

Changing *the* Course

A Plan to Prevent and Control Diabetes in Texas

2012–2013



TEXAS DIABETES
COUNCIL

Vision:

A Texas Free of Diabetes and its Complications

Mission:

To Effectively Reduce the Health
and Economic Burdens of Diabetes in Texas

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MESSAGE *from* THE CHAIR

Executive Summary and Biennium in Review

The Texas Diabetes Council (TDC) was created in 1983 to advise the Legislature and state agencies on policy and programs that address the needs of the now more than 2 million Texans who have diabetes, both diagnosed and undiagnosed.¹ When the TDC launched its first diabetes public awareness campaign in 1994, only eight percent of the nation's population thought diabetes was a serious disease. The message was simple – “Either you have diabetes or you don't. If you do, start managing it to avoid serious and deadly complications such as heart disease, kidney disease, blindness, amputation, and early death.”

The message was heard. Fifteen years later, 85 percent of the nation's population 35 years and older now consider diabetes a very serious condition.² The majority (81%) of this population report they have had a blood test for diabetes.

As the course of disease awareness has changed, so has the knowledge of how type 2 diabetes evolves and how to define the disease. Impaired fasting glucose, impaired glucose tolerance and prediabetes are all terms for a condition where blood sugar levels are elevated, but not high enough to be diagnosed as diabetes. Prediabetes and insulin resistance, the body's inability to properly use insulin, put persons at higher risk for type 2 diabetes and cardiovascular disease. Studies have shown that most people with prediabetes develop type 2 diabetes within 10 years, unless they lose five to seven percent of their body

weight—about 10 to 15 pounds for someone who weighs 200 pounds—by making changes in their diet and level of physical activity.³

The Diabetes Prevention Program (DPP) clinical trial demonstrated that structured lifestyle programs focusing on nutrition and physical activity can reduce the risk for type 2 diabetes by 58 percent among persons with prediabetes.³ In 2010, the Centers for Disease Control and Prevention announced a National Diabetes Prevention Program that will bring the results of this research to the estimated 79 million adults in the U.S. who have prediabetes.⁴ Authorized by the Patient Protection and Affordable Care Act, the initial model for this program is based on a payer (United Health Group) providing reimbursement to a community-based organization (YMCA of America) for preventive services. Trained lifestyle coaches will guide program participants through the evidence-based DPP lifestyle curriculum, offering follow-up for up to a year at an annual cost of less than \$300 per patient.

While state programs continue the necessary work of helping Texans manage type 2 diabetes to avoid costly complications, this new opportunity will help to change the course of disease progression for Texans who still have the ability to delay the onset of type 2 diabetes, or more importantly, avoid it altogether. Our current public

information campaign has taken a “step by step” approach to increasing awareness of prediabetes in the state and creating readiness among those at risk for lifestyle interventions. Also, surveillance efforts summarized in the “Diabetes in Texas” section that follows now include the collection of prediabetes prevalence data for Texas.

New federal healthcare policy promises to change the course of diabetes by not only offering increased access to preventive care, but also important insurance benefits that have long been denied persons with diabetes. The TDC has supported passage of critical state diabetes cost containment acts related to coverage of diabetes equipment, supplies and self-management training for persons with diabetes who are fortunate enough to have specific types of insurance coverage. Now, future coverage options promise access for persons with pre-existing conditions such as diabetes without lifetime limits on benefits and better coverage options for children with diabetes. TDC remains committed to reviewing federal healthcare policy and working with state and national policymakers to assure that Texans with diabetes have access to quality prevention and treatment services under these new plans.

These exciting new developments all build upon the efforts of thousands of physicians, nurses, dietitians, pharmacists, diabetes educators, community health workers and others striving to change the course of diabetes alongside the patients they assist. The TDC’s Medical Professionals Advisory Subcommittee, consisting of diabetes professionals from across the state, has volunteered their time and expertise in the development and regular update of diabetes treatment guidelines and algorithms for almost fifteen years. Their complete work, known as the Diabetes Tool Kit, continues to build upon

the minimum standards for diabetes care the TDC is required to develop for regulated health plans in Texas. A new web site, www.tdctoolkit.org, was launched to provide easy access to up-to-date clinical information for the state’s diabetes workforce, as do continuing medical education programs offered throughout the state in partnership with the Texas Chapter of the American Association of Clinical Endocrinologists.

During the 81st legislative session, community-based diabetes education in Texas was expanded through the TDC/Stark Partnership, now known as the University of Texas Community Outreach (UTCO) program. Within less than a year of receiving funding, the University of Texas Medical Branch in Galveston and UT School of Public Health, Brownsville, equipped community organizations in Cameron, Webb, Nueces and Galveston Counties to launch evidence-based community fitness, nutrition, and diabetes education programs. An evaluation plan is underway to measure improvement in diabetes knowledge and behaviors as well as clinical indicators of program participants. The TDC encourages continued support of this program and other established community-based education and awareness efforts coordinated through the Texas Department of State Health Services Diabetes Prevention and Control Branch. A report of these and other state agency efforts to implement the TDC strategic plan for diabetes prevention and control can be found in the Activities and Services Update.

Outside the realm of state agency programs, a different state model, the Texas Diabetes Institute in San Antonio, marked its tenth anniversary in 2009. This diabetes “center of excellence” was a priority of early TDC strategic planning, integrating diabetes prevention and management with local community development.

Today, the Institute comprises five state of the art centers addressing health promotion, patient education, continuing education for healthcare professionals, diabetes treatment, and research.

Through regional roundtables conducted in Dallas, Houston and Harlingen over the past biennium, the TDC and its partners invited diabetes health professionals and community leaders to provide input on diabetes policy development. Themes arising in all discussions centered on improvements in clinical care coordination, continuity of care during patient transition between providers or payors, diabetes self management training, federal support for prevention and health information technology, and focus on priority populations. Some of these concerns are currently being addressed through federal initiatives that support state implementation of electronic medical records, quality improvement collaboratives for federally qualified health centers, and disease management programs offered through a variety of health plans.

While the roundtable discussions brought up many national issues, there are still areas of focus at the state level that demand attention. The TDC continues to support the inclusion of diabetes self management training as a covered benefit under Texas Medicaid, and made initial progress toward this goal with the passage of HB 1999 (81R), creating a diabetes self-management training pilot program within the Medicaid disease management program. From discussions with local health departments and public hospitals, TDC learned that women with gestational diabetes are still not receiving the education, equipment and supplies they need in a timely manner to avoid premature birth, birth defects and increased risk for obesity and diabetes for the child later in life. Women who have had gestational diabetes

have a 35 to 60 percent chance of developing diabetes in the next 10 to 20 years.⁴ Equipment, supplies, and self-management training, and preconception counseling are necessary for women with pre-existing diabetes and expectant mothers with gestational diabetes.

Emerging opportunities to address prediabetes, continuing education for health professionals in the state, new community programs that enhance ongoing state prevention efforts, and federal health policy will change the course of diabetes management at the federal, state, community and individual level over the next biennium and beyond. The TDC and state health agencies continue to move forward with a comprehensive approach to diabetes prevention and control outlined in TDC's strategic plan for 2012-13. These broad recommendations provide guidance and remind us of the TDC's mission as we navigate the changing course ahead.



Victor Gonzalez, MD, Chair
Texas Diabetes Council



DIABETES *in* TEXAS

Defining Diabetes

Diabetes is a disease in which levels of blood glucose, also called blood sugar, are above normal. People with diabetes have problems converting food to energy. Normally, after a meal, the body breaks food down into glucose, which the blood carries to cells throughout the body. Cells use insulin, a hormone made in the pancreas, to help them convert blood glucose into energy.

People develop diabetes because the pancreas does not make enough insulin or because the cells in the muscles, liver, and fat do not use insulin properly, or both. As a result, the amount of glucose in the blood increases while the cells are starved of energy. Over the years, high blood glucose, also called hyperglycemia, damages nerves and blood vessels, which can lead to complications such as heart disease, stroke, kidney disease, blindness, nerve problems, gum infections, and amputation.

Main Types of Diabetes

The two main types of diabetes are called type 1 and type 2. A third form of diabetes is called gestational diabetes.

- Type 1 diabetes, formerly called juvenile diabetes, is usually first diagnosed in children, teenagers, and young adults. In this form of diabetes, the pancreas no longer makes insulin because the body's immune system has attacked and destroyed the pancreatic cells specialized to make insulin. These insulin-producing cells are called beta cells.
- Type 2 diabetes, formerly called adult-onset diabetes, is the most common form. People can develop type 2 diabetes at any age, even during childhood. This form of diabetes usually begins with insulin resistance, a condition in which muscle, liver, and fat cells do not use insulin properly. As a result, the body needs more insulin to help glucose enter cells to be used for energy. At first, the pancreas keeps up with the added demand by producing more insulin. In time, however, the pancreas loses its ability to secrete enough insulin in response to meals.
- Gestational diabetes is diabetes that first occurs during pregnancy. When women are pregnant, their need for insulin appears to increase, and many can develop gestational diabetes during the late stages of pregnancy. Gestational diabetes affects three to seven percent of all pregnancies in the United States.⁵ Equipment, supplies, and self-management training, and preconception counseling are recommended for those with pre-existing diabetes and expectant mothers with gestational diabetes in order to prevent harm to the child from premature birth, birth defects, and increased risk for obesity and diabetes later in life. Gestational diabetes cost per case averaged \$3,514 in 2007 - \$3,305 in higher pregnancy

cost and \$209 in additional cost during the newborn's first year of life.⁶ Women who have had gestational diabetes have a 35 to 60 percent chance of developing diabetes in the next ten to twenty years.⁴

Other types of diabetes result from specific genetic defects, diseases of the pancreas, excessive amounts of certain hormones, medications, infections, and rare autoimmune disorders.

What is Prediabetes?

Prediabetes means that blood glucose levels are higher than normal, but not high enough for a diagnosis of diabetes. However, most people with prediabetes develop type 2 diabetes within 10 years.³ Individuals with prediabetes have an increased risk of heart disease and stroke. Several research studies, including the U.S. Diabetes Prevention Program (National Institutes of Health) have demonstrated that a structured lifestyle program, which results in a modest weight loss of five to seven percent while encouraging healthy eating and increasing physical activity, can reduce risk for type 2 diabetes by 58 percent in those at high risk for diabetes or who have prediabetes.⁷

The National Diabetes Education Program's 2008 *Survey of the Public's Knowledge Attitudes, and Practices Related to Diabetes* revealed significant gaps between perceived and actual risks of having prediabetes. Only 29 percent of the people at high risk for diabetes understood their risk for the disease, and only about two-thirds of people told they have prediabetes understood that they were at risk for diabetes. National Health and Nutrition Examination Survey (NHANES) data from 2005 – 2006 show that 30 percent of U.S. adults 20 years or older had prediabetes. Only seven percent of those determined by the medical exam portion of this survey to have prediabetes reported that they had been told that they had the condition, and only 48 percent of adults with prediabetes reported having a test for diabetes or high blood sugar in the past three years.^{2,8}

Diagnosing Diabetes (type 1 & 2)

Diagnosis of diabetes is based on plasma glucose (blood sugar) testing, through either a fasting plasma glucose (FPG) test, or an oral glucose tolerance test (OGTT). The OGTT is most commonly used to check for gestational diabetes. Recently, the American Diabetes Association affirmed the recommendation of an expert committee regarding use of the hemoglobin A1c (A1c) test to diagnose diabetes. The A1c test provides an average of

TABLE 1: *Diagnosis of Diabetes 2010*⁹

Normal (non-diabetic)	Prediabetes (IFG or IGT**)	Diabetes (type 1 & 2***)
FPG < 100 mg/dL	FPG: 100-125 mg/dL	FPG ≥ 126 mg/dL
2-hour PG < 140 mg/dL	2-hour PG: 140 – 199 mg/dL	2-hour PG ≥ 200 mg/dL
A1c < 5.7 %	A1c 5.7 – 6.4 %	A1c ≥ 6.5%

**Impaired Fasting Glucose (IFG) and Impaired Glucose Tolerance (IGT) are terms associated with prediabetes based on the type of test used to diagnose prediabetes. A person with IFG has prediabetes based on a fasting plasma glucose test, while a person with IGT has prediabetes based on an oral glucose tolerance test.

***Lab values for diagnosing gestational diabetes differ.

blood glucose control over the previous two to three months, and is more commonly used by clinicians to evaluate how well their patients with diabetes are managing the disease. Patient A1c goals vary, but an A1c of less than seven percent is generally associated with excellent diabetes management, whereas higher percentages are associated with increasing risk for complications.

Table 1 shows lab values used to diagnosis prediabetes and diabetes using three tests (FPG, OGTT, and A1c). Diabetes can be diagnosed with:

- a FPG greater than or equal to 126 mg/dL
- a two-hour plasma glucose (PG) greater than or equal to 200 mg/dL (oral glucose tolerance test)
- an A1c greater than or equal to 6.5 percent*

Clinicians may repeat a test to confirm diagnosis.

*The diagnostic test should be performed using a method certified by the National Glycohemoglobin Standardization Program (NGSP) and standardized or traceable to the Diabetes Control and Complications Trial (DCCT) reference assay.

Adult Prediabetes Prevalence, 2009

According to the 2009 Behavioral Risk Factor Surveillance System (BRFSS) survey, 984,142 persons aged 18 years and older in Texas (5.4% of this age group) have prediabetes. Nationwide, 14 million persons in this age group have been diagnosed with prediabetes (5.9%)! These data are self-reported, requiring that respondents already be diagnosed by a physician or other health professional to report that they have prediabetes. Respondents to the annual BRFSS phone survey are asked the following question:

Have you ever been told by a doctor or other health professional that you have prediabetes or borderline diabetes?

The NHANES and other national data sets, combining interviews with clinical testing, reveal a much higher estimate of prediabetes prevalence in the U.S. In 2005 to 2008, 35 percent of U.S. adults aged 20 years or

older, and 50 percent of adults aged 65 years or older had prediabetes. Applying this percentage to the entire U.S. population in 2010 yields an estimated 79 million American adults aged 20 years or older with prediabetes.⁴

According to 2009 Texas BRFSS, prevalence of prediabetes among adults did not differ significantly when compared among gender and race/ethnicity subpopulations.

Prevalence was higher among those with higher levels of education. Prevalence of prediabetes was significantly higher among adults 45-64 years (7.5%) and 65+ years old (7.1%) as compared to adults 30-44 years old (4.1%).

Diagnosed Prediabetes Prevalence by Sex, Texas Adults, BRFSS 2009¹

		95% CI
Male:	4.9%	(3.9-6.1%)
Female:	5.9%	(5.1-6.9%)

Diagnosed Prediabetes Prevalence by Race/Ethnicity, Texas Adults, BRFSS 2009¹

White, non-Hispanic:	5.2%	(4.6-6.0%)
Black, non-Hispanic:	6.7%	(4.6-9.8%)
Hispanic:	4.9%	(3.7-6.5%)
Other:	8.0%	(4.2-14.6%)

Diagnosed Prediabetes Prevalence by Age Group, Texas Adults, BRFSS 2009¹

18-29 Years:	3.0%	(1.6-5.3%)
30-44 Years:	4.1%	(3.1-5.4%)
45-64 Years:	7.5%	(6.4-8.9%)
65+ Years:	7.1%	(5.7-8.8%)

Diagnosed Prediabetes Prevalence by Educational Level, Texas Adults, BRFSS 2009¹

No High School Diploma:	3.0%	(2.0-4.7%)
High School Graduate:	5.0%	(3.9-6.4%)
Some College:	6.5%	(5.2-8.2%)
College +:	5.9%	(4.7-7.3%)

Adult Diabetes Prevalence, 2009

In the U.S., an estimated 21.2 million (9.1%) persons 18 years and older have been diagnosed with diabetes.¹

According to the 2009 BRFSS, an estimated 1.7 million persons aged 18 years and older in Texas (9.3% of this age group) have been diagnosed with diabetes.¹ Another estimated 440,468 persons aged 18 years and older in Texas are believed to have undiagnosed diabetes (based on 2003-2006 NHANES age-adjusted prevalence estimate of 2.5% of persons 20 years of age and older).¹⁰

According to 2009 Texas BRFSS, prevalence of diabetes did not differ significantly between males and females. Prevalence of diagnosed diabetes significantly increased with age. About one in 20 adults in age group 30-44 years had diabetes as compared to four in 20 adults in age group 65 years and older. Adults with college or higher level education showed significantly lower prevalence of diabetes (7.1%) as compared to adults with high school diploma (10.2%) or without high school diploma (11.2%). The overall prevalence of diabetes among blacks (non-Hispanic - 14.4%) was significantly higher than whites (non-Hispanic - 8%).

Diagnosed Diabetes Prevalence by Sex, Texas Adults, BRFSS 2009¹

		95% CI
Male:	10.0%	(8.6-11.5%)
Female:	8.6%	(7.8-9.6%)

Diagnosed Diabetes Prevalence by Race/Ethnicity, Texas Adults, BRFSS 2009¹

White, non-Hispanic:	8.0%	(7.2-8.9%)
Black, non-Hispanic:	14.4%	(11.0-18.7%)
Hispanic:	9.7%	(8.1-11.5%)
Other:	9.2%	(5.7-14.5%)

Diagnosed Diabetes Prevalence by Age Group, Texas Adults, BRFSS 2009¹

18-29 Years:	0.7%	(0.2-2.6%)
30-44 Years:	5.2%	(3.8-7.1%)
45-64 Years:	13.7%	(12.2-15.3%)
65+ Years:	20.7%	(18.7-22.9%)

Diagnosed Diabetes Prevalence by Educational Level, Texas Adults, BRFSS 2009¹

No High School Diploma:	11.2%	(9.2-13.7%)
High School Graduate:	10.2%	(8.7-11.9%)
Some College:	10.3%	(8.4-12.5%)
College +:	7.1%	(6.0-8.4%)

Table 2 combines analysis by age and race/ethnicity to show where differences in diabetes prevalence among race/ethnicity subgroups are more pronounced. Among 45 to 64 year olds, diabetes prevalence was higher among

Hispanics and blacks (non-Hispanic) than among whites (non-Hispanic). This difference becomes increasingly evident as persons age, with the greatest disparity seen in older Texans (65+).

TABLE 2: Diagnosed Diabetes Prevalence by Race/Ethnicity and Age Group, Texas Adults, BRFSS 2009¹

Age Group	White, non-Hispanic (95%CI)	Black, non-Hispanic (95% CI)	Hispanic (95% CI)	Other (95% CI)
18-44 Years	2.1% (1.3-3.5)	6.3% (2.8-13.7)	4.5% (2.9-7.0)	4.1% (1.3-12.2)
45-64 Years	11.0% (9.5-12.6)	20.9% (14.7-28.9)	16.8% (13.6-20.6)	15.0% (7.9-26.5)
65+ Years	16.5% (14.6-18.6)	29.6% (20.8-40.1)	30.6% (24.6-37.2)	25.1% (13.1-42.9)

Diabetes Prevalence Among Youth, (less than 18 years of age)

Diabetes among children and adolescents is mainly type 1. The SEARCH for Diabetes in Youth study funded by the Centers for Disease Control and Prevention and the National Institutes of Health indicated that during 2002-2005, 15,600 youth in the U.S. were newly diagnosed with type 1 diabetes annually, and 3,600 youth were newly diagnosed with type 2 diabetes annually. Among youth aged <10 years, the rate of new cases was 19.7 per 100,000 each year for type 1 diabetes and 0.4 per 100,000 for type 2 diabetes. Among youth aged 10 years or older, the rate of new cases was 18.6 per 100,000 for type 1 diabetes and 8.5 per 100,000 for type 2 diabetes.^{4, 11}

In 2007, the Texas BRFSS survey began including two questions regarding diabetes prevalence among youth. In households that include a child or adolescent, respondents are now asked if the child or adolescent has been diagnosed with diabetes, and if so, what type

of diabetes they have (type 1 or type 2). While response to the question regarding type of diabetes has not been adequate to provide a reliable estimate of prevalence by type, the 2009 survey indicates that an estimated 26,000 Texas youth (0.4% of this age group) have been diagnosed with diabetes (type 1 and type 2).¹ Diagnosed diabetes prevalence for Texas youth are presented by sex and race/ethnicity below. Differences are not statistically significant.

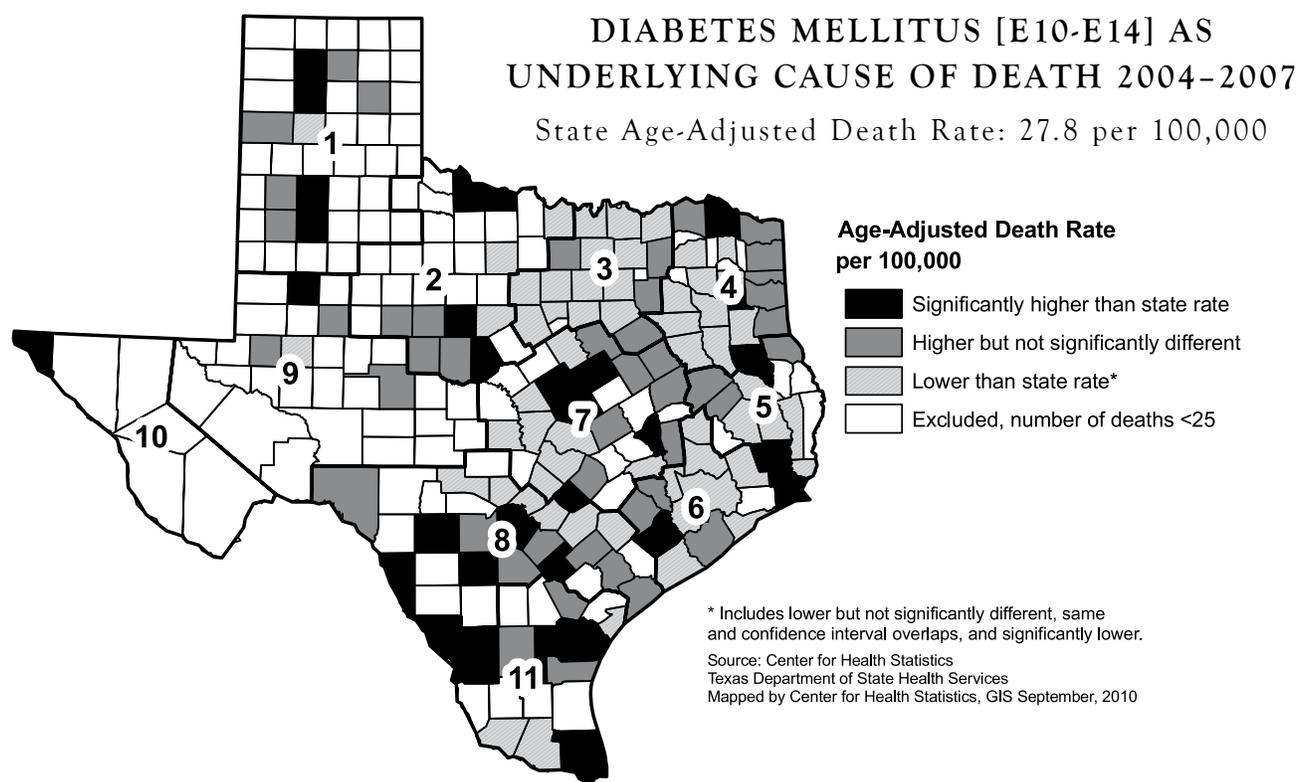
Diagnosed Diabetes Prevalence by Sex, Texas Youth, 2009, BRFSS 2009¹		
		95% CI
Boy:	0.3%	(0.1-0.9%)
Girl:	0.5%	(0.3-1.0%)

Diagnosed Diabetes Prevalence by Race/Ethnicity, Texas Youth, 2009, BRFSS 2009¹		
White, non-Hispanic:	0.4%	(0.2-0.9%)
Black, non-Hispanic:	1.0%	(0.3-4.2%)
Hispanic:	0.3%	(0.1-0.7%)

Diabetes Mortality

Diabetes was the sixth leading cause of death in Texas in 2002 through 2007.¹² In 2007, 5,105 deaths were directly attributed to diabetes. Nationally, diabetes was also the sixth leading cause of death in 2002 through 2004 and 2006, and was the seventh leading cause of death in 2005 and 2007. Diabetes is believed to be under-reported on death certificates in Texas and the nation, both as a condition and as a cause of death.

The map below shows the age-adjusted mortality rates per 100,000 persons for Texas by county for the years 2004 through 2007, with diabetes as the underlying cause of death. The state rate for the four years is 27.8 per 100,000. A number of counties in Health Service Regions 8 and 11 had significantly higher diabetes mortality rates than the state rate. Many counties along the eastern part of our state had higher diabetes mortality rates than the state, but these rates were not statistically significantly different than the rate for the state of Texas



Diabetes Mortality Rate (Per 100,000) by Race/ Ethnicity, Texas, 2007¹²

The 2007 diabetes mortality rate for Texas was 26 deaths per 100,000 persons. Mortality rates by race/ethnicity in 2007 were:

- 19 per 100,000 non-Hispanic whites
- 40 per 100,000 Hispanics

- 46 per 100,000 non-Hispanic blacks
- 22 per 100,000 persons who fall in the “Other” category

The 2007 mortality rates (per 100,000) for non-Hispanic blacks and Hispanics were more than double that of non-Hispanic whites.

Treatment of Diabetes

Diabetes can lead to serious complications, such as blindness, kidney damage, cardiovascular disease, and lower-limb amputations, but people with diabetes can lower the occurrence of these and other complications by controlling blood glucose, blood pressure, and blood lipids. Many people with type 2 diabetes can control their blood glucose by following a healthy meal plan and exercise program, losing excess weight, and taking oral medication. Some people with type 2 diabetes may also need insulin to control their blood glucose. To survive, people with type 1 diabetes must have insulin delivered by injection or a pump. Among adults with diagnosed diabetes (type 1 or type 2), 14 percent take insulin only, 13 percent take both insulin and oral medication, 57 percent take oral medication only, and 16 percent do not take either insulin or oral medication.¹³ Medications for each individual with diabetes will often change during the course of the disease. Many people with diabetes also need to take medications to control their cholesterol and blood pressure. Self-management education or training is a key step in improving health outcomes and quality of life. It focuses on self-care behaviors, such as healthy eating, being active, and monitoring blood sugar. It is a collaborative process in which diabetes educators help people with or at risk for diabetes gain the knowledge and problem-solving and coping skills needed to successfully self-manage the disease and its related conditions.

Treatment of type 1 diabetes. Lack of insulin production by the pancreas makes type 1 diabetes particularly difficult to control. Treatment requires a strict regimen that typically includes a carefully calculated meal plan, planned physical activity, self blood-glucose testing several times a day, and multiple daily insulin injections.

Treatment of type 2 diabetes. Treatment typically includes a balanced meal plan, daily physical activity, self

blood-glucose monitoring, and in many cases, oral medication and/or insulin.

Complications of Diabetes

Heart disease and stroke. Heart disease is the leading cause of death among persons with diabetes in the United States. Heart disease and stroke account for about 65 percent of deaths in people with diabetes.¹³

- In 2004, heart disease was noted on 68 percent of diabetes-related death certificates among people aged 65 years or older.
- In 2004, stroke was noted on 16 percent of diabetes-related death certificates among people aged 65 years or older.
- Adults with diabetes have heart disease death rates about two to four times higher than adults without diabetes.
- The risk for stroke is two to four times higher among people with diabetes.

High blood pressure. In 2005–2008, 67 percent of adults with self-reported diabetes had blood pressure greater than or equal to 140/90 millimeters of mercury (mm Hg), or used prescription medications for hypertension.⁴

Blindness. Diabetes is the leading cause of new cases of blindness in adults 20 to 74 years old. Diabetic retinopathy causes from 12,000 to 24,000 new cases of blindness each year in the U.S.¹³

Kidney disease. Diabetes is the leading cause of kidney failure, accounting for 44 percent of new cases in 2008. In 2008, 48,374 people with diabetes began treatment for end-stage kidney disease in the U.S.⁴ In 2008, a total of 202,290 people with end-stage kidney disease due to diabetes were living on chronic dialysis or with a kidney transplant in the U.S.⁴

Nervous system disease. About 60 percent to 70 percent of people with diabetes have mild to severe forms of nervous system damage. The results of such damage include impaired sensation or pain in the feet or hands, slowed digestion of food in the stomach, carpal tunnel syndrome, and other nerve problems. Almost 30 percent of people with diabetes aged 40 years or older have impaired sensation in the feet (i.e., at least one area that lacks feeling). Severe forms of diabetic nerve disease are a major contributing cause of lower-extremity amputations.⁴

Amputations. In the U.S., more than 60 percent of nontraumatic lower-limb amputations occur in people with diabetes. In 2006, about 65,700 nontraumatic lower-limb amputations were performed in people with diabetes in the United States.⁴ The Texas Health Care Information Council reports that, in 2008, 6,933 hospitalizations for amputations occurred in persons with diabetes in Texas.¹⁴

Dental disease. Periodontal (gum) disease is more common in people with diabetes. Among young adults, those with diabetes have about twice the risk of those without diabetes. Adults aged 45 years or older with poorly controlled diabetes (A1c > 9%) were nearly three times more likely to have severe periodontitis than those without diabetes. Almost one-third of people with diabetes have severe periodontal disease with loss of attachment of the gums to the teeth measuring five millimeters or more.⁴

Other complications. Uncontrolled diabetes leads to biochemical imbalances that can cause acute life-threatening events, such as diabetic ketoacidosis and hyperosmolar (nonketotic) coma. People with diabetes are more susceptible to many other illnesses and, once they acquire these illnesses, often have worse prognoses. For example, they are more likely to die with pneumonia or influenza than people who do not have diabetes.¹³

Diabetes Costs

Diabetes contributes to a number of chronic complications and is associated with an increased utilization of health care services. With an increasing prevalence of diabetes and an aging population, the burden of diabetes in the nation and Texas continues to grow. According to the American Diabetes Association and the CDC, the direct and indirect costs of diabetes in the United States reached more than \$174 billion in 2007 (Table 3). This estimate includes \$116 billion in excess medical expenditures

TABLE 3: *Cost of Diabetes, 2007*

	Type	Amount in Billions
Texas	Direct	\$8
	Indirect	\$4
	Total	\$12
United States	Direct	\$116
	Indirect	\$58
	Total	\$174

attributed to diabetes, as well as \$58 billion in reduced national productivity. People with diagnosed diabetes, on average, have medical expenditures that are approximately 2.3 times higher than the expenditures would be in the absence of diabetes. Approximately \$1 in \$10 health care dollars is attributed to diabetes. Indirect costs include increased absenteeism, reduced productivity, and lost productive capacity due to early mortality.¹⁵

These data are based on a study by the Lewin Group, Inc., for the American Diabetes Association and are 2007 estimates of both the direct (cost of medical care and services) and indirect costs (costs of short-term and permanent disability and of premature death) attributable to diabetes. This study used specific cost-of-disease methodology to estimate the health care costs due to diabetes. Estimates are based on the National Health Interview Survey (NHIS) administered by the CDC.

According to the American Diabetes Association and CDC, the cost of diabetes for 2007 in Texas was more than \$12 billion. This estimate includes \$8 billion in excess medical expenditures attributed to diabetes, as well as \$4 billion in reduced productivity.¹⁶

In Texas, state and federal expenditures for programs of the Texas Department of State Health Services Diabetes Prevention and Control Branch are estimated at about \$6.2 million. In contrast, state programs spend more than an estimated \$570 million a year to provide health care and rehabilitative services for persons with diabetes and advanced complications (Table 4).

TABLE 4: State Agency Expenditures for Diabetes-Related Services, FY 2009

Department	Number Served	Expenditures
State Health Services / FY09		
<i>Kidney Health Care (KHC)*</i>	8,517	\$6,540,063
Assistive and Rehabilitative Services / FY09		
<i>Rehabilitation Services**</i>	2,937	\$4,828,282
<i>Blind Services***</i>	3,183	\$5,830,423
Health and Human Services Commission / FY 09		
<i>Medicaid (FFS/PCCM)****</i>	286,144	\$553,114,660.51

Notes for Table 4:

* Data provided by the Kidney Health Application Group includes clients with diabetes as a primary and secondary diagnosis, and Medicare Part D costs.

** Cause code 16. Includes comprehensive rehabilitation services, independent living services, and vocational rehabilitation services.

*** Data provided by the Department of Blind Services (DBS) includes clients with diabetes as a primary, secondary, or tertiary disability cause under the following DBS strategies: Independent Living, Blind Children’s Program, and Vocational Rehabilitation Services. Includes diabetes equipment and supplies.

**** Estimated Medicaid FFS/PCCM and Managed Care Reimbursements for Diabetes-Related Services. Diabetes related services is defined as claims with any diagnosis of ICD-9-CM250. Costs include reimbursement for outpatient visits, medical tests and diabetes supplies. Medications are not included in this cost estimate. The total number served has been unduplicated to account for any movement by members across various health plans throughout the year. Research Team, Strategic Decision Support, Texas Health and Human Services Commission, August 2010.

In a presentation to the Texas House of Representatives Committee on Appropriations regarding Medicaid caseload and cost dynamics in June 2010, the Texas Health and Human Services Commission ranked diabetes as the leading diagnosis for Medicaid encounters. Diabetes ranked number nine by cost (Table 5).

TABLE 5: Where Does Texas Spend Medicaid Dollars? Top Diagnoses – Texas Medicaid – FY 2009

Number of Visits		
Rank	ICD-9-CM*	Description
1	250	Diabetes mellitus
2	V40	Mental and behavior problems
3	786	Symptoms involving respiratory system and other chest symptoms
4	401	Essential hypertension
5	788	Symptoms involving urinary system
6	296	Affective psychoses
7	315	Specific delays in development
8	465	Acute upper respiratory infections of multiple or unspecified sites
9	V22	Normal pregnancy
10	585	Chronic renal failure
By Cost		
Rank	ICD-9-CM	Description
1	V30	Single liveborn
2	315	Specific days in development
3	296	Affective psychoses
4	585	Chronic renal failure
5	788	Symptoms involving urinary system
6	786	Symptoms involving respiratory system and other chest symptoms
7	518	Other diseases of lung
8	343	Infantile cerebral palsy
9	250	Diabetes mellitus
10	783	Symptoms concerning nutrition, metabolism, and development

*ICD-9-CM: The International Classification of Diseases, Clinical Modification, is a classification used in assigning codes to diagnoses associated with inpatient, outpatient, and physician office utilization in the U.S. Codes starting with “V” (V codes) are supplementary classification of factors influencing health status and contact with health services.

Internet Resources

Additional diabetes statistics, slide presentations and burden reports can be found at

www.texasdiabetescouncil.org (see Diabetes Data):

- *The Burden of Diabetes in Texas: A Report Prepared by the Texas Diabetes Program/Council Texas Department of State Health Services, Austin, Texas, October 2008*
- *Texas Chronic Disease Burden Report, April 2010*

The following web sites provide diabetes statistics for Texas and the United States:

TEXAS HEALTH DATA

<http://soupfin.tdh.state.tx.us>

- *Birth, death, and population data available for all counties in Texas by age groups and race/ethnicity.*

BEHAVIORAL RISK FACTOR DATA QUERIES

http://www.dshs.state.tx.us/chs/brfss/query/brfss_form.shtm

- *Provides information on obesity, alcohol usage, physical activity, asthma, diabetes, access to healthcare and other risk factors.*

YOUTH RISK BEHAVIOR DATA QUERIES

http://www.dshs.state.tx.us/chs/yrbs/query/yrbss_form.shtm

- *Information on teen suicide, alcohol use, tobacco use, drug usage, sexual activity, diet and other behaviors.*

CARDIOVASCULAR HEALTH AND WELLNESS, TEXAS DEPARTMENT OF STATE HEALTH SERVICES (DSHS)

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

AMERICAN DIABETES ASSOCIATION

www.diabetes.org

CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC)- DIVISION OF DIABETES TRANSLATION

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

<http://apps.nccd.cdc.gov/DDTSTRS/default.aspx>

CDC - BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM (BRFSS)

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

THE HEALTH PLAN EMPLOYER DATA AND INFORMATION SET (HEDIS)

www.ncqa.org

HEALTH RESOURCES AND SERVICES ADMINISTRATION (HRSA) - U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

www.hrsa.gov

KIDNEY HEALTH CARE PROGRAM, DSHS

www.dshs.state.tx.us/kidney

END STAGE RENAL DISEASE NETWORK OF TEXAS

<http://www.esrdnetwork.org/>

NATIONAL INSTITUTE OF DIABETES AND DIGESTIVE AND KIDNEY DISEASES OF THE NATIONAL INSTITUTES OF HEALTH (NIDDK)

www.niddk.nih.gov

LOVE YOUR KIDNEYS CAMPAIGN SITES

<http://lovekidneys.com> <http://savekidneys.com>

TEXAS DEPARTMENT OF INSURANCE

www.tdi.state.tx.us



TEXAS DIABETES COUNCIL

Strategic Plan 2012–2013

Priority 1: Advancing Public Policy Affecting Diabetes

The Health and Safety Code permits the TDC to develop and submit legislation to the Legislature and comment on pending legislation that affects people with diabetes or those at risk for diabetes. The TDC desires that all people with diabetes or at risk in Texas receive quality care and services and have access to information about preventing and managing the disease, as well as preventing its complications. The TDC also believes that all professionals who treat people with diabetes or those at risk have access to effective treatment guidelines. By advising the Legislature, the TDC hopes to reduce the burden of diabetes in the state, improve coverage for people with diabetes, and reduce the costs associated with the care of complications.

Goals:

- Educate policymakers about diabetes and its complications through personal stories, dissemination of materials that illustrate the burden in the state, forums that enable people with diabetes to testify, and by identifying and highlighting important and relevant research results
- Develop position statements about diabetes, articulate positions to policymakers, and work to implement needed legislation
- Advocate that private (health benefit plans) and public (Medicaid and CHIP) insurers in Texas cover diabetes equipment, supplies, and self-management education
- Advocate that health plan benefits are expanded when new science and technology products are available (e.g., continuous monitoring devices, medications)
- Advocate for national legislation that supports state laws regarding benefits for people with diabetes
- Support, protect and promote diabetes research opportunities in Texas, with emphasis on diabetes in children
- Support public policy, education, and legislation to protect the health, civil rights and safety of people with diabetes, including people who are institutionalized
- Promote self-management training for persons with impaired glucose tolerance (prediabetes)
- Promote health plan benefit design that includes reimbursement for preventive services such as screening for prediabetes, referral to programs effective in producing the results comparable to the DPP, and follow-up support
- Partner with advocacy groups and other state agency programs (see potential partner list)

Priority 2: Evaluating the Impact of Diabetes in Texas

Effective diabetes prevention and control programs depend on valid, reliable data gathered through surveillance and evaluation. These data clarify the magnitude of diabetes in Texas, identify target audiences, and facilitate the development of culturally appropriate messages. They also guide the distribution of resources to areas of greatest need related to diabetes. As progress is made toward meeting the following goals, the TDC expects to increase the reliability of diabetes data, increase participation in diabetes continuing education by physicians, increase the use of best practices by local diabetes programs, and increase the number of persons identified as being at risk for type 2 diabetes.

Goals:

- Obtain data regarding the use of minimum standards and algorithms by healthcare providers who treat patients who have diabetes
- Improve methods of gathering information regarding children with diabetes and those at risk for developing diabetes for the purpose of 1) targeting resources for intervention, and 2) supporting research
- Improve current diabetes surveillance and acquire new tools and sources that provide data related to Healthy People 2020 objectives
- Utilize an evaluation system based on valid and reliable measures to identify local prevention and control programs that other communities can adapt and/or replicate
- Advocate for accurate coding on Texas death certificates
- Promote the state adoption of the National Health Information Standards including incentives and practice redesign support. Incentives and practice

redesign support, emphasizing regular and follow-up care and patient outcomes, will facilitate adoption of health information technology interoperability and the potential for improvements in the quality of health care

- Support the use of electronic medical records and the development and implementation of health information exchanges/technology by the provider community
- Partner with agencies collecting health information, pediatricians and pediatric endocrinologists, research institutions, and the health care provider/educator community (see potential partner list) to identify and promote promising practices and best describe the diabetes health condition of the state

Priority 3: Promoting Comprehensive Programs for the Prevention of Diabetes.

Upstream prevention, or reaching persons in the diabetes population flow before they develop the disease, involves addressing a number of policy, lifestyle, and environmental factors that lead to overweight/obesity, decreased physical activity and poor nutrition. Prediabetes, a condition marked by elevated blood glucose levels that are higher than normal, but not yet high enough to be diagnosed as diabetes, marks a critical time where diabetes interventions have a chance of making a difference. The DPP research study showed that people at high risk for type 2 diabetes can prevent or delay the onset of the disease by losing five to seven percent of their weight (if overweight), getting at least 30 minutes of moderate-intensity physical activity five days a week, and eating a variety of foods that are low in fat and reducing the number of calories eaten per day. While the results of the DPP are possible, replicating this study across the state involves meeting the following goals, crossing multiple disease and organization boundaries to support favorable conditions for the lifestyle changes proven to reduce risk for type 2 diabetes.

Goals:

- Support recommendations of the Partnership for a Healthy Texas
- Promote the *Strategic Plan for the Prevention of Obesity in Texas*, published by the Texas Department of State Health Services
- Promote the establishment of local community coalitions addressing diabetes prevention using a comprehensive approach
- Encourage screening to identify diabetes patients or those at risk for diabetes
- Promote worksite wellness/diabetes prevention programs such as the National Diabetes Education Program's diabetesatwork.org and state agency worksite wellness programs (www.wellness.state.tx.us)
- Support school nutrition policies that promote the three E's of healthy living (education, exercise, and eating right) initiative to enhance a healthy school environment
- Support the state Risk Assessment for Type 2 Diabetes in Children Program for Texas public school students, promoting appropriate medical evaluation and intervention in addition to lifestyle (eating and activity) interventions for children who are overweight or at risk
- Promote coordinated school health programs in grades K-8, and support requirements for high school graduation that include physical and health education
- Encourage recipients of the Lone Star Card to complete a nutrition and healthy lifestyle course, increasing likelihood that healthy food and lifestyle choices will be made
- Encourage the U.S. Department of Agriculture (USDA) to develop criteria for foods of limited nutritional value to be removed from the

Supplemental Nutrition Assistance Program (food stamps) and provide incentives to recipients for making healthy changes

- Recommend policy addressing target areas for obesity prevention, including increased fruits and vegetable consumption, physical activity and breastfeeding, and decreased consumption of sugar-sweetened beverages, television-viewing and consumption of energy-dense foods
- Support the development of safe, built environments such as parks and walking trails that allow for increased physical activity

Priority 4: Increasing Public Awareness, Promoting Community Outreach and Diabetes Education

The Health and Safety Code mandates that the TDC “advise the legislature on legislation that is needed to develop further and maintain a statewide system of quality education for all persons with diabetes.” The TDC will undertake education programs that help the public partner with their healthcare providers in preventing or delaying the onset of type 2 diabetes and diabetes complications. Messages about risk factors, prediabetes, and diabetes (diagnosed and undiagnosed) will be distributed through the media, community-based organizations, schools, and public and private health organizations as part of a coordinated approach to containing the growing rate of type 2 diabetes and the number of diabetes-related disabling complications and deaths.

Recognizing that Texas includes many diverse communities with unique needs, the TDC supports local, tailored, evidence-based approaches to accomplishing its goals. The outcome of pursuing the following goals will be an increase

in the number of diabetes projects that enhance health education, promote positive behavior changes and reduce diabetes risks and complications.

Goals:

- Educate the public about the differences between type 1 and type 2 diabetes
- Empower the general public, including children and adults, through education on how to reduce their risk for type 2 diabetes and control all types of diabetes
- Promote awareness of safe and appropriate care of children with diabetes in schools
- Partner with public and private media, stakeholders, federal agencies, and other state agencies producing campaigns and materials related to diabetes prevention (see potential partner list)
- Work with community organizations and programs to improve health promotion activities as part of the effort to achieve Healthy People 2020 objectives
- Promote appropriate use of community health workers to reinforce and support diabetes education
- Support and promote quality self-management education programs
- Include academic institutions in evaluation and development of community programs
- Partner with community-based diabetes programs, diabetes centers, community groups and faith-based organizations to develop and promote evidence-based diabetes prevention practices (see potential partner list)

Priority 5: Improving Diabetes Care and Prevention of Complications by Health Care Professionals.

Many people with diabetes do not have access to a specialist for routine diabetes care. Rather, they rely upon a primary care physician or provider. The TDC develops standards of care and treatment algorithms for primary care physicians and providers who treat people with diabetes. If followed, these tools can lead to improved glycemic control and fewer complications.

Uncontrolled diabetes leads to life-threatening conditions and poor quality of life. Proliferative diabetic retinopathy is the leading cause of blindness among adults. Other conditions, such as cardiovascular disease, neuropathy, kidney disease, and podiatric (foot) complications, may be reduced if primary care physicians and providers adhere to best practices and follow treatment algorithms.

The TDC wants to assure that Texans receive high-quality care from health care providers with access to the latest diabetes prevention and management information. Activities related to this priority include developing, updating, and distributing materials for providers who treat people who have diabetes. The TDC's Medical Professionals Advisory Subcommittee reviews and develops standards of care and treatment algorithms published in the Diabetes Toolkit (available online at www.tdctoolkit.org) and promoted at continuing medical education events statewide.

Goals:

- Continue to develop and promote evidence-based minimum standards of care for type 1 and type 2 diabetes (for youth and adults) and gestational diabetes
- Develop, update, and expand distribution of algorithms for the management of diabetes in children and adults
- Develop, publish, and promote preventive protocols for people who have impaired glucose tolerance (prediabetes) or are at risk for developing diabetes
- Partner with professional associations and health benefit plans to promote the standards of care and treatment algorithms
- Expand collection of data on the prevalence of impaired glucose tolerance (prediabetes)
- Promote early identification of people with diabetes or are at risk for type 2 diabetes
- Improve professional education related to care of people with diabetes and prediabetes by including diabetes-specific content and expanding the required clinical competencies in professional preparation and continuing education programs for healthcare professionals
- Design strategies and incentives to help healthcare professionals pursue Certified Diabetes Educator (CDE) credentials and other provider recognitions (e.g., National Committee for Quality Assurance [NCQA] Provider Recognition), especially those from underserved areas
- Partner with academic institutions (colleges of medicine, nursing, nutrition, social work, podiatry, optometry), medical professional associations, and peer review groups to promote improved care and services to people with diabetes (see potential partner list)

Potential Partner List

Advocacy Groups

- American Diabetes Association
- American Heart Association
- Texas Renal Coalition
- Partnership for a Healthy Texas
- Governor's Advisory Council on Physical Fitness
- Texas Health Institute

Governmental Entities

- Centers for Disease Control and Prevention (CDC)/ National Diabetes Education Program (NDEP)
- National Kidney Disease Education Program (NKDEP)

Research Institutions

- Juvenile Diabetes Research Foundation (JDRF)
- National Institutes of Health (NIH)
- Texas Diabetes Institute (TDI)

Other Department of State Health Services Programs

- School Health Network
- Kidney Health Care
- Nutrition, Physical Activity, and Obesity Prevention
- Cardiovascular Health and Wellness

Other State Agencies

- Department of Criminal Justice (DCJ)
- Department of Public Safety (DPS)
- Department of Agriculture (DoA)
- Department of Assistive and Rehabilitative Services (DARS)
- Department of Aging and Disability Services (DADS)
- Department of Insurance (TDI)
- Texas Education Agency (TEA)

- Health and Human Services Commission (HHSC)
- Medicaid
- CHIP/ Children’s Medicaid
- AgriLIFE Extension, Texas A&M University

Academic Centers

- Medical Schools

Health Benefit Plans

- Health Maintenance Organizations (HMOs)
- Preferred Provider Organizations (PPOs)

Professional Associations

- Texas Medical Association
- Texas Academy of Family Physicians
- Texas Pediatric Society
- Texas Hospital Association
- Texas School Nurses Organization (TSNO)
- American Association of Diabetes Educators
- Texas Chapter of the American Association of Clinical Endocrinologists
- Texas Podiatric Medical Association
- Texas Ophthalmological Association
- Texas Osteopathic Medical Association
- Texas Dietetic Association
- Texas Association for School Nutrition

Peer Review Organizations

- Texas Medical Foundation (TMF) Health Quality Institute

Texas Legislature

- Senators
- Representatives
- Office of the Governor
- Senate Committee on Health and Human Services
- House Committee on Public Health

International Partners

- US-Mexico Border Diabetes Prevention and Control Project

Community-Based Organizations

- Faith-based Projects
- Urban League
- University of Texas Community Outreach Program (UTCO)

Local and Regional Health Departments

Food Distribution and Marketing Organizations



ACTIVITIES *and* SERVICES UPDATE

According to Health and Safety Code Chapter 103. 013, each state agency affected by the Texas Diabetes Council state plan shall:

(1) determine what resources would be required to implement the portions of the state plan affecting that agency; and (2) determine whether that agency will seek funds to implement that portion of the state plan. Not later than November 1 of each even-numbered year, each state agency affected by the state plan shall report this information to the council, the Legislative Budget Board, and the Governor's Office of Budget and Planning. Each state agency shall also explain each deviation from the council's proposed plan, including an explanation for the deviation.

This update describes state and federal programs of the Diabetes Prevention and Control Branch at the Texas Department of State Health Services, as well as diabetes prevention and control efforts of TDC-appointed committees and state work groups. Activities are presented as they correspond to the priorities of the TDC Strategic Plan for 2012-13.

Priority 1: Advancing Public Policy Affecting Diabetes

TDC Advocacy and Outreach Committee and Legislative Priorities

The Texas Diabetes Council advises lawmakers “on legislation needed to develop further and maintain a statewide system of quality education services for all persons with diabetes.” The TDC’s Advocacy and Outreach Committee provides a forum for TDC members and organizations with similar health promotion goals to discuss education and health care policies affecting Texans with diabetes and other chronic diseases. The TDC Advocacy and Outreach Committee currently includes advisory members affiliated with the following organizations:

- American Association of Diabetes Educators
- American Diabetes Association
- Coastal Bend Diabetes Community Coalition

- Governor’s Advisory Council on Physical Fitness
- Partnership for a Healthy Texas
- Texas Health Institute
- Texas School Nurses Organization
- University of Texas Medical Branch at Galveston

The committee develops TDC positions on diabetes issues such as Medicaid reimbursement for self-management training, care of children with diabetes in schools, stem cell research, and legislation related to physical activity and nutrition affecting schools and assistance programs, among other topics.

TDC priorities recommended by the committee for the 82nd legislative session include:

- Maintaining existing funding levels for state programs addressing diabetes prevention and control;
- Increased attention for issues related to gestational diabetes management; and
- Awareness of federal healthcare policy issues affecting persons with diabetes.

Diabetes Health Disparities Roundtables

Between November, 2008, and January, 2010, the TDC joined the Texas Health Institute, the Texas Health Disparities Taskforce, the HHSC Office for the Elimination of Health Disparities, and the American Diabetes Association for a series of roundtable discussions in Dallas, Houston, and the Rio Grande Valley. Roundtables involved more than 300 individuals representing healthcare, business, the insurance industry and government in presentations and workgroups designed to generate ideas for needed programs to address diabetes in adults and children, especially those in underserved areas of the state. Summarizing input received at the the three roundtable events, the Texas

Health Institute developed a report entitled “Responding to the Epidemic: Strategies for Improving Diabetes Care in Texas,” which can be found at texashealthinstitute.org.

Priority 2: Evaluating the Impact of Diabetes in Texas

Behavioral Risk Factor Surveillance System

The DSHS Diabetes Prevention and Control Branch contracts for annual statewide telephone surveys using the Behavioral Risk Factor Surveillance System (BRFSS) to estimate the prevalence of diagnosed diabetes and describe the preventive services that people with diabetes recall they have received within the previous year. In 2007, Texas BRFSS added questions that will, over time, yield an estimate of youth diabetes prevalence by type of diabetes. In 2009, a question was added to determine estimated prevalence of prediabetes in the state.

Diabetes Mellitus / Hemoglobin A1c Registry Pilot Program

The Diabetes Mellitus / Hemoglobin A1c Registry Pilot Program, authorized by H.B. 2132 (80R) and amended by H.B. 1363 (82R), allowed San Antonio Metropolitan Health District (SAMHD) to collect A1c test results from local laboratories during FY08 and FY09 in an effort to characterize the prevalence of poor glucose control in areas with high diabetes mortality and morbidity. The registry pilot collected test results from the four major labs servicing the metropolitan area during fiscal years 2008 and 2009, ending with data representing four and a half years of A1c test results from 2005 through 2009. A report on the pilot program was developed by SAMHD and the DSHS as directed by H.B. 1363.

Chronic Kidney Disease Study

Rider 96 of the General Appropriations Act (81R) appropriated funds during the 2010-11 biennium for a study to be conducted by Texas Tech University in consultation with the Chronic Kidney Disease Task Force. The study will address state prevalence of kidney disease and its precursors, and will (1) identify statistically significant subgroups who are at risk and recent patterns of change within these subgroups; (2) identify costs associated with kidney disease and its precursors, including projected costs over the next ten years; and (3) develop public policy hypotheses and conclusions.

HEDIS: Healthcare Plan Performance

Basic service HMOs with 5,000 or more members

are required under Texas law to report Health Plan Employer Data and Information Set (HEDIS®) measures annually to the Texas Health Care Information Collection (THCIC) at the Texas Department of State Health Services. Findings from chart reviews conducted by HMOs indicate the standard of care provided persons aged 18 to 75 years who have diagnosed diabetes. The TDC recognizes Texas HMOs exceeding the state average for all HEDIS® performance measures relating to comprehensive diabetes care according to the Guide to Texas HMO Quality (<http://www.dshs.state.tx.us/thcic/publications/HMOs/HMOReports.shtm>). HEDIS® diabetes performance measures for 2008 are found in Table 6, along with comparison of state performance to the national average for each.

TABLE 6: *Comprehensive Diabetes Care: HEDIS® Measures for Texas and U.S., 2008*

Percentage of members 18 through 75 years of age with type 1 or type 2 diabetes using the HMO who...	Texas Average, 2008	National Average, 2008*
<i>had one or more HbA1c tests conducted within the past year.</i>	79.2%	83.2%
<i>had their most recent HbA1c level greater than 9 percent during the past year. **</i>	70.3%	43.4%
<i>had an eye screening for diabetic retinal disease within the past year, or negative retinal exam the year prior.</i>	32.2%	46.9%
<i>had an LDL-C test done within the last two years.</i>	77.2%	79.5%
<i>had an LDL-C test done with a level reading of less than 100 mg/dL during the last year.</i>	22.2%	35.0%
<i>received medical attention for nephropathy or evidence of already having nephropathy with the past year.</i>	71.9%	74.1%
<i>had their most recent blood pressure reading at less than 130 mm Hg systolic and 80 mm Hg diastolic during the past year.</i>	28.5%	28.5%

*National averages are presented as goals for the state.

**See Texas Diabetes Council A1c target recommendations at www.tdctoolkit.org. While higher percentages for other diabetes performance measures indicate improved performance, a lower percentage for this measure is favorable.

Priority 3: Promoting Comprehensive Programs for the Prevention of Diabetes

Risk Assessment for Type 2 Diabetes in Children

The Texas Risk Assessment for Type 2 Diabetes in Children (TRAT2DC) is a legislatively mandated program developed and administered by the University of Texas Pan-American Border Health Office. The program assesses children who may be at high risk to develop type 2 diabetes in Education Service Center Regions 1, 2, 3, 4, 10, 11, 13, 15, 18, 19, and 20, impacting more than 1.2 million children yearly. Students are seen during vision/hearing and scoliosis screenings in first, third, fifth, seventh, and ninth grades. Those identified with Acanthosis Nigricans (AN), a condition associated with insulin resistance, undergo additional assessments of body mass index (BMI), BMI percentile and blood pressure. Out of the 1.2 million assessed during the 2009-10 school year, 83,497 (6.6%) were identified with AN. A total of 11,712 students were seen by a health care professional for appropriate follow-up and testing.

Legislation requires that a TDC representative serve on the TRAT2DC advisory committee. In 2010, the committee developed two recommendations affecting the program. The first recommendation addressed concerns over duplication of effort between TRAT2DC and the state's FitnessGram program in middle schools. After review of program reporting numbers, a recommendation was made to continue conducting assessments in first, third and fifth grade, and one middle school grade instead of two (seventh grade). The second recommendation changed the referral component of the reporting software used so that students already under a physician's care would not receive multiple referrals.

Partnership for a Healthy Texas

The Partnership for a Healthy Texas is comprised of more than 40 organizations addressing prevention and treatment of obesity in Texas, including the American Diabetes Association, American Heart Association, American Cancer Society, and the TDC. Each legislative session, the partnership addresses state policy related to early childhood and school health, built environments that promote physical activity, and funding of obesity prevention initiatives (www.partnershipforahealthytexas.org). In 2010, following recommendations of the partnership, the TDC wrote all school superintendents and board presidents urging them to maintain a one-semester health class and at least 1.5 physical education credits as graduation requirements for high school students.

Strategic Plan for the Prevention of Obesity in Texas

The CDC recommends that obesity prevention strategies focus on five highly modifiable risk factors: calorie imbalance, insufficient fruit and vegetable consumption, physical inactivity, lack of adequate breastfeeding and increased screen time and other sedentary behaviors. A range of action items categorized by importance and ease of implementation are presented in the DSHS Strategic Plan for the Prevention of Obesity in Texas found at <http://www.texasbringinghealthyback.com/>.

Priority 4: Increasing Public Awareness, Promoting Community Outreach and Diabetes Education

Public Information Campaigns

Since 1994, the TDC has supported social marketing campaigns utilizing television and radio as part of its overall approach to increasing public awareness of diabetes and its complications, and timely management among those diagnosed. Early market research revealed a fatalistic view of diabetes among populations at risk which hampered motivation to be diagnosed and start self-management practices to prevent complications. Prediabetes was not widely known as a condition, so many did not see “a little bit of diabetes” or “borderline diabetes” as a call to action to prevent onset of the disease. Focus group research for early campaigns demonstrated the importance of a “support group” atmosphere where persons with diabetes were motivated to share their experiences and learn from one another, setting the tone for campaign spots and grassroots efforts to encourage persons with diabetes to seek information and support in their own communities.

Over the past 20 years, a catalog of low-literacy patient education materials has been developed and distributed free of charge to diabetes educators, organizations conducting community outreach and the general public. A listing of titles can be found at www.texasdiabetescouncil.org. In FY 2010, more than 259,000 copies of TDC diabetes education titles were distributed.

In 1997, the National Diabetes Education Program (NDEP) was instituted by the U.S. Department of Health and Human Services to replicate the results of major diabetes prevention and control trials among the U.S.

population. With the advent of the NDEP, the TDC has supported dissemination of NDEP campaign messages through paid media, community advocates, and community-based diabetes education programs.

The TDC’s “Paso a Paso” campaign uses NDEP messaging and “Game Plan to Prevent Type 2 Diabetes” materials to increase awareness of prediabetes and encourage action to prevent or delay the onset of diabetes.



Paso a Paso (Step by Step)

Each year, “Paso a Paso” radio spots air across the state on Hispanic radio stations reaching an estimated 3.5 million targeted listeners over a 3-week campaign. The results of the DPP, a landmark study that proves diet and exercise are effective in preventing type 2 diabetes among persons with prediabetes, provided messaging for the spots:

There are simple steps to preventing type 2 diabetes:

- Increase your physical activity by getting just 30 minutes of physical activity 5 times a week.
- Eat a variety of foods that are low in fat and reduce the number of calories you eat per day.
- Lose a small amount of weight (five to seven percent of weight if overweight).

Diabetes prevention, risk factors, and complications are topics of four radio news features that air as free public service announcements on 235 stations reaching an audience of 1.5 million Texans over four weeks. During summer 2010, spots were aired in four markets



(Laredo, Lower Rio Grande Valley, Houston and Corpus Christi) to complement projects of the University of Texas Community Outreach (UTCO) program, reaching 777,000 targeted listeners.

Texas Campaign for Kidney Health

Texas was one of only 10 states in the country selected by the Centers for Medicare & Medicaid Services (CMS) to lead a diabetes and chronic kidney disease (CKD) initiative. TMF Health Quality Institute, the quality improvement organization for Texas, is collaborating with coalitions, community partners, physician practices and other health care stakeholders to raise awareness about CKD. The DSHS “Love Your Kidneys” campaign has joined forces with the TMF’s Campaign for Kidney Health, the Texas Renal Coalition and the End Stage Renal Disease Network of Texas to expand CKD resources for professional education and support community outreach through faith-based organizations and community health workers. Television and radio PSAs, print advertisements, and ads in grocery stores and pharmacies reinforce the following campaign messages:

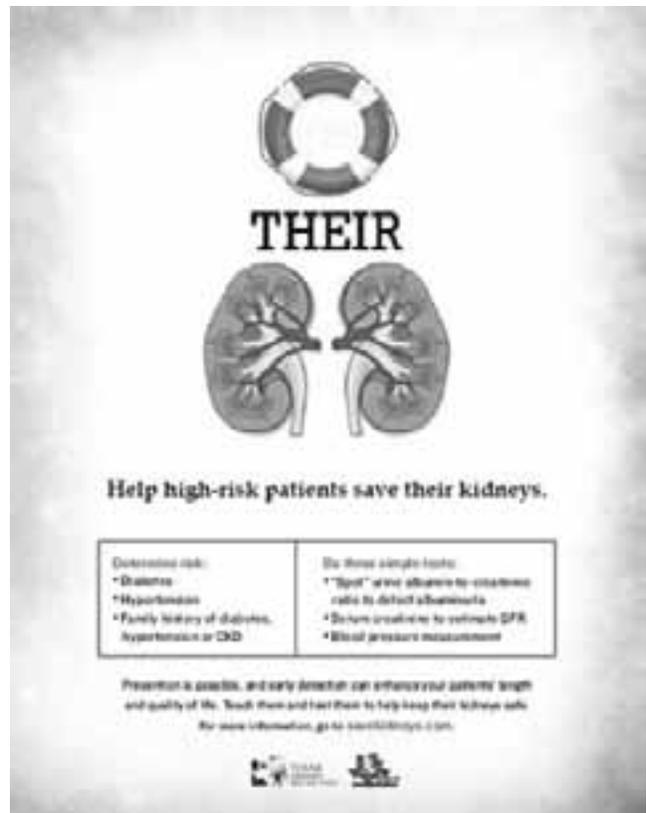
- People with diabetes, high blood pressure, or a family history of kidney disease are at risk for CKD and should be tested annually.
- Two tests can screen for CKD: annual urine

microalbumin testing and GFR testing.

- CKD may not cause any warning signs or symptoms in patients during the early stages. Annual testing is the only way to know.
- Patients who take blood pressure medications should take them as directed by their doctor, as these medications help protect the kidneys.

www.savekidneys.com

www.lovekidneys.com



Care of Students with Diabetes HB 984 (79R)

The TDC continues to update guidelines for training unlicensed diabetes care assistants (UDCAs) to assist with caring for students during the regular school day or while participating in a school activity. DSHS contracts with state Education Service Centers to provide training for school districts regarding HB984.

CDC State-based Diabetes Prevention and Control Program

Since 1986, the DSHS has received Diabetes Prevention and Control Program (DPCP) funding from the Division of Diabetes Translation, CDC, and the US Department of Health and Human Services. These funds help state health departments:

- build on expertise in program, science, and policy areas to control and prevent diabetes;
- coordinate statewide diabetes control and prevention;
- expand systems to define and analyze the scope of the diabetes problem;
- improve access to diabetes care for all people and raise the quality of that care;
- use statewide public health projects to reduce diabetes-related problems; and
- inform, educate, and empower external supporters to control and prevent diabetes.

Community Diabetes Projects

To achieve the objectives above in Texas, the DSHS Diabetes Prevention and Control Branch supports community diabetes projects (CDPs), including federally qualified health centers, local health departments, and other non-profits. Tailoring programs to the needs of their communities, CDPs offer diabetes

self-management classes focusing on nutrition and physical activity, work with local coalitions to affect environmental changes that promote healthier lifestyles, participate in state tobacco control efforts (referral to quitlines and cessation counseling), assist with chronic disease surveillance activities, train community health workers, work with local media to increase awareness of diabetes, and field test diabetes education materials. DSHS also supports the CDC's Healthy Communities Program in Texas, formerly known as the Steps Program (<http://www.cdc.gov/healthycommunitiesprogram/>). CDPs educate local providers about Texas Diabetes Council standards of care through promotion of TDC education materials for providers.

Seventeen CDPs are currently active in the state:

- City of Austin Health and Human Services Department;
- Jefferson County Family Focused Diabetes Project;
- Corpus Christi-Nueces County Public Health District;
- Dallas Concilio of Hispanic Service Organizations;
- Project Vida Health Center, El Paso;
- Tarrant County Hospital District;
- Prairie View A&M Research Foundation;
- Gateway Community Health Center, Inc., Laredo;
- DSHS Public Health Region 4 & 5, Gilmer;
- Community Health Center of Lubbock;
- Migrant Health Promotions, Inc., Progreso;
- Shannon Health System, San Angelo;
- San Antonio Metropolitan Health District;
- Community Health Development, Inc., Uvalde;
- Victoria City-County Health Department;
- Waco-McLennan County Public Health District;
- Texas AgriLife Extension Service

Overarching CDP goals are to

- increase community, environmental, and systems changes in sectors that will increase physical activity and healthy eating among the general population, especially those with diabetes and prediabetes;
- institute project strategies or community policy and environmental changes conducive to risk reduction;
- increase public and provider knowledge of the symptoms, risk factors and target goals of diabetes, prediabetes and gestational diabetes, and the importance of physical activity and healthy eating in preventing, delaying, or managing diabetes and its complications; and
- increase health care providers', payers', and patients' knowledge and use of the TDC's Minimum Standards for Diabetes Care in Texas and treatment algorithms (www.tdctoolkit.org)

Community-based Diabetes Program Management and Tracking System (PMATS) data demonstrate the reach of CDP intervention activities in 2010. A total of 152,683 patient encounters were tracked through program interventions. The majority of encounters were women (71%). Hispanics accounted for 60 percent of all encounters.

CDP *Intervention Activities*, FY 2010

SELF MANAGEMENT CLASSES (PART OF A SERIES)

Classes provided in English: 605 *Spanish:* 649

GENERAL DIABETES EDUCATION (SINGLE PRESENTATIONS)

Sessions or events: 1,457

SUPPORT GROUPS

Classes given in English: 185 *Spanish:* 309

PHYSICAL ACTIVITY

Sessions or events: 2,721

INFORMATION ACTIVITIES

Newsprint (articles, ads, press releases, inserts): 222

Radio (interviews, ads, PSAs, reports): 117

Television (interviews, ads, PSAs, reports, public videos): 117

Web page hits: 84,901

Calls Received: 1,636

Referrals Made: 1,719

Materials Distributed to Clients: 264,232

Materials Distributed to Providers: 9,049

Health Care Provider Encounters: 256

FIGURE 1 reflects the number of diabetes interventions implemented by CDPs during state fiscal year 2010 by sector addressed.

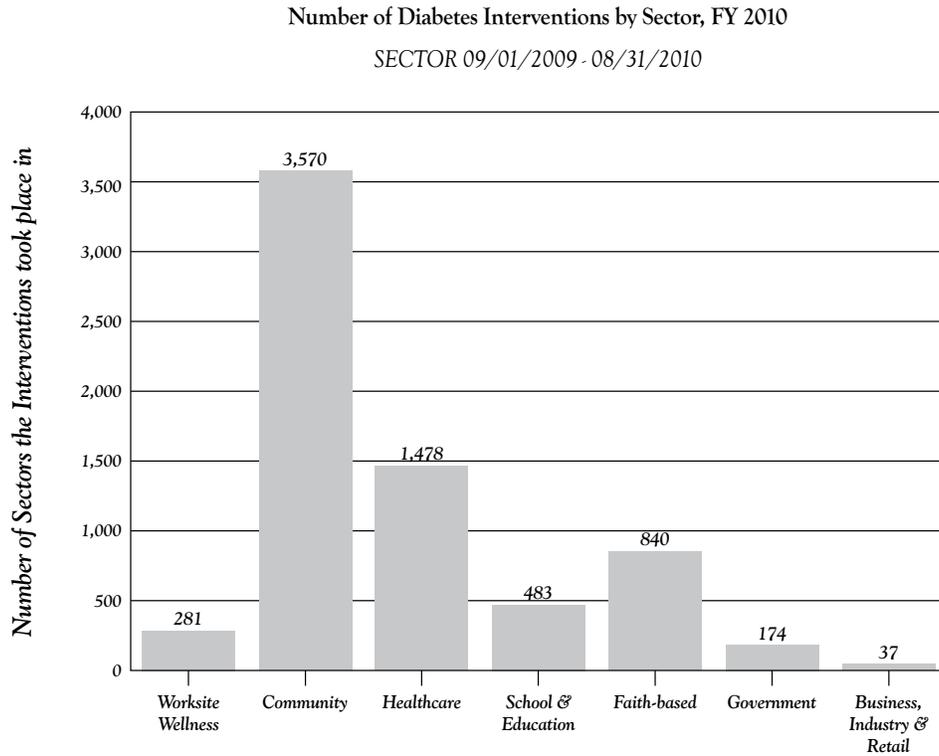
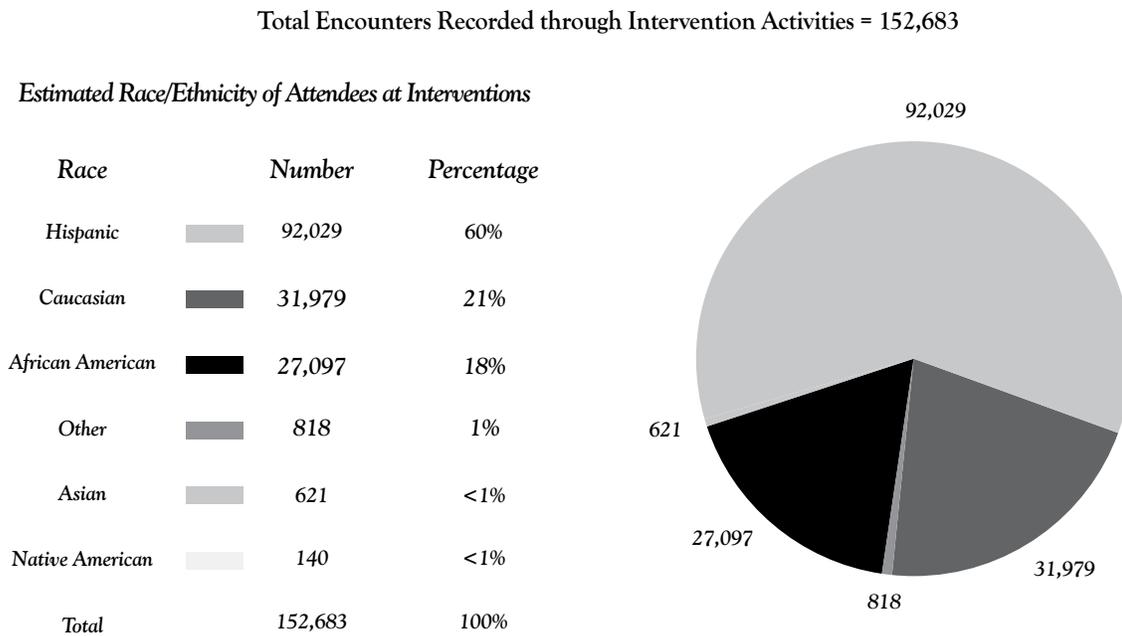


FIGURE 2 describes race/ethnicity of attendees participating in interventions. Attendees may have multiple encounters with programs. Each encounter contributes to the total number of encounters presented.



Community Diabetes Project Spotlight

Lado a Lado: Gateway Community Health Center, Laredo TX

The *Lado a Lado* (Side by Side) Program at Gateway Community Health Center (Gateway) has evolved as a community diabetes program model since it first received state funding in 1992. Starting with small group presentations, community health fairs, and grocery shopping tours, *Lado a Lado* has expanded in scope to provide



diabetes care for patients, training and quality assurance for community health workers/promotoras, support

for community coalitions and development of weight management courses for children. In addition to state funding, Gateway has successfully procured grants from the Robert Wood Johnson Foundation, Pfizer Health Solutions, Methodist Healthcare Ministries of South Texas, and Pfizer Philanthropy Alliance for a Healthy Border, ensuring the continuity and growth of its services.

Gateway serves residents of Webb County, of which 95 percent are Hispanic and more than one-third fall below the federal poverty level. Nearly two-thirds are uninsured and 23 percent qualify for Medicaid. A wide array of medical services are provided to more than 26,000 registered patients accounting for 113,523 visits in 2009. Approximately 16 percent of the adult patients have diabetes, and according to risk assessments conducted by Gateway,

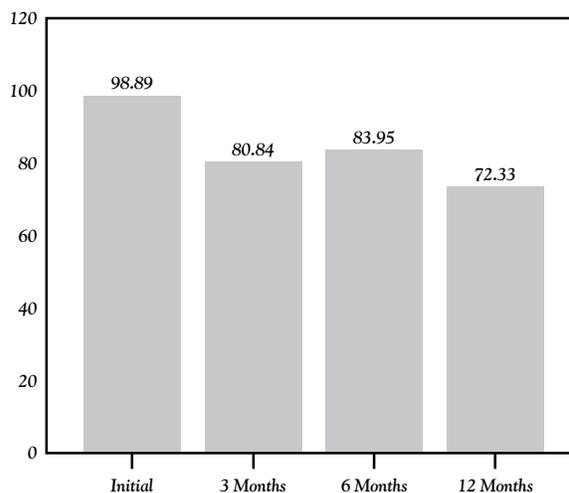
- 60 percent are at risk of developing diabetes due to family history;
- 44 percent have higher than normal BMI;
- 43 percent do not exercise according to recommendations

- 63 percent are women

A critical component of Gateway's approach involves the services of Promotores de Salud (health promoters). Promotor-led interventions include a 10-week diabetes self-management course tailored to the target population, a subsequent ten-week support group, and weekly telephone calls to reinforce problem-solving strategies and help keep participants motivated. Through standing orders established by the program, patient laboratory data is collected at set intervals to monitor the impact of integrating the health promoter component with the medical practice of a physician.

In 2010, evaluators from the University of Texas at Austin reviewed laboratory data from 50 *Lado a Lado* participants to determine average improvement in clinical measures (LDL cholesterol, triglycerides, and A1c) as patients moved through the program (initial, then at three months, six months and 12 months into program). Target levels recommended by the TDC for each measure are provided.

FIGURE 3: Lado a Lado Average Decrease in LDL Cholesterol Levels (mg/dL, n = 50) *



*Target = <100 mg/dL or <70 mg/dL with coronary heart disease

FIGURE 4: Lado a Lado Average Decrease in Triglyceride Levels (mg/dL, n=50)*

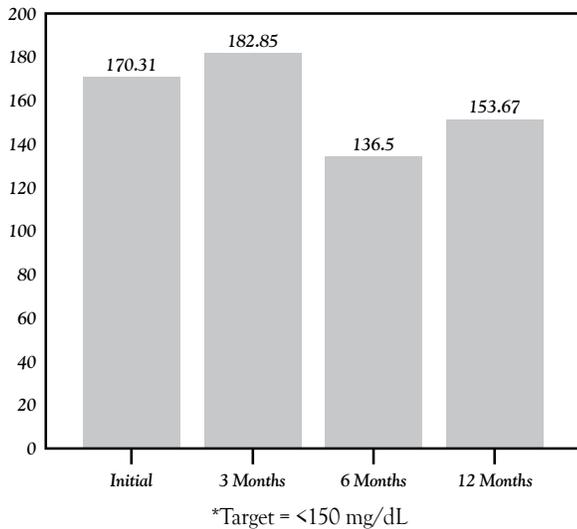
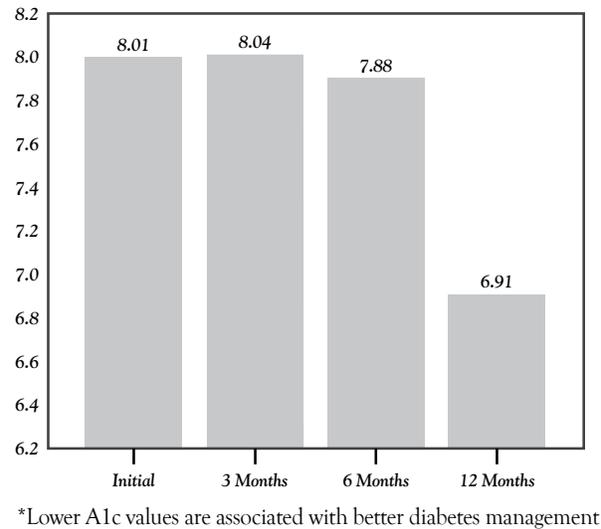


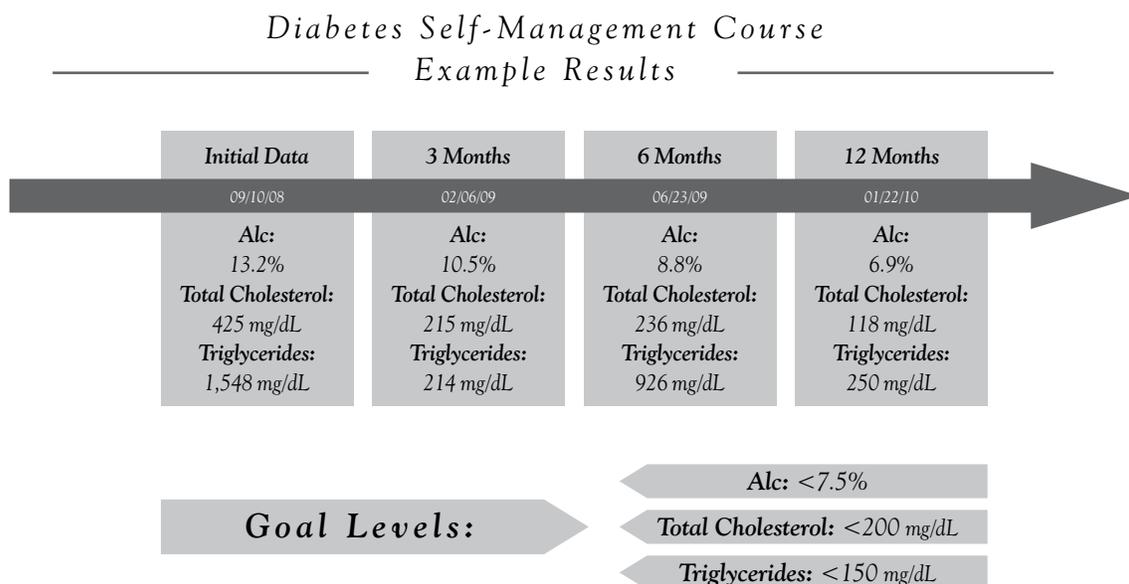
FIGURE 5: Lado a Lado Average Decrease in A1c Levels (% , n=50)*



These snapshots of program success (figures 3-5), along with the diagram below of an individual patient’s journey to better diabetes management through *Lado a Lado*, are examples of how state programs are working towards program evaluation at a clinical level, demonstrating

improvement in overall health and disease management. Figure 6 demonstrates how one patient achieved or moved closer to meeting goals for specific indicators of diabetes management (A1c, total cholesterol, and triglycerides) over a 12-month period.

FIGURE 6: Lado a Lado: A Patient’s Journey to Better Health



Texas AgriLife Extension Service

The *Do Well, Be Well* with Diabetes program developed by Texas AgriLife Extension covers nine basic nutrition and diabetes self-care management topics delivered in five sessions. The DSHS Diabetes Prevention and Control Branch extends this program to residents of 14 Texas counties with high diabetes mortality rates in addition to those served by state Community Diabetes Projects. County agents are trained to organize local health professionals to help plan, market, and provide the class series, with the primary goal of improving blood glucose management. In 2009, classes were provided in a total of 78 counties with 1,554 persons completing the five-week series. Forty-one percent of participants reported their income was below \$29,000, and 66 percent reported having no previous diabetes classes. At the beginning of classes, the average blood glucose before meals reported by participants (766 reporting) was 135 mg/dl, decreasing to 122 mg/dl at five weeks (769 reporting).

County agents also educate community leaders about best practices for promoting physical activity and preventing obesity in targeted counties, using the DSHS Growing Community video series (<http://www.dshs.state.tx.us/obesity/GrowingCommunity.shtm>) In developing farmer's markets, agents provide on-site demonstration of selection, preparation, and preservation of fruits and vegetables and provide *Dinner Tonight* presentations focusing on locally grown produce. (<http://healthyliving.tamu.edu/dinners>).



Prairie View A&M University Cooperative Extension Program

Project DEAP (Diabetes Education Awareness Prevention) offers lifestyle management classes through county agents in Bell, Bexar, Cass, Dallas, Falls, Fort Bend, Grimes, Harris, Travis, Waller, Washington and Webb counties. In FY 08, Project DEAP reported more than 10,000 encounters through newsletters, diabetes management classes, health fairs and other activities with 400 encounters through classes using pre- and post-tests to assess participant knowledge of diabetes management. Agents also organize community gardening programs in four counties and organize walking groups in all counties served.

University of Texas Community Outreach (UTCO) Program – utco.org

A contract between the DSHS and the University of Texas Medical Branch at Galveston (UTMB) established the UTCO Program in state fiscal year 2010. The program supports four regional diabetes centers in Cameron, Galveston, Nueces, and Webb Counties, based on the *Socios para su Salud* (**Partners for your Health**) community diabetes program model established in Cameron Park, a colonia on the outskirts of Brownsville. *Socios para su Salud* is based on a strong collaboration among community-based organizations in Cameron Park including:



EDUCATION TOOLS *and* CURRICULA *Used by* COMMUNITY DIABETES PROJECTS:

DIABETES EMPOWERMENT EDUCATION PROGRAM (DEEP):

Training for community health workers to deliver diabetes education and self-management classes in their communities.

<http://mlhrc.csw.uic.edu/>

DO WELL, BE WELL WITH DIABETES:

Diabetes self-management curriculum developed by Texas AgriLife Extension.

<http://fcs.tamu.edu/health/>

¡SÍ! YO PUEDO CONTROLAR MI DIABETES (YES! I CAN CONTROL MY DIABETES):

Spanish-language self-management curriculum developed by Texas AgriLife Extension

NATIONAL DIABETES EDUCATION PROGRAM ROAD TO HEALTH TOOL

KIT: *Designed for African Americans and Hispanics/Latinos at risk for type 2 diabetes, this tool kit provides materials to start a community outreach program reinforcing the message that type 2 diabetes can be delayed or prevented.*

<http://www.ndep.nih.gov>

- Proyecto Juan Diego (**Project Juan Diego**) a former state community diabetes project which advocates for health care access and supports a community health worker/promotora program, and Proyecto Digna (**worthy/deserving**) which advocated for essential services such as paved streets, street lighting, and adequate sewage;
- local churches;
- state and county elected officials;
- civic and charitable organizations;
- health and human services organizations such as the county health department and the Brownsville Community Health Center, a federally-qualified health center serving the southern half of Cameron County; and
- academic institutions such as the University of Texas at Brownsville and the University of Texas Health Science Center School of Public Health (UTSPH) regional campus in Brownsville.

Continuing this approach to diabetes prevention and control in Cameron County, UTMB established necessary staffing and infrastructure to expand the *Socios para su Salud* model in partnership with the following community organizations:

- Proyecto Juan Diego (Cameron County)
- Mercy Ministries of Laredo (Webb County)
- Catholic Charities of Corpus Christi (Nueces County)
- Jesse Tree (Galveston County)

During its first year, UTCO experienced almost 32,000 encounters in lifestyle classes, physical activity groups and nutrition classes, focusing on key evaluation and community outreach, and environmental change components:

UTCO Diabetes Prevention and Control Evaluation

To evaluate the UTCO program, a cohort of 500 participants is being recruited in Cameron County with an additional cohort of 500 participants to be identified in Webb County. Data collection includes demographics, physical and biologic measures (height, weight, hip and waist circumference, blood pressure, total cholesterol, triglycerides, HDL/LDL, fasting blood glucose, HbA1c) as well as information on physical activity, nutrition, environmental perception, program exposure, health care utilization, and knowledge and attitudes. A control group will be identified in Webb County for comparison with patients not receiving UTCO interventions.

Tu Salud, ¡Si Cuenta! – tssc.info

Tu Salud, ¡Si Cuenta! (**Your Health Matters!**) is a community-wide campaign in Cameron County developed by the UTSPH at Brownsville, local television and radio stations, and other community partners. The community-wide campaign approach has been used to address the lack of physical activity and poor nutritional choices leading to many diseases, and stands as a proven intervention strategy. Using behavioral journalism, the campaign seeks to address obesity and prevent diabetes in Hispanic communities along the U.S./ Mexico border by:

- providing motivation for active, healthy lifestyles through the media and highlighting local role models;
- reaching over 20,000 people weekly in a morning TV health segment;
- reaching 20,000 people daily with radio segments;
- reaching 19,000 people with a Sunday newspaper articles;
- delivering 2,000 monthly newsletters through community outreach workers; and
- creating environmental changes like farmers markets and walking paths to complement media messages.

Texas Medicaid Enhanced Care

The Texas Medicaid Enhanced Care disease management program assists Medicaid fee-for-service and Primary Care Case Management (PCCM) clients who have been identified through claims data as having asthma, diabetes, congestive heart failure, coronary artery disease, or chronic obstructive pulmonary disease. Coaching calls are conducted by registered nurses to improve self-monitoring skills and encourage behavioral changes that help lead patients with diabetes to target glucose levels and reduced cardiovascular risk. UTCO is working in partnership with the disease management program to offer physical activity, nutrition and education services to enrolled Medicaid patients with diabetes.

Priority 5: Improving Diabetes Care and Prevention of Complications by Health Care Professionals

Minimum Standards for Diabetes Care in Texas

Since 1995, the TDC has developed and continuously reviewed minimum standards of care for patients with diabetes. These standards are used to define diabetes benefits required of health plans regulated by the Texas Department of Insurance. Appointed by the TDC chair, the TDC Medical Professionals Advisory Subcommittee brings together a multidisciplinary team of diabetes experts from across the state to review the latest research and treatment recommendations and update TDC standards of care, including seventeen treatment algorithms, A1c target recommendations, and a Diabetes Tool Kit to assist in applying standards to practice. All professional materials developed by the subcommittee, as well as patient education materials and other resources, are available free of charge at the TDC's online address for health professionals, tdctoolkit.org.

The TDC's Health Care Professional Advisory Committee works to increase awareness of TDC standards of care among managed care companies, health plans, physicians, and employer groups throughout Texas, and a subcommittee on outcomes examines data that can be used to evaluate the extent to which recommended care is delivered. TDC advisory committee members work with the state Medicaid/CHIP Vendor Drug Program Drug Utilization Review Program to provide input regarding diabetes medications.

TDC Medical Professionals Advisory SUBCOMMITTEE MEMBERS

Priscilla A. Hollander, MD, PhD, Chair
Baylor University Medical Center, Dallas

William Biggs, MD, FACE
Amarillo Medical Specialists, LLP

Luby Garza-Abijaoude, MS, RD, LD
Texas Department of State Health Services, Austin

Shane Greene, Pharm D, CDPS
Texas Tech University Health Sciences Center, Dallas

Lance Sloan, MD, FACE
Texas Institute for Kidney and Endocrine Disorders, Lufkin

Craig W. Spellman, DO, PhD
Texas Tech University Health Sciences Center, Odessa

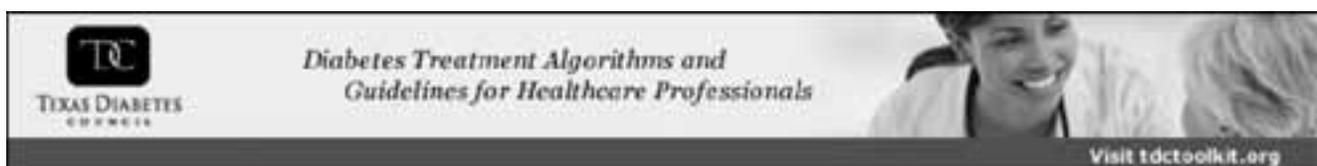
Curtis Triplitt, Pharm D, CDE
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San Antonio

Surendra K. Varma, MD
Texas Tech University Health Sciences Center, Lubbock

Evangelina T. Villagomez, PhD, RN, CDE
The Methodist Hospital Research Institute, Houston

Barbara Walz, RN, BSN, CDE
South Texas Veteran's Health Care Services, San Antonio

Kathleen (Kittie) Wyne, MD, PhD, FACE
The Methodist Hospital Research Institute, Houston



An Update in Managing Diabetes in Texas

In partnership with the Texas Chapter of the American Association of Clinical Endocrinologist (AACE), TDC Medical Professional Advisory Subcommittee members conducted *An Update in Managing Diabetes in Texas*. This continuing medical education program has been held in Amarillo (May 2007), Corpus Christi (October 2007), Odessa (October 2008), Tyler (October 2009), Waco (July 2010) and Lubbock (September 2010).

In addition to the AACE Updates, the TDC co-sponsors and provides exhibits for professional conferences that draw attendance from across the state, including meetings of the Texas Academy of Family Physicians, Texas Medical Association, and Texas Osteopathic Medical Association. Partnerships with the Texas School Nurses Organization, TMF Health Quality Institute and the Texas Diabetes Institute have provided targeted education for school nurses, Medicare physicians, and diabetes educators.

Texas Diabetes, the Newsletter of the Texas Diabetes Council

Approximately 25,000 diabetes medical professionals, policy experts, and community-based program staff receive quarterly issues of *Texas Diabetes*. The newsletter provides updates on TDC publications for health professionals, campaigns and programs of the National Diabetes Education Program, and state and national policy affecting the management of patients with diabetes.

Capacity and Infrastructure Development

DSHS funds the Capacity and Infrastructure Development (CID) grant, awarded to the Texas Association of Community Health Centers. This project allows participating health centers to implement the four main components of the diabetes care model:



- **Patient registry.** Identify the center's patients who have diabetes, the care they have received, additional care they need, and their health status.
- **Decision support.** Adopt a standard of care; distribute a standard set of protocols; support consistent practice, procedures, and outcomes.
- **Delivery system redesign.** Emphasize regular and follow-up care rather than treatment of acute illness episodes.
- **Self management.** Focus on education and support to develop patient skills and change behavior, not just provide information; help patients set goals and be proactive in managing their diabetes.

Diabetic Eye Disease Program

The Diabetic Eye Disease Program (DEDP) provides access to funduscopy eye examinations for individuals diagnosed with diabetes. In a funduscopy examination, the pupil is dilated, allowing an ophthalmologist or optometrist to identify proliferative diabetic retinopathy and other conditions that can lead to blindness. Proliferative diabetic retinopathy is the leading cause of blindness among adults. Diabetes also increases the risk for glaucoma and cataracts.

The DEDP pays for up to three eye examinations in a 12-month period for people who have incomes below 150 percent of poverty and lack other insurance coverage. Approximately 350 ophthalmologists and licensed optometrists in Texas provide reduced-cost exams. The DEDP provides almost 6,000 exams each year.



APPENDICES

Appendix 1

Texas Diabetes Council Membership

(From Chapter 103. Texas Diabetes Council, Texas Health and Safety Code)

The Texas Diabetes Council is composed of 11 citizen members appointed from the public and one representative each from state agencies that work with people who have diabetes.

The governor, with the advice and consent of the senate, shall appoint the following citizen members: a licensed physician with a specialization in treating diabetes; a registered nurse with a specialization in diabetes education

and training; a registered and licensed dietitian with a specialization in the diabetes education field; a person with experience and training in public health policy; three consumer members, with special consideration given to people active in the Texas affiliates of the Juvenile Diabetes Research Foundation International or the American Diabetes Association; and four members from the general public with expertise or demonstrated commitment to diabetes issues.

In making appointments under this section, the governor includes members of different minority groups, including females, African Americans, Hispanic Americans, American Indians, and Asian Americans.

Voting Members

Victor Hugo Gonzalez, MD, Chair

McAllen

Gene Bell, RN, CFNP, CDE, Vice Chair

Lubbock

Curtis Triplitt, PharmD, CDE, Secretary

San Antonio

Neil Burrell, DPM

Beaumont

Timothy Cavitt

Houston

Maria Duarte-Gardea, PhD, RD, LD

El Paso

John W. Griffin, Jr., JD

Victoria

Arthur Hernandez, PhD

Rockport

Dora Rivas, MS, RD, SNS

Dallas

Melissa Wilson, MD

Corpus Christi

Don Yarborough

Garland

State Agencies Represented (Non-Voting Members)

Lisa Golden

Texas Department of Assistive and Rehabilitative Services
Division for Blind Services

Lauri Kalanges, MD, MPH

Texas Department of State Health Services

Dr. Lilani Muthali

Texas Department of Aging and Disability Services

Phyllis E. Simpson, PhD

Texas Education Agency

Jan Skinner, MPH, CRC

Texas Department of Assistive and Rehabilitative Services
Division for Rehabilitative Services

Correspondence for the Texas Diabetes Council may be directed to:

Roger Faske, Manager

Diabetes Prevention and Control Branch

Texas Department of State Health Services

PO Box 149347 MC 1965

Austin, Texas 78714-9347

(512) 458-7490, Fax (512) 458-7408

roger.faske@dshs.state.tx.us

Appendix 2

Texas Legislation Related to Diabetes Passed During the 81st Regular Session

- HB 1487 relating to the alignment of certain Medicaid procedures regarding written orders for diabetic equipment and supplies with comparable Medicare written order procedures – Effective 9/1/09
- HB 2064 relating to premium discounts for certain participants in the Texas Health Insurance Risk Pool and to funding for those discounts through certain penalties – Effective 1/1/10
- HB 1990 relating to a diabetes self-management training pilot program under the state Medicaid program – Effective immediately, pending pilot development by Texas Medicaid
- HB 978 relating to the employment rights of certain individuals with disabilities – Effective 9/1/09
- HB 1363 relating to the diabetes mellitus registry pilot program – Effective 9/1/09

Endnotes

- ¹ 2009 Behavioral Risk Factor Surveillance System, Statewide BRFSS Survey, for persons eighteen years of age and older. Data include both type 1 and type 2 diabetes. Persons with diabetes include those who report that they have been told by a doctor or other healthcare professional that they have diabetes. Persons with prediabetes include those who have been told by a doctor or other healthcare professional that they have prediabetes or borderline diabetes. Youth with diabetes include those whose parents or guardian have been told by a doctor, nurse, or other healthcare professional they have diabetes. Women and girls who report diabetes or prediabetes only during pregnancy are not included in prevalence.
- ² National Diabetes Education Program Survey of the Public's Knowledge, Attitudes, and Practices Related to Diabetes: 2008. Executive Summary, October 2009. National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases.
- ³ Insulin Resistance and Prediabetes (fact sheet). National Diabetes Information Clearinghouse. NIH Publication No. 09-4893 October 2008.
- ⁴ Centers for Disease Control and Prevention. National diabetes fact sheet: national estimates and general information on diabetes and prediabetes and prediabetes in the United States, 2011. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2011.
- ⁵ Gestational Diabetes Mellitus – Time to Treat. Michael F. Greene and Caren G. Solomon. New England Journal of Medicine. Volume 352:2544-2546. 2005.
- ⁶ The Economic Burden Of Diabetes. Timothy M. Dall et al. Health Affairs, 29, no. 2 (2010): 297-30
- ⁷ Diabetes Prevention Program Research Group, Reduction in the Incidence of Type 2 Diabetes with Lifestyle Intervention or Metformin. N Engl J Med 2002 346: 393-403
- ⁸ Testimony before the Subcommittee on Health, Committee on Energy and Commerce United States House of Representatives by Ann Albright, Ph.D., R.D, Director, Division of Diabetes Translation, Centers for Disease Control and Prevention, July 2010.
- ⁹ American Diabetes Association. ADA Standards of Medical Care in Diabetes – 2010. Diabetes Care, Volume 33, Supplement 1, January 2010.
- ¹⁰ Persons 20 years of age and older. Centers for Disease Control and Prevention. Prevalence of Diabetes and Impaired Fasting Glucose in Adults, United States, 1999-2000. MMWR. September 5, 2003; 52(35):833-837.
- ¹¹ SEARCH Study Group. SEARCH for Diabetes in Youth: a multicenter study of the prevalence, incidence and classification of diabetes mellitus in youth. Control Clin Trials 25(5): 458-471, 2004.
- ¹² Texas Department of State Health Services, Texas Center for Health Statistics. All ages are included in mortality data.
- ¹³ Centers for Disease Control and Prevention. National diabetes fact sheet: general information and national estimates on diabetes in the United States, 2007. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2007.
- ¹⁴ Source: Texas Health Care Information Collection. Texas Hospital Inpatient Discharge Public Use Data File, 2008
- ¹⁵ Economic Costs of Diabetes in the U.S. in 2007, Diabetes Care 31:1-20, 2008.
- ¹⁶ American Diabetes Association, Diabetes Cost Calculator, accessed 10/08/10, <http://www.diabetes.org/advocate/resources/cost-of-diabetes.html>



TEXAS DIABETES COUNCIL

TEXAS DEPARTMENT OF STATE HEALTH SERVICES

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