

TEXAS ASTHMA PLAN

A STRATEGIC PLAN TO ADDRESS ASTHMA ACTIVITIES IN TEXAS



ASTHMA COALITION OF TEXAS

3RD EDITION
2007 - 2010

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Asthma continues to be one of the most prevalent chronic lung diseases and growing health concerns in the state of Texas. Asthma, a potentially deadly illness, affects the lungs and causes the airways to become inflamed and swollen, and surrounding muscles to tighten. Symptoms include episodes of coughing, chest tightness, wheezing, and shortness of breath.

According to the Texas Behavioral Risk Factor Surveillance System in 2005, an estimated 1.5 million (6.8%) adult Texans (18 years and older) and 389 thousand (6.2%) children 0-17 years of age currently report having asthma. Also, an estimated 2.5 million (11.1%) adult Texans and 653 thousand (10.4%) children report having had asthma during their lifetime. In addition, asthma has had a significant economic impact on the state of Texas. According to the Texas Health Care Information Collection in 2004, hospital discharges listing asthma as the principle diagnosis and other diagnoses account for about \$353 million in total charges.

To address the burden of asthma in Texas, the Asthma Coalition of Texas (ACT), in partnership with the Texas Asthma Program at the Department of State Health Services, has developed the 3rd edition of the Texas Asthma Plan. The Texas Asthma Plan serves as a planning tool to initiate asthma activities in the state of Texas. The 2007-2010 Edition contains issue items with updated goals and action steps specific to regional areas throughout Texas.

We encourage you to review the Texas Asthma Plan and take action to help reduce the burden of asthma in Texas. With everyone working together, we can make a difference!

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What Is Asthma?

WHAT IS ASTHMA?

Definition of Asthma

Asthma is a chronic lung disease characterized by ***inflammation***, which refers to the swelling of the inner lining of the airways thus narrowing the air passage, ***bronchoconstriction***, which is the tightening of the muscles surrounding the airways, and increases in the production of mucus.

The lungs in people with asthma are inflamed much of the time and are said to be ***hyperresponsive***, meaning that they are very sensitive and react quickly to particular environmental conditions and substances. These conditions, called ***triggers***, can induce asthma symptoms, and lead to an “asthma attack” or “asthma episode.”

SYMPTOMS & TRIGGERS OF ASTHMA

The symptoms of asthma include:

- Rapid and labored breathing
- Shortness of breath
- Wheezing
- Coughing
- Chest tightness
- Nocturnal Awakenings
- Chest Pain

Triggers can be:

- Respiratory infections
- Allergens such as dander, dust mites, cockroaches
- Environmental conditions such as weather changes and cold air
- Environmental substances such as smoke, powders, sprays, chemical fumes, and air pollutants (e.g. ozone, NO₂, particulates)
- Exercise and hyperventilation
- Improperly treated medical conditions such as gastroesophageal reflux and sinusitis
- Emotions and stress

Though we don't know specifically what causes asthma, we know that it is associated with genetic, environmental, socioeconomic, allergenic and psychosocial factors.

Diagnosis of Asthma

Asthma is diagnosed through a combination of a medical history, physical examination, and objective measurements of lung function and **atopy**. Asthma should be considered in anyone with a history of asthma symptoms associated with common triggers. If a patient is having an asthma episode at the time of the visit to the doctor, a physical examination can lead to an asthma diagnosis, especially if the symptoms improve after treatment with quick relief medicine. Objective measurements of airflow, such as **spirometry** and **peak flow monitoring** are also used to confirm these diagnoses. (For a more thorough discussion of spirometry, check <http://www.texasasthma.org/provider-resources.htm>)

Peak flow monitoring is often used more regularly to assess disease severity and persistence of symptoms and to determine the best course of treatment.¹ The disease severity ranges from very mild and intermittent to severe and persistent symptoms. The National Heart Lung and Blood Institute (NHLBI) expert panels have defined the chronic severity according to symptoms and objective measures of lung function. The Asthma Coalition of Texas endorses this classification (Appendix B). **However, individuals with even mild disease can have potentially severe and fatal exacerbations.**

With long-standing persistent asthma, changes occur in the airways, known as “airway remodeling,” that may reduce the reversibility, increase hyperresponsiveness and ultimately worsen the severity of the disease and reduce the possibility of a good response to therapy. For this reason early diagnosis and treatment is encouraged.



Managing Asthma

Because there is no cure for asthma, the goal of asthma therapy is to successfully manage the disease. Good control of asthma includes:

GOOD ASTHMA CONTROL

- Normal activity, including the ability to play and participate in sports or other activities
- No coughing or difficulty breathing
- No sleep disruption
- No absences from school or work due to asthma
- No emergency room visits/hospitalizations
- Rare need for rescue medications
- Normal lung function

With proper management and care, a person with asthma can live a long, healthy life with few symptoms.

ACT endorses the NHLBI guidelines for the diagnosis and management of asthma that have become the gold standard for asthma care in the United States (<http://www.nhlbi.nih.gov/health/prof/lung/index.htm>). In general, two kinds of medications are used to treat asthma. **Controller medicines** limit the underlying airway inflammation that contributes to asthma symptoms, and are often taken daily. Inhaled corticosteroids fall into this category and are used to maintain control of persistent asthma. **Quick relief, or rescue medication**, treats bronchoconstriction by relaxing the smooth muscles that have tightened around the airways. These medicines include short-acting β -agonists, and should be used to treat acute symptoms and to prevent exercise-induced asthma. ***The use of rescue medications greater than two times per week suggests poor control of the disease.***

Education of the asthma patient is essential for proper management of the disease. Patients must be familiar with their medications and the devices used to administer them, recognize the warning signs of an asthma attack, be aware of triggers and how to avoid them, and have knowledge of other topics specific to their health needs that are critical to good asthma management.



Effects of the Environment on Asthma

One key aspect of successful management of a person's asthma is recognizing the impact of their environment on their condition. Both indoor and outdoor air quality can play a significant role in managing asthma and avoiding potential asthma episodes. Texas is home to a diverse mix of air pollutants. The Gulf Coast region is home to one of the largest petrochemical complexes in the world. Many Texas cities have grown dramatically over the past 20 years increasing the numbers of automobiles and trucks on Texas roads. These factors, coupled with the large number of days with sunshine, contribute to pollution in a number of cities. Air quality concerns in West Texas, and in the agricultural and rural areas of the state, typically relate to dust, odors and other agricultural pollutants.

The Environmental Protection Agency (EPA) has set National Ambient Air Quality Standards (NAAQS) for six "criteria pollutants" considered harmful to public health, including ground-level ozone (smog), particulate matter, lead, nitrogen dioxide, sulfur dioxide, and carbon monoxide. As recently as March 2006 in Texas, five urban areas did not meet the federal standards for at least one of the criteria pollutants (Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, Houston-Galveston-Brazoria and San Antonio). Additionally, two areas were near non-attainment levels (Corpus Christi and Victoria).²

Roughly over half of the Texas population lives in one of these five metropolitan areas. The EPA provides an Air Quality Index (AQI) based on the measurements of five of the six criteria pollutants. The AQI is divided into categories ranging from "Good" to "Hazardous" (See Table 1).

In 2005, 26 Texas counties experienced at least one day in which the AQI for ozone reached a level that was unhealthy for sensitive groups, and not all counties are monitored.³

Environmental factors contributing to asthma are not limited to the outdoor environment. Indoor pollutants, such as environmental tobacco smoke, household dust, roaches, mold, chemical odors and compounds released from gas stoves and space heaters are common triggers encountered in the home, school and at work. Indoor air assessment tools exist and should be used to identify, control or eliminate asthma triggers. Since successful asthma management includes avoidance of asthma triggers, these tools should be used to protect family members, students and workers from illness and disability.



Air Quality Index (AQI) for Ozone

Air Quality Index (AQI) Values	Levels of Health Concern	Colors	Health Risks
When the AQI is in this range:	...air quality conditions are:	...as symbolized by this color:	...these precautions should be taken to protect your health:
0-50	Good	Green	Outside air is satisfactory. There is little or no risk.
51-100	Moderate	Yellow	Outside air is acceptable for most people. Some pollutants may cause health effects for a very small number of people who have breathing problems.
101-150	Unhealthy for Sensitive Groups	Orange	Outside air is unhealthy for some people who have breathing problems. The general public is not likely to be affected.
151-200	Unhealthy	Red	Outside air is unhealthy for everyone. Many people may begin to have health effects. People who have breathing problems may have more serious health effects.
201-300	Very Unhealthy	Purple	Health alert. All people may have more serious health effects.
> 300	Hazardous	Maroon	Health warnings of emergency conditions. All people are likely to be affected and should avoid being outside.



Asthma - Making the Case: The Data

ASTHMA – MAKING THE CASE: THE DATA

Background

Over the past decade, asthma has become a widespread public health problem that has increased in both Texas and the United States. Asthma has a major impact on the health of the population and the burden falls unevenly on some populations.

The purpose of asthma **surveillance** is to collect statewide and regional data. Surveillance data helps public health officials focus their efforts on areas of Texas most in need of an intervention and helps determine what kind of interventions they should be, as well as to provide information for education and evaluation purposes and provide feedback to partners. Monitoring trends in asthma **morbidity** and **mortality** among Texans is important for increasing knowledge about this highly prevalent condition.

Measuring the Burden of Asthma in Texas

Currently, Texas asthma surveillance uses several approaches to measure the burden of asthma in Texas. Statewide health surveys are conducted to determine the number and proportions of people with asthma. Hospitalizations due to asthma and asthma related deaths are used to measure the severity of asthma.

The following is a summary of the burden of asthma in Texas using measures of prevalence from the Texas Behavioral Risk Factor Surveillance Survey (BRFSS), hospitalization rates from the Texas Health Care Information Collection (THCIC), and mortality rates from the Texas Vital Statistics Unit (VSU).

Asthma Prevalence

Prevalence is the proportion of people in a population who have a specific disease at a point in time or a given time period. Prevalence estimates are often used to describe the burden of a disease for a given population. Texas prevalence estimates of asthma are based on the self-reported, population-based survey conducted by the Texas Behavioral Risk Factor Surveillance System (BRFSS), a division of the Texas Department of State Health Services Center for Health Statistics. The following are the questions included in the Texas BRFSS survey regarding asthma.

LIFETIME & CURRENT ASTHMA PREVALENCE

- Lifetime asthma prevalence is determined by respondents who answer “yes” to the following question:

“Have you ever been told by a doctor, nurse or other health care professional that you have asthma?”

- Current asthma prevalence is determined by respondents who answer “yes” to the following question:

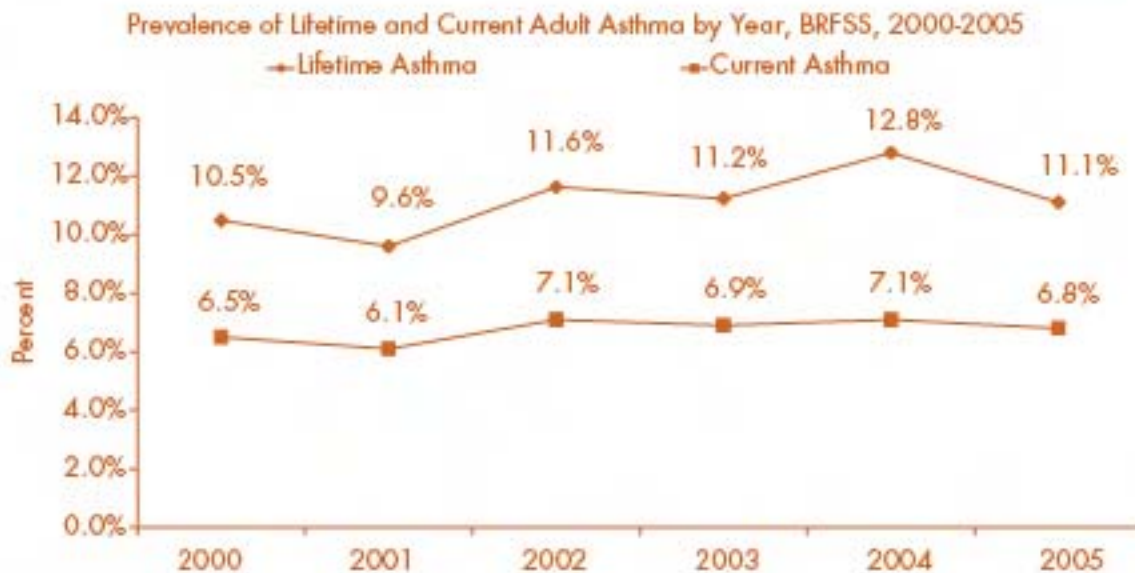
“Do you still have asthma?”

Methodology of the Survey

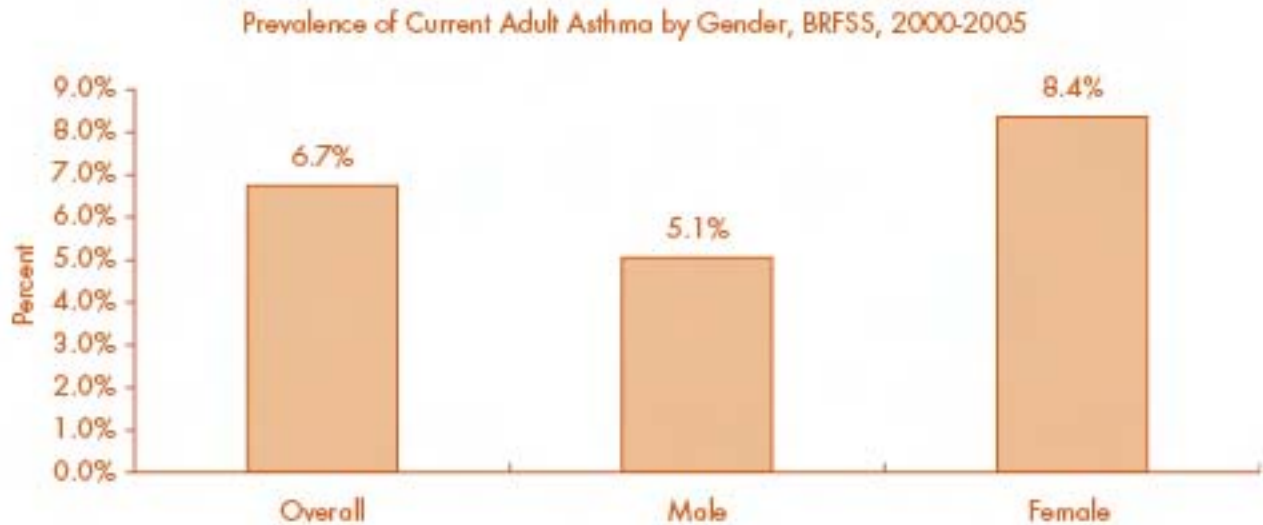
Each year of the BRFSS, approximately 5,000 to 6,000 randomly selected adults 18 years of age and older are interviewed by telephone using standardized methods and questionnaires set by the Centers for Disease Control and Prevention (CDC). The BRFSS covers a wide range of health behaviors and status indicators. Since 1999, the BRFSS has included questions related to asthma. Childhood questions have been included on the BRFSS since 2003. For the childhood questions, the adult who is surveyed answers for the child.

Limitations of the Data

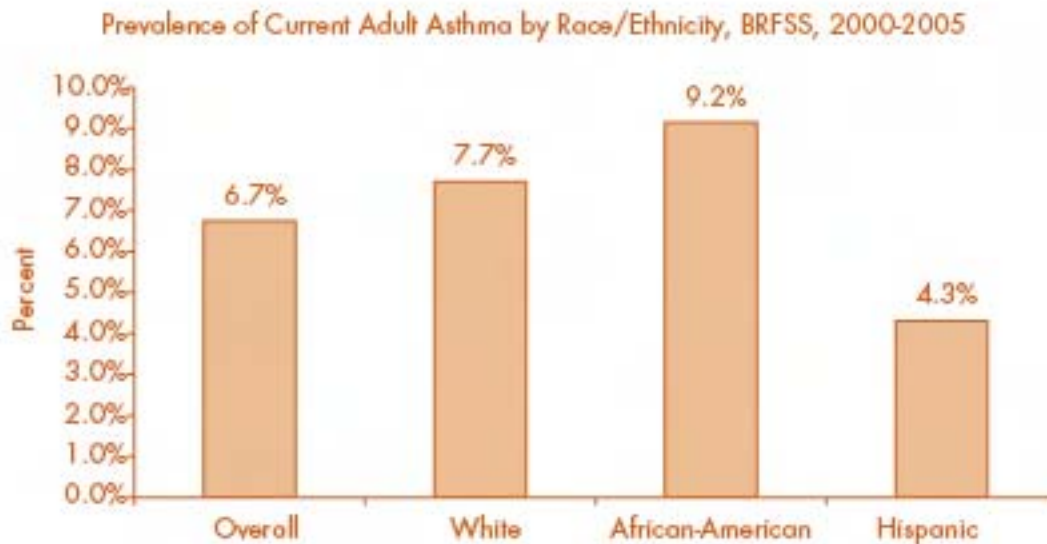
The estimates may be an underestimate of the true asthma prevalence among Texas adults and children because they reflect only those cases of asthma that have been diagnosed by a health care professional. Also, these estimates are derived from self-reported interviews.



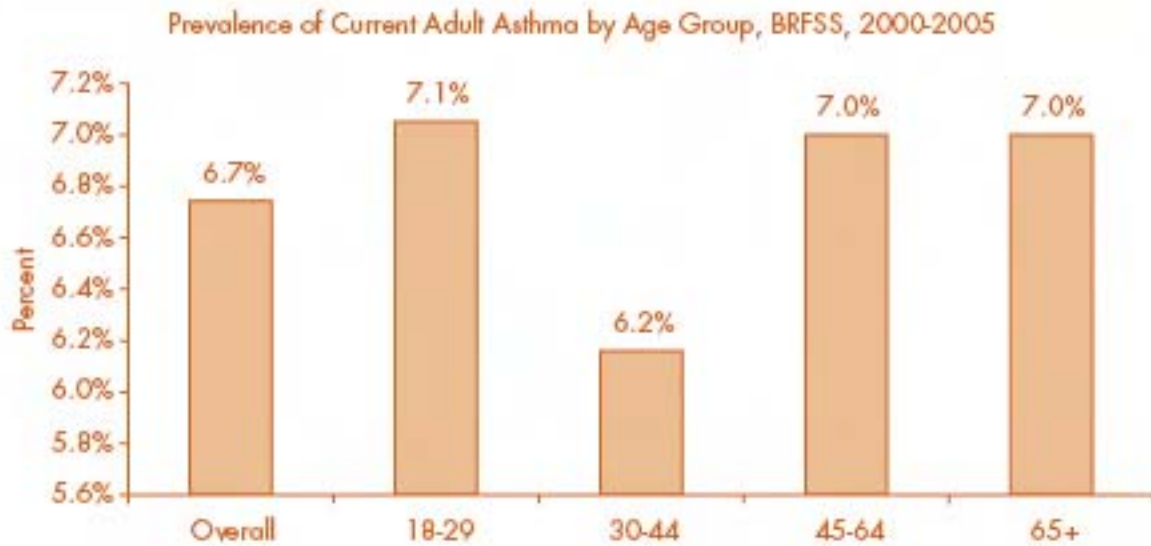
Overall, 11.1% of adults living in their households reported having ever been diagnosed with asthma, from 2000 through 2005. Of those adults that reported having ever been diagnosed with asthma, 6.8% overall reported still having asthma. The rate of adults still having asthma showed an increase in 2001 and remained steady since.



From 2000-2005, females had a significantly higher prevalence rate than males with 8.4% versus 5.1%.



From 2000-2005, African Americans had the highest rate of asthma prevalence with 9.2%.



From 2000-2005, asthma prevalence rates were highest among adults ages 18-29 and 45+.

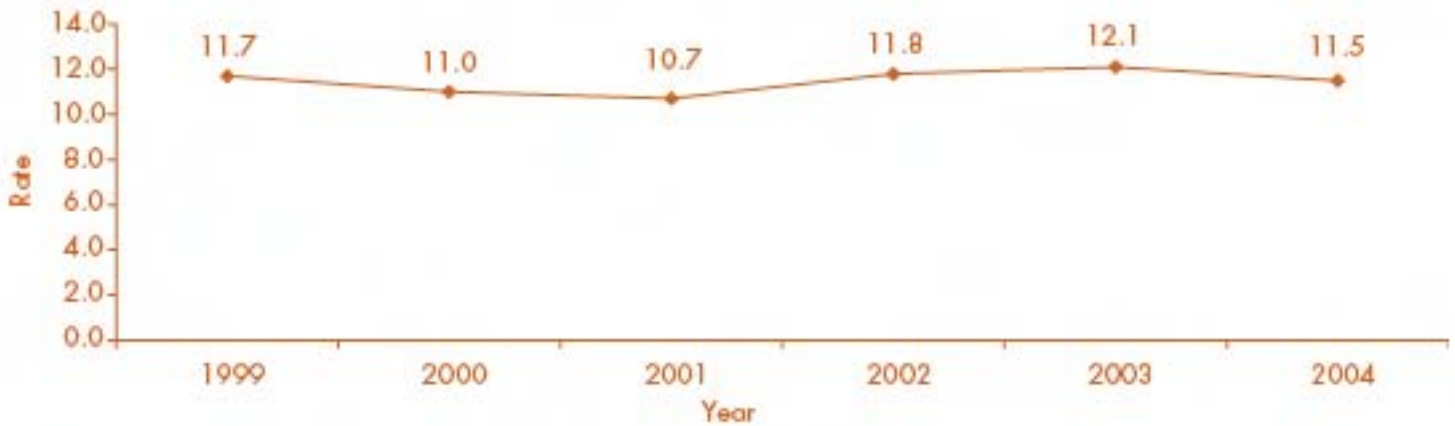
Asthma Inpatient Hospitalization

Hospitalization data for asthma are obtained from the Texas Health Care Information Collection (THCIC) Inpatient Hospital Discharge Public Use Data Files. Hospital discharge data have been available in Texas since 1999. The data represented here, between 1999-2004, defined an asthma hospitalization as all non-maternal, non-neonatal, and non-transfer hospital records listing asthma, (ICD-9-CM Code: 493.0 – 493.9) as the primary diagnosis.

Limitations of the data:

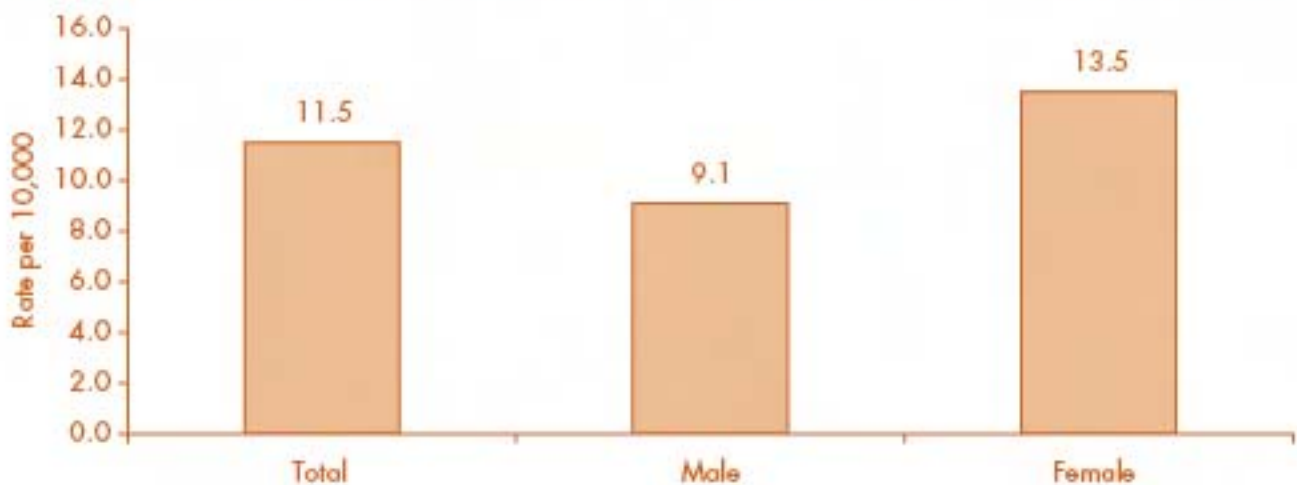
THCIC hospital discharge data represent the number of hospitalizations and not the number of individuals who have experienced complications due to having asthma. For conditions such as asthma, a few people may have been hospitalized on more than one occasion.

Asthma Hospitalization Rates per 10,000 Texas Residents by Year, All Ages, Texas, THCIC, 1999-2004



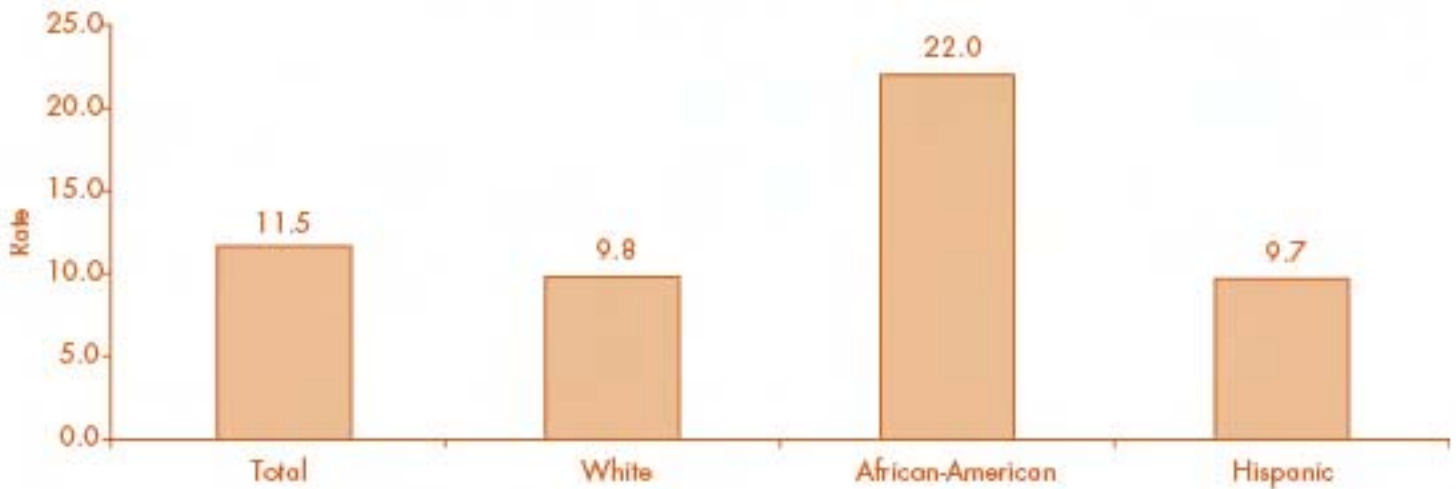
From 1999-2004, the overall rate of asthma hospitalizations was 11.5 per 10,000 Texas residents. The rate of hospitalizations due to asthma has remained steady since 2001.

Asthma Hospitalization Rates per 10,000 Texas Residents by Gender, All Ages, Texas, THCIC, 1999-2004



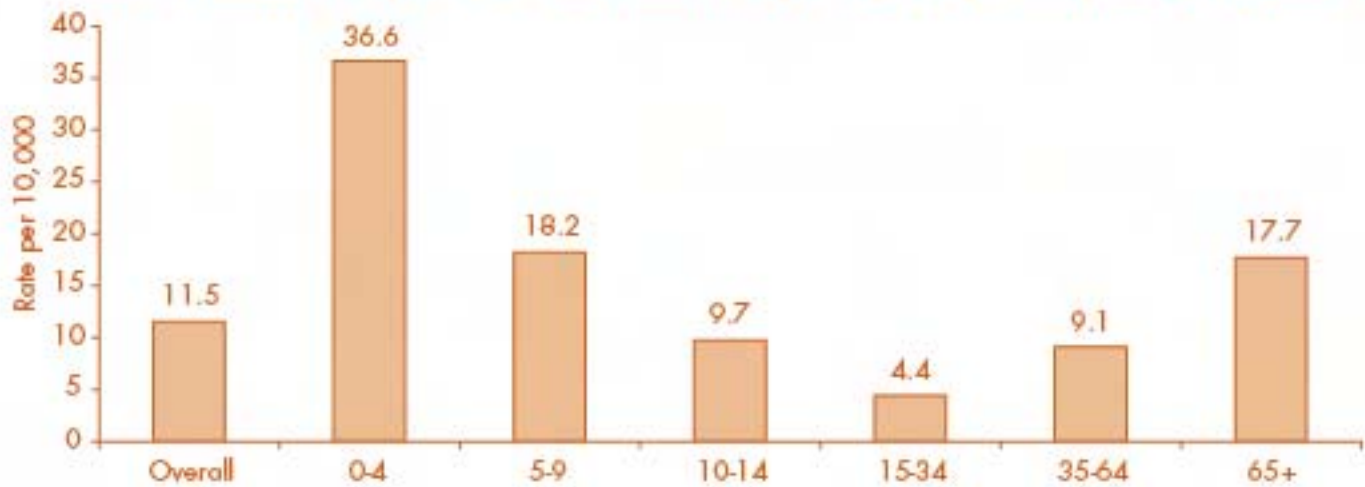
From 1999-2004, females had a significantly higher hospitalization rate than males with 13.5 versus 9.1 hospitalizations per 10,000 Texas residents.

Asthma Hospitalization Rates per 10,000 Texas Residents by Race Ethnicity, All Ages, Texas, THCIC, 1999-2004



From 1999-2004, African Americans had the highest rate of asthma hospitalizations with 22.0 per 10,000 Texas residents.

Asthma Hospitalization Rates per 10,000 Texas Residents by Age Group, All Ages, Texas, THCIC, 1999-2004



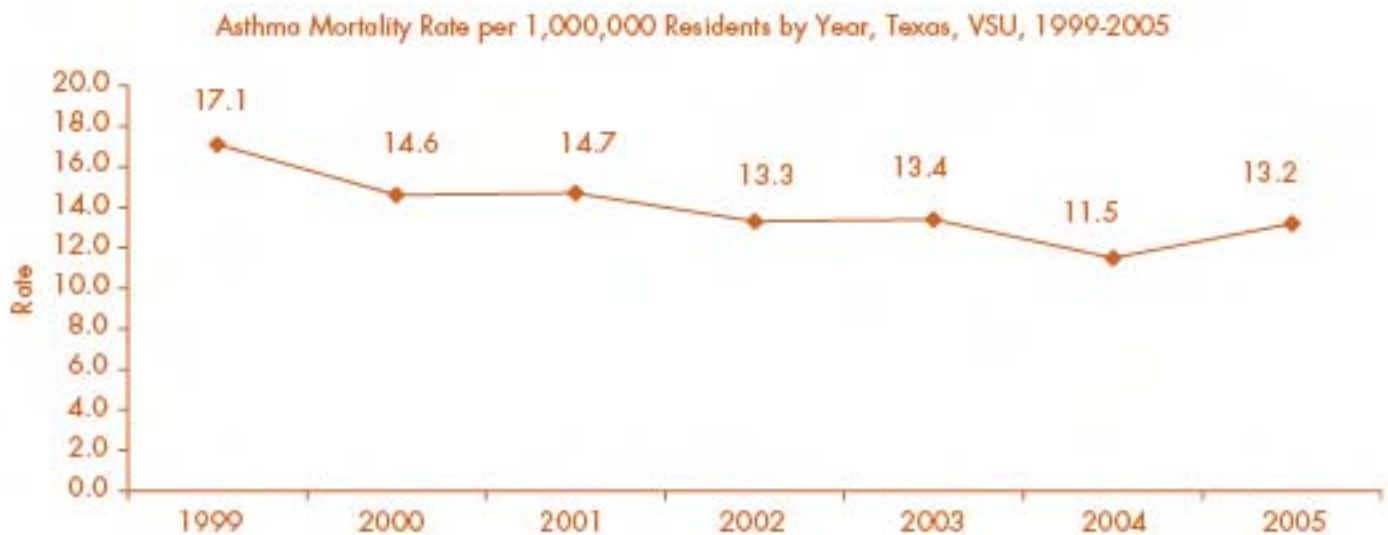
From 1999-2004, children ages 0-4 in Texas had the highest hospitalization rate with 36.6 per 10,000 residents.

Asthma Mortality

Mortality data are obtained from the Texas Center for Health Statistics Vital Statistics Unit (VSU). For the data represented here, an asthma death is defined as any death for which asthma was listed as the underlying cause. For years prior to 1999, cause of death was coded according to the Ninth Revision of the International Classification of Diseases (ICD-9). Deaths with a diagnosis code of 493.0 to 493.9 were classified as asthma deaths. The Tenth Revision (ICD-10) was implemented for years 1999 and onward. Asthma deaths were identified as deaths with a diagnosis code of J-45 or J-46. ICD-10 represents a substantial change from the ICD-9, therefore, mortality statistics for years 1999 and onward are provided separately.

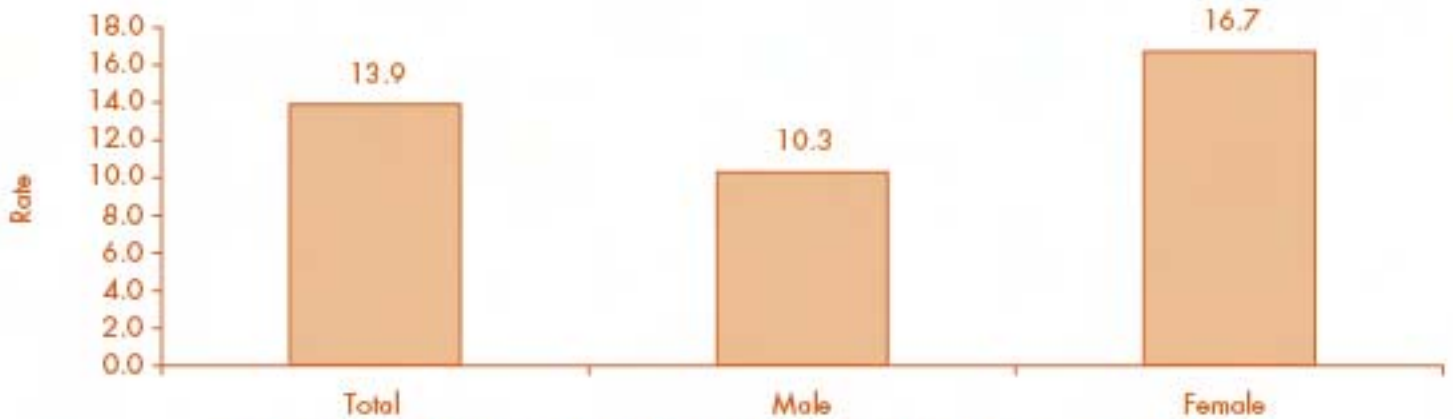
Limitations of the data:

The mortality data from 1999 and later cannot be directly compared with the data from previous years due to the ICD-9 to ICD-10 coding change. Also, the person who completes the "Cause of Death" information on the Texas Certificate of Death determines the data coding.



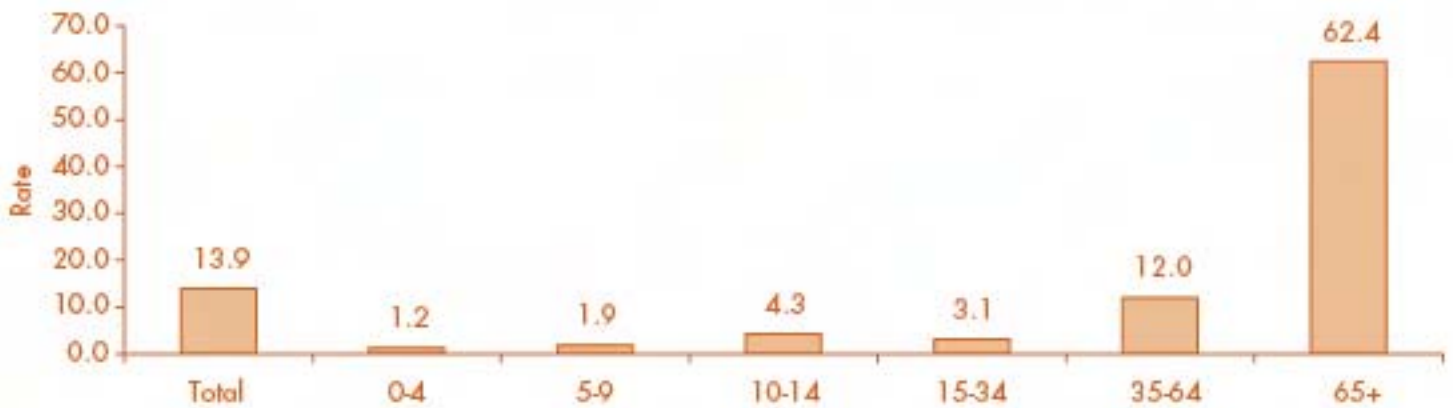
From 1999-2005, there were 2,058 deaths in Texas with asthma listed as the underlying cause of death. The overall rate of asthma deaths was 13.9 per 1,000,000 Texas residents. The rate of mortality due to asthma has showed a marked decrease from 1999 - 2000 and has remained steady since.

Asthma Mortality Rates per 1,000,000 Residents by Gender, Texas, VSU, 1999-2005



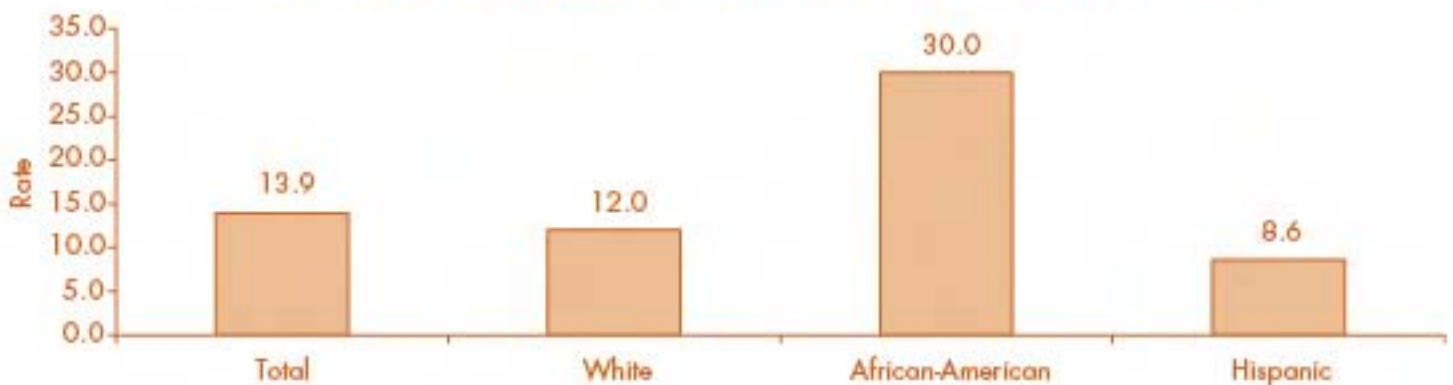
From 1999-2005, females had a higher mortality rate than males with 16.7 versus 10.3 deaths per 1,000,000 Texas residents.

Asthma Mortality Rates per 1,000,000 Residents by Age Group, Texas, VSU, 1999-2005



From 1999-2005, adult Texans aged 65+ and older had the highest mortality rate with 62.4 deaths per 1,000,000 Texas residents. There were a total of 1,044 deaths for Texans aged 65+ and older.

Asthma Mortality Rates per 1,000,000 Residents by Race/Ethnicity, Texas, VSU, 1999-2005

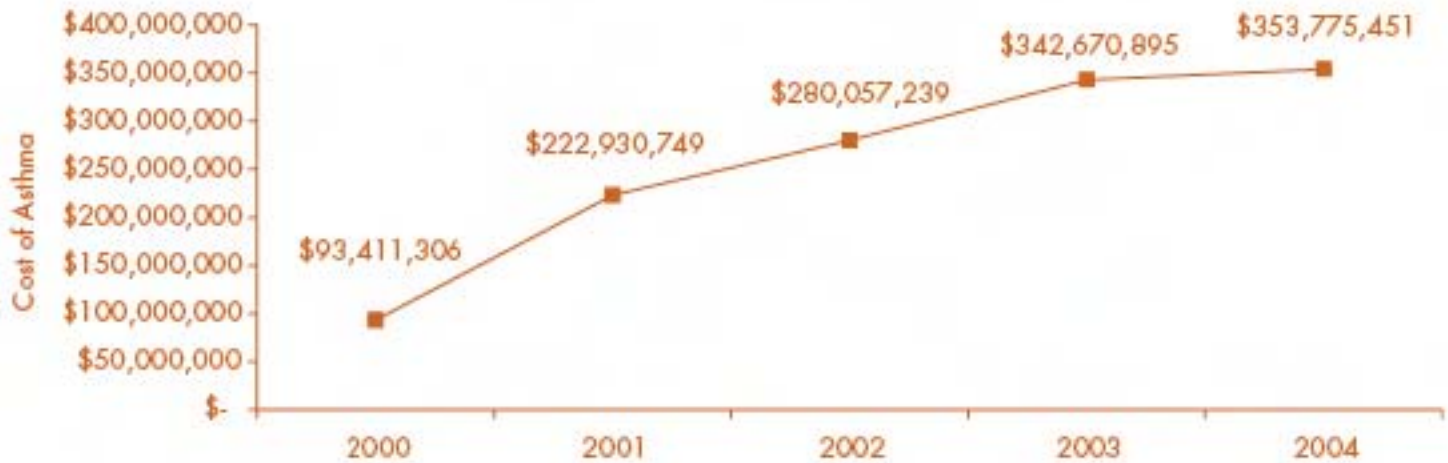


From 1999-2005, African Americans had the highest mortality rate with 30.0 per 1,000,000 Texas residents.

Financial Burden of Asthma

In 1993, direct and indirect expenditures for asthma exceeded \$12.6 billion dollars in the United States. Based on national studies, the Allergy and Asthma Foundation of America estimates the total medical expenditures in Texas for asthma to be \$763 million per year. Out of the \$763 million, \$463 million is in direct medical expenditures, and \$328 million is due to indirect costs such as school/work days lost and deaths.⁴ Texas has seen an increase in total charges for inpatient admissions with a primary discharge. In 2000, the total charges for inpatient admissions with a primary discharge diagnosis of asthma equaled about \$93 million. The total charges increased 64% (about \$260 million) in just 5 years, to equal more than \$353 million in 2004. The total charges from 2000 through 2005 equal more than \$1.3 billion.

Total Charges for Asthma Hospitalizations, By Year, THIC 2000-2004



Need for Data – Asthma Disparities

Based on current Texas data, the prevalence of asthma is disproportionately higher among African-American and Hispanic residents of Texas with extremely low income and limited access to healthcare services.⁵ The hospitalization rate of African-Americans is much higher than that of White or Hispanic residents of Texas.⁶ The Texas data mirror the national trends regarding healthcare disparities in asthma and other chronic diseases. There is a need to improve access to quality healthcare services among minority, low income, and other underserved population.



The Texas Asthma Plan – A Call to Action

THE TEXAS ASTHMA PLAN – A CALL TO ACTION

The Road to a Plan

In October of 2000, the Texas Department of State Health Services (DSHS), formerly the Texas Department of Health (TDH) and the American Lung Association of Texas (ALAT) jointly held a meeting to bring together asthma professionals from across the state. The primary purpose of the meeting was to draw upon the expertise of the meeting participants, who came from a variety of backgrounds, disciplines and geographic areas of Texas (Appendix C) to identify issues facing Texans with asthma and their caregivers, to determine potential strategies to address these issues and to gather a grasp of the burden of asthma across the state.

From that meeting, a series of issues and potential strategies and actions were identified. These issues became the basis for the 2001 Texas Asthma Plan, a framework and common vision for asthma activities across Texas.

Important Issues in Texas - Texas Asthma Meeting 2000

Issue 1: Texas needs a statewide organization to lead and support asthma activities that would:

- Act as a repository for Texas asthma projects
- Help new organizations get started
- Assist in funding projects
- Advocate for legislation
- Support asthma research
- Disseminate asthma information
- Improve communication among asthma partners

Issue 2: Texas must have information about the impact of asthma, including scope, magnitude, and costs.

- Texas needs a statewide asthma surveillance program, which would assess the current level and future changes in:
 - Prevalence
 - ER visits
 - Hospitalizations
 - Outpatient visits
 - Deaths
 - School/work absenteeism
 - Clinical measures
 - Quality of life
 - Environmental exposure prevalence
 - Costs (direct and indirect)

Issue 3: Excellent evidence-based guidelines exist for the diagnosis and management of asthma, but are not adequately implemented.

- The NHLBI Guidelines for the Diagnosis and Management of Asthma are not utilized by all health care providers. The recommended components of care include:
 1. Use of objective measures of lung function to assess severity (e.g. Spirometry and peak flow)
 2. Environmental control measures
 3. Use of effective medications (e.g. Inhaled corticosteroids)
 4. Patient education (e.g. Written asthma action plans)
- Some providers fail to perform spirometry, use inhaled corticosteroids, and create asthma action plans for their patients as recommended by the NHLBI guidelines
- Providers, schools, childcare centers, and families often fail to communicate important information that is needed to manage asthma in children
- Providers and parents must work with schools and childcare centers to create simple and uniform action plans for each child who has asthma
- Financial barriers to management exist including: some health insurance plans not covering pre-existing conditions, high prescription co-pays, and the difficulty of self-pay patients to fully cover expenses
- Specialty medical care is not available to all patients when needed
- Transportation to medical services is not always available
- Patients often do not keep appointments
- Peak flow meters, holding chambers (spacers), and other medical equipment can be expensive and are not easily available or offered to all patients
- Not all providers can afford to buy spirometers

Issue 4: Asthma is a complex illness that requires thorough understanding by patients and providers. Asthma patients and their caregivers do not have universal access to quality and effective asthma education.

- Providers have little time for patient education
- Providers are not reimbursed for patient education
- Texas needs an asthma educator certification process for providers in order to ensure high quality of asthma education for patients
- The prevalence and impact on quality of life of individuals with asthma is not well appreciated or understood by providers and the public

Issue 5: Schools are an important part of a child's environment, yet many schools are inadequately prepared for children with asthma.

- Unclear, non-uniform school policies exist regarding access to asthma medications
- There is inadequate health support in many Texas schools
- School personnel are inadequately trained to care for children with asthma

Issue 6: The air we breathe in Texas must be the best it can be for people with asthma.

- People with asthma are particularly dependent upon having good air to breathe
- Indoor air quality guidelines for schools and public buildings are voluntary
- Regulatory responsibility for air quality guidelines and standards is often not clear
- Further research into the effect of indoor and outdoor air quality on respiratory health is necessary
- The public is not well educated about the effects of air quality on health and is unsure what precautions to take on "Ozone Action Days"
- Smoking cessation programs are not always available to asthma patients and their caregivers

Immediately following the 2000 Meeting, a group of dedicated individuals formed what is now the Asthma Coalition of Texas, and set out to address these issues. (1st Edition, Texas Asthma Plan – Progress and Achievements Appendix D)

The Birth of a Statewide Asthma Coalition – The Asthma Coalition of Texas

As outlined in the first edition of the Texas Asthma Plan, one of the major goals recommended by the Texas Asthma meeting participants was to establish a statewide asthma coalition. After the October 2000 meeting, the Texas Department of State Health Services (DSHS) and American Lung Association of Texas (ALAT) brought together a small group of individuals from a variety of disciplines and geographic areas to form the Asthma Coalition of Texas (ACT) Steering Committee. This group was charged with defining the mission, vision, structure, and scope of work of the ACT. The result has been the growth of a broad-based coalition, composed of individuals and organizations dedicated to the care and prevention of asthma (Current ACT Membership Appendix E).

ACT Vision Statement

Texans with asthma will realize optimal health and quality of life

ACT Mission Statement

To optimize health and quality of life for Texans with asthma by:

- Informing health care providers, patients and families, the public, payers, employers, and governmental partners about:
 - The elements of evidence-based, state-of-the-art asthma care
 - The personal and societal burden that asthma imposes
 - Misconceptions and myths about asthma
 - Barriers to optimal asthma care
- Promoting research to improve the delivery of asthma care in Texas and delineate the role of the environment in the development and exacerbation of asthma
- Communicating with local asthma coalitions, health care providers and provider organizations, patients and families, community based organizations, and governmental partners
- Disseminating information about Texas asthma projects, resources for patients and providers, developments in asthma care and research, and data on the health of Texans with asthma
- Collaborating with groups to improve indoor and outdoor air quality
- Encouraging and supporting activities that measure the health of Texans with asthma
- Advocating for rules, policies, and laws that advance the vision of the Asthma Coalition of Texas

The Asthma Coalition of Texas has been successful in creating collaborative opportunities and providing a statewide vision for the many local activities that contribute to asthma care. At the 2nd Annual Meeting of the Asthma Coalition of Texas, held in Austin in September of 2002, the growing and more diverse ACT membership was encouraged to contribute to strategic planning workgroups. These groups prioritized the major issues facing Texas, and the consensus achieved resulted in this 2nd Edition of the Texas Asthma Plan. The Plan laid out specific issues, goals and actions to be carried out by the Coalition in partnership with the State and asthma stakeholders both statewide and regionally to address asthma in Texas. Each year in the fall, the members of the Asthma Coalition of Texas come together to recognize the progress we have made to address the burden of asthma in Texas, conduct a needs assessment to set the priorities for the upcoming year and to further develop the network of partners committed to working together to achieve our mission – optimal health and quality of life for Texans with asthma.

The 2003 Texas Asthma Plan Issues, Goals and Actions Progress and Achievements

Issue 1: Texas needs a statewide organization to lead and support asthma activities.

Goal:	Activity	Timeline	Action Taken
Asthma professionals across the state will work together to improve care for all Texans with asthma.	Form a statewide Coalition	Met	Asthma Coalition of Texas formed
	Increase links with partners from variety of backgrounds	Met and Ongoing	Increase in Coalition membership to 250 members Development and Dissemination of Media Guide Toolkit

Issue 2: Texas must have information about the impact of asthma, including scope, magnitude and cost.

Goal:	Activity	Timeline	Action Taken
Determine and monitor the burden and impact of asthma in Texas – Establish and maintain a statewide population based surveillance system	Develop an ongoing system of asthma data collection	Met & Ongoing	Continue to partner receive Texas BRFSS data Continue to receive hospital discharge data Continue to receive asthma related mortality data
	Review data for additional information and expanded studies	Met & Ongoing	Asthma fact sheets for all health service regions in Texas created and disseminated
	Identify preventable risk factors for death due to asthma – mortality data analysis	Ongoing	Analyze data sources to identify preventable risk factors
Determine and monitor the burden and impact of asthma in Texas – seek out, enhance and monitor additional data sources	Expand current data systems to monitor asthma morbidity and mortality	Met & Ongoing	Received and analyzed 2003 National Asthma Survey and State and Local Area Integrated Telephone Survey (SLAITS) data

	Enhance self reported data	Met & Ongoing	Added the Random Child Selection Module and conducted the Asthma Callback Survey in conjunction with the BRFSS
	Enhance Medicaid data collection, analysis, interpretation and dissemination	Ongoing	Working to establish data sharing partnership with current state Medicaid Disease Management Group
	Monitor the status and results of asthma surveillance projects	Met & Ongoing	Conducted a site visit to the DSHS funded surveillance programs – Texas Emergency Department Asthma Surveillance Program (TEDAS) and Development of a School Based Asthma Surveillance Program for Texas Elementary Schools

Issue 3: Excellent evidence-based guidelines exist for the diagnosis and management of asthma, but are not adequately implemented.

Goal:	Activity	Timeline	Action Taken
All Texans with asthma will receive the highest quality of medical care based on the NHLBI Guidelines – Educate health care providers to provide care based on the existing guidelines	Work with professional associations to offer continuing medical education programs based on the NHLBI guidelines	Met & Ongoing	Education courses conducted Provider Toolbox distributed Teaching modules on ACT web site Formation of Health Plan Advisory Board
	Work with academic institutions to enhance asthma curriculum	Met & Ongoing	Provider toolbox shared with residency programs
	Distribute asthma guidelines to medical organizations	Met & Ongoing	Distribution of provider toolbox to Texas medical organizations
	Increase use of objective measures of airway obstruction	Met & Ongoing	Development of education module on spirometry Educational events at public venues
Simplify NHLBI guidelines for all healthcare providers	Creation of job tools	Met	Provider Toolbox created and distributed
Support and development of asthma educator course	Partner with organizations throughout Texas to conduct courses to prepare professionals for asthma educator certification exam	Met	Asthma Educator Exam Training Courses conducted in partnership with other statewide asthma stakeholders

Issue 4: Asthma is a complex illness that requires thorough understanding by patients and providers. Asthma patients and their caregivers do not have universal access to quality and effective asthma education.

Goal:	Activity	Timeline	Action Taken
Patient Asthma Education needs to be integrated within patient care – develop evaluation process to assess quality of an individual asthma education program and guidelines for equitable reimbursement.	Identify existing programs	Met & Ongoing	Registry of existing asthma programs developed
	Develop a program assessment tool for evaluation	Met	Asthma Education Program Assessment Tool Developed Assessment tool utilized by existing asthma programs
	Provide ongoing feedback regarding current curriculum for Texas Asthma Educator Course	Met & Ongoing	Participation by ACT representatives in courses conducted throughout Texas
	Encourage legislation to develop a state certification	Ongoing	Education of state representatives of the importance of quality asthma education
	Encourage legislation to mandate reimbursement for quality education	Ongoing	Education of state representatives of the importance of quality asthma education Distribution of new Current Procedural Terminology © (CPT) codes to bill for asthma education

Issue 5: Schools are an important part of a child’s environment, yet many schools are inadequately prepared for children with asthma.

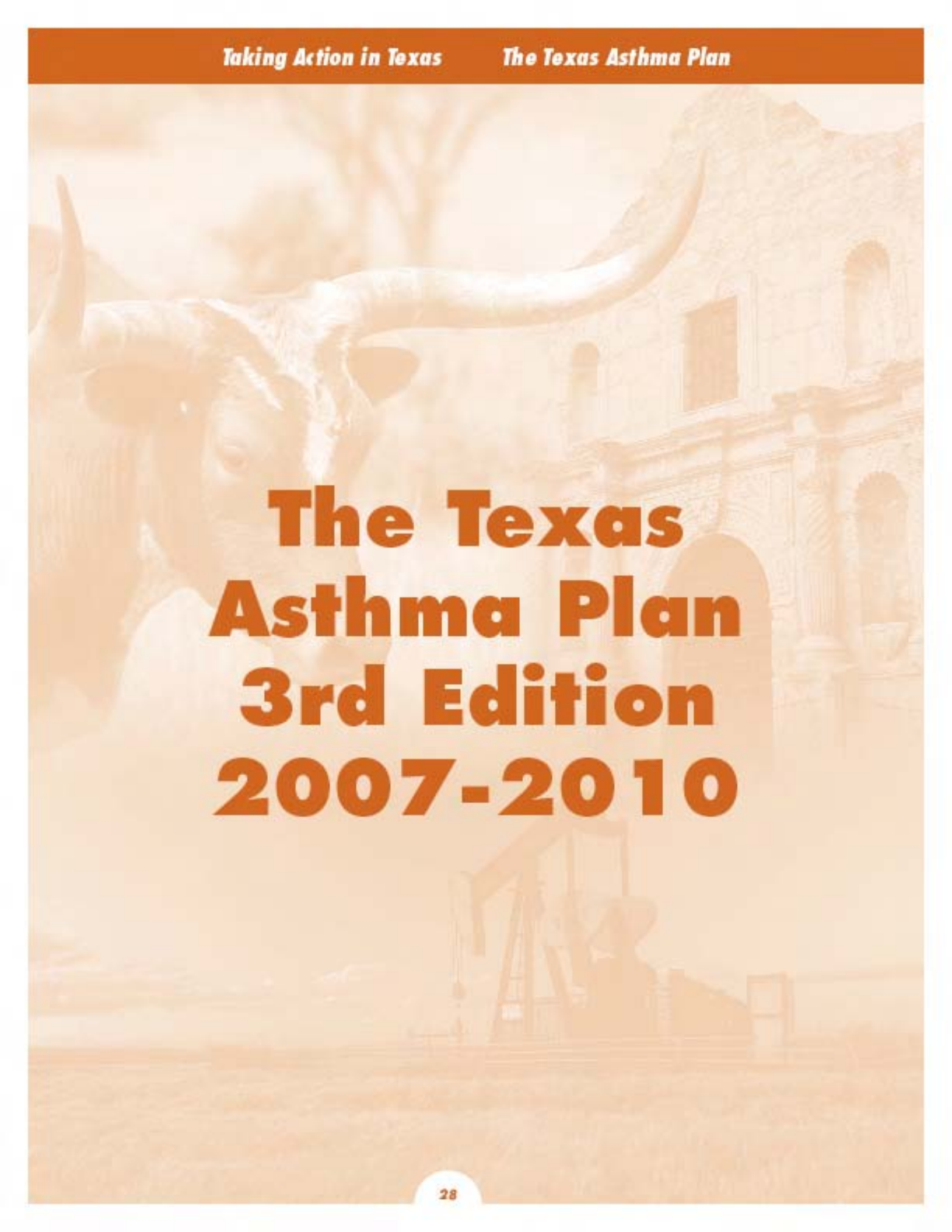
Goal:	Activity	Timeline	Action Taken
Children in Texas schools will have access to their asthma medications and receive appropriate care – Assess the status of Texas school prescription drug policies.	Conduct statewide survey of current policies and barriers regarding medication usage at school	Met	School Nurse Survey conducted
	Analysis of survey	Met	Analysis conducted
	Work with school based organizations to reduce barriers of medication usage	Met & Ongoing	Educational presentations conducted Development of Asthma in Schools Toolkit

	Work for universal implementation of existing right to carry and self administer legislation	Met & Ongoing	Development of Inhaler Law Toolkit Development and distribution of Metered Dose Inhaler Awareness Flier
Children in Texas schools will have access to their asthma medications and receive appropriate care – Assess the health care services available in Texas schools	Conduct a statewide survey of existing school health services	Met	School nurse survey conducted
	Educate school personnel about proper school based asthma management	Met & Ongoing	Development and distribution of Asthma in Schools toolkit Educational presentations at venues where school personnel are present Formation of asthma in schools committee within the Asthma Coalition of Texas Development and distribution of Taking Emergency Asthma Measures (TEAM) poster

Issue 6: The air we breathe in Texas must be the best it can be for people with asthma.

Goal:	Activity	Timeline	Action Taken
Texans will be able to breathe clean indoor air – encourage the assessment of indoor air quality (IAQ) and its impact on human respiratory health	Existing indoor air quality guidelines (IAQ) will be reviewed, evaluated and distributed	Met & Ongoing	Indoor air quality resources in English and Spanish developed and distributed Promoting existing resources for IAQ assessment and remediation efforts (Tools for Schools, MANIAQS) Development of a Work Related Asthma Advisory Board

	<p>Reduce public exposures to environmental tobacco smoke (ETS)</p>	<p>Met & Ongoing</p>	<p>Development in partnerships with statewide asthma stakeholders the Environmental Tobacco Smoke Toolkit</p> <p>Promote existing smoking cessation programs at venues where the lay public are present</p> <p>Support anti-smoking legislation through expert testimony and position statements in communities throughout Texas</p>
	<p>Identify the role of activity patterns in human exposure and consequent effects</p>	<p>Met & Ongoing</p>	<p>Development and dissemination of AQI informational materials</p> <p>Partnership with University of Texas Medical Branch Galveston to develop and implement AQI beach program</p> <p>Promotion of existing materials developed by other air quality monitoring agencies to decrease ozone through reducing emissions</p>



**The Texas
Asthma Plan
3rd Edition
2007-2010**

THE CALL TO ACTION – THE 3RD EDITION OF THE TEXAS ASTHMA PLAN

Although great strides have been made to assess and address the burden of asthma in Texas, a great deal is left to be accomplished. Starting in 2005 at the Asthma Coalition of Texas Annual meeting, a new set of issues and strategies was laid out for addressing asthma in Texas. The scope of these activities has shifted from the broader statewide approach to a more narrowed and targeted regional approach focusing interventions on populations and regions that based on the BRFSS data show the most need. A series of workshops were hosted across Texas bringing diverse individuals from numerous professions and disciplines together to review the data for their region and to design specific community based interventions based on this data to address the burden of asthma. The following section will outline the issues as they were identified and the activities that are planned to be carried out over the course of the next three years to tackle these issues.

The Issues

Issue 1: Infrastructure and Collaborations: Building a network of asthma stakeholders and partners to carry out asthma activities statewide, regionally, and at the community level and development of local community based coalitions to address asthma

Issue 2: Surveillance: To maintain, improve and expand asthma surveillance in Texas, including identifying health disparities and under-diagnosed populations

Issue 3: Clinical Management of Asthma: Increase the use of evidence-based and best practice guidelines for the diagnoses, treatment and management of asthma by all health care professionals to optimize health care delivery to all individuals with asthma

Issue 4: Education: Expansion and improvement of quality asthma education to ensure consistency with the National Asthma Education and Prevention Program Guidelines, development of culturally competent and health literate resources regarding asthma, and development of public awareness campaign to increase understanding of asthma

Issue 5: Community and Public Health Policy: Development of policies and programs to target asthma in association with the following areas:

Asthma in Schools: Conduct review of policies governing management of asthma in the school setting, work toward universal implementation of House Bill 1688 (Texas Inhaler Law), review, development and distribution of resources to assist schools in the effective management of asthma at school

Work Related Asthma: Work to identify the burden of work related asthma in Texas, establish partnerships with employers to reduce asthma triggers in the work environment and development of provider tools for diagnosing work related asthma as well as patient education materials

Health System Change: Inform policy makers in government and private industry how to effectively change the existing healthcare system to reduce barriers and increase access to care through practice innovations

Environment: Work to reduce and control environmental factors in Texas associated with asthma, incorporating indoor and outdoor air quality resources into all provider and patient educational resources, continue to work toward statewide adoption of environmental tobacco

smoke legislation to reduce exposures in public venues

Public Policy: Improve delivery of asthma care, reduce exposures to environmental triggers of asthma, development of a state supported asthma program and reduction of health disparities through public policy change

Issue 6: Health Disparities and Access to Care: Addressing and striving to eliminate the unequal burden of asthma among racial and ethnic minorities and medically underserved populations through data collection, development of culturally competent resources and target interventions based on needs identified through data collection.

THE PLAN

Issue 1: Infrastructure and Collaborations

Objective A: Expand the Asthma Coalition of Texas membership to include organizations and public health coalitions representing co-morbid disease states. Organizations and public health coalition membership will increase by 20% by December 2010.

Objective B: Expand the Asthma Coalition of Texas membership to include organizations representing underserved populations as represented in the data analysis conducted yearly. These organizations may be either state or regionally based as indicated by the analysis. Representation will increase by 5% yearly.

Objective C: Expand the number of organizations represented in the Asthma Coalition of Texas by 5% yearly.

Objective D: Increase the overall membership of the Asthma Coalition of Texas by 5% each year between years 2007 to 2010.

Objective E: Increase statewide capacity and infrastructure through local coalition building. Areas targeted for new coalitions will be determined through needs assessments conducted yearly in conjunction with data supplied by the Department of State Health Services. The number of new coalitions formed will increase by 1 per year.

Objective F: Bring together asthma stakeholders across Texas at a minimum of once a year to discuss the current burden of asthma in Texas, identify new strategies to address the burden, and share best practices being conducted at the state and local level.

Issue 2: Surveillance

Goal 1: Maintain the current asthma surveillance system activities to determine the burden of asthma in Texas.

Objective A: The Department of State Health Services Asthma Program will maintain existing statewide asthma surveillance system activities through current data sources. Current data sources include: prevalence data from the Behavioral Risk Factor Surveillance Survey (BRFSS), hospital discharge data from the Texas Health Care Information Collection (THCIC), and asthma mortality from the Texas Vital Statistics Unit (VSU).

Objective B: The Department of State Health Services Asthma Program will partner with the Asthma Coalition of Texas to disseminate asthma information in appropriate formats to selected audiences on the burden of asthma in Texas. Timely dissemination of asthma information to selected audiences who make policy and implement intervention programs is critical to the usefulness of surveillance data.

Goal: To improve and expand the current asthma surveillance system for Texas leading to targeted statewide and regional activities to address underserved populations, underserved regions and identify existing health disparities.

Objective A: The Department of State Health Services Asthma Program will conduct sub-analyses of the asthma data collected through current asthma surveillance data sources.

Objective B: The Department of State Health Services Asthma Program will acquire data on the undiagnosed, misdiagnosed, and underreported populations in Texas.

Objective C: The Department of State Health Services Asthma Program in partnership with the Asthma Coalition of Texas will acquire data on work-related/occupational asthma in Texas.

Objective D: The Department of State Health Services Asthma Program will acquire additional data on asthma-related emergency department visits in Texas.

Objective E: The Department of State Health Services Asthma Program will identify and acquire additional sources of prevalence data in Texas.

Issue 3 Clinical Management

Objective A: Review, revise and expand the Asthma Provider Toolbox incorporating materials on air quality, work related asthma, and updated guidelines for the treatment and diagnosis of asthma. Revised toolkit completed by December 2007.

Objective B: By June 2008, development of a standardized electronic Asthma Action Plan. By 2010, partner with the Asthma Coalition of Texas Health Plan Advisory board to incorporate the electronic Asthma Action Plan into participating plans standardized provider resources.

Objective C: By December 2009, conduct a minimum of 20 professional education programs where the newly revised Asthma Provider Toolbox will be distributed targeting health care providers in areas/regions with the highest prevalence of asthma and highest utilization of emergency services.

Issue 4: Education

Goal 1: Increase Public Awareness

Objective A: Develop community action teams (CATs) consisting of members of the community with a vested interest in asthma in all major metropolitan areas of Texas to participate in forums where the general public are present and awareness opportunities exist.

Objective B: Develop and launch public awareness campaigns targeting populations disproportionately affected by asthma for distribution in regions with high prevalence as indicated by the data.

Objective C: Partner with asthma stakeholders around asthma awareness and education events to include screenings, World Asthma Day Events and development of asthma educational materials.

Goal 2: Enhance Patient Education through development, quality improvement and universal access of patient education programs and resources

Objective A: Identify existing patient education resources and programs throughout Texas and update the patient education program registry. Increase the program registry yearly by 5% between years 2007-2010.

Objective B: Target employers in health service regions with a high prevalence of asthma for patient education programs focusing on disease management.

Objective C: Development of culturally competent patient education resources targeting populations with the highest prevalence of asthma based on data analysis conducted yearly.

Issue 5: Community and Public Health Policy

Goal: Effective Asthma Management in Schools

Objective A: Development and distribution of a resource for management of emergency asthma episodes in the school setting where a school nurse is not readily available

Objective B: Partner with the Department of State Health Services School Health Program to pilot a tracking system for school absenteeism due to asthma.

Objective C: Work to standardize asthma screening as part of the annual school physical with an initial focus in regions of Texas with the highest rates of childhood asthma.

Objective D: Increase the number of schools in compliance with Texas' Inhaler Law that allows students to carry and self administer their inhaler with written provider authorization.

Goal: Address Work Related Asthma

Objective A: Create a work related asthma educational curriculum and provider intake tools for primary care physicians to assist in the identification of incidence of work related or occupational asthma.

Objective B: Maintain and expand the work related asthma advisory board to include membership by health plans, employers, schools and other stakeholders with a common goal of addressing asthma in the work environment.

Objective C: Development of patient education materials with a focus on work related or occupational asthma, reducing asthma triggers in the work environment, and keys to effective disease management.

Goal: Health System Change

Objective A: Work with the health plan advisory board to establish incentives for providers to reduce asthma morbidity through asthma education programs, appropriate use of medications through increased utilization of controller medications and minimal use of short-acting beta-2 agonists.

Objective B: Work with employers benefits managers to design cost effective benefits packages that provide incentives to employees who are compliant with disease management protocols.

Objective C: Identify cutting edge innovations in clinical practice and create a toolkit to disseminate at venues where health care professionals are in attendance to assist in streamlining delivery of effective disease management.

Goal: Environment

Objective A: Develop and implement a flag warning system for ozone action days.

Objective B: Increase the capacity of schools and school districts in Texas to control exposures to environmental triggers of asthma.

Objective C: Through education and development of resources for both employees and employers, expand the capacity of communities to reduce exposure to environmental tobacco smoke in the work place.

Objective D: Through partnerships with environmentally based organizations, develop culturally competent resources on the effects of environmental triggers and asthma, the effects of environmental tobacco smoke exposures and asthma, and reducing environmental triggers of asthma.

Goal: Policy Change

Objective A: Identify state funding to support a state asthma program.

Objective B: Increase awareness of public policy makers with respect to issues surrounding asthma and effective disease management through a series of legislative breakfasts.

Objective C: Inform public policy makers on the need for mandates to ensure statewide emergency room data collection.

Objective D: Educate public policy makers on the barrier to effective health care delivery created through shortened Medicaid enrollment periods.

Objective E: Inform public policy makers on the benefits of covering programs for smoking cessation.

Issue 6: Health Disparities and Access to Care

Objective A: Through partnership with community centric ethnic and racial organizations, develop culturally competent asthma education resources and education programs as well as conduct community outreach and public awareness programs.

Objective B: Increase the capacity of health care providers delivering services to underserved populations through provider educational events, provider resources and culturally competent patient resources for distribution.

Objective C: Enhance the ability to identify ethnic disparities through epidemiological surveillance projects throughout the state. In particular, the prevalence and morbidity of asthma in Texas Hispanic populations may be under recognized by standard surveillance instruments. However, approaches pioneered by the state have uncovered an underdiagnosed population of predominately Hispanic children at risk for asthma. Efforts will be directed at utilizing these techniques to further define at risk racial minorities.

Objective D: Through partnerships with community groups and universities, promote environmental awareness and identify environmental justice issues that currently disproportionately impact minority groups, especially new immigrants.



References

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2 The Environmental Protection Agency, Air Quality Planning & Standards: Green Book, Non-attainment Areas for Criteria Pollutants. website: <http://www.epa.gov/oar/oaqps/greenbk/ancl2.html>

3 The American Lung Association: State of the Air 2006. website: http://lungaction.org/reports/SOTA06_stateozone.html

4 Allergy and Asthma Foundation of America. Special Report: Costs of Asthma in the United States. Allergy and Asthma Foundation of America Website: <http://www.aafa.org/highcosts/index.html>

5 Based on 2000-2005 Behavioral Risk Factor Surveillance System asthma prevalence estimates

6 Based on 2000-2005 Texas Health Care Information Council hospital discharge data



Appendix A Acronyms & Glossary

ACRONYMS

ACT	<i>Asthma Coalition of Texas</i>
ALAT	<i>American Lung Association of Texas</i>
AQI	<i>Air Quality Index</i>
BRFSS	<i>Behavioral Risk Factor Surveillance System</i>
CDC	<i>Center for Disease Control</i>
CPT	<i>Current Procedural Terminology © Codes</i>
DSHS	<i>Department of State Health Services</i>
EPA	<i>Environmental Protection Agency</i>
ETS	<i>Environmental Tobacco Smoke</i>
HP2010	<i>Health People 2010</i>
IAQ	<i>Indoor Air Quality</i>
NAAQS	<i>National Ambient Air Quality Standards</i>
NHLBI	<i>National Heart Lung & Blood Institute</i>
SLAITS	<i>State and Local Area Integrated Telephone Survey</i>
TCEQ	<i>Texas Commission on Environmental Quality</i>
THCIC	<i>Texas Health Care Information Collection</i>
VSU	<i>Vital Statistics Unit</i>

Glossary

Atopy - A sensitivity to particular substances in the environment called allergens.

Bronchoconstriction (Bronchospasm) - A term that refers to the tightening of muscles around the airways making them narrow.

Controller medicines - Medicine that prevents or reduces the frequency and severity of asthma episodes, taken daily. Also known as maintenance medication.

Exacerbations - Any worsening of asthma condition. Onset can be acute and sudden, or gradual over several days. "Exacerbation" replaces the words "attack" and/or "episode."

Histamine - Histamine is a chemical present in cells throughout the body that is released during an allergic reaction. This allergic reaction can be a stimulus of asthma.

Hyperresponsive - The airways of a person with asthma are very sensitive and are more likely to constrict after exposure to irritants or triggers.

Inflammation - A term that refers to the swelling and irritation in the airways of your lungs. Airway inflammation may always be there, even when you are not having symptoms.

Morbidity – The incidence or prevalence of a disease in a population.

Mortality Rate – The number of deaths in a population per year divided by the total population.

Methocholine - A type of chemical used in challenge testing in spirometry. Everybody's airways respond to it, but the airways of a person with asthma respond much more and at lower doses.

Peak flow monitoring - A portable hand-held device used to measure how fast you can blow air out of your lungs. From this an asthmatic can determine asthma severity.

Prevalence – The number of existing cases of disease in a population.

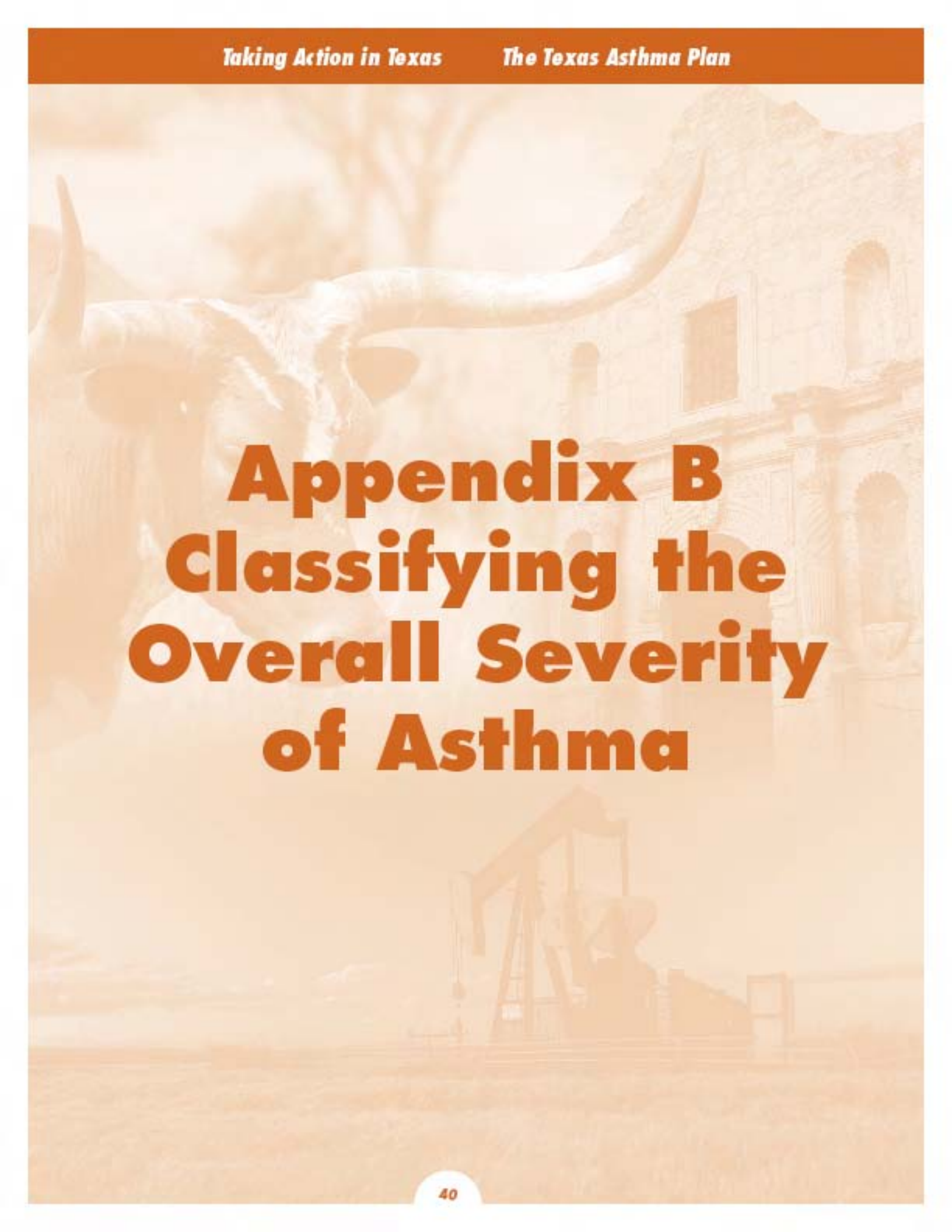
Quick relief (rescue) medications - Asthma medication that helps provide immediate relief of sudden asthma symptoms such as wheezing, chest tightness, and shortness of breath.

Spirometry - A painless breathing test that measures air volume and flow rate of the lungs. This test is a diagnosis tool for asthma in an individual (age appropriate).

Surveillance – The ongoing systematic collection, analysis and dissemination of data leading to action being taken to prevent and control a disease.

Triggers - Irritants that can make your asthma worse, such as dust, pollen, and smoke.

Wheezing – A high-pitched whistling sound that occurs when air flows through a narrowed airway.



Appendix B

Classifying the

Overall Severity

of Asthma

Classifying the Overall Severity of Asthma

Mild intermittent asthma

- Daytime symptoms twice or less per week
- Exacerbations usually brief and mild; no symptoms in between episodes
- Nighttime symptoms twice or less per month
- Peak flow* 80% or > personal best or FEV1** 80% or > than predicted

Mild persistent asthma

- Daytime symptoms more than twice a week, but less than once per day
- Exacerbations may affect activity
- Nighttime symptoms more than twice per month
- Peak flow 80% or > personal best or FEV1 80% or > than predicted

Moderate persistent asthma

- Daytime symptoms daily
- Exacerbations affect activity; daily use of medicines to control airway inflammation
- Nighttime symptoms more than once per week
- Peak flow 60-80% of personal best or FEV1 60-80% of predicted

Severe persistent asthma

- Daytime symptoms continuous
- Limited physical activity, frequent exacerbations
- Nighttime symptoms frequent
- Peak flow <60% of personal best or FEV1 <60% of predicted

*Peak Expiratory Flow Rate (PEFR), or "peak flow" measures how fast a patient can move air out of the lungs in a fraction of a second. The personal best is established when there are no signs or symptoms of asthma and the airways are completely clear.

**FEV1 = Forced expiratory volume; Spirometry measurement of how much air a patient blows out in one second

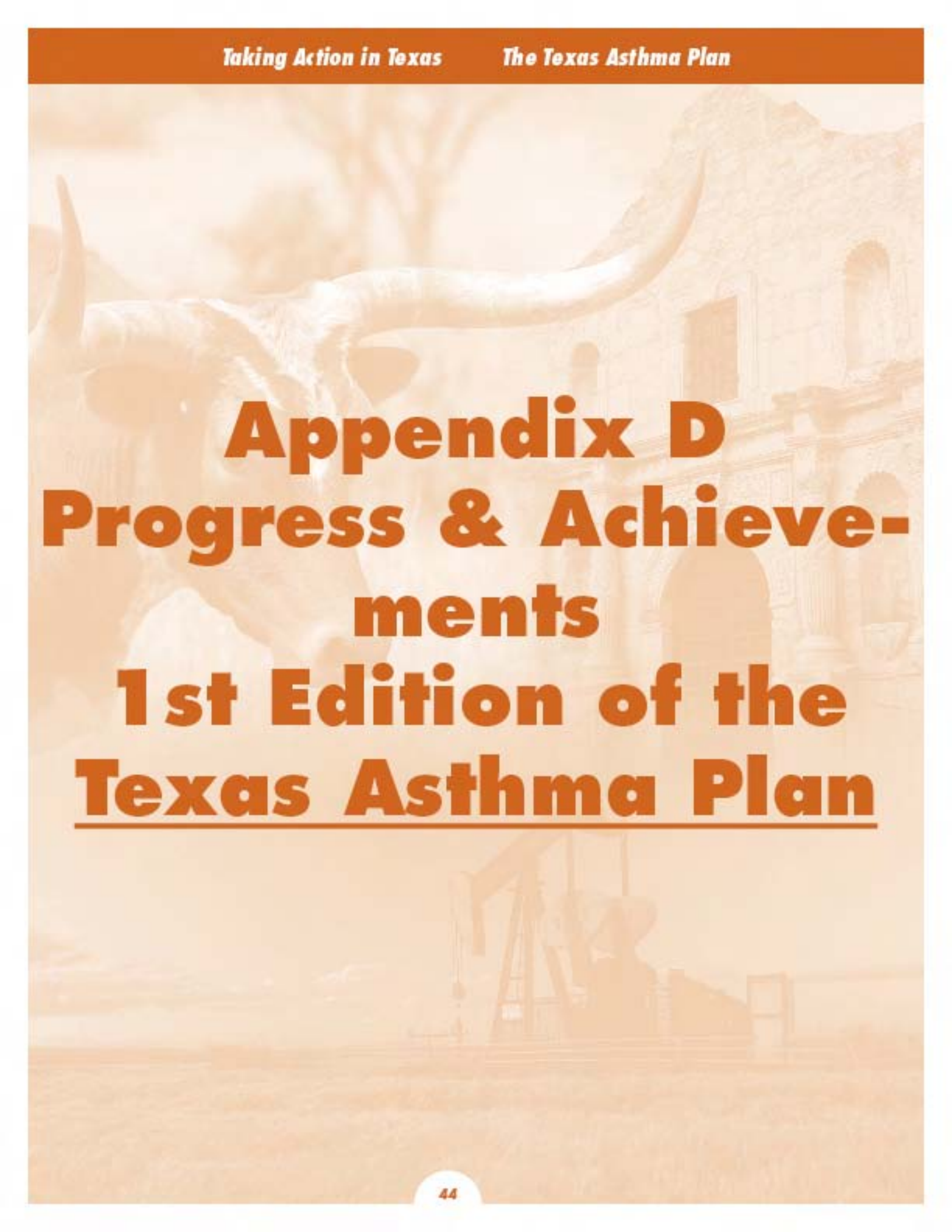


Appendix C
2000 Texas
Asthma Meeting
Participants

Organizations represented at the Texas Asthma Meeting October 2000 in Austin, Texas

- American Home Patient
- American Lung Association of Texas
- Area Health Education Center of the Mid Rio Grande Border Area of Texas
- AstraZeneca Pharmaceuticals
- Austin Asthma Coalition
- Baylor College of Medicine
- Baylor University Medical Center
- Centers for Disease Control and Prevention
- Children's Hospital Association of Texas
- Children's Hospital of Austin
- Children's Medical Center of Dallas
- Cook Children's Hospital
- Dallas Asthma Consortium
- Dallas County Health and Human Services
- Driscoll Children's Hospital
- Exxon Mobile Corporation
- Glaxo Smith Kline Pharmaceuticals
- Hendrick Health System
- HE Butt Grocery Co.
- Houston Department of Health and Human Services
- Institute for Disease Management and Education
- Leland Urban Air Toxics Research Center
- Pacificare of Texas
- Representative Ruth Jones McClendon's Office
- Representative Elliot Naishtat's Office
- Respironics
- Schering/Key Pharmaceuticals
- Seton Healthcare Network
- Southwest Texas State University
- Tarrant County Asthma Consortium
- Tarrant County Health Department
- Texas Department of Health
- Texas Gulf Coast Asthma Coalition
- Texas Allergy and Immunology Society
- Texas Association of School Nurses
- Texas Education Agency
- Texas Health Quality Alliance
- Texas Hospital Association
- Texas Medical Association
- Texas Natural Resource Conservation Commission
- Texas Pharmacy Association
- Texas State Comptrollers Office
- University of Texas Health Science Center
Houston School of Public Health
- University of Texas Health Science Center
San Antonio
- University of Texas Medical Branch
Galveston
- West Texas AIR
- Wilford Hall Medical Center

The Texas Asthma Meeting was made possible due to the generous support of several sponsors: Texas Department of Health, Glaxo Smith Kline, AstraZeneca, Schering/Key, American Home Patient and Respironics



Appendix D
Progress & Achievements
1st Edition of the
Texas Asthma Plan

The 2000 Texas Asthma Plan Issues, Goals and Actions Progress and Achievements

Issue 1: Texas needs a statewide organization to lead and support asthma activities.			
Goal:	Activity	Timeline	Action Taken
Asthma professionals across the state will work together to improve care for all Texans with asthma	Form a statewide Coalition	Met	Asthma Coalition of Texas formed Board of directors and executive committee formed
	Increase links with partners from variety of backgrounds	Met and Ongoing	Included all members in the revision to the 2003 Texas Asthma Plan
Issue 2: Texas must have information about the impact of asthma, including scope, magnitude, and costs.			
Goal:	Activity	Timeline	Action Taken
Determine and monitor the burden and impact of asthma in Texas	Develop an ongoing system of data collection	Met & Ongoing	DSHS receives CDC funding to develop a statewide asthma program to include surveillance system Data obtained and analyzed from VSU and THCIC Texas Asthma Facts Data sheet created and posted
	Review of data for additional information and expanded studies	Ongoing	Data analysis conducted
	Identify preventable risk factors of death due to asthma	Ongoing	Data analysis conducted
	Expand surveillance to include additional data sources that monitor morbidity and mortality	Ongoing	Data analysis conducted Data collection from Health Plan Advisory board started
	Enhance Medicaid data collection and analysis	Ongoing	Dialogue started with Texas Medicaid program for sharing of utilization data

	Monitor the status and results of asthma surveillance projects	Ongoing	Site visits conducted at DSHS grantee sites including TEDAS and the Asthma in School Surveillance Program
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Issue 3: Excellent evidence-based guidelines exist for the diagnosis and management of asthma, but are not adequately implemented.

Goal:	Activity	Timeline	Action Taken
All Texans with asthma will receive the highest quality of medical care based on the NHLBI guidelines.	Work with professional associations to offer Continuing Medical Education Presentations based on the guidelines	Met	CME Programs conducted Published asthma education articles in the Texas Pharmacy Magazine Educational presentations conducted at Texas Pharmacy Association Annual Meeting
	Work with Academic institutions to ensure health care professional students are properly trained to diagnose and manage asthma	Met	Worked with academic partners to develop educational modules for the ACT website Development of Provider toolbox started
	Enhance use of guidelines through partnership with medical associations to ensure implementation	Met	Supported the planning and implementation of the Texas Health and Human Services Commission Pediatric Pilot Disease Management Program
	Enhance the use of objective measures of airway obstruction such as peak flow meters and spirometry	Ongoing	Development of spirometry module to teach providers how to interpret results
	Create and distribute job tools for health care providers	Met	Development of job tools for inclusion in the ACT Provider Toolbox

	Work with partner organizations to develop and implement asthma educator programs	Met	In partnership with the ALAT, asthma educator training programs conducted across Texas
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Issue 4 Asthma is a complex illness that requires thorough understanding by patients and providers. Asthma patients and their caregivers do not have universal access to quality and effective asthma education.

Goal:	Activity	Timeline	Action Taken
Patient asthma education needs to be integrated within patient care	Develop an evaluation process to assess the quality of an individual asthma education program and guidelines for equitable reimbursement	Met	In partnership with the ALAT, asthma educator training programs conducted across Texas
	Develop an asthma education scorecard to evaluate programs	Met	Scorecard developed
	Provide ongoing recommendations and updates to the established Texas Asthma Educator Program	Met	Course reviewed
	Encourage the Texas legislature to develop a state certification for asthma educators	Met & Ongoing	Scorecard developed
	Encourage the Texas legislature to mandate reimbursement for quality education programs	Met & Ongoing	Scorecard developed

Issue 5 Schools are an important part of a child's environment, yet many schools are inadequately prepared for children with asthma.

Goal:	Activity	Timeline	Action Taken
Children in Texas schools will have access to their asthma medications and receive appropriate care	Assess survey of inhaler use policies to determine barriers	Met	Survey developed
	Analysis of survey should be basis for action	Pending	Survey developed

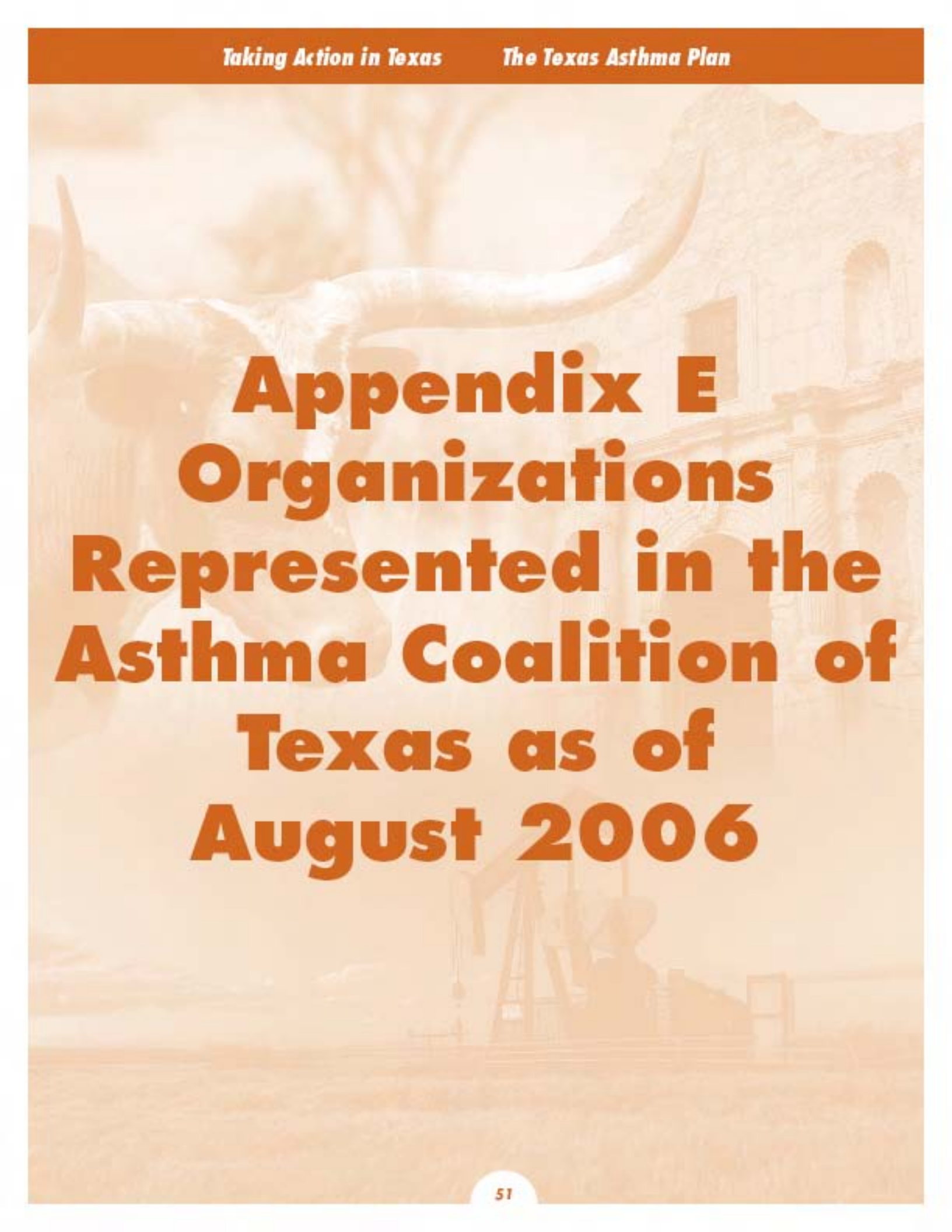
	Work with school associations to determine best methods to reduce barriers to medication usage	Pending	Survey completed
	Work for universal implementation of House Bill 1688 allowing students to access medication at school	Ongoing	Development of Inhaler Law Toolkit Educational presentations conducted regarding legislation and implementation
	Assess the health care services available to children with asthma	Met	Survey completed
	Conduct statewide survey in Texas schools to determine what provisions are made to deal with children with asthma	Pending	Survey completed
	Educate school officials and health care personnel about proper school-based asthma management	Met	Development of Asthma in Schools Toolkit

Issue 6 The air we breathe in Texas must be the best it can be for people with asthma.

Goal:	Activity	Timeline	Action Taken
Encourage assessment of indoor air quality (IAQ) and its impact on respiratory health	In the absence of the national IAQ standards, existing guidelines will be reviewed, evaluated and disseminated	Met	Existing IAQ resources posted on ACT Website
	Facilitate IAQ assessment and remediation efforts in accordance with recommended guidelines	Met	Resources posted on ACT Website
Reduce public exposure to environmental tobaccos smoke (ETS)	Implement and evaluate educational programs for parents and their children regarding health effects of ETS	Met	Resources posted on ACT website

	Assess the impact of ETS exposure for children with asthma	Met	Current research and data disseminated via email and ACT website
	Distribute appropriate information to stakeholders on benefits of reducing ETS	Met	Presentations conducted at public venues where stakeholders are present
	Identify and promote smoking cessation programs	Met	Programs listed on ACT website Distribution of quit line promotional materials at public health venues
	Identify vulnerable populations and determine extent to which air pollutants cause or trigger asthma	Met	Partnership with Department of State Health Services Tobacco Program formed
	Conduct focused studies to determine if schools with set factors experience disproportionate numbers of students with asthma	Met	Partnership with School Surveillance Program established Support of EPA Region VI Pediatric Asthma and Pediatric Respiratory Disease Summit
	Identify the role of activity patterns in human exposure and consequent effects	Met	Partnership with University of Texas Medical Branch Environmental Health Program established
	Conduct focused studies to determine the effect of ozone and/or other pollutant exposure on athletes exercising under varying conditions of air quality	Met	Partnership with University of Texas Medical Branch Environmental Health Program established

	Identify effective methods to advise school and athletic programs on peak exposure times and ways to minimize risk	Met	Partnership with University of Texas Medical Branch Environmental Health Program established Inclusion of resources for schools to address air quality in development of the Asthma in Schools Toolkit
	Provide guidelines and access to ozone alert resources	Met	Ozone awareness links posted on ACT website
Identify and implement guidelines to control the effects of particulates, criteria pollutants, air toxics, and complex mixtures	Conduct comprehensive meta-analysis of previous studies for specific toxicants and mixtures	Met	Educational presentations conducted at ACT Annual Meeting Educational presentations conducted at ACT Health Plan Summit
	In partnership with the TCEQ, establish a simple warning system to alert the public about air quality and ozone levels	Met	Partnership with University of Texas Medical Branch Environmental Health Program Existing Air Quality monitoring sites posted on ACT website



**Appendix E
Organizations
Represented in the
Asthma Coalition of
Texas as of
August 2006**

Organizations Represented in the Asthma Coalition of Texas, August 2006

Allergy and Asthma Center of El Paso
 American Lung Association of Texas
 American Lung Association of Texas - Houston and Southeast Region
 American Lung Association of Texas, Central Region
 Amerigroup
 Area Health Education Center of the mid-Rio Grande Border Area
 Asthma and Allergy Foundation of America – Texas Chapter
 Asthma Care Texas
 Asthma Wellness Center
 Baylor Asthma Center
 Baylor College of Medicine
 Birch and Davis Health Management Corporation
 Blue Cross Blue Shield Of Texas
 Breath of Hope Foundation, INC
 Center for Border Health Research
 Charisse Services Inc.
 Children’s Asthma Management Program of Cook
 Children’s Community Clinics
 Children’s Hospital of Austin
 Children’s Medical Center of Dallas
 CHRISTUS - Santa Rosa Children’s Hospital
 Christus - St. Elizabeth Hospital
 Cluthe & William B. Oliver Foundation for Health and Aging
 Coastal Bend Health Education Center
 Cook Children’s Health Plan
 Cook Childrens Home Health
 Cook Children’s Medical Center
 Dallas Asthma Consortium
 Dallas County Department of Health & Human Services
 Driscoll Children’s Hospital
 Exxon Mobil Corporation
 Genentech
 Glaxo SmithKline
 Greater Houston Therapeutics
 H-E-B
 Hendrick Medical Center
 Humana
 Johnston High School
 LifeOutcomes
 LungStar Diagnostics
 Matthewson Drug Co., Inc.
 McKesson Health Solutions
 McLennan County Youth Collaboration
 Merck & Company
 Mothers for Clean Air
 Parkland Community Health Plan
 Parkview Baptist Ministries
 Providence Memorial Hospital
 Seton Healthcare Network
 Shannon Community Health Services
 Sierra-Providence Health Network
 Southwest Center for Pediatric Environmental Health
 Southwest State University
 Tarrant County Public Health Department
 Texas Academy of Family Physicians
 Texas Academy of Internal Medicine, the Texas Chapter of the AC P
 Texas Academy of Physician Assistants
 Texas Allergy, Asthma & Immunology Society
 Texas Association of School Nurses
 Texas Children’s Health Plan, Inc.
 Texas Childrens Hospital
 Texas Clean Air, Inc.
 Texas Department of State Health Services
 Texas Department of State Health Services – Child Wellness Division
 Texas Gulf Coast Asthma Coalition
 Texas Medical Association
 Texas Pediatric Society, the Texas Chapter of the American Academy of Pediatrics
 Texas Pharmacy Association
 Texas Public Health Association
 Texas Society for Respiratory Care
 TLC Pediatrics
 United Healthcare of Texas, Inc.
 University of Texas Disease Management Center
 University of Texas Health Science Center San Antonio
 University of Texas Medical Branch - Galveston
 University of Texas Medical Branch – Galveston, School of Nursing
 University of Texas; School of Pharmacy
 Veterans Administration
 Zoey, LP



Appendix F

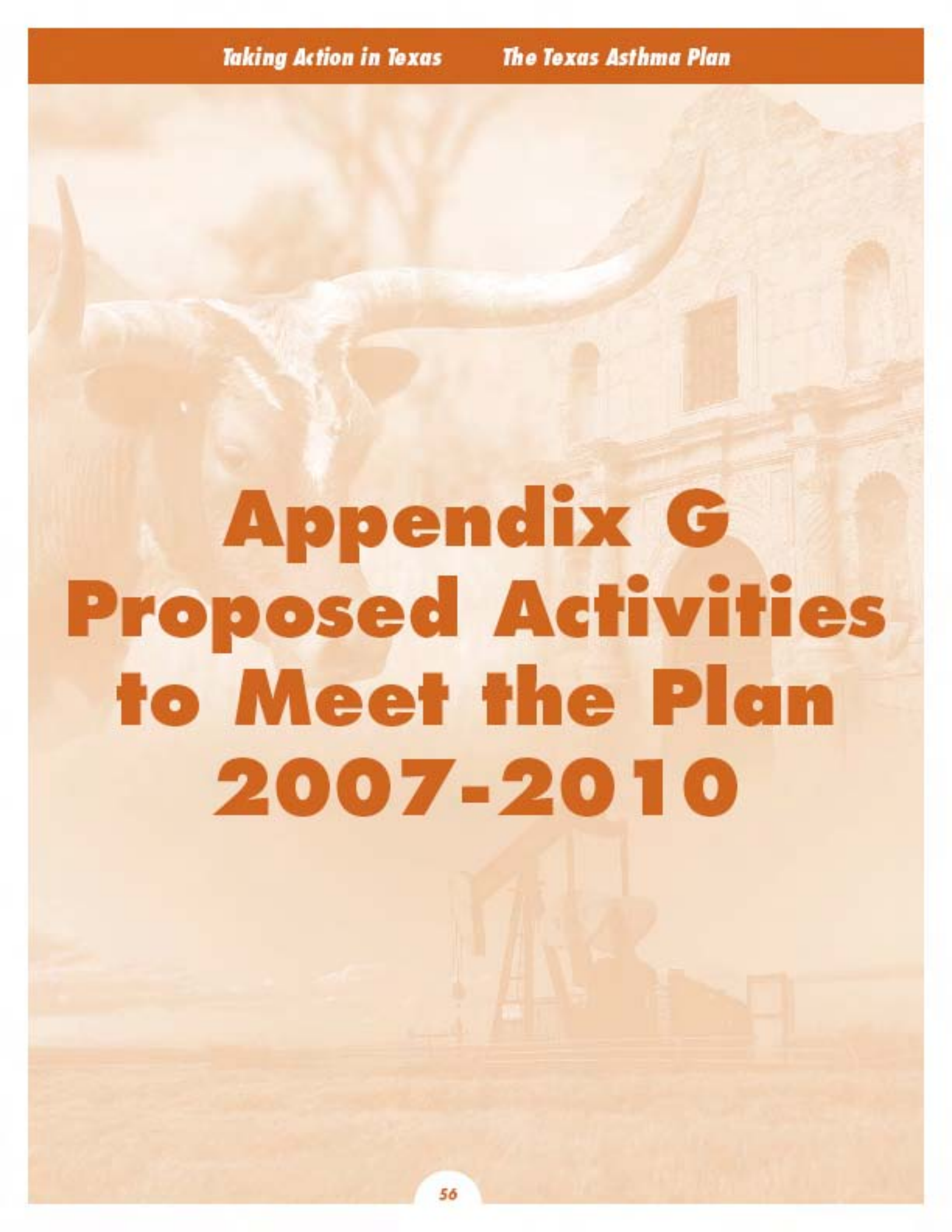
Healthy People

2010

Healthy People 2010(HP2010) provide a framework for prevention of chronic disease for the United States. It is a statement of national health objectives designed to identify the most significant preventable threats to health and to establish national goals to reduce these threats. HP2010 sets nationwide health goals and objectives in order to promote and maintain the health of all Americans. Each goal is achieved by meeting several measurable objectives. Some goals of the HP2010 for asthma are still under development. The following is the HP2010 objectives for asthma:

Healthy People 2010 Objectives for Asthma	Objective Target
1-9a. Reduce hospitalization rates for three ambulatory-care-sensitive conditions: pediatric asthma, uncontrolled diabetes, and immunization preventable pneumonia and influenza.	< 18 Years: 17.3 /10,000
24-1. Reduce asthma deaths.	1) < 5 Years: 1 / million 2) 5 - 14 Years: 1 / million 3) 15 - 34 Years: 2 / million 4) 35 - 64 Years: 9 / million 5) ≥ 65 Years: 60 / million
24-2. Reduce hospitalizations for asthma.	1) < 5 Years: 25 / 10,000 2) 5 - 64 Years: 7.7 / 10,000 3) ≥ 65 Years: 11 / 10,000 Objective targets 1 and 2 age adjusted to the 2000 US standard population
24-3. Reduce emergency department visits for asthma.	1) < 5 Years: 80 / 10,000 2) 5 - 64 Years: 50 / 10,000 3) ≥ 65 Years: 15 / 10,000
24-4. Reduce activity limitations among persons with asthma.	10% Objective target age adjusted to the 2000 US standard population
24-5. Reduce the number of school or workdays missed by persons with asthma due to asthma. (Developmental Objective)	Objective target not identified.

<p>24-6. Increase the proportion of persons with asthma who receive formal patient education, including information about community and self-help resources, as an essential part of the management of their condition.</p>	<p>30%</p> <p>Objective target age adjusted to the 2000 US standard population</p>
<p>24-7. Increase the proportion of persons with asthma who receive appropriate asthma care according to the NAEPP Guidelines. (Developmental Objective)</p> <p>Measured as persons with asthma who receive:</p> <ul style="list-style-type: none"> • Written asthma management plans from health care provider. • Instruction on how to use a prescribed inhaler properly. • Education about recognizing early signs & symptoms of asthma episodes and how to respond properly, with lessons on peak flow monitoring for those using daily therapy. • Medication regimens that prevent the need for more than 1 canister of short acting inhaled beta agonists per month for relief of symptoms. • Follow-up medical care for long-term management after a hospitalization due to asthma. • Assistance with assessing and reducing exposure to environmental risk factors. 	<p>Objective target not identified.</p>



Appendix G
Proposed Activities
to Meet the Plan
2007-2010

Texas Asthma Plan Issue 2: Surveillance**Goal: To improve and expand the current asthma surveillance systems in Texas****Develop a school-based asthma surveillance system within Pflugerville ISD.**

Action	Lead Organization(s)	Timeline	Evaluation Measure
Identify and partner with half of Pflugerville ISD elementary schools	Pflugerville ISD	August 2006	Seven (50%) Pflugerville ISD elementary schools participating
Partner with the University of Texas Medical Branch (U.T.M.B.)-Galveston school surveillance program	Seton Hospital	August 2006	U.T.M.B.-Galveston school surveillance program contacted and program accepted
Develop an application to Austin STEPS	Austin Asthma Coalition	September 2006	Funding granted/denied
Incorporate the survey in school registration materials at seven Pflugerville ISD elementary schools	Pflugerville ISD	September 2007	Number of surveys distributed; Number of surveys returned
Analyze the survey data	State Asthma Epidemiologist	December 2007	Report developed and provided Pflugerville ISD and partners including coalitions, STEPS, TASB, TSNO, TASBHC, ESC region 13, School Health Program-DSHS
Roll out the survey to all Pflugerville ISD elementary schools	Pflugerville ISD	September 2008	14 (100%) Pflugerville ISD elementary schools participating
Develop survey for Pflugerville ISD secondary schools	Austin Asthma Coalition & Asthma Coalition of Texas	December 2007- April 2008	Survey form developed
Roll out survey to half of Pflugerville ISD secondary schools (follow same procedures as elementary schools)	Pflugerville ISD	July-August 2008	4 (over 50%) Pflugerville ISD secondary schools participating
Roll out survey to all Pflugerville ISD secondary schools	Pflugerville ISD	July-August 2009	7 (100%) Pflugerville ISD secondary schools participating

Texas Asthma Plan Issue Item 5 Community and Public Health Policy
Goal: Effective Asthma Management In Schools

Increase asthma awareness and education among teachers and coaches, as well as 3rd and 4th grade students in Del Valle ISD

Action	Lead Organization(s)	Timeline	Evaluation Measure
Administer pre-test and develop post-test for teachers and coaches of 3rd and 4th grade students in Del Valle ISD	Asthma Coalition of Texas and Seton Healthcare System	May 2007	Pre-test administered to teachers and coaches and post-test developed
Develop and distribute Asthma 101 resources/materials to teachers and coaches of 3rd and 4th grade students in Del Valle ISD	Austin Asthma Coalition	Mid-October 2007	# of materials developed and distributed
Administer post-test to teachers and coaches of 3rd and 4th grade students in Del Valle ISD	Asthma Coalition of Texas and Seton Healthcare System	- Immediately following Asthma 101 education - 3 months (January 2008) - 6 months (April 2008)	Post-test administered to teachers and coaches
Analyze post-tests administered to teachers and coaches of 3rd and 4th grade students in Del Valle ISD	Department of State Health Services	- November 2007 - February 2008 - May 2008	Post-tests analyzed and reports generated at testing intervals
Administer pre-test and develop post-test for 3rd and 4th grade students in Del Valle ISD	Asthma Coalition of Texas and Seton Healthcare System	May 2008	Pre-test administered to 3rd and 4th grade students and post-test developed
Develop and distribute Asthma 101 materials/resources for 3rd and 4th grade students in Del Valle ISD (education includes I-Thrive Brigade, Back-to-School Night Program, and Buddy System)	Austin Asthma Coalition	August 2008	# of materials developed and distributed

Develop and distribute Asthma 201 resources/ materials for teachers and coaches of 3rd and 4th grade students in Del Valle ISD	Austin Asthma Coalition	October 2008	# of materials developed and distributed
Administer post-test to 3rd and 4th grade students in Del Valle ISD	Asthma Coalition of Texas and Seton Healthcare System	- Immediately following Asthma 101 education - 3 months (November 2008) - 9 months (May 2009)	Post-test administered to 3rd and 4th grade students
Analyze post-tests administered to 3rd and 4th grade students in Del Valle ISD	Department of State Health Services	- September 2008 - December 2008 - June 2009	Post-tests analyzed and reports generated at testing intervals
Administer post-test to teachers and coaches of 3rd and 4th grade students in Del Valle ISD	Asthma Coalition of Texas and Seton Healthcare System	January 2009	Post-test administered to teachers and coaches
Develop and distribute Asthma 201 resources/ materials to 3rd and 4th grade students in Del Valle ISD	Austin Asthma Coalition	August 2009	# of materials developed and distributed
Administer post-test to 3rd and 4th grade students in Del Valle ISD	Asthma Coalition of Texas and Seton Healthcare System	November 2009	Post-test administered to 3rd and 4th grade students

Texas Asthma Plan Issue Item 3 Clinical Management			
Develop and Utilize Community Wide Asthma Action Plan in Public Health Region 10			
Action	Lead Organization(s)	Timeline	Evaluation Measure
Develop and Utilize Community Wide Asthma Action Plan in Public Health Region 10	El Paso Asthma Coalition	June 2006	Number of Asthma Action Plans Reviewed
Develop an El Paso Asthma Coalition Asthma Action Plan	El Paso Asthma Coalition	June 2006-December 2006	Asthma Action Plan Developed & Adopted by El Paso Asthma Coalition
Print & Distribute El Paso Asthma Coalition Asthma Action Plan to Community Stakeholders (English & Spanish)	Asthma Coalition of Texas & El Paso Asthma Coalition	January 2007	Number of copies printed; Number of Asthma Action Plans distributed to community stakeholders
Identify a minimum of 3 Asthma Stakeholders in the El Paso Community to adopt & utilize El Paso Community Asthma Action Plan	El Paso Asthma Coalition, Asthma Coalition of Texas	February 2007-December 2007	Number of El Paso community stakeholders adopting and utilizing the community asthma action plan
Identify a minimum of 3 Regional (Mexico & New Mexico included) Asthma Stakeholders in the El Paso Community to adopt & utilize El Paso Community (Paseo Del Norte) Asthma Action Plan	El Paso Asthma Coalition	January 2008 – December 2008	Number of regional stakeholders adopting and utilizing the community asthma action plan

Texas Asthma Plan Issue Item 4 Education

Goal: Enhance Patient Education through development, quality improvement, and universal access to patient education programs and resources

Develop and Utilize a School-Based Referral System for students with asthma who frequently utilize school based healthcare for asthma management

Action	Lead Organization(s)	Timeline	Evaluation Measure
Gather & review existing resources and conduct a needs assessment engaging local school nurses	Thomason	July 2006	List of existing resources List of desired resources
Develop an Intake form for school nurses to utilize for students frequently accessing services for their asthma	El Paso Asthma Coalition, American Lung Association of Texas – El Paso, Providence	July 2006	Intake Form Developed
Set up a rotating referral system consisting of asthma educators throughout El Paso	Providence Memorial Hospital	January 2007	Asthma educators identified referral system established
Referral Toolbox Completed	El Paso Asthma Coalition, Asthma Coalition of Texas	June 2007	Number of Referral Toolboxes completed
Rollout Referral Program to Partner School	Thomason	August 2007	Number of Calls Received from School nurses to referral network Number of on-site education referrals completed at participating school
Preliminary Data Presented to 2 additional schools	El Paso Asthma Coalition	January 2008	Data Report generated Presentation to schools completed
Follow-up Data presented to 2 additional schools	El Paso Asthma Coalition	May 2008	Data Report Generated Presentation to schools completed
Additional School districts enrolled in referral program	El Paso Asthma Coalition	August 2008	2 additional schools enrolled
Additional Schools Enrolled in Referral Program	El Paso Asthma Coalition	January 2009	3 Additional schools enrolled
Additional Schools Enrolled in Referral Program	El Paso Asthma Coalition	August 2009	2 Additional schools enrolled

Texas Asthma Plan Issue Item 2 Surveillance**Goal: To Improve and Expand the current asthma surveillance system in Texas****Texas Emergency Department Asthma Surveillance (TEDAS)**

Action	Lead Organization(s)	Timeline	Evaluation Measure
Gather surveillance data on pediatric ED visits in Texas	TEDAS-Baylor College of Medicine	Ongoing (inception 2001)	Number of patients identified
Educate ED physicians on acute and chronic severity	TEDAS- Health Care Provider Education Program	Every 6 months at participating institutions	Number of health care providers for which education program has been delivered
Identification of scope of pediatric emergency department ED utilization	TEDAS- Surveillance component- Baylor College of Medicine	Ongoing (inception 2001)	Specific projects for which hypothesis driven questions have been answered (ex. Publications in April 2006 Pediatrics)
Identify participating emergency departments in the state of Texas for which expansion is possible	TEDAS- entire statewide team	Ongoing: One new site yearly	Number of participating hospitals (5 as of 2006) Number of cities involved (Houston, Galveston, Dallas as of 2006)

Texas Asthma Plan Issue 3 Clinical Management of Asthma			
Baylor College of Medicine Asthma Care for Kids Educational Resource (BACKER)			
Action	Lead Organization(s)	Timeline	Evaluation Measure
Design an ED intervention for helping families manage asthma at home	TEDAS-Baylor College of Medicine	Designed in 2002	Completion of a computer-driven Access platform portable asthma intervention project
Test the efficacy of the BACKER project for improving health care utilization	TEDAS network	2002-2004	Confidence scores post ED discharge ED and emergent PCP utilization post ED discharge Well child visits after the ED visit Peer Reviewed publication evaluating program (Pediatrics 2006)
Test the efficacy of the BACKER intervention when coupled with beginning chronic therapies in the ED	Texas Children's Hospital and Baylor College of Medicine	2006-2008	Confidence scores post ED discharge ED and emergent PCP utilization post ED discharge Well child visits after the ED visit
Test the efficacy of an inpatient model of the BACKER intervention	Texas Children's Hospital and Baylor College of Medicine	2006-2008	Confidence scores post ED discharge ED and emergent PCP utilization post ED discharge Well child visits after the ED visit

