heart disease, stroke, lung and other types of cancer, and chronic obstructive lung diseases.³ Tobacco use also presents health risks to developing fetuses of smoking pregnant women, and to non-smokers in the form of secondhand smoke.



Obesity and overweight are contributors to morbidity and mortality in the U.S. and they are directly linked to poor diet and sedentary lifestyle.⁴ Diseases linked to poor diet and physical inactivity include heart disease, type 2 diabetes, hypertension, osteoporosis, and certain cancers. The federal Dietary Guidelines for Americans provide science-based recommendations that promote health and reduce risk for major chronic diseases through diet and physical activity.

In one study, the risk of premature death among middle aged people was found to be increased by 20-40% for overweight individuals and two to three times for obese individuals.⁵

¹ U.S. Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, "Chronic Diseases and Health Promotion," <http://www.cdc.gov/chronicdisease/overview/index.htm#2>.

² Texas Department of Health, *Texans and Tobacco: A Report to the 78th Texas Legislature, January 2003*, Austin, Texas, <http://www.dshs.state.tx.us/tobacco/pdf/legrep03.pdf>.

³ U.S. Centers for Disease Control and Prevention, "Smoking and Tobacco Use - Fact Sheet: Health Effects of Cigarette Smoking," http://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/.

⁴ U.S. Department of Health and Human Services and U.S. Department of Agriculture. *Dietary Guidelines for Americans*, 2005. 6th Edition, Washington, DC: U.S. Government Printing Office, January 2005

⁵ Adams KF, Schatzkin A, Harris TB, Kipnis V, Mouw T, Ballard-Barbash R, Hollenbeck A, Leitzmann MF. Overweight, Obesity, and mortality in a large prospective cohort of persons 50 to 71 years old. *New England Journal of Medicine*, 2006. 355:763-778.

Physical Activity

Regular physical activity is associated with improved health and longevity, even with only moderate levels of activity. It also decreases the risk of death from heart disease, the risk of developing diabetes, and the risk of colon cancer. Regular physical activity helps prevent or reduce high blood pressure and helps maintain a healthy weight.

Children and adolescents need weight-bearing exercise for normal bone development. Older adults can improve and maintain strength and agility with regular physical activity; this can reduce the risk of falls and help older adults maintain an independent living status.

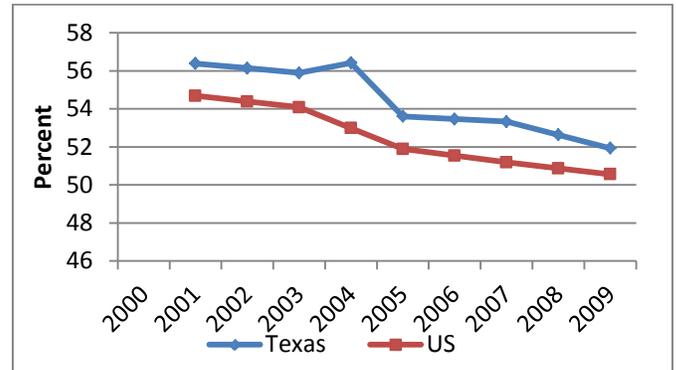


Figure 10. Age-Adjusted Prevalence (percent) of Inadequate Physical Activity among Adults in Texas and the U.S.

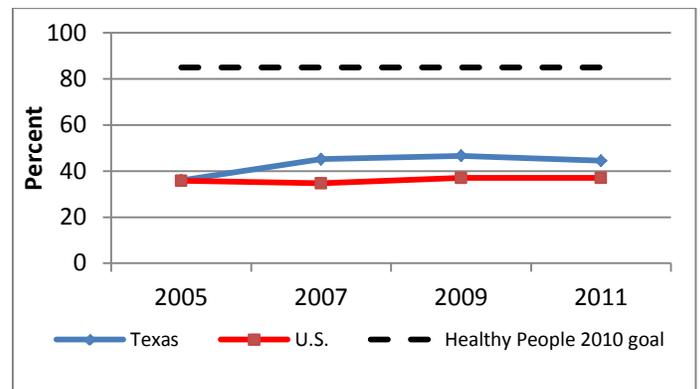


Figure 11. Prevalence (percent) of High School Students who are Physically Active.

Table 1. Percent of Texas Students achieving a "Healthy Fitness Zone" on all 6 Fitnessgram Tests.

Grade	2007-2008		2008-2009		2009-2010	
	Girls (%)	Boys (%)	Girls (%)	Boys (%)	Girls (%)	Boys (%)
3	33.3	28.6	36.4	30.9	37.3	31.0
4	28.5	21.1	33.5	24.6	34.2	25.3
5	23.8	17.9	28.0	20.9	30.1	21.8
6	23.1	17.6	28.2	20.6	30.2	27.7
7	21.3	17.3	26.0	19.6	28.1	21.4
8	19.0	17.9	22.3	19.8	24.2	21.6
9	13.9	15.0	16.3	16.1	17.0	15.7
10	12.4	13.7	13.3	13.9	13.2	13.0
11	10.7	12.2	11.1	12.2	10.6	11.1
12	8.2	9.0	8.8	9.3	8.1	8.5

Overweight and Obesity

Body Mass Index (BMI) is calculated using an individual’s height and weight. It is a useful and common indicator for overweight and obesity and is a measure of health risk.

For adults, the U.S. Centers for Disease Control and Prevention (CDC) define a person with a BMI of 30.0 or greater as obese and a BMI of 25.0–29.9 as overweight. In the BRFSS, BMI is calculated from self-reported height and weight.

For children and adolescents, the CDC defines obesity as at or above the 95th percentile for BMI by age and sex, and overweight as at or above the 85th percentile and below the 95th percentile for BMI by age and sex. In the YRBSS, BMI is calculated from self-reported height and weight.

In 2011, 32.2% of Texas adults and 15.6% of Texas youth were obese. Since 1980, estimated obesity rates for adults have doubled and rates for children have tripled. Obesity rates among all groups in society, irrespective of age, gender, race, ethnicity, socioeconomic status, education level, or geographic region, have increased markedly.⁶

In 2007, 21.3% of low-income children aged 2 to 5 years old who were enrolled in the Texas Women, Infants and Children (WIC)

Supplemental Nutrition Program were overweight or obese.

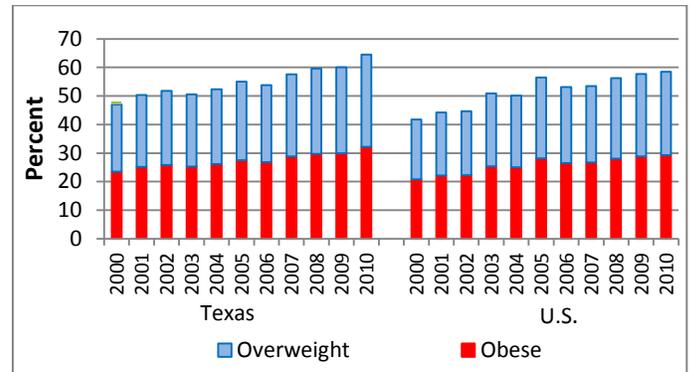


Figure 12. Prevalence (percent) of Overweight and Obese Adults in Texas and the U.S.

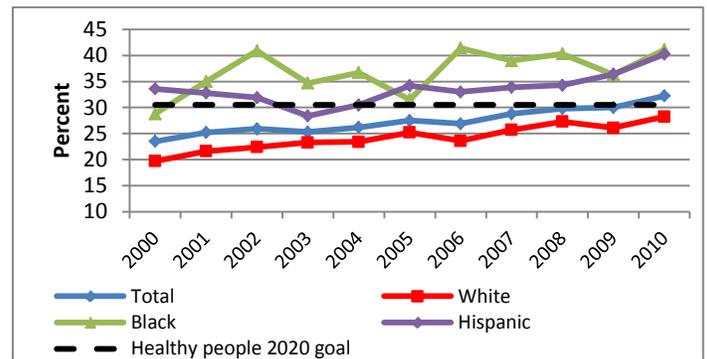


Figure 13. Prevalence (percent) of Obesity for Adults in Texas by Race and Ethnicity.

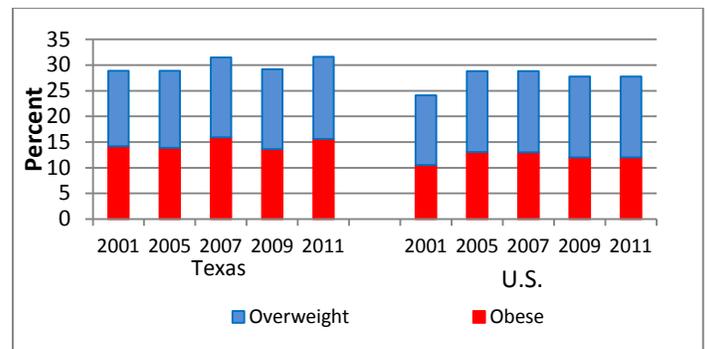


Figure 14. Prevalence (percent) of Overweight and Obese Youth in Texas and the U.S.

⁶ U.S. Centers for disease Control and Prevention, “Obesity - Halting the Epidemic by Making Health Easier: At A Glance 2010,” <http://www.cdc.gov/chronicdisease/resources/publications/aag/obesity.htm>.

Tobacco Use

Tobacco use is currently the leading cause of preventable disease and death in Texas and the U.S., contributing to an estimated 1 in 5 deaths.⁷ Chemicals in tobacco smoke affect every organ of the body. Many of these chemicals can cause cancer. Others have toxic effects in various parts of the body. The prevalence of cigarette smoking among adults ranged from 9.3% to 26.5% across all states in the U.S. in 2007-2008, and in Texas the adult smoking rate was 18.5%.⁸ According to the 2008 Texas School Survey of Substance Use, about 42% of student smokers in grades 7-12 reported initiating tobacco use before age 13.

According to the U.S. Surgeon General, the scientific evidence for the health risks associated with exposure to secondhand smoke for nonsmokers is clear. Secondhand smoke exposure contributes to heart disease, chronic lung ailments such as bronchitis (particularly in children), and may increase the risk of Sudden Infant Death Syndrome (SIDS). The scientific evidence indicates that there is no risk-free level of exposure to secondhand smoke.⁹

⁷ U.S. Centers for Disease Control and Prevention, "Tobacco Use: Targeting the Nation's Leading Killer: At A Glance 2010," <http://www.cdc.gov/chronicdisease/resources/publications/aag/osh.htm>.

⁸ U.S. Centers for Disease Control and Prevention, "Tobacco Control State Highlights 2010," http://www.cdc.gov/tobacco/data_statistics/state_data/state_highlights/2010/pdfs/states/texas.pdf.

⁹ U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General, 2006.

In 2009, the Institute of Medicine issued a report, *Secondhand Smoke Exposure and Cardiovascular Effects: Making Sense of the Evidence*, which concluded that smoke-free laws reduce the number of heart attacks and save lives. Experimental studies cited in this report demonstrated that secondhand smoke exposure causes adverse changes in the cardiovascular system that increase the risk of a heart attack. Studies conducted in several communities have found that the implementation of smoke-free laws is associated with reductions in hospital heart attack admissions.¹⁰



While there is no comprehensive statewide smoking ban in Texas, communities throughout the state have passed local ordinances that cover five settings:

- municipal worksites;
- private sector worksites;
- restaurants;
- bars in restaurants; and
- bars not in restaurants.

The strength of these ordinances can be graded on five levels of coverage:¹¹

¹⁰ Institute of Medicine, *Secondhand Smoke Exposure and Cardiovascular Effects: Make Sense of the Evidence*, Washington, DC: The National Academies Press, 2009.

¹¹ The University of Texas Medical Branch-Galveston, Texas Smoke-Free Ordinance Database, <http://www.utmb.edu/shsordinances/>.

- (5) 100% Smoke Free – No smoking allowed in a particular setting;
- (4) Moderate – Designated smoking areas are allowed if separately ventilated;
- (3) Mixed – Coverage is partial due to exceptions, ambiguities, or legal issues;
- (2) Limited – Designated smoking areas allowed or required; and
- (1) No Coverage – no restrictions on smoking, minor exceptions may exist.

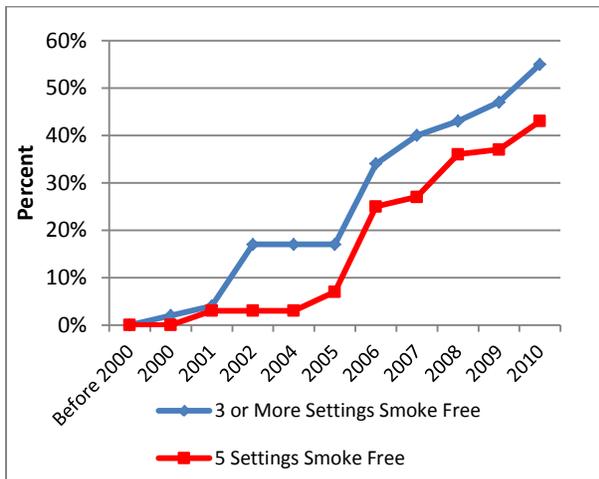


Figure 15. Percentage of Texas Municipalities Protected by Smoke-bans.

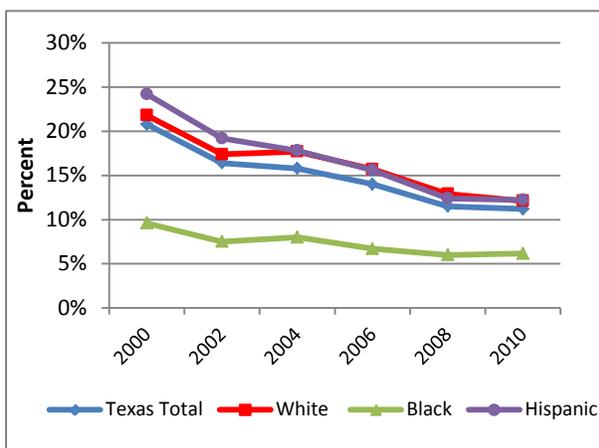


Figure 16. Past Month Cigarette Use by Youth Grades 7 to 12 Years in Texas by Race/Ethnicity.

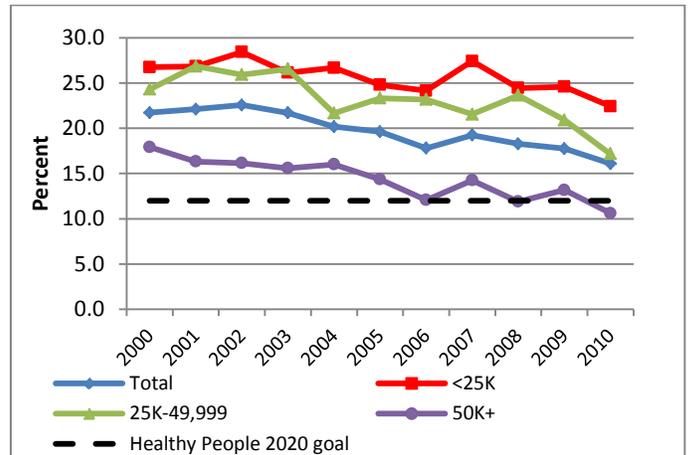


Figure 17. Prevalence (percent) of Current Adult Cigarette Smokers in Texas by Income.

Alcohol & Other Drug Use

Substance abuse refers to the harmful use of psychoactive substances, such as alcohol and illicit drugs, and continues to be a public health problem in Texas and the rest of the U.S. The consequences of alcohol and drug abuse include significant risk of death or injury due to motor vehicle crashes, violence, firearms, burns, falls, drownings, infectious diseases, and chronic diseases such as heart, liver, mental health disorders and cancer. The consequences also include medical costs, reduced and lost productivity, law enforcement costs, destruction of property, and social welfare administration. The total economic cost of alcohol and drug abuse in Texas was estimated to be over \$33 billion in 2007.¹²

Of the 2,865 AIDS cases newly reported in 2008 in Texas, approximately 443 cases (15.5%) were acquired through drug use.¹³

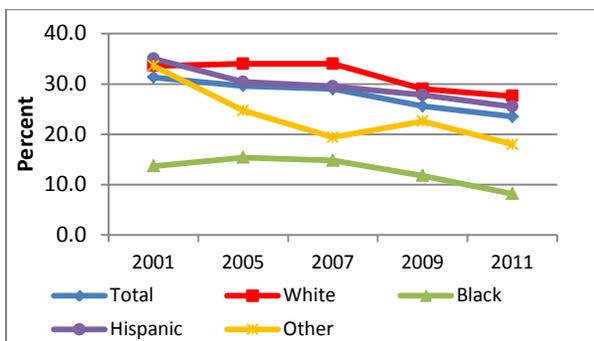


Figure 18. Prevalence (percent) of Binge Drinking among Youth (high school) within the Past 30 Days by Race and Ethnicity – Texas.

¹² Texas Department of State Health Services, Mental Health and Substance Abuse Services Division, Decision Support Unit, "Economic Costs of Alcohol and Drug Abuse in Texas – 2007 Update," 2008.

¹³ Texas Department of State Health Services, HIV/STD Epidemiology and Surveillance Branch, *Texas HIV/STD Surveillance Annual Report*, 2008, Austin, TX:

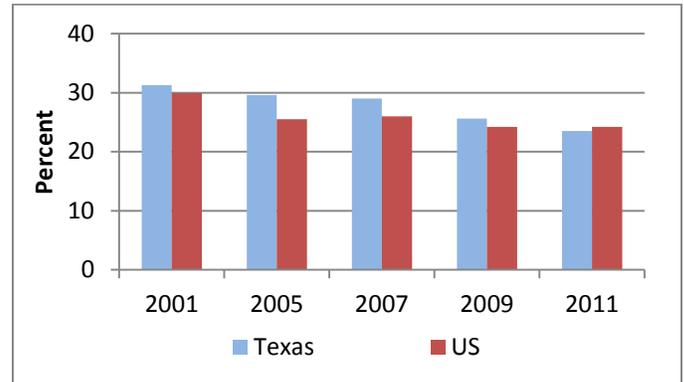


Figure 19. Prevalence (percent) of Binge Drinking Among Youth (high school) within the Past 30 Days in Texas and the U.S.

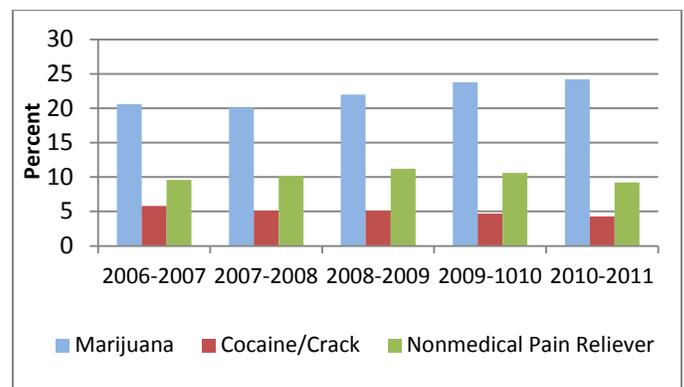


Figure 20. Past Year Use of Illicit Drugs Among Adults Ages 18-25 Years in Texas.

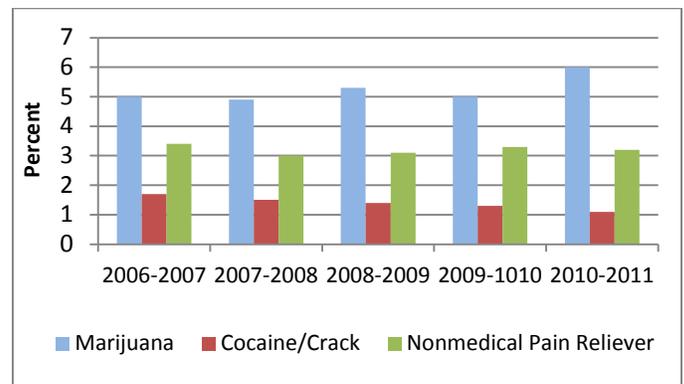


Figure 21. Past Year Use of Illicit Drugs Among Adults Ages 25+ Years in Texas.

Injury & Violence

Injury is a significant public health problem in the U.S., causing disability and premature death regardless of race, sex, or economic status, and creating a tremendous burden on our national health care system.¹⁴ Injury is the leading cause of both disability and death in children and young adults, and it is the fifth leading cause of death for all age groups in the U.S.¹⁵

In 2010, unintentional injury was the fourth leading cause of death in Texas, causing 9,133 deaths. Among individuals ages 1-44 years, unintentional injury was the leading cause of death.

Motor vehicle crashes are one of the leading causes of death in Texas and the U.S.¹⁶ In 2011, the Texas Department of Transportation reported 3,015 deaths from motor vehicle crashes. In addition, more than 211,006 persons were non-fatally injured in motor vehicle traffic crashes that year.¹⁷

Many motor vehicle crash deaths and injuries are preventable. The use of seatbelts and



proper child restraints offer significant protection in the event of a motor vehicle crash. Among those killed in Texas in 2009, 47% were reported as not restrained when the crash occurred. In 2009, 956 people were killed in motor vehicle traffic crashes where a driver was under the influence of alcohol, accounting for 31% of all deaths in motor vehicle traffic crashes.

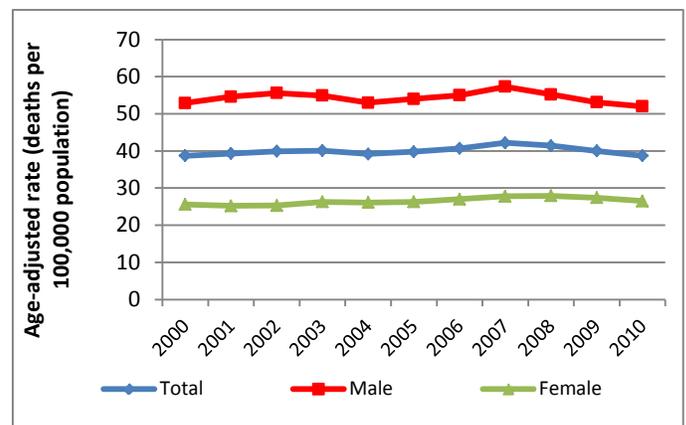


Figure 22. Accidental Injury-related Deaths in Texas by Gender.

¹⁴ U.S. Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, "Injury Center - Overview," 2007, accessed May 2007, <http://www.cdc.gov/ncipc/about/about.htm>.

¹⁵ U.S. Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, *CDC Injury Fact Book*, 2006, Atlanta: Centers for Disease Control and Prevention.

¹⁶ CDC. WISQARS (Web-based Injury Statistics Query and Reporting System). Atlanta, GA: US Department of Health and Human Services, CDC; 2010. Available at <http://www.cdc.gov/injury/wisqars>. Accessed October 12, 2010.

¹⁷ Texas Department of Transportation, "Texas Motor Vehicle Traffic Crash Highlights, Calendar Year 2011," http://ftp.dot.state.tx.us/pub/txdot-info/trf/crash_statistics/2011/01_2011.pdf.

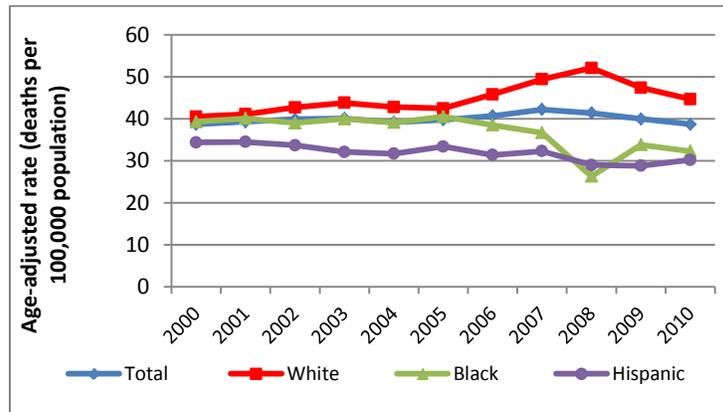


Figure 23. Accidental Injury-related Deaths in Texas by Race and Ethnicity.

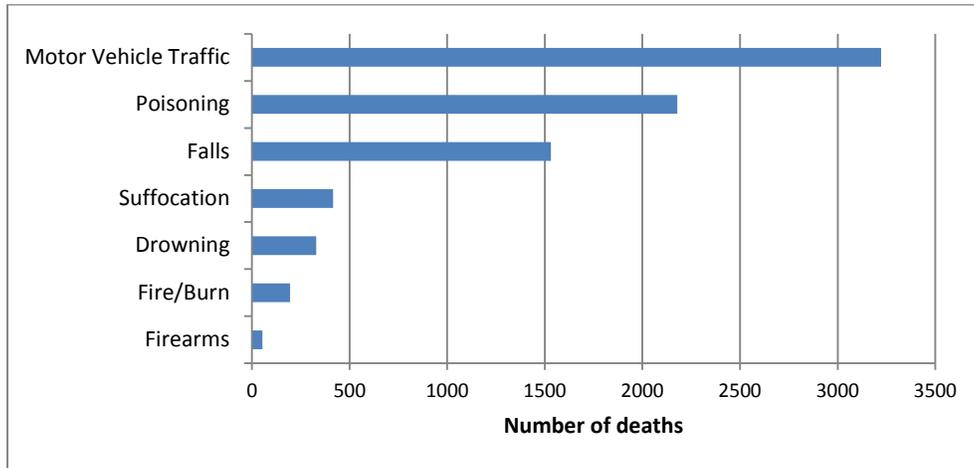


Figure 24. Accidental Injury-related Deaths in Texas by Type of Accident, 2010.

Environmental Health

Childhood Lead

Lead is a significant and widespread environmental hazard for all Texas children. Exposure to lead can cause a number of medical conditions, including permanent neurological damage that is often associated with learning and behavioral problems. Very elevated blood lead levels can result in death. Lead is a ubiquitous toxin with varied exposure sources, including dust or chips from lead-based paints, contaminated soil, crafts and hobbies, and home remedies or folk medicines. Children who live or spend a significant amount of time in pre-1950s housing are at increased risk of lead poisoning. Children younger than 6 years of age are at greater risk of lead poisoning than older children due to increased lead absorption, frequent hand-to-mouth behavior, and developing neurological systems.

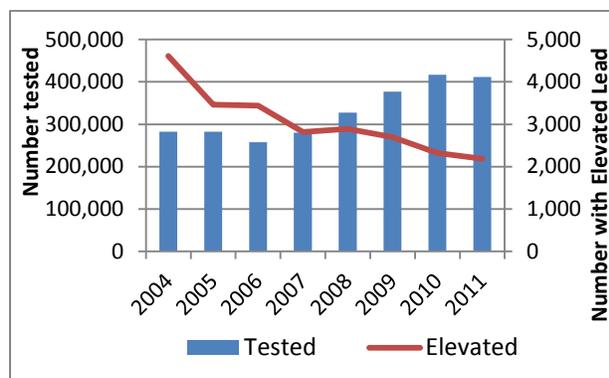


Figure 25. Children Tested and Numbers with Elevated Lead Levels.

Occupational Conditions

Occupational conditions are abnormal health conditions or laboratory findings caused by or related to exposures occurring in the workplace. There are numerous conditions related to occupational exposures, such as work-related asthma, but most are not reportable. In Texas, elevated adult blood lead levels, acute occupational pesticide poisoning, asbestosis, and silicosis are reportable.

Occupations most frequently associated with elevated adult blood lead levels include metal manufacturing, and computer and electronic product manufacturing. In 2011, nearly 30,000 adult cases of elevated blood lead levels were reported in Texas. Most cases did not have highly elevated blood lead levels.

Acute pesticide poisoning is associated with working on a farm, spraying for pests, and handling of pesticides.

Asbestosis is an irreversible lung disease that is caused by exposure to small asbestosis fibers. Asbestos consists of six naturally occurring fibrous minerals that are strong, flexible, and resistant to chemical and thermal degradation. When handled, asbestos can form microscopic particles that can remain in the air and be inhaled into the lungs of persons in the area. Asbestosis occurs mainly in people who work with structural insulation, fireproofing, and friction materials (brake linings). Although the use of asbestos-containing products has dramatically decreased in recent years, it is still

found in many settings and continues to pose a health risk to workers and their families.

Silicosis is also an irreversible lung condition, which is caused by the inhalation of very fine crystalline silica or silica dust. Inhalation of silica dust is most commonly associated with mining, sandblasting, stone cutting, masonry, and drywall work. In addition to silicosis, exposure to silica has also been associated with the development of lung cancer, pulmonary tuberculosis, and airway diseases. These exposures may also be related to the development of autoimmune disorders, chronic renal disease, and other adverse effects.

The burdens of asbestosis and silicosis in Texas, as measured by age-adjusted hospital discharge rates and age-adjusted mortality rates, have both decreased from 2004 through 2009. Implementation of asbestos and silica related regulations, improved workplace practices, and reduced use of asbestos products may all contribute to the observed decreases in hospital discharges and deaths due to asbestosis and silicosis.

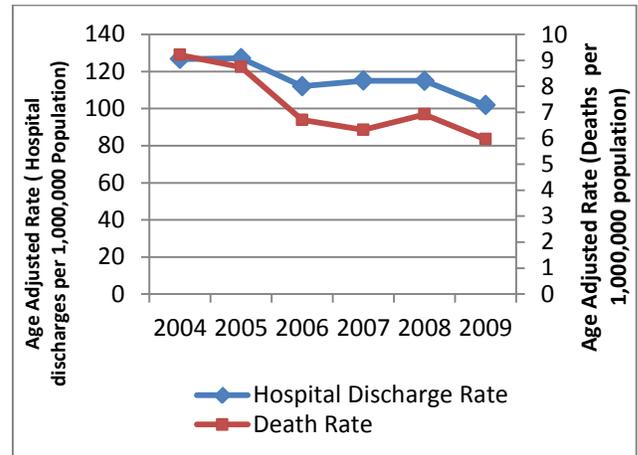


Figure 26. Age Adjusted Rates for Asbestosis-related Hospital Discharges and Deaths in Texas.

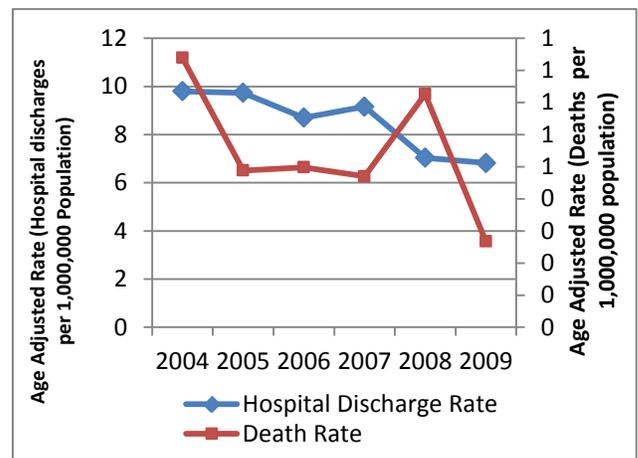


Figure 27. Age Adjusted Rates for Silicosis-related Hospital Discharges and Deaths in Texas.

Access to Health Care



Access to health services is the timely use of personal health services to achieve the best health outcomes.¹⁸ It includes gaining entry into a health care system, having a health care location where

needed services are provided, and having a health care provider with whom the patient can communicate and trust.¹⁹ The ability to access health care services impacts overall physical, social and mental health status. Barriers to accessing health services lead to unmet health needs, delays in receiving appropriate care, inability to get preventive services, and preventable hospitalizations.²⁰

Health insurance coverage helps patients get into a health care system. Uninsured people are less likely to receive medical care, more likely to die early, and more likely to have poor health status.^{21,22} People with a usual source of care

have better health outcomes and fewer disparities and costs.^{23,24}

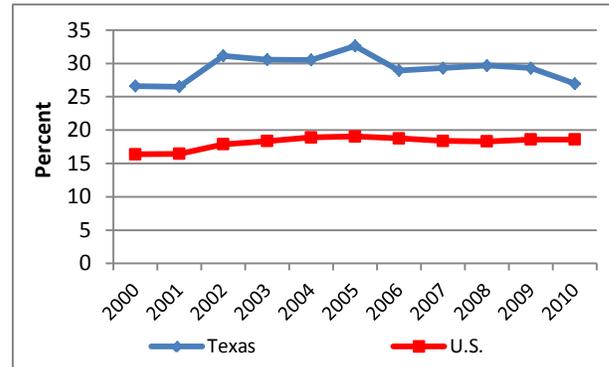


Figure 28. Percent of Adults with no Health Coverage for Texas and the U.S.

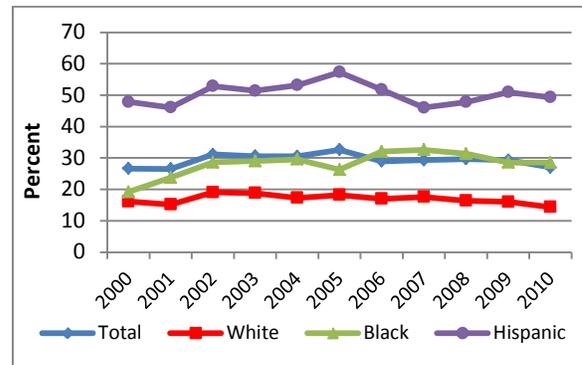


Figure 29. Percent of Adults with no Health Coverage for Texas by Race and Ethnicity.

¹⁸ Institute of Medicine, Committee on Monitoring Access to Personal Health Care Services. Access to health care in America. Millman M, editor. Washington: National Academies Press; 1993.

¹⁹ Bierman A, Magari ES, Jette AM, et al. Assessing access as a first step toward improving the quality of care for very old adults. J Ambul Care Manage. 1998 Jul;121(3):17-26.

²⁰ Agency for Healthcare Research and Quality (AHRQ). National healthcare disparities report 2008. Chapter 3, Access to healthcare. Washington: AHRQ; 2008. Available from: <http://www.ahrq.gov/qual/nhdr08/Chap3.htm>

²¹ Hadley J. Insurance coverage, medical care use, and short-term health changes following an unintentional injury or the onset of a chronic condition. JAMA. 2007;297(10):1073-84.

²² Insuring America's health: Principles and recommendations. Acad Emerg Med. 2004;11(4):418-22.

²³ Starfield B, Shi L. The medical home, access to care, and insurance. Pediatrics. 2004;113(5 suppl):1493-8.

²⁴ De Maeseeneer JM, De Prins L, Gosset C, et al. Provider continuity in family medicine: Does it make a difference for total health care costs? Ann Fam Med. 2003;1:144-8.

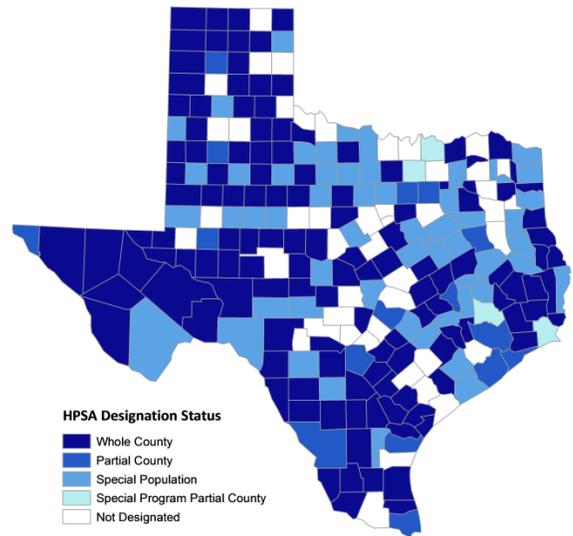


Having a primary care provider (PCP) as the usual source of care is especially important. PCPs can develop meaningful and sustained

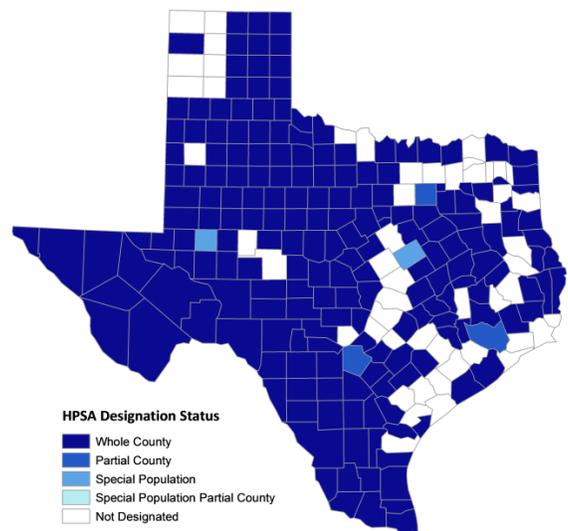
relationships with patients and provide integrated services while practicing in the context of family and community.²⁵ Shortages of health professionals exist in many areas of Texas. The state and federal governments work together to identify acute shortages of health care personnel in geographic areas, population groups, and facilities, and to designate them as Health Profession Shortage Areas (HPSAs). Designation as an HPSA entitles an area to certain benefits, such as possible assignment of a National Health Services Corps scholar to work in the area, awarding of state or federal loan-repayment programs to health professionals who agree to practice in the area, granting of prescriptive authority to physician assistants and nurse practitioners, and eligibility for placement of a Rural Health Clinic (RHC) in the area. Currently there are over 300 RHC sites in Texas operated by hospitals and physicians.

The U.S. Department of Health and Human Services (DHHS) designates geographic areas having shortages of health professionals. The population-to-health professional ratio is the primary indicator used by DHHS to determine if an area qualifies as an HPSA. A large portion of

counties in Texas are federally designated primary care health professional shortage areas and the majority of counties are federally designated as mental health professional shortage areas.



Map 1. Primary Care Health Professional Shortage Areas (HPSAs) in Texas, as of March 2011.



Map 2. Mental Health Professional Shortage Areas (HPSAs) in Texas, as of March 2011.

²⁵ Institute of Medicine. Primary care: America's health in a new era. Donaldson MS, Yorby KD, Lohr KN, editors. Washington: National Academies Press; 1996.

Maternal & Child Health



Since the beginning of the 20th century, improving the health of women, infants, and children has been a goal of public health efforts. Over a century ago, 25% of children died before their fifth birthday; the average family lost at least one child, usually to a fatal and now preventable infectious disease; and maternal mortality was one of the most common causes of death among women of childbearing age.²⁶



Today, the health of reproductive-age women and their children has vastly improved. Maternal deaths are rare events, and most parents can expect every child born to live to adulthood. However, there

are still health risks to childbearing women, infants, children, and adolescents.²⁷ Early and

²⁶ U.S. Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, Public Health Service, *From Data to Action: CDC's Public Health Surveillance for Women, Infants, and Children*, <http://www.cdc.gov/Reproductivehealth/ProductsPubs/DataToAction/pdf/DataToAction.pdf>.

²⁷ U.S. Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, Public Health Service, *From Data to Action: CDC's Public Health Surveillance for Women,*

continued access to prenatal care is important to ensure the health of mothers and infants. The major components of prenatal care include counseling about diet, avoidance of illicit drugs and alcohol, smoking cessation, and the diagnosis and treatment of any health complications. Consequences associated with a lack of or inadequate prenatal care includes low birth weight babies, preterm deliveries, infant mortality, and maternal mortality.

Women with unplanned pregnancies, without a regular health care provider prior to pregnancy, or without a high school diploma are least likely to receive prenatal care during the first trimester of pregnancy. Barriers to early or adequate prenatal care include language or cultural differences, fear of the medical system, lack of awareness of the pregnancy, lack of money or insurance, absence of services within the community, and problems related to transportation.

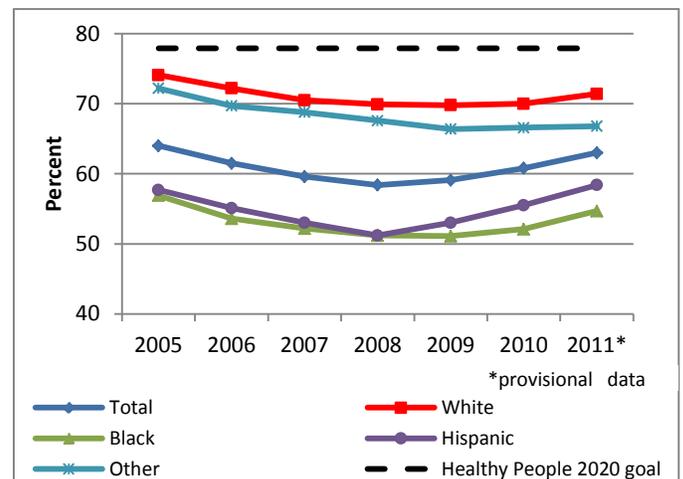


Figure 30. Percent of Women Receiving Prenatal Care in the First Trimester in Texas by Race and Ethnicity.

Infants, and Children, <http://www.cdc.gov/Reproductivehealth/ProductsPubs/DataToAction/pdf/DataToAction.pdf>.

Preterm Births

A preterm birth is one in which an infant is born before 37 weeks of gestation. Infants born preterm have an elevated risk of dying within their first year of life. Preterm-related deaths account for over 33% of all infant deaths, and more infants die from preterm-related causes than from any other cause of death.²⁸ All of the risk factors that contribute to preterm births are not understood, but some interventions that may prevent preterm births are known, including smoking cessation programs, health care before and during pregnancy, progesterone supplementation, and improved adherence to professional guidelines on fertility treatment and early cesarean sections and inductions.²⁹

Preterm birth has a wide range of impacts on society and families. Babies born preterm or low birth weight often have longer hospital stays and are at greater risk for infections, feeding problems, developmental challenges and other health problems, including dying before their first birthday. The economic cost of preterm birth in the U.S. is \$26.2 billion, or \$51,600 per baby born preterm.³⁰ This includes

medical care for the infant, delivery costs, early intervention services, special education, and lost household and workplace productivity. These costs do not include all of the costs that might be incurred as a result of preterm and low birth weight. In Texas, hospital charges for preterm and low birth weight infants have been on the rise and are approaching \$3 billion a year.

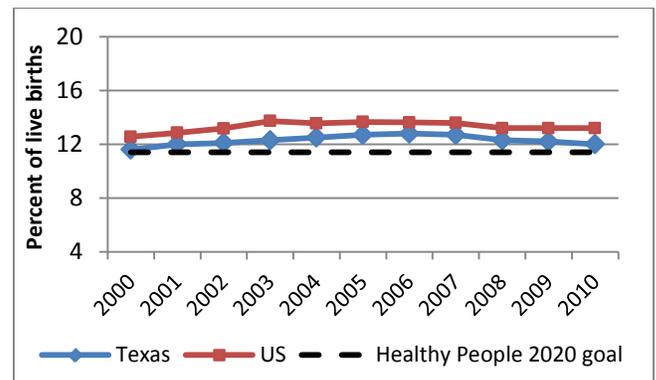


Figure 31. Percent of Live Births that are Preterm in Texas and the U.S.

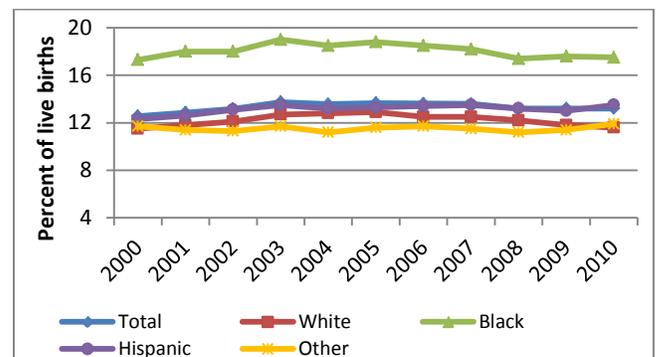


Figure 32. Percent of Live Births that are Preterm in Texas by Race and Ethnicity.

²⁸ U.S. Centers for Disease Control and Prevention, “Maternal and Infant Health Research: Preterm Birth,” accessed on September 22, 2010 at <http://www.cdc.gov/reproductivehealth/maternalinfanthealth/PB.P.htm>.

²⁹ March of Dimes “U.S. gets a “D” for Preterm Birth Rate,” accessed on October 17, 2010 at http://www.marchofdimes.com/aboutus/49267_62035.asp.

³⁰ Institute of Medicine of the National Academies, *Preterm Birth: Causes, Consequences, and Prevention*, Committee on Understanding Premature Birth and Assuring Healthy Outcomes; Behrman RE, Butler AS, editors, Washington (DC): National Academies Press (U.S.), 2007, accessed on September 22, 2010 at

<http://www.iom.edu/Reports/2006/Preterm-Birth-Causes-Consequences-and-Prevention.aspx>.

Infant Deaths

The infant mortality rate (IMR) is the number of deaths to infants less than one year of age per 1,000 live births. The IMR has historically been used as an important indicator of the overall health of a community and serves as a proxy indicator of the quality of, and access to, medical care for pregnant women and infants.

The leading causes of infant mortality in Texas and the U.S. are birth defects, disorders related to preterm birth and low birth weight, and sudden infant death syndrome (SIDS). Risk factors for infant mortality include no prenatal care, maternal smoking and/or alcohol use, and inadequate weight gain during pregnancy.

In the U.S. in 2006, birth defects (chromosomal abnormalities, congenital malformations and deformations) were the leading cause of death for infants. This was true for all racial groups except for non-Hispanic black women and Puerto Rican women, for whom low birth weight was the leading cause of infant mortality.³¹

Sudden Infant Death Syndrome (SIDS) is the sudden death of an infant less than one year of age that cannot be explained after a thorough investigation is conducted.³² SIDS is the leading

cause of death among infants aged 1 to 12 months, and is the third leading cause overall of infant mortality in Texas and the U.S.

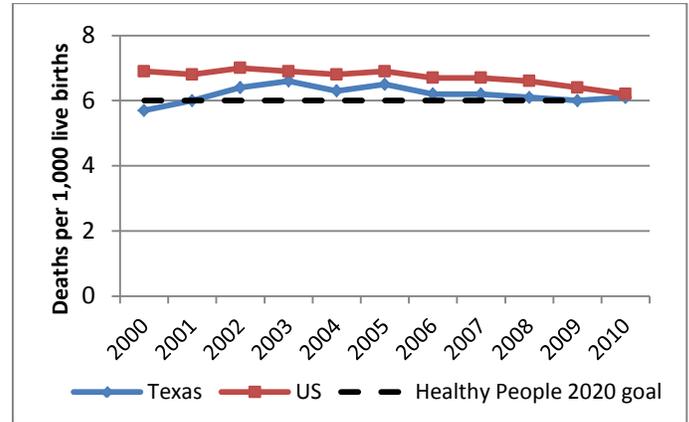


Figure 33. Infant Death Rates in Texas and the U.S.

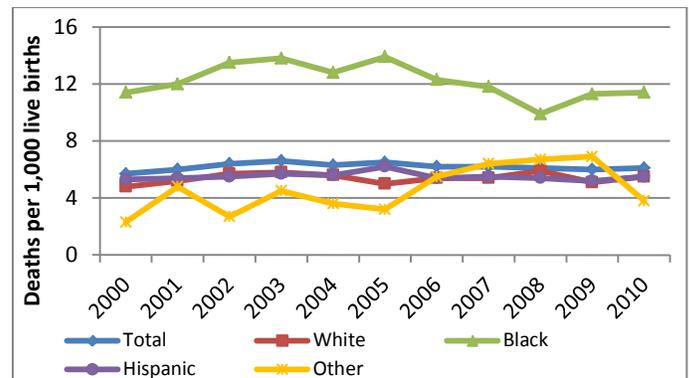


Figure 34. Infant Death Rates in Texas by Race and Ethnicity.

³¹ TJ Mathews and M. MacDorman, "Infant mortality statistics from the 2006 period linked birth/infant death data set," *National Vital Statistics Reports*; Vol 58 no 17. Hyattsville, MD: National Center for Health Statistics. 2010, accessed on September 23, 2010 at http://www.cdc.gov/nchs/data/nvsr/nvsr58/nvsr58_17.pdf.

³² U.S. Centers for Disease Control and Prevention, "Sudden Infant Death Syndrome (SIDS) and Sudden Unexpected Infant Death

(SUID)," accessed on September 22, 2010 at <http://www.cdc.gov/sids/>.

Birth Defects



More than 17,000 Texas babies, about 4% of all live births, are born each year with one or more major structural malformations or chromosomal anomalies. Birth defects are the leading cause of death among infants in Texas and the U.S., and are a major cause of lifetime disability. Birth defects account for about one-quarter of all infant deaths in Texas. There are several socio-demographic groups that tend to have higher rates of many birth defects. Therefore, the total burden of these conditions is disproportionately distributed among certain groups.



Texas women aged 30 and older, white women, and residents of south Texas are more likely to have a baby with a major structural or chromosomal malformation. Birth defects are attributable to complex genetic, environmental, and behavioral determinants, and much is still unknown about the actual causes of most birth defects.

Heart Defects

Defects of the heart can range from mild, such as a small opening between two chambers, which does not require surgery, to complex groupings that involve structural problems in several cardiac structures and require surgery for survival. An infant with a cardiac (heart) defect is more likely to die from this type of defect than other types. Also, heart defects are commonly found in combination with other defects, especially chromosomal syndromes. They are also much more common among children born to older mothers, in part because heart defects are commonly found along with Down syndrome, which is more prevalent among the children of older mothers.

The increases over time in Texas seen in congenital heart defects might be due in part to increased diagnosis and recording of heart defects, which could be due to improved and/or increased screening for heart defects, as well as improved treatment. Starting in 2011, early adoption of screening for critical congenital heart defects was initiated.

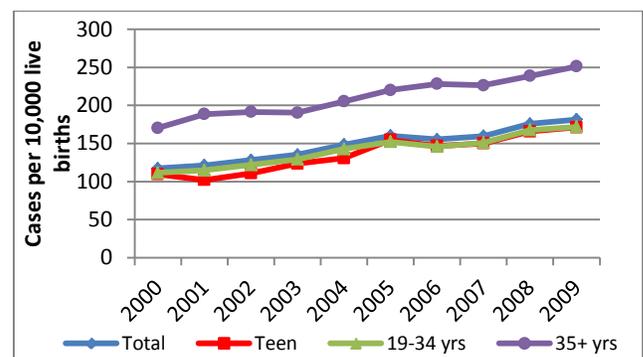


Figure 35. Heart Defect Birth Prevalence Rates in Texas by Maternal Age Group.

Down Syndrome

Down syndrome is a condition in which a baby is born with three copies of chromosome #21, instead of the usual two copies. Even though people with Down syndrome might have some physical and mental features in common, symptoms of Down syndrome can range from mild to severe. Usually, mental development and physical development are slower in people with Down syndrome than in those without it. Children with Down syndrome often have heart defects. The most well-established risk factor for this condition is advanced maternal age.

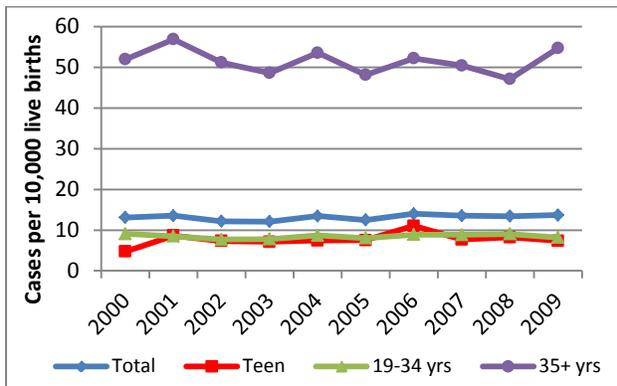


Figure 36. Down Syndrome Birth Prevalence Rates in Texas by Maternal Age Group.

Spina Bifida

Spina bifida is a neural tube defect that occurs when the bony structures of the spine fail to close properly during the development of an embryo. It is a disabling congenital anomaly that affects about 140 pregnancies in Texas each year. The majority (87%) of known pregnancies with this condition result in a live birth. Higher risk for spina bifida may be associated with poor nutrition (especially folic acid deficiency), low education level, obesity, diabetes, and some medications. Taking folic acid supplements or eating highly fortified grain

products reduces the risk for having an affected baby. In Texas, spina bifida is more common in infants delivered to women who live in south Texas and among Hispanic women in general.

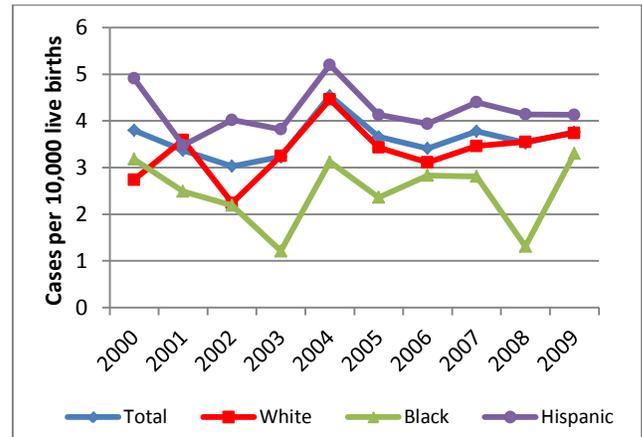


Figure 37. Spina Bifida Birth Prevalence Rates in Texas by Maternal Race and Ethnicity.

Chronic Diseases & Health Conditions

Chronic conditions are the major cause of illness, disability, and death in Texas and the U.S. Chronic diseases are generally characterized by multiple risk factors, a long latency period, a prolonged course of illness, non-contagious origin, functional impairment or disability, and low curability.

In 2009, chronic diseases claimed the lives of more than 101,209 Texans. In 2009, six of the seven leading causes of death in Texas were chronic diseases, including heart disease, cancer, stroke, diabetes, chronic lower respiratory disease, and Alzheimer's disease.

Modifiable risk factors that are associated with many of these chronic disease conditions have been identified. Three risk behaviors — tobacco use, physical inactivity, and poor nutrition — are major contributors to chronic disease. Effective prevention measures can reduce the incidence of the illnesses, disabilities, and unnecessary or early deaths caused by these disease conditions. Regular screening procedures are available to detect certain chronic diseases in their early stages, when intervention is most effective.



Heart Disease

Heart disease refers to a variety of diseases affecting the heart and blood vessels. Atherosclerosis, or plaque buildup in the artery walls, narrows the arteries and leads to blockage. This blockage can lead to a heart attack.

Congestive heart failure is a type of heart disease that occurs when the heart cannot pump enough blood to the rest of the body, due to atherosclerosis, high blood pressure, a defect of the heart, or other conditions.

Heart disease is the leading cause of death in Texas and the U.S. In 2009, heart disease caused 38,008 deaths in Texas. The overall heart disease mortality rate in Texas declined nearly 30% from 2000 through 2009. However, the congestive heart failure mortality rate has remained relatively stable at about 22 deaths per 100,000 population per year, and is higher than the overall U.S. rate of 16.9 per 100,000 population.

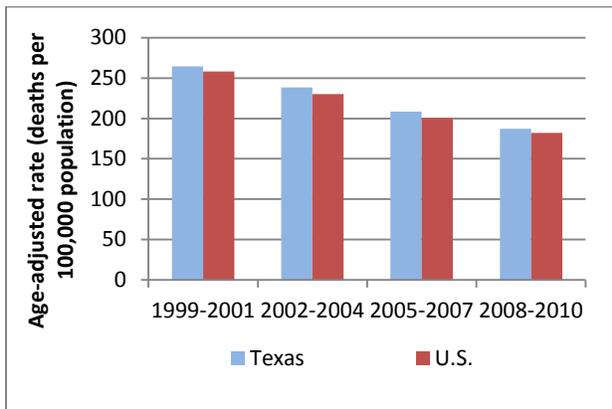


Figure 38. Heart Disease Death Rates in Texas and the U.S.

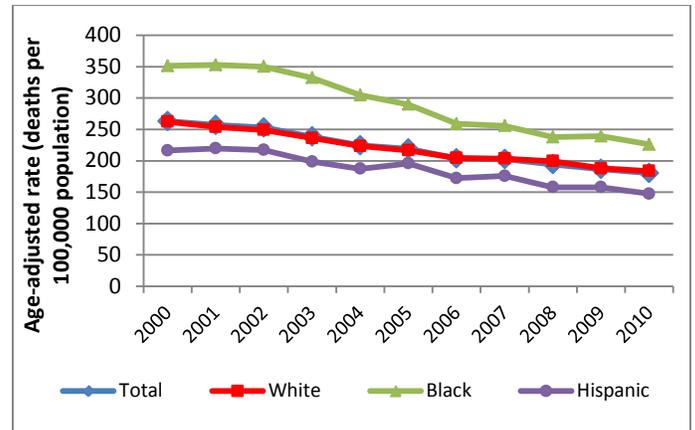


Figure 39. Heart Disease Death Rates in Texas by Race and Ethnicity.

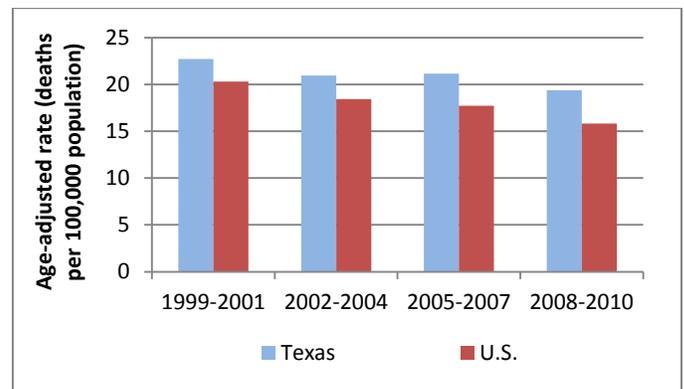


Figure 40. Congestive Heart Failure Death Rates in Texas and the U.S.

Stroke

Stroke, also known as cerebrovascular disease, occurs when an artery inside or leading to the brain becomes blocked and cuts off blood flow to part of the brain, or when an artery in the brain leaks or ruptures. When blood flow to part of the brain is reduced or cut off, that part of the brain can die.

Modifiable risk factors for stroke include uncontrolled high blood pressure, high blood cholesterol, tobacco use and smoking, excess alcohol consumption, physical inactivity, and obesity.

A person can die immediately from a massive stroke. Prompt medical attention can greatly reduce the impact of a stroke. Stroke is the fourth leading cause of death in Texas and the U.S., and a leading cause of long term disability.

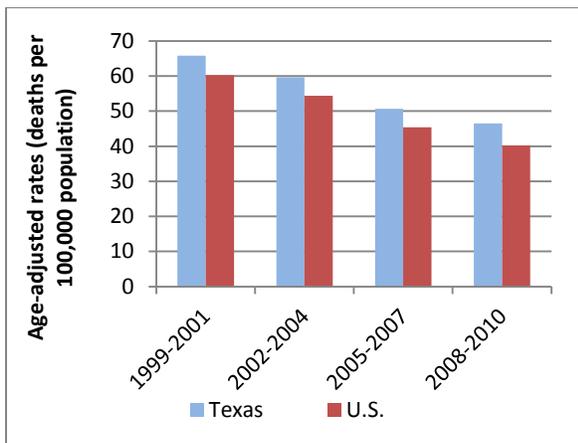


Figure 41. Stroke Death Rates in Texas and the U.S.

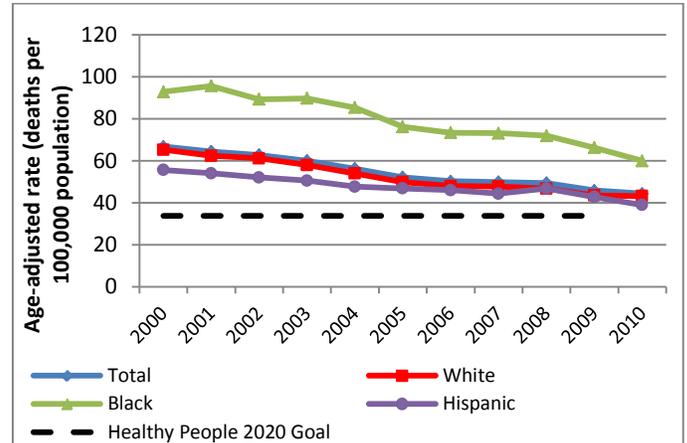


Figure 42. Stroke Death Rates in Texas by Race and Ethnicity.

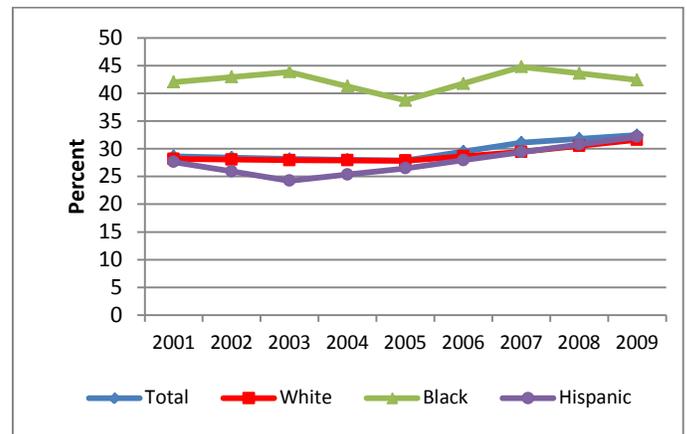


Figure 43. High Blood Pressure Prevalence (percent) in Texas by Race and Ethnicity.

Cancer

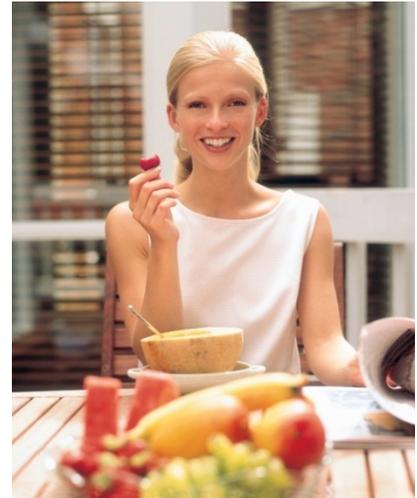


Cancer is not one disease but a diverse group of diseases characterized by the uncontrolled growth and spread of abnormal cells in the body. The American Cancer Society estimates that approximately one in two men and one in three women alive today will develop some type of cancer in their lifetime. In Texas and the U.S., cancer is the second leading cause of death, exceeded only by heart disease.

Because there are many types of cancer, the risk factors vary for different types of cancer. Lifestyle, genetics, and environment may all play a role in the development of cancer. About one-third of cancer deaths are preventable because they are related to tobacco use, poor nutrition, physical inactivity, obesity, and other lifestyle factors.³³ This is equivalent to 12,649 (33%) of the 37,984 expected cancer deaths in Texas for 2010.

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<http://www.cancer.org/acs/groups/content/@epidemiologysurveillance/documents/document/acspc-031941.pdf>



Lung cancer remains the leading cause of cancer death in Texas and the U.S. for both men and women. Approximately 90% of lung cancers among males and 80% among females are related to smoking. Tobacco use also increases the risk for many other cancers, including mouth, pharynx, esophagus, pancreas, kidney, bladder, and uterine cervix cancers.



Also, certain cancers related to viral infections, such as hepatitis B virus, human papillomavirus, Human Immunodeficiency Virus (HIV), could be prevented through behavioral changes or vaccinations. In addition, many of the more than one million skin cancers diagnosed in the U.S. each year could be prevented by protection from the sun’s rays or reducing the use of tanning beds.

Regular screening for certain cancers, such as breast, colon and rectum, cervix, and skin can also significantly increase survival rates, largely due to earlier detection or detection of precancerous abnormalities.

Although both cancer mortality and cancer incidence (new cases) rates declined in recent years, the total number of new cancer cases and cancer deaths increased. This is consistent with an aging and growing population.

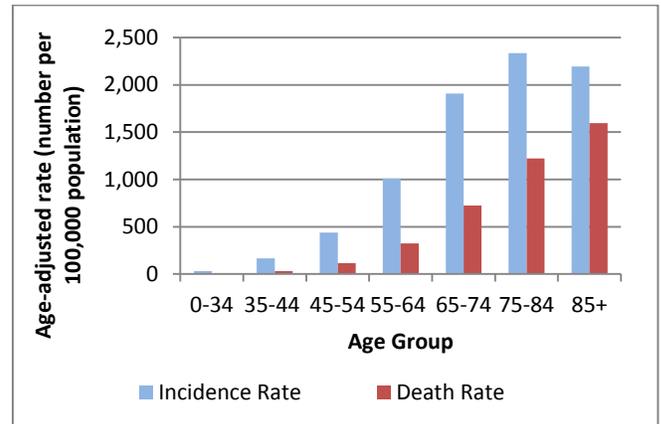


Figure 44. Overall Cancer Incidence and Death Rates in Texas by Age Group, 2000-2009.

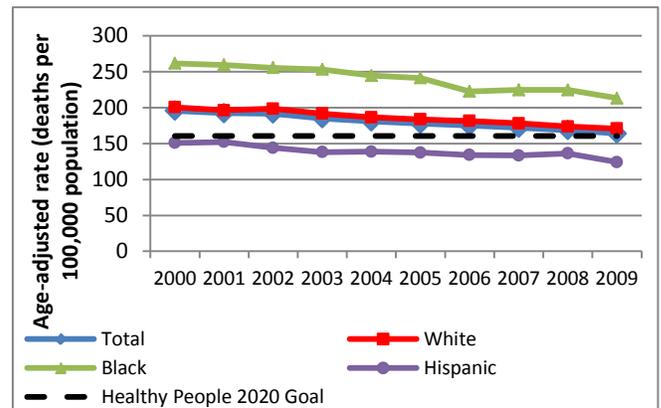


Figure 45. Cancer Death Rates for All Cancer Types in Texas by Race and Ethnicity.

Lung Cancer

There are three main types of lung cancer.³⁴ Each type has a different prognosis, or outlook. They can also involve the bronchi, which are the airways leading into and out of the lungs. The three types are:

- **Non-Small Cell Lung Cancer** - This is the most common type of lung cancer. About 85% of lung cancers are non-small cell lung cancers. Squamous cell carcinoma, adenocarcinoma, and large cell carcinoma are all subtypes of non-small cell lung cancer.
- **Small Cell Lung Cancer** - Small cell lung cancer is also called oat cell cancer. About 10%-15% of lung cancers are small cell lung cancers. This type of lung cancer tends to spread quickly.
- **Lung Carcinoid Tumor** - Fewer than 5% of lung cancers are lung carcinoid tumors. They are also sometimes called lung neuroendocrine tumors. Most of these tumors grow slowly and rarely spread.

Tobacco smoking is by far the leading risk factor for lung cancer. Nearly 80% of lung cancer deaths are directly attributable to smoking or to secondhand smoke exposure. Smokers exposed to other known risk factors, such as radon and asbestos, are at even higher risk.

Lung cancer is not usually detected at an early stage. It tends to advance rapidly and have a poor outcome.

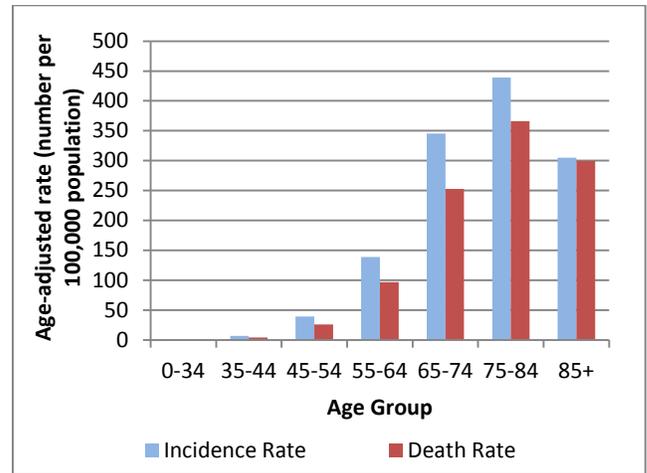


Figure 46. Lung Cancer Incidence and Death Rates in Texas by Age Group, 2000-2009.

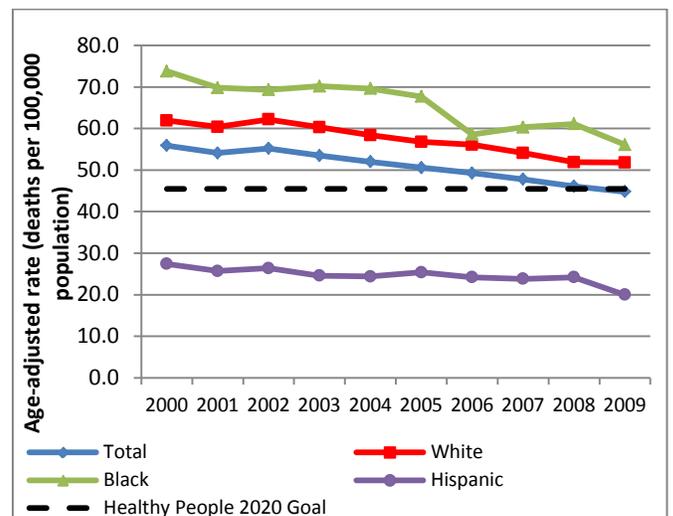


Figure 47. Lung Cancer Death Rates in Texas by Race and Ethnicity.

³⁴ American Cancer Society, www.cancer.org/

Colorectal Cancer

Colorectal cancer is cancer that starts in the colon or rectum. These cancers can also be referred to separately as colon cancer or rectal cancer, depending on where they start. Colon and rectal cancer have many features in common.

Non-modifiable risk factors for colorectal cancer include age, personal history of colorectal polyps or colorectal cancer, personal history of inflammatory bowel disease, family history of colorectal cancer, personal history of type 2 diabetes, and some inherited syndromes such as familial adenomatous polyposis.

There are several lifestyle-related factors that have been linked to colorectal cancer. The links between diet, weight, and exercise and colorectal cancer risk are some of the strongest for any type of cancer. A diet that is high in red meats (beef, lamb, or liver), processed meats (hot dogs and some luncheon meats) and/or heavy alcohol use increases colorectal cancer risk.³⁵

Black Americans have the highest colorectal cancer incidence and mortality rates of all racial groups in the U.S.

Colorectal cancer can be prevented by screening, early detection, and removal of abnormal (precancerous) cells in the colon.

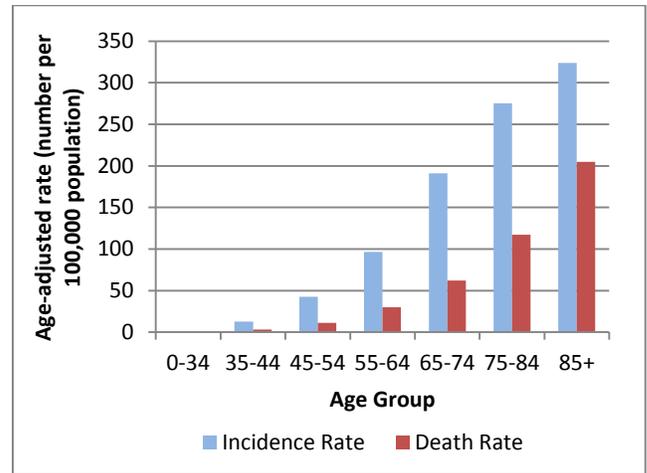


Figure 48. Colorectal Cancer Incidence and Death Rates in Texas by Age Group, 2000-2009.

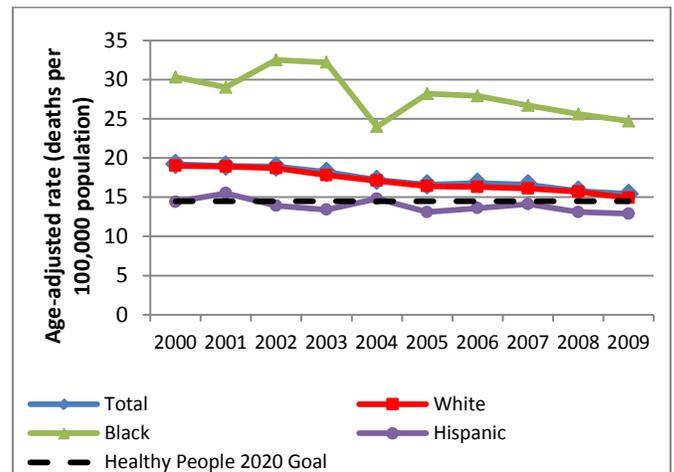


Figure 49. Colorectal Cancer Death Rates in Texas by Race and Ethnicity.

³⁵ American Cancer Society, <http://www.cancer.org/>

Breast Cancer

Breast cancer is a malignant tumor that starts in the cells of the breast. A malignant tumor is a group of cancer cells that can grow into (invade) surrounding tissues or spread (metastasize) to distant areas of the body. The disease occurs almost entirely in women, but men do rarely get it.

Most women who have one or more breast cancer risk factors never develop the disease, while many women with breast cancer have no apparent risk factors other than being a woman and growing older. Even when a woman with risk factors develops breast cancer, it cannot be determined how much these factors might have contributed.³⁶

Some risk factors, like a person's age, race, or family history of the disease, can't be modified. Others are linked to cancer-causing factors in the environment. Still others are personal behaviors, such as smoking, drinking alcohol, and a high fat diet. The risk for breast cancer can change over time, due to factors such as aging or behaviors. When detected early, breast cancer is usually highly treatable.

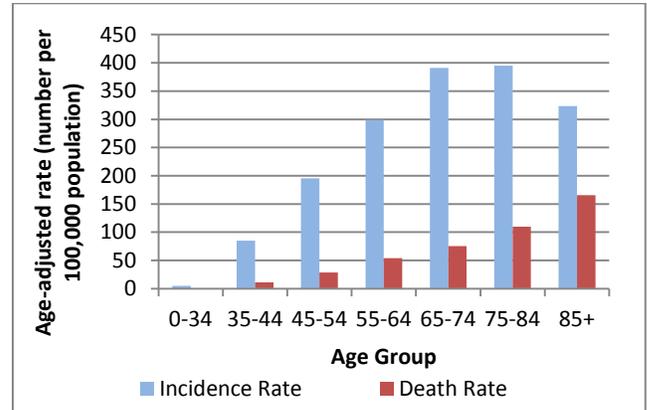


Figure 50. Female Breast Cancer Incidence and Death Rates in Texas by Age Group, 2000-2009.

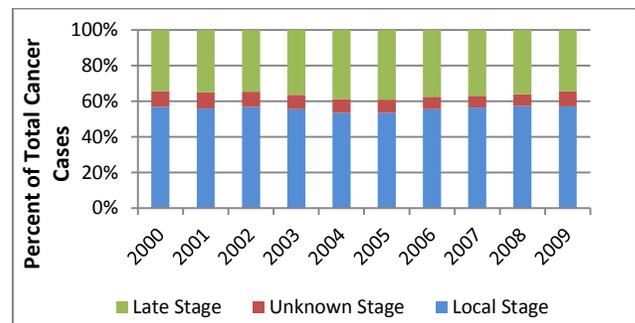


Figure 51. Female Breast Cancer Incidence in Texas by Stage at Diagnosis.

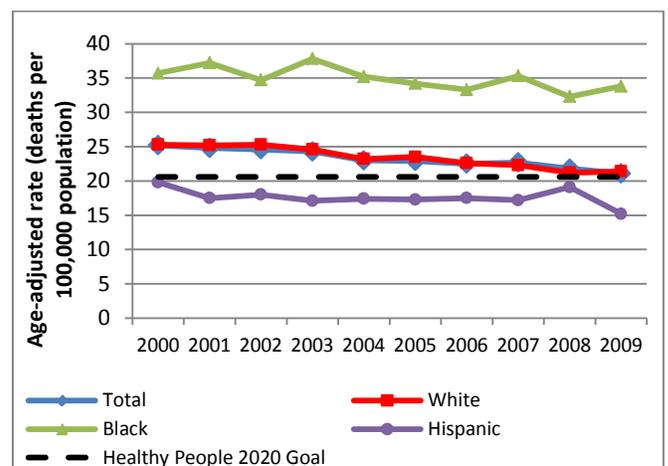


Figure 52. Female Breast Cancer Death Rates in Texas by Race and Ethnicity.

³⁶ American Cancer Society, <http://www.cancer.org/>

Cervical Cancer

The cervix is the lower part of the uterus or womb. It is sometimes called the uterine cervix. The two main types of cells covering the cervix are squamous cells and glandular cells. The place where these cell types meet is called the transformation zone. Most cervical cancers start in the transformation zone.³⁷

Several risk factors increase the chance of developing cervical cancer. Women without any of these risk factors rarely develop cervical cancer. Although these risk factors increase the odds of developing cervical cancer, many women with these risk factors do not develop the disease. Non-modifiable risk factors include age and family history. Modifiable risk factors include smoking and human papilloma virus infection.

Cervical cancer can be prevented by screening, early detection, and treatment of abnormal (pre-cancerous) cells in the cervix.

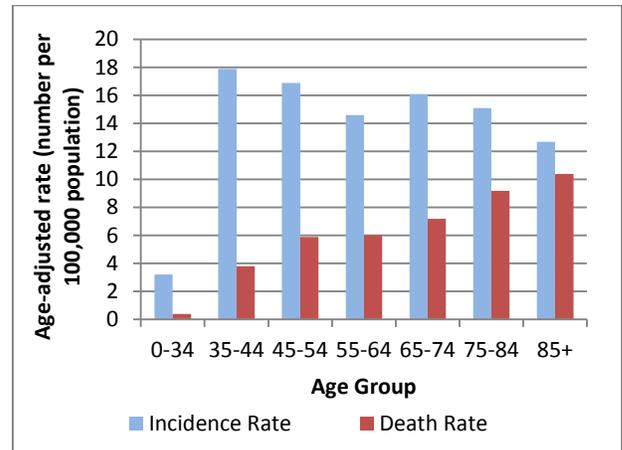


Figure 53. Cervical Cancer Incidence and Death Rates in Texas by Age Group, 2000-2009.

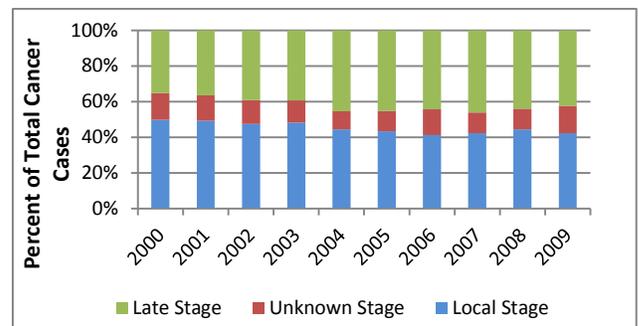


Figure 54. Cervical Cancer Incidence in Texas by Stage at Diagnosis.

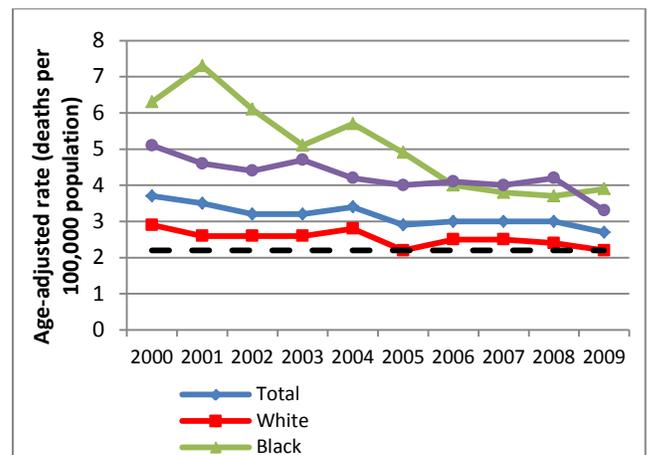
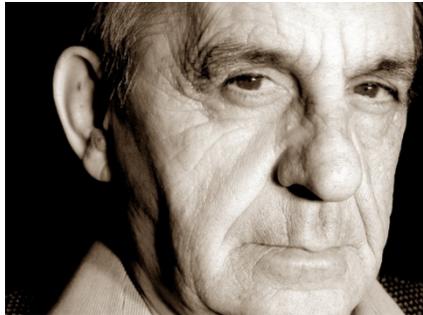


Figure 55. Cervical Cancer Death Rates in Texas by Race and Ethnicity.

³⁷ American Cancer Society, <http://www.cancer.org/>

Prostate Cancer



Prostate cancer is the second most common cancer among men, after skin cancer. It can often be treated successfully. More than 2 million men in the U.S. count themselves as prostate cancer survivors. Although about 1 in 6 men will be diagnosed with prostate cancer, only 1 in 36 will die from the disease.³⁸

The causes of prostate cancer are not yet understood, but researchers have found several factors that might change the risk of getting it, including age, African American race, a high fat diet, and smoking.³⁹

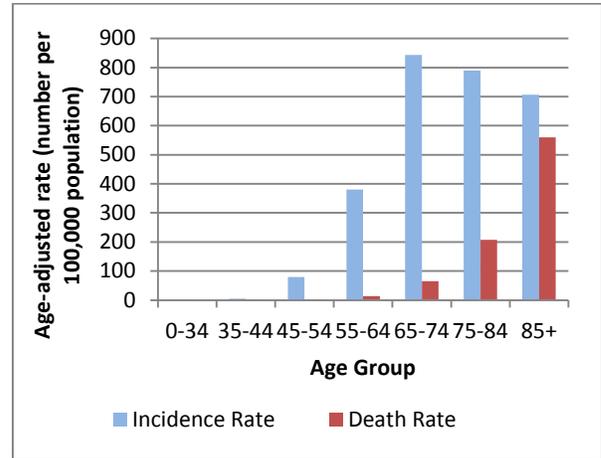


Figure 56. Prostate Cancer Incidence and Death Rates in Texas by Age Group, 2000-2009.

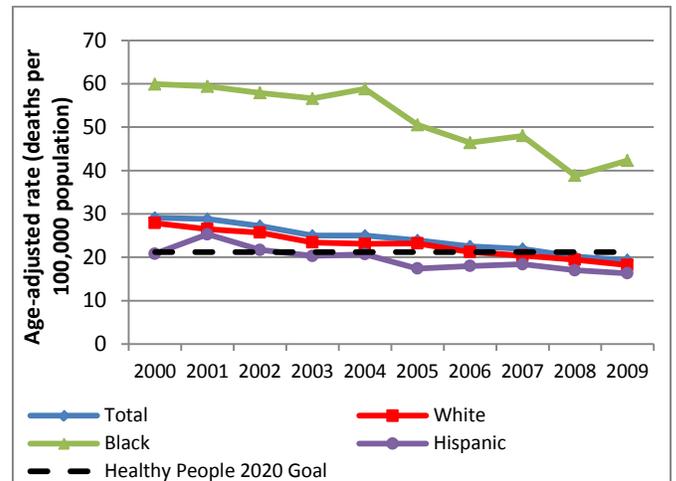


Figure 57. Prostate Cancer Death Rates in Texas by Race and Ethnicity.

³⁸ The American Cancer Society, <http://www.cancer.org/cancer/prostatecancer/detailedguide/prostate-cancer-key-statistics>

³⁹ American Cancer Society, www.cancer.org/

Skin Cancer

Skin cancer is the most common type of cancer. There are three main types of skin cancer. Each type has a different prognosis, or outlook.⁴⁰

- Basal and squamous cell skin cancers - These cancers are most often found in areas exposed to the sun, such as the head, neck, and arms, but they also can occur elsewhere. They are very common, but are also usually very treatable.
- Melanoma skin cancer - Melanoma is a much less common but more serious type of cancer. Melanomas are usually brown or black, but can appear pink, tan, or even white.
- Lymphoma of the skin - Lymphoma is a cancer that starts in cells that are part of the body's immune system. Lymphoma of the skin starts in cells of the skin. This kind of skin cancer is very rare.

The risk factors identified for skin cancer include ultraviolet light exposure, moles, fair skin, freckling, light color hair, family history of melanoma, personal history of melanoma, and immune system suppression.

Although melanoma is more likely to occur in older people, this is a cancer that is also found in younger people. In fact, melanoma is one of the most common cancers in people younger than 30 years of age. Melanoma that runs in families may occur at a younger age. In the U.S., men have a higher rate of melanoma than

women overall, although this varies by age. Before age 40, the risk is higher for women; after age 40 the risk is higher for men.

Skin cancer can be prevented by screening, early detection, and treatment of abnormal (precancerous) cells in the skin.

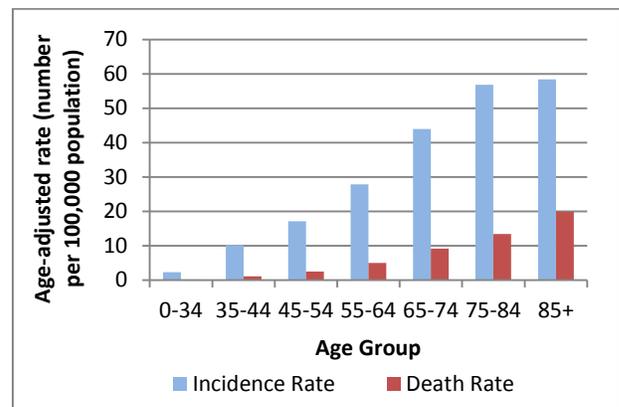


Figure 58. Melanoma Cancer Incidence and Death Rates in Texas by Age Group, 2000-2009.

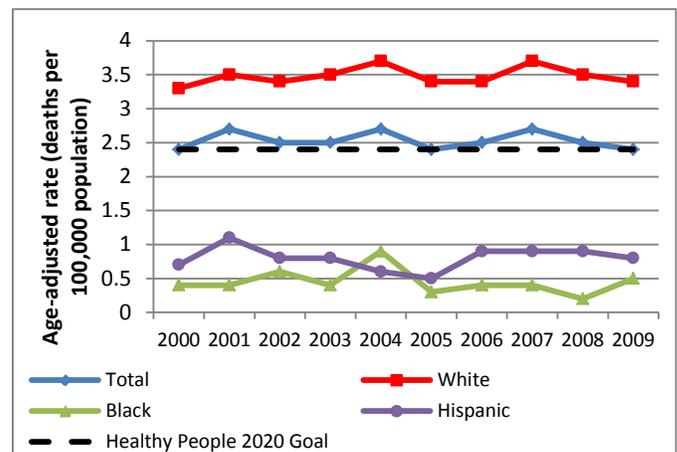


Figure 59. Melanoma Death Rates in Texas by Race and Ethnicity.

⁴⁰ American Cancer Society, www.cancer.org

Childhood and Adolescent Cancers



The types of cancers that occur most often in children are different from those seen in adults. The most common cancers of children are leukemia, brain and other nervous system tumors, lymphoma, neuroblastoma, and bone cancer.

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 aged 0-19 years. The leading cancer in children age 0-14 years is leukemia, while for adolescents age 15-19 years these are epithelial neoplasms and malignant melanomas.

Lifestyle factors usually take many years to influence cancer risk, and they do not play much of a role in childhood cancers. However, a child can inherit a predisposition from a parent.

During the time period 2006 through 2010, the incidence of all types of childhood and adolescent cancers (ages 0-19) combined increased from 15.7 to 17.4 cases per 100,000 population in the U.S. overall. During this same time period, overall cancer death rates in this age group decreased from 2.5 – 2.3. However, since 1975, the rate has decreased from 5.1. For all types of leukemia, the death rate has declined from 2.0 in 1975 to 0.7 in 2010. Five

year survival rates have also been improving. During 1975-1977, the survival rate for all sites of childhood cancer was 61.5%; during 2003-2009, this rate had increased to 83.6%.⁴¹ The reductions in mortality and increases in survival are due to significant advances in treatment, resulting in a cure or long-term remission for a substantial proportion of children and adolescents with cancer.

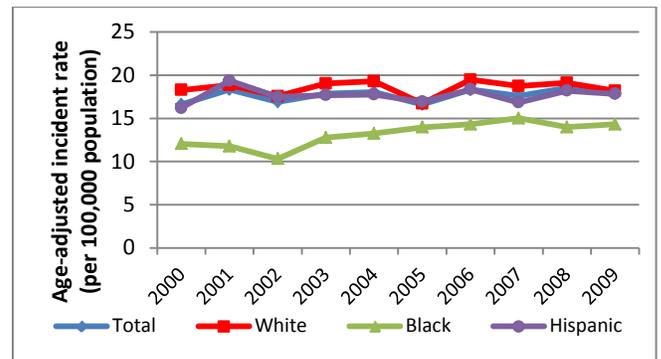


Figure 60. Childhood and Adolescent Cancer Incidence Rate in Texas by Race and Ethnicity.

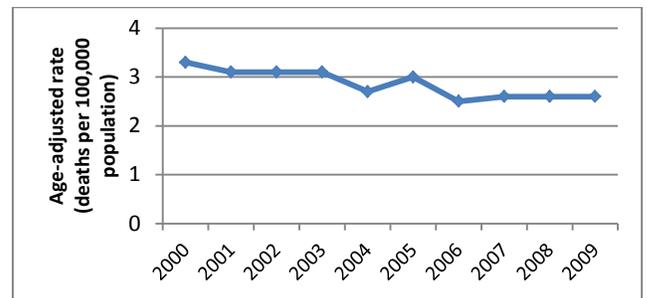


Figure 61. Childhood and Adolescent Cancer Death Rates in Texas

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http://seer.cancer.gov/csr/1975_2010/results_merged/sect_28_childhood_cancer.pdf

Mental Health



Mental health disorders represent a burden on health and productivity in Texas and the U.S. Mental health disorders are the leading cause of disability, accounting for 25% of all years of life lost to disability and premature mortality.⁴² Mental illness, including suicide, accounts for over 15% of the burden of disease in developed countries.

An adult with a serious and persistent mental illness has a diagnosable mental disorder that results in functional impairment that interferes with major life activities.⁴³ The prevalence of this adult condition is estimated to be just under 3%.

⁴² World Health Organization, *The World Health Report 2004: Changing History*, "Annex Table 3: Burden of disease in DALYs by cause, sex, and mortality stratum in WHO regions, estimates for 2002," Geneva: WHO, 2004.

⁴³ Kessler, R.C., Chiu, W.T., Demier, O., & Walters, E.E., "Prevalence, severity, and comorbidity of twelve-month DSM-IV disorders in the National Comorbidity Survey Replication (NCS-R)," *Archives of General Psychiatry*, 2005, Vol. 62(6): 617-27.

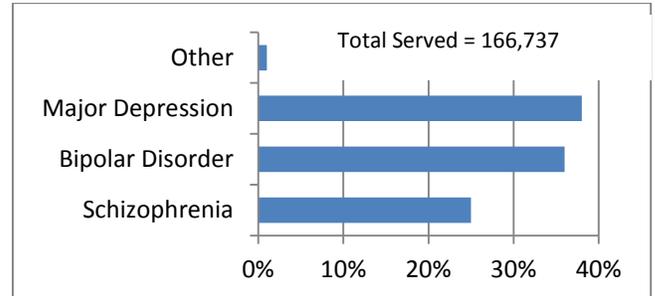


Figure 62. Medicaid and Indigent Adults Receiving Full Mental Health Services from the Texas Department of State Health Services by Diagnosis, 2011.

A child with a serious emotional disturbance is 9-17 years old and has a diagnosable mental disorder that severely disrupts his or her ability to function socially.⁴⁴ The prevalence of this childhood condition is estimated to be 5%.

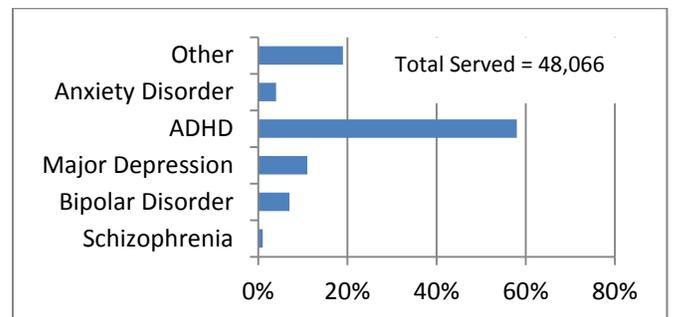


Figure 63. Medicaid and Indigent Children Receiving Full Mental Health Services from the Texas Department of State Health Services by Diagnosis, 2011

Individuals with severe mental illness die at higher rates and on average 27 years earlier than those without a mental illness. These individuals have a high rate of co-morbid medical illnesses, including chronic diseases.

⁴⁴ NIMH (National Institute of Mental Health), NHIS (National Health Indicators Survey), *American Children: Key National Indicators of Well-Being*, http://www.nichd.nih.gov/publications/pubs/upload/americas_children_in_brief_report2008.pdf.

More than 90% of all suicides are linked to mental health disorders.^{45,46} In addition, substance abuse in conjunction with a psychiatric illness increases mortality risk. Individuals with severe mental illness die from both natural and accidental causes, but their illnesses are often undiagnosed, diagnosed late in the course of disease, or untreated.^{47,48}

The demand for crisis services and psychiatric hospitalizations reflect the continued burden of mental health disorders in Texas. From May 2008 through March 2010, the DSHS mental health crisis service hotline received an average of 7,000 calls each month. From 2005 through 2009, the number of adults receiving crisis services rose from 46,726 to 51,297.

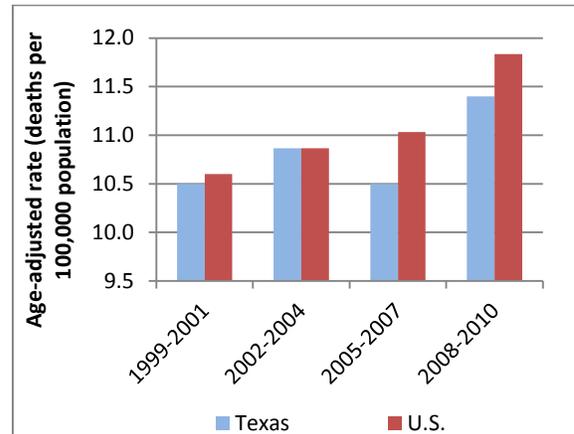


Figure 64. Suicide Death Rates in Texas and the U.S.

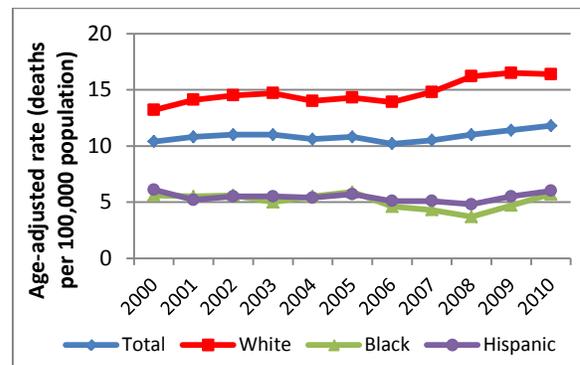


Figure 65. Suicide Death Rates in Texas by Race and Ethnicity.

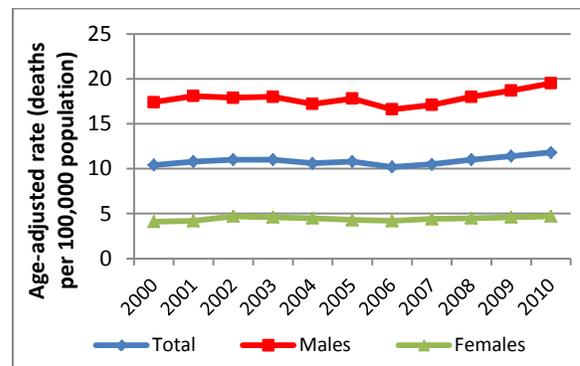


Figure 66. Suicide Death Rates in Texas by Gender.

⁴⁵ Moscicki, E.K., "Epidemiology of completed and attempted suicide: toward a framework for prevention," *Clinical Neuroscience Research*, 2001, 1: 310-23.

⁴⁶ Conwell, Y., & Brent, D., "Suicide and aging: patterns of psychiatric diagnosis." *International Psychogeriatrics*, 1995, 7(2): 149-64.

⁴⁷ Felker, B., Yazel, J.J., Short, D., "Mortality and medical comorbidity among psychiatric patients: a review," *Psychiatric Services*, 1996 Dec; 47(12):1356-63.

⁴⁸ U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, *Sixteen-State Study on Mental Health Performance Measures*, 2003, http://www.nri-inc.org/reports_pubs/2003/16StateStudy2003.pdf.

Diabetes

Diabetes is a serious, costly, and increasingly common chronic disease that can have serious complications including heart disease, kidney failure, leg and foot amputations, and blindness, which can result in disability and premature death. Medical treatment can reduce the burden of diabetes.

There are two major types of diabetes:

- Type 1 is characterized by absolute insulin deficiency. This occurs as an autoimmune process that destroys the pancreas' ability to produce insulin. Onset occurs most often in childhood or adolescence, but can occur at any age.
- Type 2 is characterized by relative insulin deficiency. Type 2 diabetes is a progressive disease of insulin resistance in combination with insulin deficiency. The body may produce some insulin, but is unable to use it properly. Type 2 diabetes is far more common than type 1.

A less common type of diabetes is gestational diabetes. It is characterized by onset or first recognition during pregnancy.

Type 2 diabetes, formerly considered “adult onset” diabetes, is now being diagnosed more frequently among children and adolescents.

Non-modifiable risk factors for type 2 diabetes include a family history of diabetes, and age of 45 years or older. Black, Hispanic, Native American, and Asian Americans also have higher risks for diabetes. Modifiable risk factors

include being overweight (defined as above 20% of ideal weight), and having limited physical exercise. Other factors that increase the risk for type 2 diabetes include previous diabetes with pregnancy or having a baby weighing more than 9 pounds at birth.

In 2010, diabetes was the seventh leading cause of death in Texas, accounting for 4,738 deaths.

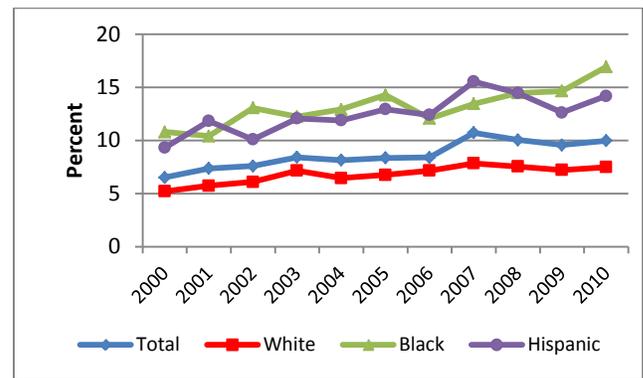


Figure 67. Prevalence (percent) of Diabetes in Texas by Race and Ethnicity.

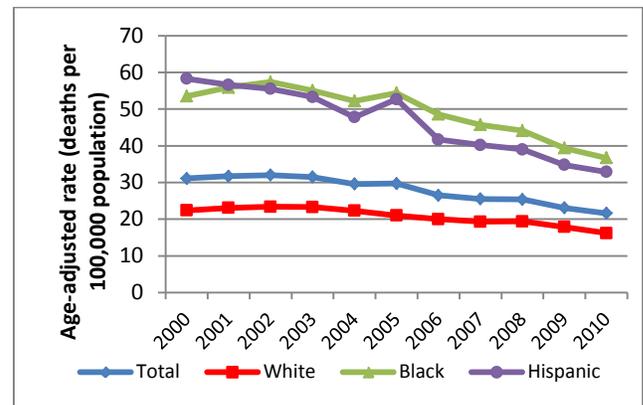


Figure 68. Diabetes Death Rates in Texas by Race and Ethnicity.

Respiratory Disease

COPD

Chronic obstructive pulmonary disease (COPD) is a slowly progressive lung disease resulting in a gradual loss of lung function. The symptoms of COPD range from chronic cough, sputum production, and wheezing, to more severe symptoms, such as shortness of breath, poor exercise tolerance, and signs or symptoms of right-sided heart failure. Because COPD often develops in long-time smokers during middle age, patients often have a variety of other diseases related to either smoking or aging. COPD itself also has significant systemic effects that lead to co-morbid conditions.^{49,50}

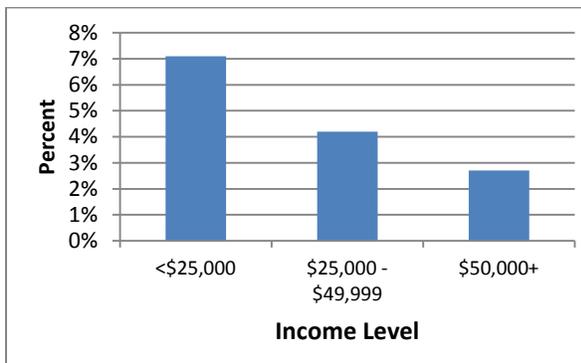


Figure 69. Prevalence (percent) of COPD in Texas by Income Level, 2009.

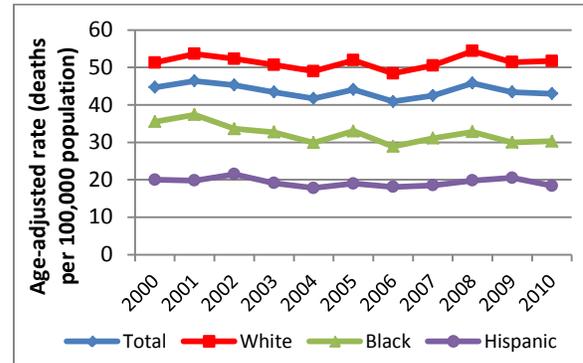


Figure 70. COPD Death Rates in Texas by Race and Ethnicity.

Asthma

Asthma is a chronic lung disease characterized by inflammation, bronchoconstriction, and an increase in mucus production. Although it is not known specifically what causes asthma, it is associated with genetic, environmental, socioeconomic, allergenic, and psychosocial factors.

Deaths due to asthma are rare, but they do occur. From 2000 to 2009, there were a total of 2,307 deaths in Texas due to asthma. Like asthma hospitalizations and emergency department visits, most asthma deaths can be prevented by proper management and quality health care.⁵¹

In 2008, Texas had an estimated 2.2 million adults 18 years of age or older (12.2%) who reported having asthma at some time in their life, and 1.3 million adults (7.3%) who self-

⁴⁹ Global Initiative for Chronic Obstructive Lung Disease, 2009, <http://www.goldcopd.com/>.

⁵⁰ Qaseem, A., Snow, V., Shekelle, P., et al., "Diagnosis and Management of Stable Chronic Obstructive Pulmonary Disease: Clinical Practice Guidelines from the American College of Physicians," *Ann Intern Med.*, 2007;147:633-638.

reported current asthma. Also, there were an estimated 921,000 children 0-17 years of age (14.3%) with reported asthma at some time and 593,000 children (9.2%) with reported current asthma. Asthma affects more children than any other chronic disease and is one of the most frequent reasons for hospital admissions among children.

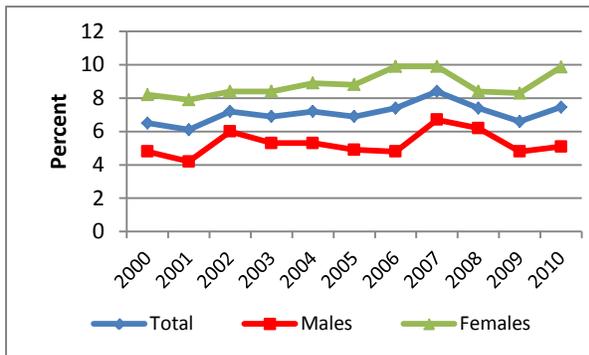


Figure 71. Prevalence (percent) of Asthma in Texas by Gender.

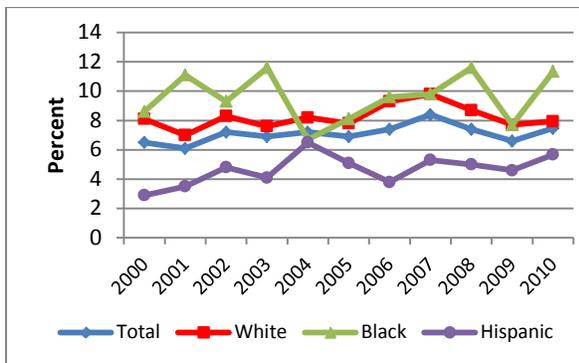


Figure 72. Prevalence (percent) of Asthma in Texas by Race and Ethnicity.

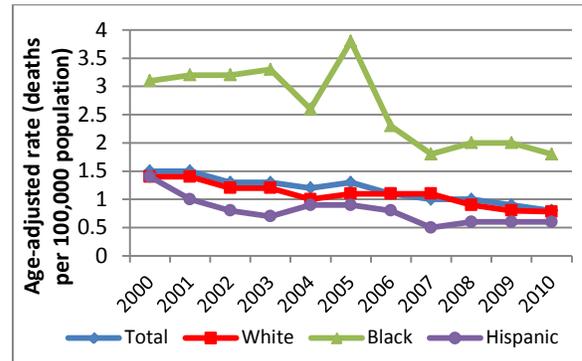


Figure 73. Asthma Death Rates in Texas by Race and Ethnicity.

Kidney Disease

Chronic kidney disease (CKD) is a serious health condition in which the kidneys gradually lose their ability to function. The kidneys serve as the body’s natural filtration system and also help maintain electrolyte balance, blood pressure, bone metabolism, and red blood cell production. When kidney function is seriously impaired, dangerous levels of fluid and waste can accumulate in the body, resulting in death from complications and co-morbid conditions. Early detection and treatment may prevent or delay adverse outcomes and progression to kidney failure.

Diabetes and hypertension are the leading causes of CKD. Individuals with cardiovascular disease or a family history of kidney disease also are at increased risk. Like many chronic diseases, the incidence of kidney disease increases with age and affects certain racial and ethnic populations disproportionately. Once the kidneys fail, renal replacement therapy in the form of dialysis or transplantation is necessary for survival.

CKD increases the probability of co-morbid conditions, such as hypertension and cardiovascular disease. More CKD patients die of cardiovascular events, particularly heart failure and acute myocardial infarction, than progress to end-stage kidney disease. Hypertension, a significant risk factor for CKD, is also recognized as a co-morbid condition in 80-90% of patients in later stages of CKD. Other complications include anemia, bone disease, impaired vision, walking problems, and infections.

Management and treatment of CKD is aimed at ameliorating or delaying progression of the disease, usually by controlling its underlying cause, like diabetes, hypertension or CVD, and managing co-morbid conditions.

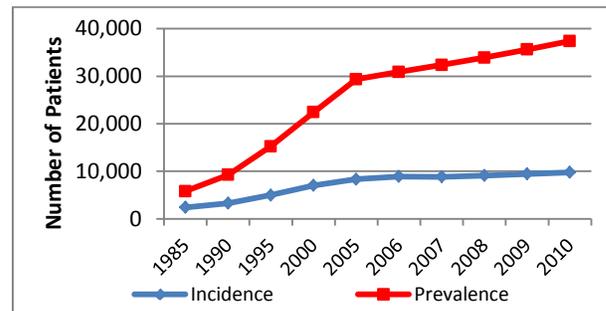


Figure 74. Number of Living End Stage Renal Disease Patients in Texas.

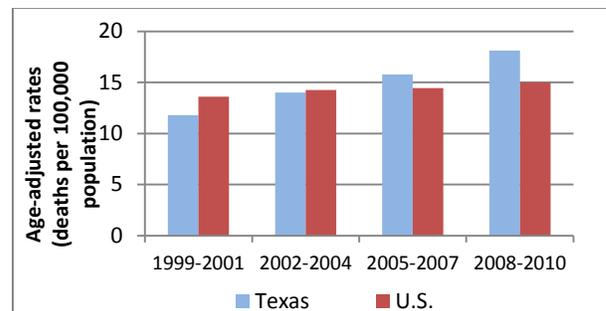


Figure 75. Kidney Disease Death Rates in Texas and the U.S.

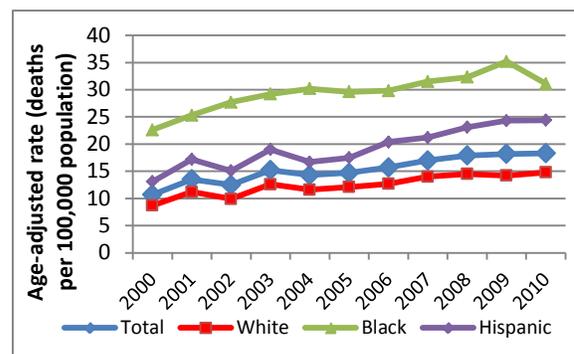


Figure 76. Kidney Disease Death Rates in Texas by Race and Ethnicity.

Arthritis

Arthritis is one of the most prevalent diseases in the U.S. and a leading cause of disability among adults. Common symptoms include pain, aching, stiffness, and swelling in or around the joints. Common forms of arthritis include osteoarthritis, rheumatoid arthritis, fibromyalgia and juvenile arthritis. However, arthritis can be seen in over 100 different conditions ranging from mild to life-threatening.⁵²

Arthritis affects more than 46 million people in the U.S., resulting in substantial disability and \$128 billion in lost wages and medical expenditures every year. Arthritis limits the activities of nearly 19 million U.S. adults.⁵³ In Texas, 4.1 million adults have doctor-diagnosed arthritis, of which 1.7 million report activity limitations severe enough to interfere with daily activities. As the U.S. population ages, the number of adults living with arthritis and other chronic conditions will increase. The number of U.S. adults with doctor-diagnosed arthritis is expected to reach 67 million by 2030, and 25 million of those are expected to have an arthritis-attributable activity limitation.⁵⁴

Certain factors have been shown to be associated with a greater risk of arthritis. Some of these risk factors are modifiable while others are not. Non-modifiable risk factors include age, gender, and family history. Modifiable risk factors include overweight and obesity, joint injuries, infection of the joints, and occupations that involve repetitive motion.

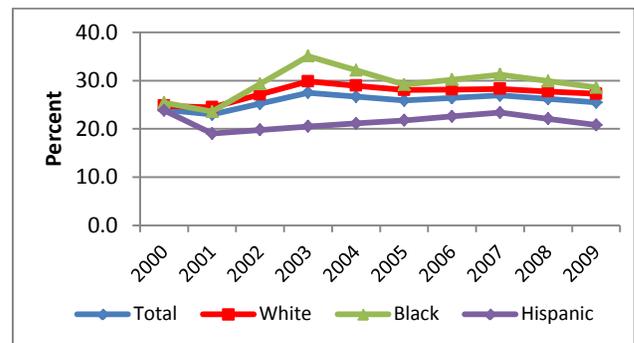


Figure 77. Arthritis Prevalence (percent) in Texas by Race and Ethnicity.

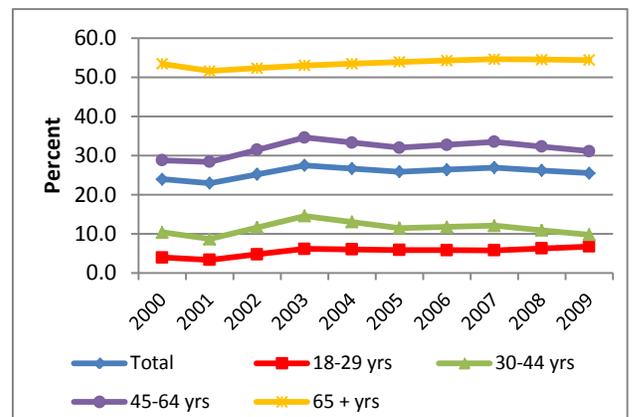


Figure 78. Arthritis Prevalence (percent) in Texas by Age Group

⁵² Texas Department of State Health Services, "The Burden of Arthritis in Texas," 2005, <http://www.dshs.state.tx.us/arthritis/pdf/burden.pdf>, accessed on June 19, 2010.

⁵³ U.S. Centers for Disease Control and Prevention, "Prevalence of Doctor-Diagnosed Arthritis and Arthritis-Attributable Activity Limitation - United States, 2003-2005," MMWR 2006 55(40): 1089-1092.

⁵⁴ U.S. Centers for Disease Control and Prevention, "Arthritis Data and Statistics: National Statistics," www.cdc.gov/arthritis/data_statistics/index.htm, accessed on January 8, 2009.

Alzheimer's disease

Dementia is the loss of brain function that occurs with certain diseases. Alzheimer's disease is one form of dementia that gradually worsens over time. It affects memory, thinking, and behavior.⁵⁵

Alzheimer's is the 6th overall leading cause of death in Texas, the 5th leading cause of death for men over age 75 and the 4th leading cause of death for women over the age of 75. In the U.S., there are now more than 5.3 million people living with Alzheimer's disease. This includes 5.1 million people age 65 or older and approximately 200,000 under age 65 with younger-onset Alzheimer's disease.⁵⁶

There is no cure for Alzheimer's disease. Unlike other forms of dementia, Alzheimer's disease is progressive in nature and continues through cognitive and functional decline to total disability and death. The financial impact of the disease exceeds \$172 billion in annual costs in the U.S.⁵⁷

The primary risk for Alzheimer's disease is advanced age, but it is not a normal part of aging. More women than men have Alzheimer's disease, but this would be a consequence of their longer life expectancy. Black and Hispanic individuals may be at higher risk for the disease.

The increasing prevalence of Alzheimer's disease is related directly to increasing life expectancy. A person with Alzheimer's disease or a related dementia will live an average of five to eight years after diagnosis, but may live another 20 years or more.⁵⁸

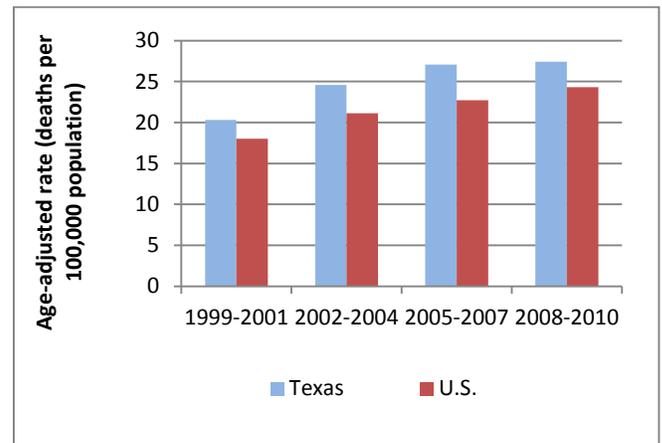


Figure 79. Alzheimer's Death Rates in Texas and the U.S.

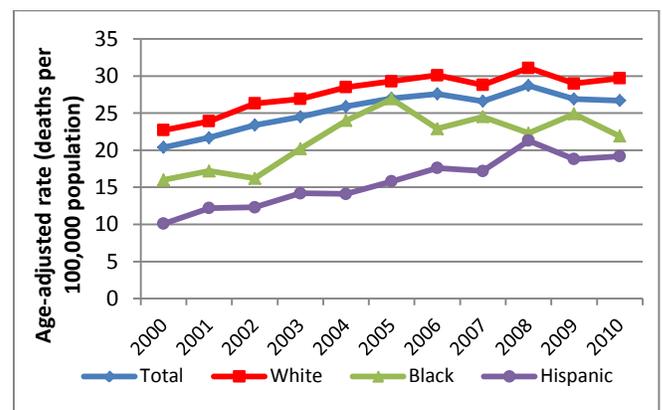


Figure 80. Alzheimer's Death Rates in Texas by Race and Ethnicity.

⁵⁵ U.S. National Library of Medicine.

⁵⁶ Texas Department of State Health Services, "2010-2015 Texas State Plan on Alzheimer's Disease," <http://www.dshs.state.tx.us/alzheimers/pdf/DRAFTTEXASPLAN.pdf>; accessed on June 19, 2010.

⁵⁷ Texas Department of State Health Services, "2010-2015 Texas State Plan on Alzheimer's Disease," <http://www.dshs.state.tx.us/alzheimers/pdf/DRAFTTEXASPLAN.pdf>; accessed on June 19, 2010.

⁵⁸ Texas Department of State Health Services, "2010-2015 Texas State Plan on Alzheimer's Disease,"

Infectious Diseases

Infectious diseases are caused by bacteria, viruses, or other microorganisms. At the turn of the 20th century, the leading causes of death in Texas were infectious diseases, including influenza, smallpox, and certain enteric diseases. Through vaccine development, effective treatments for certain infectious diseases, improvements in drinking water quality and sanitation, and pasteurization of nearly all milk products, large reductions in infectious disease incidence and mortality have occurred.

Infectious diseases are still a significant health concern in Texas and the U.S. Certain behaviors can greatly reduce the risk of spreading infections. Proper hand washing, for example, can prevent the transmission of many diseases. Vaccinations reduce illnesses and deaths from diseases such as influenza, pertussis (whooping cough), measles, mumps, and others. Avoidance of risky sexual behaviors reduces the spread of HIV, chlamydia, gonorrhea, syphilis, and other disorders. HIV in Texas is primarily spread by sexual contact. Approximately 87% of the top ten reported infectious diseases are sexually transmitted, including chlamydia, gonorrhea, syphilis, and HIV.

Vaccines stimulate the immune system to produce an immune response similar to that produced by a natural infection, but they do not subject the recipient to the disease and its potential complications. The viruses and bacteria that cause vaccine-preventable diseases and death still exist and can be passed on to unprotected persons.



Immunizations

Vaccines are recognized as one of the top ten public health successes of the twentieth century. Not long ago, diseases like measles, mumps, rubella, diphtheria, and polio were common causes of illness and death, especially among children. Today, these diseases are preventable by immunization and occur much less often in the U.S. Texans do, however, still contract and die from vaccine-preventable diseases.

Sustaining high vaccine coverage levels is important because a highly vaccinated population reduces the spread of disease and safeguards the health of all Texans. DSHS continues to make significant improvements in raising vaccine coverage levels by implementing nationally proven strategies statewide.

The childhood immunization series for children 19-35 months of age includes 4 or more doses of DTaP (diphtheria, tetanus, pertussis) vaccine, 3 or more doses of poliovirus vaccine, one or more doses of MMR (measles, mumps, rubella) vaccine, 3 or more doses of hepatitis B vaccine, 1 or more doses of varicella vaccine, and 4 or more doses of pneumococcal conjugate vaccine. The coverage rate in Texas for children in this age range was 70.9% for the complete series, which excludes *Haemophilus influenzae* type b (Hib) vaccine. This rate is below the national average of 72.7%.

The Healthy People 2020 goal for individual childhood vaccines is 90%. In 2010, Texas met this goal for four of the six vaccines mentioned, and for Hib, which requires 3 or more doses.

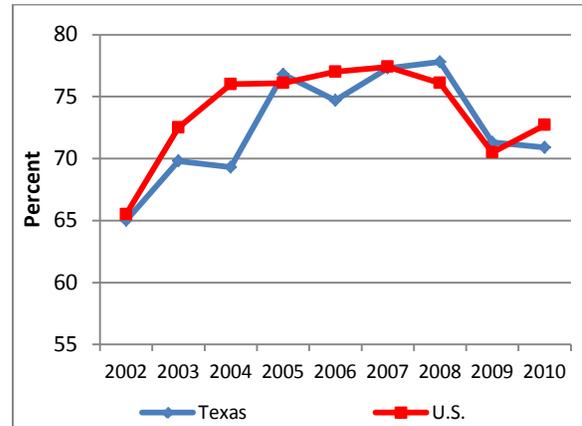


Figure 81. Percent of Children Receiving the 19-35 Months of Age Vaccination Series.

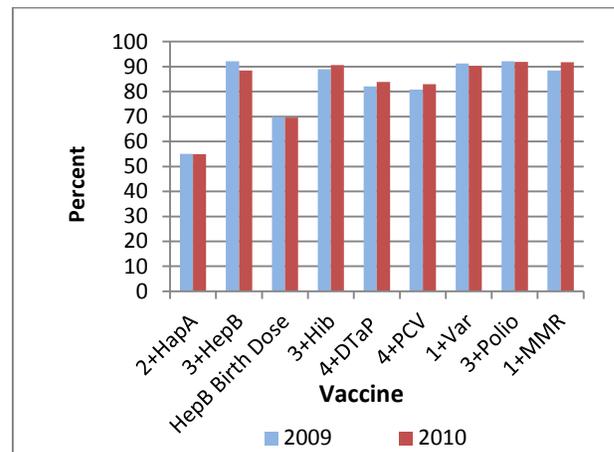


Figure 82. Estimated Vaccination Coverage among Children 19-35 Months of Age in Texas by Vaccine.

Hepatitis A, B, and C

Hepatitis A, B and C are viral diseases of the liver. Hepatitis A and B are vaccine preventable, while Hepatitis C does not have a vaccine that prevents it. Hepatitis A is spread primarily by fecal-oral contact while hepatitis B and C are usually spread through sexual or blood contact.

People infected with hepatitis B and C can become long-term or chronic carriers of the disease and infect others for years after they became infected. Hepatitis B and C can also cause serious liver disease and liver failure. People with hepatitis B and C are also at increased risk of developing liver cancer.

Hepatitis A

Since the introduction of routine childhood hepatitis A vaccine recommendations beginning in 1996, the incidence of this disease in Texas has dramatically declined. School and childcare hepatitis A vaccination requirements began in Texas in 1999, and as of the school year 2009-2010, hepatitis A vaccination is required for kindergarten and daycare entry across Texas. The vaccination requirements have resulted in a 92% decline in cases from 2000 to 2009, from 1,937 cases (9.3 cases per 100,000 population) to 184 cases (0.7 cases per 100,000 population) reported.

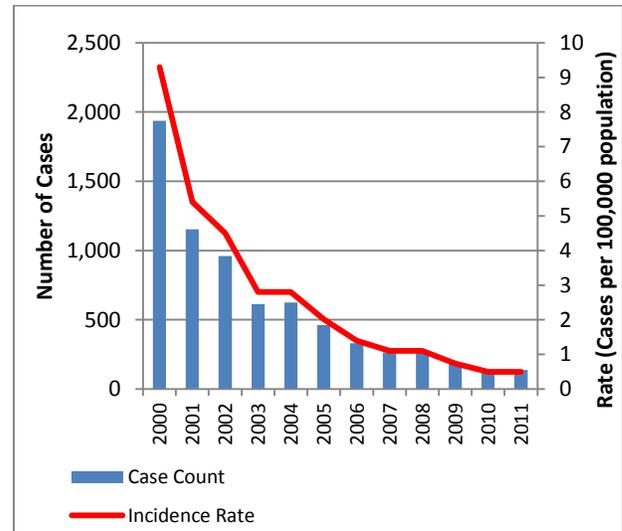


Figure 83. Hepatitis A Cases and Incidence Rates in Texas.

Hepatitis B

In 2009, 420 acute hepatitis B virus infections were reported in Texas (1.7 cases per 100,000 population). This represents a 67% decline from 2000, when 1,059 cases were reported (5.1 cases per 100,000 population). This decline was greatest among children and adolescents. The majority of acute Hepatitis B cases in Texas have been reported for adults ages 18 years and older.

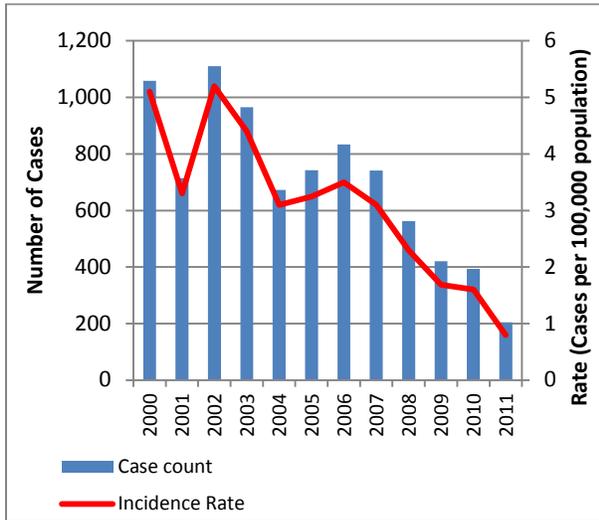


Figure 84. Acute Hepatitis B Cases and Incidence Rates in Texas.

Hepatitis C

Only acute cases of hepatitis C are reported. The number of cases dropped from 2000 through 2009, from 238 to 36. This decrease in reported cases may be related to a change in case definition, and not to changes in actual morbidity. The incidence rate dropped during this time period from 1.1 to 0.1 cases per 100,000 population. It has been estimated that nearly 400,000 Texans had hepatitis C infection, primarily in the chronic form, in 2005.⁵⁹

There are approximately 3.2 million people in the U.S. who have chronic Hepatitis C infection. Infection is most prevalent among those born between 1945 and 1965, the majority of whom

were likely infected during the 1970s and 1980s when rates were highest.⁶⁰

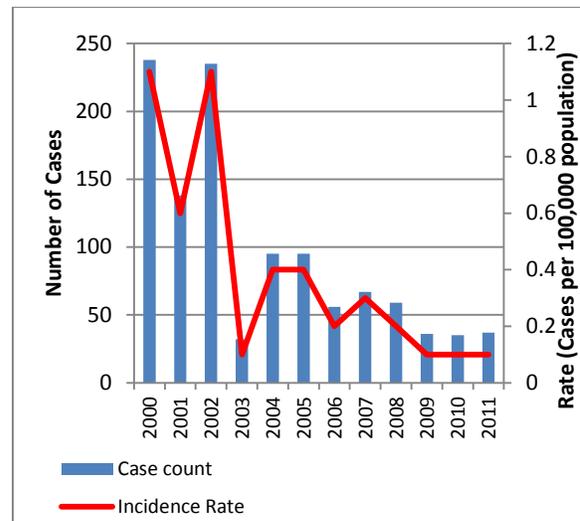


Figure 85. Acute Hepatitis C Cases and Incidence Rates in Texas.

⁵⁹ Yalamanchili K, Saadeh S, Lepe R, Davis GL. The Prevalence of Hepatitis C Virus Infection in Texas: Implications for Future Health Care. Proc (Bayl Univ Med Cent). 2005 January; 18(1): 3-6.

⁶⁰ "Recommendations for the identification of chronic hepatitis C virus infection among persons born during 1945-1965". *MMWR Recomm Rep* 61 (RR-4): 1-32. August 2012.

Measles, Mumps & Rubella

Measles, mumps, and rubella are viral illnesses that occur mainly in children. Vaccines against these diseases have been available for many years, and the numbers of cases are now low. Outbreaks do sometimes occur.

Measles

Measles is a respiratory disease which is typically accompanied by a rash. It spreads very easily from person to person. About one in 1,000 infected children dies from the disease. Before the first licensed measles vaccine was released in 1963, there were usually at least 500,000 cases of measles and nearly 500 deaths each year in the U.S.⁶¹ Through effective vaccination, the incidence and deaths from measles have declined. Less than two cases of measles are reported in Texas each year.



Mumps

Mumps typically starts with a few days of fever, headache, muscle aches, tiredness, and loss of appetite, and is followed by swelling of salivary glands. In 1964, over 200,000 cases of mumps and 50 deaths were reported in the U.S. Through effective vaccination, the incidence and deaths from mumps have declined. Currently, about 30 cases of mumps are reported each year in Texas.

Rubella

Rubella (German measles) causes fever and rash that can be spread when an infected person coughs or sneezes. Pregnant women who get rubella have a 20% chance of giving birth to a baby with birth defects, including deafness, cataracts, heart defects, mental impairment, and liver and spleen damage. In 1964, nearly 500,000 cases of rubella and about 20 deaths were reported in the U.S. Through effective vaccination, the incidence and deaths from rubella have declined. There have been no cases of rubella reported in Texas since 2004.

⁶¹ Roush SW, Murphy TV; Vaccine-Preventable Disease Table Working Group. Historical comparisons of morbidity and mortality for vaccine-preventable diseases in the United States. JAMA. 2007 Nov 14;298(18):2155-63.

Influenza

Influenza is caused by any of three types of influenza viruses, A, B, and C. Without confirmation of infection with one of the influenza viruses, influenza-like illness is defined as fever (≥ 100 F), cough, and/or sore throat.

Most influenza cases occur during “flu season” (approximately October to April) resulting in 10-20% of the general population being infected and having no symptoms or have symptoms that can include severe pneumonia and result in death. Risk of complications, hospitalization and death due to seasonal influenza are typically highest in persons over 64 years of age, the very young, and those with certain underlying health conditions. There are an estimated 36,000 influenza deaths annually in the U.S. and 90% of fatalities occur in persons over age 64.⁶²

In most cases, influenza is not a reportable disease in Texas. Influenza-associated pediatric death became a reportable condition in 2007. Reporting of influenza outbreaks is also required. Eleven influenza-associated pediatric deaths were reported in Texas for the 2010 - 2011 influenza season.

Table 2. Influenza-associated Pediatric Deaths and Death Rates.

	2007	2008	2009	2010	2011
Deaths	13	9	54	7	11
Rate	0.2	0.1	0.8	0.1	0.2

⁶² W. Thompson, D. Shay, E. Weintraub, L. Brammer, N. Cox, L. Anderson, K. Fukuda, “Mortality Associated With Influenza and Respiratory Syncytial Virus in the United States,” *JAMA*, 2003, 289:179-186, <http://jama.ama-assn.org/cgi/content/abstract/289/2/179>.

The potential for avian influenza to become easily transmissible to humans and the uncertainty over the severity of any influenza have made influenza preparedness and surveillance for influenza a high public health priority.

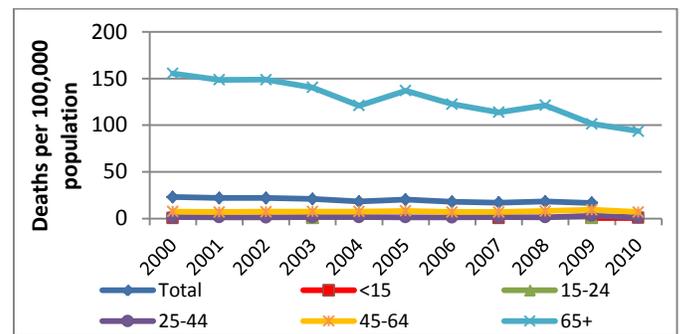


Figure 86. Influenza and Pneumonia-related Death Rates by Age Group.

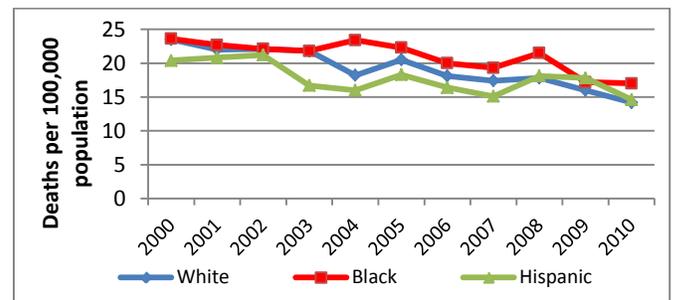


Figure 87. Influenza and Pneumonia-related Death Rates by Race and Ethnicity.

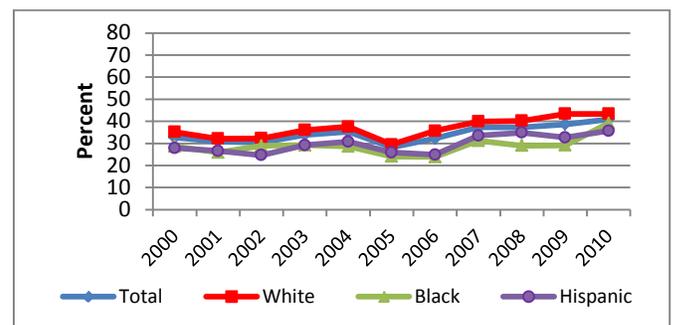


Figure 88. Percent of Adults Age 18 and Older in Texas who Received the Flu Vaccine by Race and Ethnicity.

Other Vaccine-Preventable Diseases

Chickenpox

Chickenpox (varicella) is a viral infection that used to be a common childhood disease. The infection is characterized by a very itchy and blistering rash that often covers most of the body. The disease is rarely fatal, but it can have serious complications. A vaccine that prevents chickenpox has been available since 1995. In Texas, the number of chickenpox cases continued to decline, and in 2011 there were 2,558 cases reported.

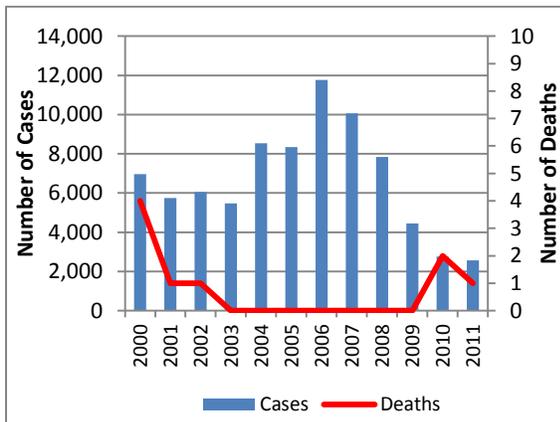


Figure 89. Chickenpox Cases and Deaths in Texas.

Pertussis

Pertussis, or whooping cough, is a highly contagious upper respiratory illness. The coughing fits of an ill person can be prolonged and exhausting, and they also have a distinctive sound - the “whoop”- that gives the illness its common name. Pertussis is especially dangerous for infants, but it can cause pneumonia and death in persons of any age. Of the childhood diseases for which we now have vaccines, immunity to pertussis wanes over

time and so protection from illness and death are not as effective as for other vaccines. Still, vaccination is the most effective method for prevention of pertussis. In 1934, there were over 250,000 reported pertussis cases and 7,500 deaths in the U.S. In 2011, there were 961 cases of pertussis reported in Texas, with 1 death.

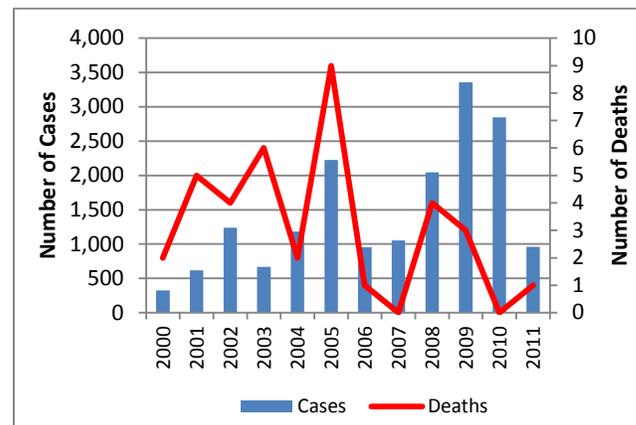


Figure 90. Pertussis Cases and Deaths in Texas.

Meningitis



Meningitis, which is an inflammation of the membranes that cover the brain and spinal cord, can be caused by a variety of microorganisms and other factors. The most common type of bacterial meningitis in children

and adolescents is meningococcal meningitis, which is caused by the bacterium *Neisseria meningitidis*. This organism is also a leading cause of bacterial meningitis in adults, and it can invade tissues other than those of the nervous system. The symptoms of meningococcal meningitis typically include sudden onset of fever, headache, and a stiff neck. This organism can be passed from person to person, and so is a problem in crowded living quarters, such as dormitories and military barracks. Early treatment is important in preventing serious complications and death. A vaccine against meningococcal disease is now available and is recommended for adolescents, college students, and military recruits and Texas children 11 years and older. It may also be recommended for other populations.

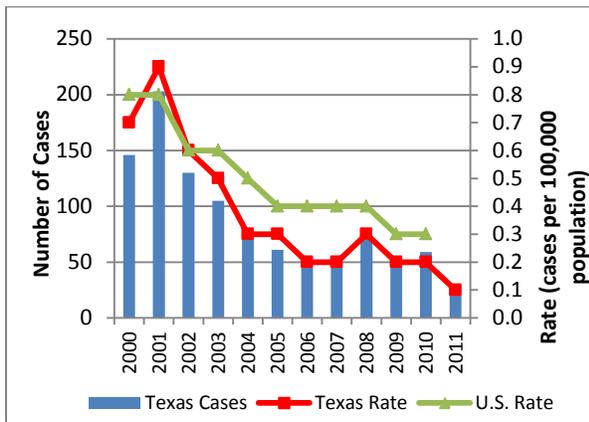


Figure 91. Meningococcal Cases and Incidence Rates.

Human papillomavirus



Human papillomavirus, or HPV, can cause warts (soft growths) on the skin and mucus membranes of the genitals. The virus is spread from person to person by sexual contact. These warts usually go

away on their own, but in some infected women the virus persists and can cause cancer of the cervix. In fact, this virus is the cause of nearly all cases of cervical cancer.

HPV is one of the most common causes of STDs in the world. According to the Centers for Disease Control and Prevention, there are approximately 6.2 million new cases of HPV infections reported each year. At least 20 million Americans are already infected.

A recently released vaccine is effective at preventing HPV infection caused by the two main types of the virus. The vaccine is recommended for women who have not yet become infected with HPV, or generally before they become sexually active. It is also sometimes recommended for males.

In 2009, Texas had an estimated 37.6% of females age 13 to 17 years covered by the HPV vaccine compared to 44.3% for the U.S.⁶³

Table 3. Prevalence of HPV Vaccination among Female Youth and Adults in Texas, 2009.

	Yes	No	Don't Know
Female Youth (9-17 years)	23.9%	70.2%	6.0%
Adult Females (18-26 years)	10.7%	86.5%	2.9%

⁶³ Centers for Disease Control and Prevention. 2009 National Immunization Survey-Teen http://www.cdc.gov/nchs/nis/data_files_teen.htm

Tuberculosis

Tuberculosis (TB) is a bacterial disease caused by *Mycobacterium tuberculosis*. These bacteria infect primarily the lungs and can be transmitted when a person with TB in the lungs or throat talks, coughs or sneezes. Pulmonary TB, the most common form of the disease, is characterized by fever, night sweats, weight loss, difficulty breathing and a cough. TB bacteria can infect any part of the body, including the kidneys, joints, spine, and brain. If not treated properly, tuberculosis can be fatal.

Annually, close to 1,500 TB cases are reported in Texas. The U.S. national TB infection rate in 2011 was 3.4 cases per 100,000 population, and 10,528 cases were reported that year.⁶⁴ Texas reported 13% of the total 2011 cases, and the TB infection rate in Texas that year was 5.3 cases per 100,000 population.

In 2011, the majority of TB cases (65%) reported in Texas were among males. In Texas, the counties with the highest incidence rates of TB are near the border with Mexico.

Resistance to antibiotics is a serious problem with TB. Most patients must take a combination of several antibiotics to effectively treat their infection. In 2011, 1% of TB cases in Texas were resistant to multiple antibiotics.

Foreign-born persons continue to account for a significant portion of reported TB cases in

Texas. More than half of persons diagnosed with TB in Texas in 2009 were born outside of the U.S. Among Texas TB patients who were born outside of the U.S., most were from Mexico (49%), Vietnam (11%), Honduras (6%) and India (6%).⁶⁵

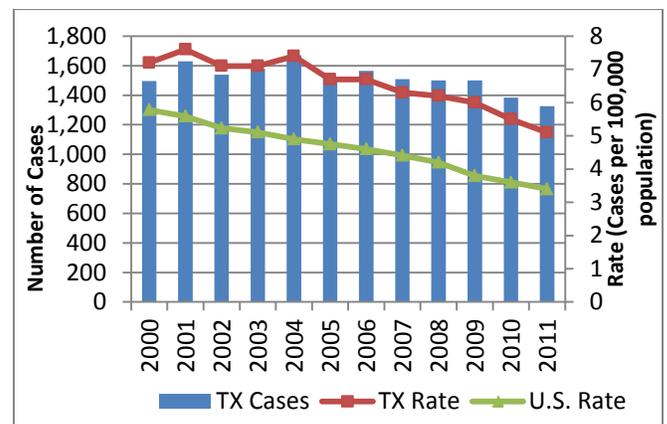


Figure 92. Number of Newly Identified Tuberculosis Cases in Texas and Incidence Rates in Texas and the U.S.

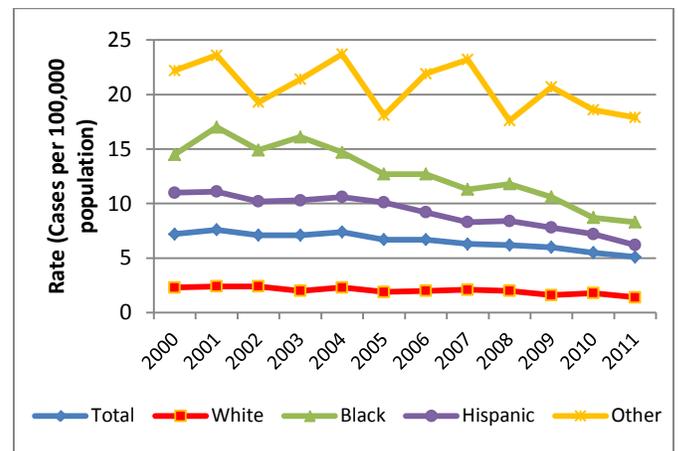


Figure 93. Tuberculosis Incidence Rates in Texas by Race and Ethnicity.

⁶⁴ U.S. Centers for Disease Control and Prevention, "Reported Tuberculosis in the United States, 2011". <http://www.cdc.gov/tb/statistics/reports/2011>

⁶⁵ Texas Department of State Health Services, 2000-2009 Tuberculosis Surveillance Data, September 2010.

HIV and AIDS

Human Immunodeficiency Virus (HIV) is the virus that causes AIDS (Acquired Immune Deficiency Syndrome). HIV attacks certain cells of the immune system which fight infections. When the number of these targeted immune system cells falls below a certain level, the infected person is considered to have AIDS. People with AIDS are susceptible to a wide variety of infections and cancers because their immune systems are not able to protect the body from diseases. There is no cure for AIDS.

HIV is transmitted from one person to another through blood, semen, vaginal secretions, and breast milk. In Texas, about three-quarters of persons with HIV are infected by sexual contact with an infected person, and about 22% acquire their infections by sharing injection drug needles or syringes with an infected person. Women can pass HIV to their children during pregnancy or birth, or very rarely, through breastfeeding. Less than 1% of HIV cases in Texas result from mother to child transmission.

In 2011, there were an estimated 69,212 persons living with HIV infection in Texas.⁶⁶ Though the number of people living with HIV infection has been slowly increasing, more of them are surviving longer. After peaking at over 3,000 deaths per year in Texas in the mid-1990s, the number of deaths has stabilized at about 1,200 per year.

Based on population and the number of HIV cases, five areas in Texas are designated by the Health Resources and Services Administration (HRSA) as Eligible Metropolitan Areas (EMA) or Transitional Grant Areas (TGA). These areas are Austin, Dallas, Fort Worth, Houston and San Antonio. The Houston EMA accounted for 32% and the Dallas EMA accounted for 24% of persons living with HIV in 2010.⁶⁷

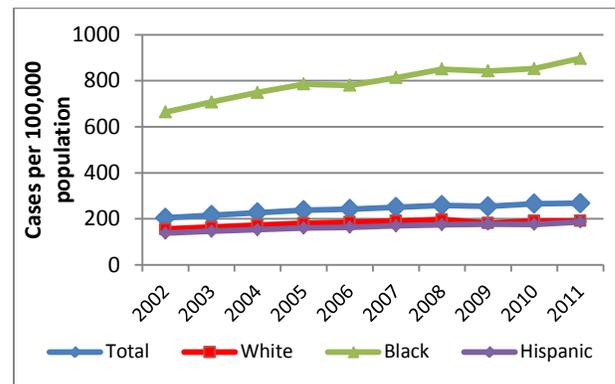


Figure 94. Rates of People Living with HIV Infection in Texas by Race and Ethnicity.

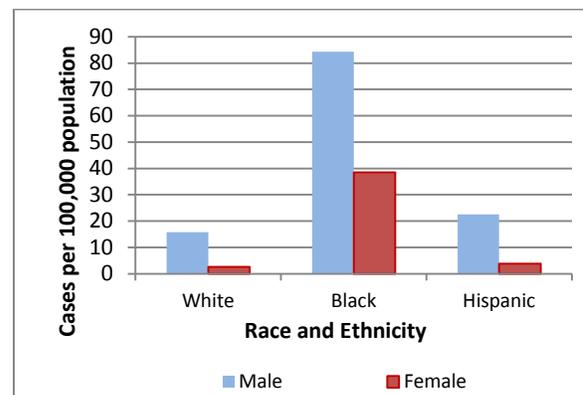


Figure 95. Rate of Newly Diagnosed HIV Cases in Texas by Gender and Race/Ethnicity, 2010.

⁶⁶ Texas HIV Surveillance Report 2011, HIV/STD Program, Texas Department of State Health Services. <https://www.dshs.state.tx.us/hivstd/reports/>

⁶⁷ Texas Integrated Epidemiological Profile, 2010, HIV/STD Program, Texas Department of State Health Services. <https://www.dshs.state.tx.us/hivstd/reports/>

Other Sexually Transmitted Diseases

In 2009, 139,600 sexually transmitted disease (STD) cases, excluding HIV, were reported in Texas, an increase of 2% from 136,597 cases in 2008.⁶⁸ STDs are generally treatable. However, STD prevention is important because of potential adverse effects of STDs related to fertility, the health of pregnant women and their babies, and risk for other infectious diseases, including HIV. In addition, antibiotic drug resistance has become a problem in the treatment of some of those diseases.

Texas bears a significant portion of the reportable STD burden in the U.S., ranking 17th in 2008 among states in chlamydia case rates, 15th in gonorrhea rates, and 4th in syphilis rates.⁶⁹ STDs continue to affect the black population more than any other racial or ethnic group.

Chlamydia

The bacterium *Chlamydia trachomatis* is the most common cause of reportable STDs in Texas. Reports of chlamydia infection in 2009 totaled 103,829, up 5% from 98,707 cases in 2008.⁷⁰ Chlamydia infections often produce no symptoms or mild symptoms, such as burning during urination. Asymptomatic persons can

readily spread the disease. Women are tested more often than men for chlamydia because of the increased risk of severe outcomes, including pelvic inflammatory disease, ectopic pregnancy, and infection of a fetus. Infected newborns can have serious health problems.

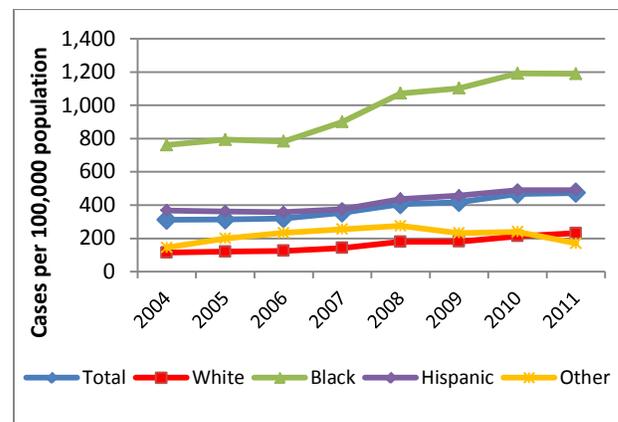


Figure 96. Chlamydia Incidence Rates for Texas by Race and Ethnicity.

Syphilis

Syphilis is an STD caused by the bacterium *Treponema pallidum*. Primary syphilis is characterized by the appearance of one or more sores at the infection site. These sores heal, but the disease progresses to secondary syphilis, if no treatment is given. The symptoms of secondary syphilis usually go away with or without treatment, and without treatment a latent or hidden stage follows that can last several decades. Late syphilis, which can appear after latency, is often fatal. Congenital syphilis, which occurs when an infected woman passes the disease to her unborn child, can

⁶⁸ Texas Department of State Health Services, 1999-2009 STD Management Information System.

⁶⁹ U.S. Centers for Disease Control and Prevention, National Center for HIV, STD and TB Prevention (NCHSTP), Division of STD/HIV Prevention, Sexually Transmitted Disease Morbidity 1984 - 2008, CDC WONDER On-line Database.

⁷⁰ Texas Department of State Health Services, 1999-2009 STD Management Information System.

cause miscarriage, stillbirth, premature delivery, or other severe complications in the newborn.

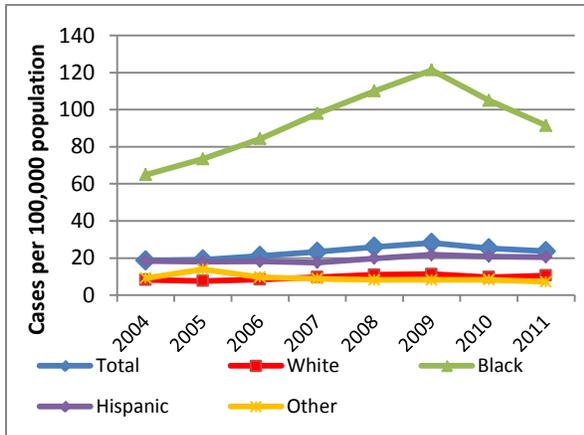


Figure 97. Syphilis Incidence Rates for Texas by Race and Ethnicity.

Gonorrhea

The bacterium *Neisseria gonorrhoeae* causes gonorrhea, the second most frequently reported STD in Texas. In 2009, 12,359 cases of gonorrhea were reported. Like chlamydia, gonorrhea infections often produce no symptoms or mild symptoms such as burning

during urination. The disease is easily spread by asymptomatic persons. Women with gonorrhea are at risk for the same complications that can occur with chlamydia infection.

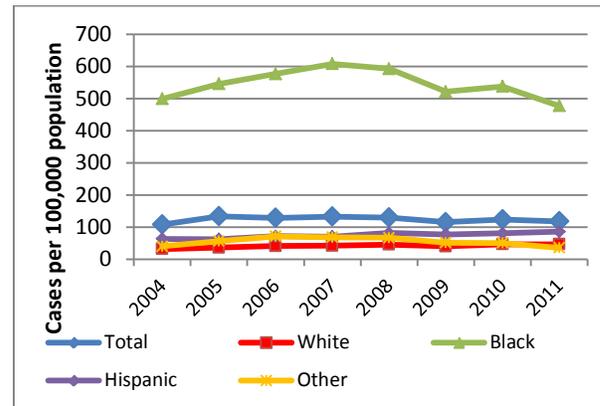


Figure 98. Gonorrhea Incidence Rates for Texas by Race and Ethnicity.

Foodborne Illness

Foodborne disease results from consuming contaminated foods or beverages. There are a variety of pathogens or disease-causing microbes, including bacteria, viruses, fungi, and parasites, that can cause illness when consumed. Often, toxins produced by these microbes — either in food before consumption or in the intestines — cause illness. Each year in the U.S., an estimated 48 million persons experience foodborne illnesses.⁷¹ Pathogens transmitted through food sicken approximately one in six Texans (4,000,000 people) each year, and an estimated 240 Texans die from these illnesses.

One of the most common foodborne illnesses is salmonellosis. About 3,000 cases of salmonellosis are reported in Texas each year. *Salmonella* bacteria live in the digestive tracts of many animals, particularly cattle and chicken. Beef and chicken products often contain *Salmonella*, and if not cooked thoroughly, these foods can make people ill. Other food items, such as fruits and vegetables, can become contaminated in fields, during handling and processing, and during preparation. Salmonellosis usually causes vomiting, diarrhea, headache, and fever, but it can also have other manifestations. It is rarely fatal.

Escherichia coli (*E. coli*) are bacteria that are commonly found in harmless forms in the digestive tracts of many animals and humans. However, there are pathogenic forms of *E. coli*

that can cause serious illness and even death; these are called Shiga toxin-producing *Escherichia Coli*, or STECs. Over 300 STEC infections are reported in Texas each year. The best known STEC is *E. coli* O157:H7, which is often associated with beef products. There are many other serotypes as well, and these also cause serious illness. Illnesses caused by pathogenic *E. coli* usually involve vomiting, diarrhea, and fever. These illnesses can also lead to kidney failure which can be fatal, especially in young children or the elderly.

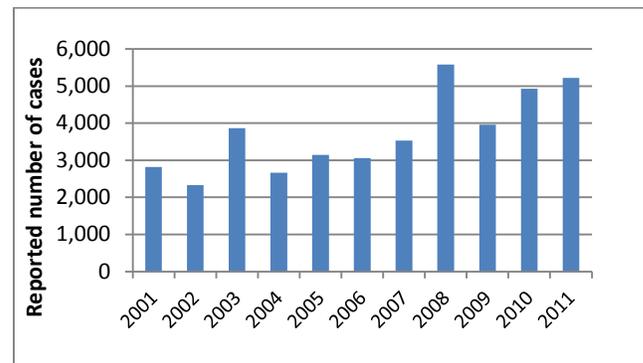


Figure 99. Number of Salmonellosis Cases in Texas.

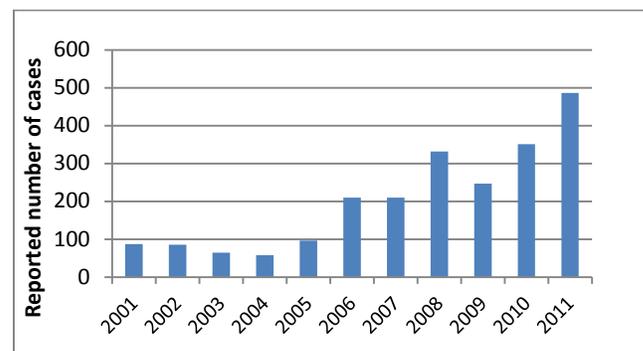


Figure 100. Number of Escherichia coli, Shiga positive (STEC) cases in Texas.

⁷¹Callan E, Hoekstra RM, Angulo FJ, Tauxe RV, Widdowson M-A, Roy SL, et al. Foodborne illness acquired in the United States—major pathogens. *Emerg Infect Dis* [serial on the Internet]. 2011 Jan [DATE CITED]. <http://dx.doi.org/10.3201/eid1701.P11101>

Appendix

Definitions

Adjusted rate

An adjusted rate is one that has taken into account influences in a crude rate, such as differences in age composition of one population relative to a comparison population.

Age-specific rate

Rate obtained for specific age groups (for example, age-specific fertility rate, death rate, marriage rate, illiteracy rate, school enrollment rate, etc.).

Assessment

Assessment is the regular and systematic collection, assembly, analysis, and dissemination of information. Public health assessment, policy development and assurance of access to quality health care are considered the three core functions of government in public health. (Institute of Medicine (1988) *The Future of Public Health*, National Academies Press).

Birth Rate

The birth rate is the number of live births per 1,000 persons (males and females) in the population.

Birth weight

Birth weight is the weight of an infant at delivery, recorded in pounds and ounces or in grams.

Body Mass Index (BMI)

BMI is a measure of weight relative to height. It is calculated as weight in kilograms divided by height in meters squared. Healthy BMI for adults (20 years of age and over) is defined as 18.5 to less than 25; overweight, as greater than or equal to a BMI of 25; and obesity, as greater than or equal to a BMI of 30.

Cause of death

A cause of death is any condition which leads to or contributes to death. Causes of death are classified according to the tenth revision of The International Classification of Diseases (ICD-10).

Confidence Interval

A confidence interval is the range of probable true values for a statistic such as an average or mean, that is calculated for a sample of some set of data. Typically, the 95% confidence interval indicates the range of values within which the statistic would fall 95% of the time if the researcher were to calculate the statistic from an infinite number of samples of the same size drawn from the same set of data.

Congenital anomaly

A congenital anomaly is a physical, physiological, or metabolic abnormality existing before or at birth, but not necessarily detectable at birth.

COPD

COPD refers to chronic obstructive pulmonary diseases and allied conditions, including bronchitis, emphysema, asthma, and other conditions (replaced, as a leading cause, in ICD-10 by chronic lower respiratory diseases).

Crude rate

The crude rate is the rate of any demographic or vital event or disease occurrence that is based on an entire population.

Ethnicity

Ethnicity is the classification of a population that shares common characteristics, such as religion, traditions, culture, language, and tribal or national origin

Fertility

Fertility is the actual reproductive performance of an individual, couple or a population.

Health indicator

Health indicators are measurable characteristics that describe the health of a population (such as life expectancy, mortality, disease incidence or prevalence, or other health states); determinants of health (such as health behaviors, health risk factors, physical environments, and socioeconomic environments); and health care access, cost, quality, and use. Depending on the measure, a health indicator may be defined for a specific population, place, political jurisdiction, or geographic area.

Homicide

Homicide is death due to injury inflicted by other individuals.

Incidence

Disease incidence is a newly diagnosed illness. A disease incidence rate is the number of new cases of a disease, divided by the number of persons at risk for the disease.

Infant

An infant is an individual less than one year of age.

Infant death

Infant death is the death of an individual less than one year of age.

International Classification of Diseases (ICD)

The ICD is a coding and classifying system for diseases. The ICD is developed collaboratively by the World Health Organization and 10 international centers, one of which is housed at the National Center for Health Statistics. The purpose of the ICD is to promote international comparability in the collection, classification, processing, and presentation of health statistics.

Live birth

A live birth is the complete expulsion or extraction from the mother of a product of conception, which breathes or shows any other evidence of life, such as beating of the heart.

Low birth weight

Low birth weight is defined as less than 2,500 grams or 5 pounds, 9 ounces.

Malignant neoplasm

A malignant neoplasm is defined as a tumor having the properties of invasion and metastatic cancer.

Maternal death

Maternal death is a death of a woman resulting from pregnancy or childbearing, while pregnant or within 42 days of termination of pregnancy.

Morbidity

Morbidity is the technical term for illness.

Mortality

Mortality is the technical term for death.

Obese

See Body Mass Index (BMI).

Population

A population is the total of all individuals in a given area.

Poverty status

Poverty status is a measure of family income expressed as a percent of the poverty threshold. Families or individuals with income below their appropriate thresholds are classified as below the poverty threshold. These thresholds are updated annually by the U.S. Census Bureau to reflect changes in the Consumer Price Index for all urban consumers.

Preterm birth

A preterm birth is one that occurs at less than 37 completed weeks of gestation.

Prevalence

Disease prevalence is the number of cases of a chronic condition existing in a population. A prevalence rate is the total number of cases of a condition existing in a population divided by the total population at risk.

Race

A race is a geographical population of humankind that possesses inherited distinctive physical characteristics that distinguish it from other populations.

Race-ethnicity

Race – ethnicity refers to the array of diversity of language, culture, national origin, color, and historical context within which individuals self-identify. For most statistical reporting, four major categories (White, Hispanic, Black, Other) represent race-ethnicity. Persons of Hispanic origin are reported as Hispanic, regardless of other racial identification. Asian is included under other, when other is reported.

Rate

A rate is the frequency of a demographic event in a specified period of time divided by the population at risk of the event.

Residence

Residence is the geographic area of the usual place where a person lives.

Standardized rate

See Adjusted Rate.

Statistical Significance

Statistical significance is used to evaluate the likelihood that chance variability may be considered an explanation for observed results. One test of statistical significance is the calculation of a p value, which is the probability that the observed results may be due to chance alone.

Underlying cause of death

The underlying cause of death is the disease or injury which initiated the train of morbid events leading directly to death, or the circumstances of the accident or violence which produced the fatal injury.

Vital statistics

Vital statistics are demographic data on abortions, births, deaths, fetal deaths, marriages and divorces.

BRFSS and YRBSS Questions

The Texas Behavioral Risk Factor Surveillance System (BRFSS), initiated in 1987, is a federally funded telephone survey conducted on a monthly basis of randomly selected adult Texans to collect data on lifestyle risk factors contributing to the leading causes of death and chronic diseases.

The Texas Youth Risk Behavior Surveillance System (YRBSS), initiated in 1991, is a federally funded classroom-based paper survey conducted biennially in odd numbered years to monitor priority health risk behaviors that contribute substantially to the leading causes of death, disability, and social problems among youth and adults.

Measure	Figure	Page	Data Source	Question
Age-Adjusted Prevalence of “Physical Health Not Good 5+ Days” in Texas by Income Level.	8	5	BRFSS	Adults were asked for the number of days that their Physical Health was not good in the past 30 days.
Age-Adjusted Prevalence of “Mental Health Not Good 5+ Days” in Texas by Income Level.	9	5	BRFSS	Adults were asked for the number of days that their Mental Health was not good in the past 30 days.
Age-Adjusted Prevalence (percent) of Inadequate Physical Activity among adults in Texas and the U.S.	10	7	BRFSS	Adults were asked if they had engaged in moderate physical activity for at least 30 minutes per day for 5 or more days per week or vigorous physical activity for at least 20 minutes per day for 3 or more days per week; if they answered “no”, that was defined as “Inadequate Physical Activity.”
Prevalence (percent) of High School Students who are Physically Active in Texas and the U.S.	11	7	YRBSS	High school students were asked if they had been physically active for at least one hour for five or more of the last seven days; this serves as the definition for “Physically Active”.
Prevalence (percent) of Overweight and Obese Adults in Texas and the U.S.	12	8	BRFSS	Adults were asked about their height and weight. BMI was calculated based on their reported height and weight. Overweight adult is defined as an adult with a BMI of 25.0–29.9. Obese adults are defined based on a BMI of 30.0 or greater.
Prevalence (percent) of Obesity for Adults in Texas by Race and Ethnicity	13	8	BRFSS	Adults were asked about their height and weight. BMI was calculated based on their reported height and weight. Obese adults are defined based on a BMI of 30.0 or greater.
Prevalence (percent) of Overweight and Obese Youth in Texas and the U.S.	14	8	YRBSS	Students were asked about their height and weight. BMI was calculated based on their reported height and weight. Overweight is defined as at or above the 85th percentile and below the 95th percentile for BMI by age and gender. Obese is defined as at or above the 95th percentile for BMI for age and gender.
Prevalence (percent) of Current Adult Cigarette Smokers in Texas by Income.	17	10	BRFSS	Adults ages 18 and older were asked if they are current smokers who had smoked 100 cigarettes in their lifetime and now smoke every day or some days.
Prevalence (percent) of Binge Drinking among Youth (high school) within the Past 30 Days in Texas by Race and Ethnicity.	18	11	YRBSS	Students were asked about the number days that they had 5 or more drinks of alcohol in a row (within a couple of hours) in the past 30 days. Binge drinking is defined as drinking 5 or more drinks of alcohol in a row within a couple of hours
Prevalence (percent) of Binge Drinking among Youth (high	19	11	YRBSS	Students were asked about the number days that they had 5 or more drinks of alcohol in a row (within a couple of hours) in

Measure	Figure	Page	Data Source	Question
school) within the Past 30 Days in Texas and the U.S.				the past 30 days. Binge drinking is defined as drinking 5 or more drinks of alcohol in a row within a couple of hours
High Blood Pressure Prevalence (percent) in Texas by Race and Ethnicity	43	25	BRFSS	Adults were asked if they have ever been told that they have high blood pressure; those who reported either gestational HBP or pre-hypertension were considered not to have HBP.
Prevalence (percent) of Diabetes in Texas by Race and Ethnicity	67	37	BRFSS	Adults were asked whether they have ever been told by a doctor or other healthcare professional that they had diabetes; those who reported gestational diabetes or pre-diabetic conditions were not considered to have had diabetes.
Prevalence (percent) of COPD in Texas by Income Level, 2009.	69	38	BRFSS	Adults were asked if they had ever been told by a doctor or other health care professional that they have COPD, emphysema, or chronic bronchitis. (COPD prevalence data were only collected in 2009 for Texas. National data were not collected).
Prevalence (percent) of Asthma in Texas by Gender.	71	39	BRFSS	Adults were asked whether they have ever been told by a doctor, nurse, or other health professional that they had asthma and still have asthma; this defines “current asthma”.
Prevalence (percent) of Asthma in Texas by Race and Ethnicity.	72	39	BRFSS	Adults were asked whether they have ever been told by a doctor, nurse, or other health professional that they had asthma and still have asthma; this defines “current asthma”.
Arthritis Prevalence (percent) in Texas by Race and Ethnicity	77	41	BRFSS	Adults were asked if they have ever been told by a doctor or other health professional that they had some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia.
Arthritis Prevalence (percent) in Texas by Age Group	78	41	BRFSS	Adults were asked if they have ever been told by a doctor or other health professional that they had some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia.
Percent of Adults Age 18 and Older in Texas who Received the Flu Vaccine by Race and Ethnicity	88	48	BRFSS	Adults were asked whether during the past 12 months if they had received the seasonal flu vaccine.
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Texas Data Sets

Birth Data

Birth data are derived from a subset of variables collected on the Texas Certificate of Live Birth. A new Certificate of Birth was introduced in Texas in 2005. The process involved in this revision, as well as details of what was revised, can be found at http://www.cdc.gov/nchs/vital_certs_rev.htm. There were several changes in the certificate that may affect comparisons with data for 2004 and earlier. A new birth module for 2005 and onward was added to Texas Health Data to reflect those changes. Care is recommended when making comparisons with pre-2005 data.

Tables of birth statistics can be created for many outcomes or risk factors by county of residence of the mother. The categories include four or more prior births, no prenatal care, prenatal care began in first trimester, smoking during pregnancy, cesarean section, vaginal birth after cesarean, spacing less than 18 months apart, low birth weight, very low birth weight, and premature births.

Queryable data can be found at: <http://soupfin.tdh.state.tx.us/birthdoc.htm>

For additional vital statistics reports on Births and Deaths, see the following link.

<http://www.dshs.state.tx.us/chs/vstat/annrpts.shtm>

Behavioral Risk Factor Surveillance System (BRFSS)

The Texas Behavioral Risk Factor Surveillance System (BRFSS), initiated in 1987, is a federally funded telephone survey conducted on a monthly basis of randomly selected adult Texans to collect data on lifestyle risk factors contributing to the leading causes of death and chronic diseases. As a primary source for comprehensive statewide data on preventive health practices and health risk behaviors, BRFSS is an important tool for decision-making throughout DSHS and the public health community. Public and private health authorities at the federal, state, and local levels rely on BRFSS to identify public health problems, design policies and interventions, set goals, and measure progress toward those goals.

Queryable data can be found at: http://www.dshs.state.tx.us/chs/brfss/query/brfss_form.shtm

Cancer Registry Data

The Texas Cancer Registry (TCR) is a statewide population-based registry that serves as the foundation for measuring the Texas cancer burden, comprehensive cancer control efforts, health disparities, progress in prevention, diagnosis, treatment, and survivorship, as well as supports a wide variety of cancer-related research. These priorities cannot be adequately addressed in public health, academic institutions, or the private sector without timely, complete, and accurate cancer data.

Queryable data can be found at: <http://www.cancer-rates.info/tx/index.php>

Mortality Data

Death data are based on a subset of variables collected on the Texas Certificate of Death. Death data are available in two modules, one for the years 1990 through 1998 and one for the years 1999 through 2009. Two modules are necessary for death statistics because deaths occurring during 1990 through 1998 were coded using ICD-9 while deaths occurring since 1999 are coded using ICD-10.

Queryable data can be found at: <http://soupfin.tdh.state.tx.us/deathdoc.htm>

For additional vital statistics reports on Births and Deaths, see the following link.

<http://www.dshs.state.tx.us/chs/vstat/annrpts.shtm>

Population Estimates

The Center for Health Statistics maintains a population database for all Texas counties that serves many purposes in public health analysis and planning. In addition to providing denominators for the calculation of rates of disease, fertility, and mortality, the dataset supports the understanding of demographic indicators such as birth rates, life expectancy, number of women of childbearing age, population density, and aging of the population. Population projected into the future assists in planning for changes in demand for health services and workforce requirements.

Queryable data can be found at: <http://www.dshs.state.tx.us/chs/popdat/>

Youth Risk Behavior Surveillance System (YRBSS)

The Texas Youth Risk Behavior Surveillance System (YRBSS), initiated in 1991, is a federally funded classroom-based paper survey conducted biennially in odd numbered years to monitor priority health risk behaviors that contribute substantially to the leading causes of death, disability, and social problems among youth and adults. As a primary source for comprehensive statewide data on preventive health practices and health risk behaviors, YRBSS is an important tool for decision-making throughout the Texas Department of State Health Services (DSHS), the [Texas Education Agency](#) (TEA), and the public health community. Public and private health authorities at the federal and state levels rely on YRBSS to identify public health problems, design policy and interventions, set goals, and measure progress toward those goals.

Queryable data can be found at: http://www.dshs.state.tx.us/chs/yrbs/query/yrbss_form.shtm

National Data Sets:

Behavioral Risk Factor Surveillance System (BRFSS), CDC

The Behavioral Risk Factor Surveillance System (BRFSS) is a state-based system of health surveys that collects information on health risk behaviors, preventive health practices, and health care access primarily related to chronic disease and injury. For many states, the BRFSS is the only available source of timely, accurate data on health-related behaviors.

BRFSS was established in 1984 by the Centers for Disease Control and Prevention (CDC); currently data are collected monthly in all 50 states, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and Guam. More than 350,000 adults are interviewed each year, making the BRFSS the largest telephone health survey in the world. States use BRFSS data to identify emerging health problems, establish and track health objectives, and develop and evaluate public health policies and programs. Many states also use BRFSS data to support health-related legislative efforts.

<http://www.cdc.gov/brfss/>

Healthy People

Healthy People provides science-based, 10-year national objectives for improving the health of all Americans. For 3 decades, Healthy People has established benchmarks and monitored progress over time in order to encourage collaborations across communities and sectors, empower individuals toward making informed health decisions, and measure the impact of prevention activities

<http://www.healthypeople.gov/2020/>

National Vital Statistics System, Centers for Disease Control and Prevention(CDC)

Mortality data from the National Vital Statistics System (NVSS) are a fundamental source of demographic, geographic, and cause-of-death information. This is one of the few sources of health-related data that are comparable for small geographic areas and are available for a long time period in the U.S. The data are also used to present the characteristics of those dying in the U.S., to determine life expectancy, and to compare mortality trends with other countries.

<http://www.cdc.gov/nchs/deaths.htm>

Youth Risk Behavior Surveillance System (YRBSS), CDC

The Youth Risk Behavior Surveillance System (YRBSS) monitors six types of health-risk behaviors that contribute to the leading causes of death and disability among youth and adults, including: Behaviors that contribute to unintentional injuries and violence, sexual behaviors that contribute to unintended pregnancy and sexually transmitted diseases, alcohol and other drug use, tobacco use, unhealthy dietary behaviors, and inadequate physical activity. YRBSS also measures the prevalence of obesity and asthma among youth and young adults. YRBSS includes a national school-based survey conducted by CDC and state, territorial, tribal, and local surveys conducted by state, territorial, and local education and health agencies and tribal governments.

<http://www.cdc.gov/healthyyouth/yrbs/index.htm>

The National Survey on Drug Use and Health (NSDUH)

The National Survey on Drug Use and Health (NSDUH) is an annual nationwide survey involving interviews with approximately 70,000 randomly selected individuals aged 12 and older. The Substance Abuse and Mental Health Services Administration (SAMHSA), which funds NSDUH, is an agency of the U.S. Public Health Service in the U.S. Department of Health and Human Services (DHHS). Supervision of the project comes from SAMHSA's Center for Behavioral Health Statistics and Quality (CBHSQ). Data from the NSDUH provide national and state-level estimates on the use of tobacco products, alcohol, illicit drugs (including non-medical use of prescription drugs) and mental health in the United States.

<https://nsduhweb.rti.org/>

Additional Information

For more information on any of the listed topic areas, please refer to the links provided below.

Birth Defects

<http://www.dshs.state.tx.us/birthdefects/>

Cancer Registry

<http://www.dshs.state.tx.us/tcr/>

Chronic Diseases

<http://www.dshs.state.tx.us/chronic/>

Environmental Health

<http://www.dshs.state.tx.us/epitox/>

Health Care-Associated Infections (HAI) Reports by Healthcare Facility

<http://txhsn.dshs.texas.gov/hai/>

Health Professions Resource Center

<http://www.dshs.state.tx.us/chs/hprc>

Healthy Texas Babies

<http://www.dshs.state.tx.us/HealthyTexasBabies>

Infectious Diseases

<http://www.dshs.state.tx.us/idcu/>

Injury

<http://www.dshs.state.tx.us/injury>

Maternal and Child Health

<http://www.dshs.state.tx.us/mch>

Mental Health

<http://www.dshs.state.tx.us/mental-health/>

Potentially Preventable Hospitalizations

<http://www.dshs.state.tx.us/ph/>

Substance Abuse

<http://www.dshs.state.tx.us/sa/default.shtm>

10 Leading Causes of Death by Age Group, Texas – 2010

Table 4. Leading Causes of Death in Texas for Males, number of deaths and rates (numbers per 100,000 population)

Rank	Age Group							
	1-14	15-24	25-34	35-44	45-54	55-64	65-74	75+
1	Accidents (Injuries) 200 (7.3)	Accidents (Injuries) 844 (44.4)	Accidents (Injuries) 904 (49.6)	Accidents (Injuries) 799 (46.4)	Diseases of the Heart 1,916 (112.5)	Malignant Neoplasms (Cancer) 4,264 (339.2)	Malignant Neoplasms (Cancer) 5,340 (77.1)	Diseases of the Heart 9,989 (2,227.1)
2	Malignant Neoplasms (Cancer) 63 (2.3)	Intentional Self-Harm (Suicide) 332 (17.5)	Intentional Self-Harm (Suicide) 357 (20.6)	Diseases of the Heart 579 (33.6)	Malignant Neoplasms (Cancer) 1,879 (110.3)	Diseases of the Heart 3,596 (286.1)	Diseases of the Heart 3,833 (557.8)	Malignant Neoplasms (Cancer) 7,501 (1,672.4)
3	Assault (Homicide) 36 (1.3)	Assault (Homicide) 292 (15.4)	Assault (Homicide) 277 (15.2)	Malignant Neoplasms (Cancer) 420 (24.4)	Accidents (Injuries) 952 (55.9)	Accidents (Injuries) 694 (55.2)	Chronic Lower Respiratory Diseases 1,136 (165.3)	Chronic Lower Respiratory Diseases 2,549 (568.3)
4	Congenital Malformations 26 (0.9)	Malignant Neoplasms (Cancer) 85 (4.5)	Diseases of the Heart 181 (9.9)	Intentional Self-Harm (Suicide) 404 (23.4)	Chronic Liver Disease & Cirrhosis 574 (33.7)	Chronic Liver Disease & Cirrhosis 661 (52.6)	Cerebrovascular Disease (Stroke) 729 (106.1)	Cerebrovascular Disease (Stroke) 2,127 (474.2)
5	Diseases of the Heart 17 (0.6)	Diseases of the Heart 52 (2.7)	Malignant Neoplasms (Cancer) 144 (7.9)	HIV 162 (9.4)	Intentional Self-Harm (Suicide) 491 (28.8)	Diabetes Mellitus 569 (45.3)	Diabetes Mellitus 588 (85.6)	Alzheimer's Disease 1,445 (322.2)
6	Intentional Self-Harm (Suicide) 14 (0.5)	Congenital Malformations ²¹ (1.1)	HIV 61 (3.3)	Chronic Liver Disease & Cirrhosis 154 (8.9)	Cerebrovascular Disease (Stroke) 316 (18.6)	Chronic Lower Respiratory Diseases 521 (41.4)	Accidents (Injuries) 433 (63.0)	Kidney Disease* 1,008 (224.7)
7	Influenza and Pneumonia 10 (0.4)	HIV 12 (0.6)	Diabetes Mellitus 33 (1.8)	Assault (Homicide) 154 (8.9)	Diabetes Mellitus 288 (16.9)	Cerebrovascular Disease (Stroke) 497 (39.5)	Kidney Disease* 380 (55.3)	Accidents (Injuries) 944 (210.5)
8	Septicemia 8 (0.3)	Cerebrovascular Disease (Stroke) 12 (0.6)	Chronic Liver Disease & Cirrhosis 33 (1.8)	Diabetes Mellitus 115 (6.7)	HIV 211 (12.4)	Intentional Self-Harm (Suicide) 326 (25.9)	Chronic Liver Disease & Cirrhosis 311 (45.3)	Diabetes Mellitus 891 (198.6)
9	Chronic Lower Respiratory Diseases 8 (0.3)	Diabetes Mellitus 10 (0.5)	Cerebrovascular Disease (Stroke) 24 (1.3)	Cerebrovascular Disease (Stroke) 97 (5.6)	Viral Hepatitis 151 (8.9)	Kidney Disease* 297 (23.6)	Septicemia 301 (43.8)	Influenza and Pneumonia 879 (196.0)
10	Non-Malignant Neoplasm 5 (0.2)	Septicemia 8 (0.4)	Septicemia 19 (1.0)	Septicemia 52 (3.0)	Assault (Homicide) 136 (8.0)	Septicemia 252 (20.0)	Influenza and Pneumonia 221 (32.2)	Septicemia 700 (156.1)

*Kidney Disease includes Nephritis, Nephrotic Syndrome, and Nephrosis

Table 5. Leading Causes of Death in Texas for Females, number of deaths and rates (numbers per 100,000 population)

Rank	Age Group							
	1-14	15-24	25-34	35-44	45-54	55-64	65-74	75+
1	Accidents (Injuries) 118 (4.5)	Accidents (Injuries) 328 (18.2)	Accidents (Injuries) 307 (17.1)	Malignant Neoplasms (Cancer) 548 (31.6)	Malignant Neoplasms (Cancer) 1,847 (106.6)	Malignant Neoplasms (Cancer) 3,247 (242.2)	Malignant Neoplasms (Cancer) 3,974 (506.2)	Diseases of the Heart 12,643 (1,856.3)
2	Malignant Neoplasms (Cancer) 69 (2.6)	Intentional Self-Harm (Suicide) 66 (3.7)	Malignant Neoplasms (Cancer) 186 (10.4)	Accidents (Injuries) 331 (19.1)	Diseases of the Heart 933 (53.9)	Diseases of the Heart 1,596 (119.1)	Diseases of the Heart 2,352 (299.6)	Malignant Neoplasms (Cancer) 7,016 (1,030.1)
3	Congenital Malformations 40 (1.5)	Malignant Neoplasms (Cancer) 64 (3.6)	Intentional Self-Harm (Suicide) 105 (5.9)	Diseases of the Heart 264 (15.2)	Accidents (Injuries) 487 (28.1)	Chronic Lower Respiratory Diseases 480 (35.8)	Chronic Lower Respiratory Diseases 1,014 (129.2)	Cerebrovascular Disease (Stroke) 3,927 (576.6)
4	Assault (Homicide) 25 (1.0)	Assault (Homicide) 57 (3.2)	Diseases of the Heart 75 (4.2)	Intentional Self-Harm (Suicide) 116 (6.7)	Cerebrovascular Disease (Stroke) 241 (13.9)	Cerebrovascular Disease (Stroke) 402 (30.0)	Cerebrovascular Disease (Stroke) 644 (82.0)	Alzheimer's Disease 3,379 (496.1)
5	Diseases of the Heart 15 (0.6)	Pregnancy, Childbirth, Puerperium 25 (1.4)	Assault (Homicide) 75 (4.2)	Cerebrovascular Disease (Stroke) 80 (4.6)	Chronic Liver Disease & Cirrhosis 223 (12.9)	Diabetes Mellitus 380 (28.3)	Diabetes Mellitus 466 (59.4)	Chronic Lower Respiratory Diseases 2,830 (415.5)
6	Septicemia 8 (0.3)	Diseases of the Heart 24 (1.3)	Pregnancy, Childbirth, Puerperium 39 (2.2)	HIV 74 (4.3)	Diabetes Mellitus 172 (9.9)	Accidents (Injuries) 329 (24.5)	Kidney Disease* 383 (48.8)	Kidney Disease* 1,213 (178.1)
7	Intentional Self-Harm (Suicide) 8 (0.3)	Congenital Malformations 15 (0.8)	HIV 34 (1.9)	Assault (Homicide) 65 (3.7)	Chronic Lower Respiratory Diseases 172 (9.9)	Chronic Liver Disease & Cirrhosis 274 (20.4)	Septicemia 304 (38.7)	Influenza and Pneumonia 1,163 (170.8)
8	Influenza and Pneumonia 7 (0.3)	Cerebrovascular Disease (Stroke) 11 (0.6)	Cerebrovascular Disease (Stroke) 25 (1.4)	Chronic Liver Disease & Cirrhosis 59 (3.4)	Intentional Self-Harm (Suicide) 132 (7.6)	Kidney Disease* 229 (17.1)	Accidents (Injuries) 260 (33.1)	Diabetes Mellitus 1,148 (168.6)
9	Cerebrovascular Disease (Stroke) 6 (0.2)	Septicemia 6 (0.3)	Septicemia 23 (1.3)	Diabetes Mellitus 54 (3.1)	Septicemia 131 (7.6)	Septicemia 214 (16.0)	Alzheimer's Disease 185 (23.6)	Accidents (Injuries) 1,107 (162.5)
10	Chronic Lower Respiratory Diseases 5 (0.2)	Non-Malignant Neoplasms 4 (0.2)	Diabetes Mellitus 19 (1.1)	Septicemia 42 (2.4)	Kidney Disease* 108 (6.2)	Intentional Self-Harm (Suicide) 116 (8.7)	Chronic Liver Disease & Cirrhosis 182 (23.2)	Septicemia 948 (139.2)

*Kidney Disease includes Nephritis, Nephrotic Syndrome, and Nephrosis

Healthy People Objectives

Healthy People (HP) 2020 Objective	Measure	Target	Texas Value	U.S. Value	Year	Texas Trend*	Ref. Page
Behaviors, Environment and Health							
Reduce the proportion of adults who are obese	Percent	30.5	32.2	29.3	2010	↑	8
Reduce cigarette smoking by adults	Percent	12	16.1	17.3	2010	↓	9
Reduce tobacco use by adolescents	Percent	16	17.4	18.1	2010	↓	9
Reduce unintentional injury deaths	Deaths per 100,000 population	36	40	37.3	2009	↓	12
Maternal and Child Health							
Increase proportion of pregnant women who receive prenatal care in the beginning of the first trimester	Percent	77.9	60.8	70.8 (2007)	2010	↑	18
Reduce total preterm births	Percent	11.4	13.2	12	2010	→	19
Reduce low birth weight (LBW)	Percent	7.8	8.4	8.2	2010	→	
Reduce the rate of infant deaths (within 1 year)	Deaths per 1,000 live births	6.0	6.1	6.2	2010	↑	20
Chronic Diseases and Health Conditions							
Reduce stroke deaths	Deaths per 100,000 population	33.8	46.6	38.9	2009	↓	25
Reduce the overall cancer death rate	Deaths per 100,000 population	160.6	163.9	175.8 (2008)	2009	↓	26
Reduce the lung cancer death rate	Deaths per 100,000 population	45.5	44.8	49.6 (2008)	2009	↓	28
Reduce colorectal cancer death rate	Deaths per 100,000 population	14.5	15.4	16.4 (2008)	2009	↓	29
Reduce female breast cancer death rate	Deaths per 100,000 population	20.6	21.1	22.5 (2008)	2009	↓	30
Reduce the death rate from cancer of the uterine cervix	Deaths per 100,000 population	2.2	2.7	2.4 (2008)	2009	↓	31
Reduce prostate cancer death rate	Deaths per 100,000 population	21.2	19.3	22.8 (2008)	2009	↓	32
Reduce melanoma cancer death rate	Deaths per 100,000 population	2.4	2.4	2.7 (2008)	2009	↓	33
Reduce the suicide rate	Deaths per 100,000 population	10.2	11.4	11.8	2009	↑	35
Infectious Diseases							
Maintain an effective vaccination coverage level of 4 doses of the diphtheria-tetanus-acellular pertussis (DTaP) vaccine among children by age 19 to 35 months	Percent	90	83.9±3.3	84.4±1	2010	↑	44
Achieve and maintain an effective vaccination coverage level of 3 or 4 doses of <i>Haemophilus influenzae</i> type b (Hib) vaccine among children	Percent	90	90.6	91.8	2010	↓	44

Healthy People (HP) 2020 Objective	Measure	Target	Texas Value	U.S. Value	Year	Texas Trend*	Ref. Page
by age 19 to 35 months							
Maintain an effective vaccination coverage level of 3 doses of hepatitis B (hep B) vaccine among children by age 19 to 35 months	Percent	90	88.4	90.4	2010	↓	44
Maintain an effective coverage level of 1 dose of measles-mumps-rubella (MMR) vaccine among children by age 19 to 35 months	Percent	90	91.8	91.5	2010	↑	44
Maintain an effective coverage level of 3 doses of polio vaccine among children by age 19 to 35 months	Percent	90	92.0	93.3	2010	↓	44
Maintain an effective coverage level of 1 dose of varicella vaccine among children by age 19 to 35 months	Percent	90	90.2	90.4	2010	↓	44
Achieve and maintain an effective coverage level of 4 doses of pneumococcal conjugate vaccine (PCV) among children by age 19 to 35 months	Percent	90	83.0	83.3 0.4	2010	↑	44
Reduce meningococcal disease	Cases per 100,000	0.3	0.2	(2008)	2009	↓	50