ProtectTexas™
Texas Department of Health

TEXAS DIABETES COUNCIL

Texas BRFSS
Behavioral Risk Factor Surveillance System

DIABETES IN TEXAS:
A Risk Factor Report
1999-2002 Survey Data

Introduction

Diabetes has become one of the most serious public health problems in the United States today. Diabetes is the result of the body's inability to use glucose (sugar) properly as a result of defects in insulin production, insulin action, or both. It is estimated that approximately 17 million people or 6.2% of the U.S. population have diabetes. Of these, only 11.1 million know that they have diabetes. The remaining 5.9 million are undiagnosed.[1] In addition, as many as 16 million Americans have a condition known as prediabetes, where their blood sugar is at an elevated level but is not high enough to be classified as diabetes.[2]

According to the Centers for Disease Control and Prevention, Type 2 diabetes accounts for 90 to 95% of all diabetes.[2]

Diabetes is a costly disease. In 2002, it cost the United States an estimated $132 billion in direct and indirect expenditures.[3] Diabetes accounted for 11% of the nation's health care expenditures in 2002.[2]

In Texas, for the years 1999 through 2002, it is estimated that well over a million people, or 6.6%, of the adult population have been diagnosed with diabetes.[4] Another 503,000, or 3.3%, are believed to have undiagnosed diabetes.[5]

This report is a follow up to previous Texas Risk Factor Reports, which highlighted diabetes. For this report, diabetes prevalence and other behavioral risk factors such as, sedentary lifestyle, cigarette smoking, acute alcohol consumption, hypertension, and obesity are described among adult Texans.

Prevalence was determined using data from the Texas Behavioral Risk Factor Surveillance System (BRFSS) for the period of 1999 through 2002.

Highlights of this Issue

- ***African Americans have the highest prevalence of diabetes (9.5%), followed by Hispanics (7.1%). Whites have a prevalence of 6.0%.***
- ***The prevalence of diabetes rises dramatically as age increases. Approximately 87% of those who reported having been diagnosed with diabetes were over age 44, and the highest prevalence was in those age 65 and over.***
- ***Persons with diabetes are more likely to report having heart disease, hypertension (high blood pressure), and high cholesterol than those without diabetes.***

Methods

Information in this report was based on data collected by the Texas Behavioral Risk Factor Surveillance System (BRFSS) for the years 1999 through 2002. The Texas BRFSS, sponsored by the Texas Department of Health in partnership with the Centers for Disease Control and Prevention (CDC), is an ongoing, monthly telephone survey that collects information from adults relating to their health status, personal health habits, and use of preventive health services.

The survey data for each year were collected over a 12-month period from interviews with Texas residents. Interview subjects were selected in two stages. First, using a representative random telephone sample, numbers were randomly called until a household was identified. Second, after contacting a household, one household member age 18 years or older was randomly selected for the interview.

Prior to analysis, the data were weighted to adjust for unequal probabilities of selection and to make the final data better reflect Texas' age and sex distributions. All statistical analyses included in this report were run on the weighted data using SUDAAN software and are reported with 95% confidence intervals. References to "significance" and "confidence intervals" in this paper refer to the probability of the association being due to random chance less than 5 times out of 100. This is expressed as $p<0.05$.

Data collection and analytical methods used for the BRFSS adhere to the highest scientific standards for survey research and have been evaluated by the CDC and participating states for nearly 20 years. However, BRFSS surveys are not without some limitations. As with all telephone surveys, households without working phones are excluded from the sample. Moreover, since BRFSS data are self-reported, respondents may under-report socially undesirable behaviors that are unhealthy or illegal and over-report desirable behaviors. Also, the accuracy of self-reported information often depends on respondents' abilities to recall past behaviors and health screening results.

Analysis

Only those individuals who answered, "yes" to the question, "Have you ever been told by a doctor or health care professional that you have diabetes?" were used to calculate the prevalence of diabetes for this report. Women who reported being diagnosed with gestational diabetes were not included. The prevalence of diagnosed diabetes was then determined among Texas residents age 18 and older by selected demographics. These included:

- *Ages* were grouped into 6 categories: 18-24 years, 25-34 years, 35-44 years, 45-54 years, 55-64 years, and 65 years and older.
- *Race* was grouped into the following 4 categories: Non-Hispanic White, African American, Hispanic, and Other.
- *Household income* was grouped into 8 categories: less than $10,000; $10,000 to $14,999; $15,000 to $19,999; $20,000 to $24,999; $25,000 to $34,999; $35,000 to $49,999; $50,000 to $74,999; and $75,000 or more per year.
- *Education* was grouped into 6 categories: kindergarten or less, elementary, some high school, high school graduate, some college, and college graduate.

Unless noted, all comparisons were made using data from the combined years of 1999 through 2002. The analysis compared people with diabetes and those without diabetes on related behavioral risk factors that might contribute to an increase in the symptoms of diabetes or increase the likelihood of developing diabetes, such as:

- *Physical activity*: For this variable only, data were taken from the year 2001 survey alone. Due to changes in the survey questions, it was not feasible to combine years. In this report, regular and sustained physical activity was defined as physical activity for 30 or more minutes, 5 or more times per week, regardless of intensity.
- *Number of servings of fruits and vegetables*: For this variable only, data were taken from the combined years of 2000 and 2002.

Due to differences in the survey questions, it was only appropriate to combine the data from these two years for some variables. The results were grouped into 4 categories: less than 1 per day, 1 to less than 3 per day, 3 to less than 5 per day, and 5 or more per day.

- *Overweight*: Weight comparisons are made based on the calculated body mass index (BMI). BMI is determined using self-reported height and weight measurements. It is defined as weight in kilograms divided by height in meters squared. A BMI of 25 to 29 is considered to be overweight.
- *Obesity*: Those individuals with a BMI greater than or equal to 30 are considered to be obese.
- *Cigarette Smoking*: A current cigarette smoker is defined as an individual who has smoked at least 100 cigarettes in his lifetime and who smokes at the present time.
- *Acute Alcohol Consumption or Binge Drinking*: This is defined as having consumed 5 or more alcoholic beverages on at least one occasion in the past month.
- *Routine Exam*: Respondents were asked when they last visited a doctor for a routine check-up. The results were then grouped into 4 categories: within the past year, within the past 2 years, within the past 5 years, and 5 or more years ago.
- *Cholesterol Check*: Respondents were asked when they had their last blood cholesterol check. Those that had not had it checked within the past 5 years were compared by diabetes status.

In addition, several factors that pose additional risks to those with diabetes were examined. Comparisons were made between those with diabetes and those without diabetes for the following:

- *Heart Disease*: Respondents were asked whether they had ever been told by a health care professional that they have heart disease.
- *High Cholesterol*: Respondents were asked whether they had ever been told by a health care professional that they have high blood cholesterol.
- *Hypertension* (*High Blood Pressure*): Respondents were asked whether they had ever been told by a health care professional that they have high blood pressure.
- *No Insurance*: Respondents were asked if they had any kind of health care coverage, including HMO, Medicaid, or Medicare.

Further analysis was done using questions that were asked only to those who reported that they had been told by a health care professional that they have diabetes. These included:

- *Medication*: Respondents were asked if they took oral diabetes medications or insulin to control their diabetes.
- *Glucose Monitoring*: Respondents were asked if they had monitored their glucose at all in the previous year.
- *A1c Check*: Respondents were asked if they had had a hemoglobin A1c test at all in the previous year.
- *Dilated Eye Exam*: Respondents were asked if they had had a dilated eye exam in the previous year.
- *Retinopathy*: Respondents were asked if they had ever been told by a health care professional that they have retinopathy.
- *Foot Exam*: Respondents were asked if a physician or health care professional had checked their feet for sores or irritations at all in the previous year.
- *Foot Self Exam*: Respondents were asked if they examined their feet on a daily basis for sores or irritations.
- *Diabetes Course*: Respondents were asked if they had ever taken a class in how to manage their diabetes.

Finally, all respondents were asked a series of questions to determine their quality of life. These included:

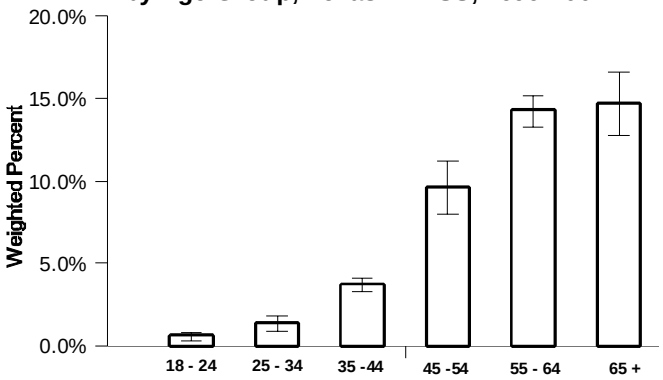
- *Perception of Physical Health*: Respondents were asked how many days during the previous month did they feel that their physical health was poor.
- *Perception of Mental Health*: Respondents were asked how many days during the previous month did they feel that their mental health was poor.
- *Normal Activity Limited*: Respondents were asked if poor physical or mental health prevented them from doing their usual activities.
- *General Health*: Respondents were asked to rate their overall health.

Survey Results

Prevalence—Based on the Texas BRFSS data for the years 1999 through 2002, an average prevalence of 6.6% (95% CI, 5.8 - 7.5) was calculated. This represents the number of Texans 18 years of age and older who self-reported that at some point in their lives a physician or health care professional has told them that they have diabetes. This is an increase of 1.2% from the 1996 through 1999 data.

Age—Figure 1 shows that the prevalence of diabetes greatly increases with age. Those individuals in the 45-54 age group were more than twice as likely to have diabetes than those in the 35-44 age group, and those individuals 55 and older had almost a 4-fold increase in diabetes over those in the 35-44 age group.

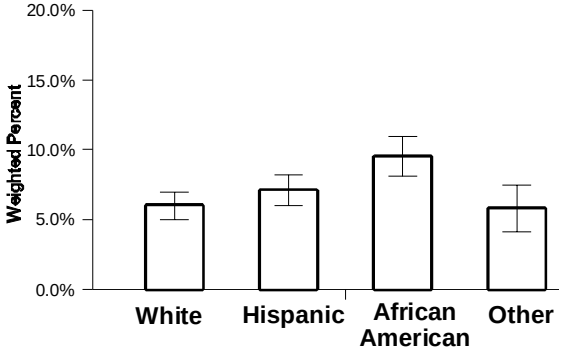
Figure 1. Diagnosed Diabetes* by Age Group, Texas BRFSS, 1999-2002



*Told to have diabetes by healthcare professional

Race—Figure 2 shows that African Americans have the highest prevalence of diabetes (9.5%), followed by Hispanics (7.1%). Non-Hispanic Whites and Other race/ethnicities have the lowest prevalence of diabetes (6.0% and 5.8% respectively).

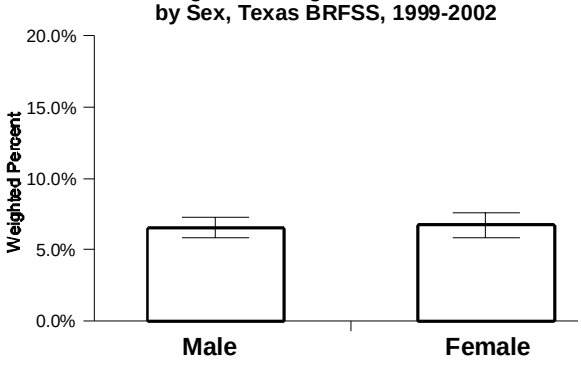
Figure 2. Diagnosed Diabetes* by Race/Ethnicity,Texas BRFSS, 1999-2002



*Told to have diabetes by healthcare professional

Sex—Some studies show that women are more likely to report having diabetes than men, but the data used in this report indicate that prevalence among men and women were almost equal. Females were slightly higher with a rate of 6.7% compared to men at a rate of 6.5%. However, the difference was not statistically significant (Figure 3).

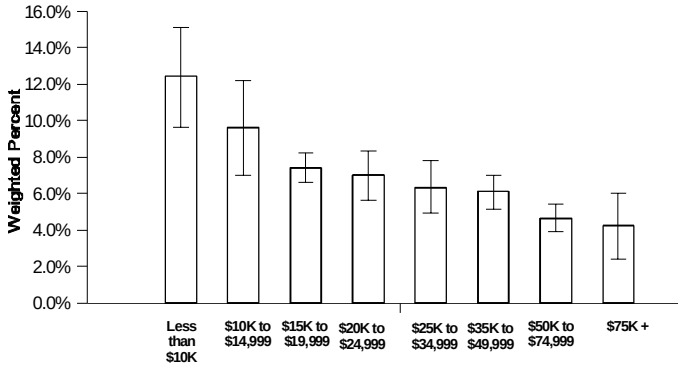
Figure 3. Diagnosed Diabetes* by Sex, Texas BRFSS, 1999-2002



*Told to have diabetes by healthcare professional

Household Income—The prevalence of diabetes was highest in persons who made less than $10,000 annual income and lowest in those who made over $75,000 per year (Figure 4).

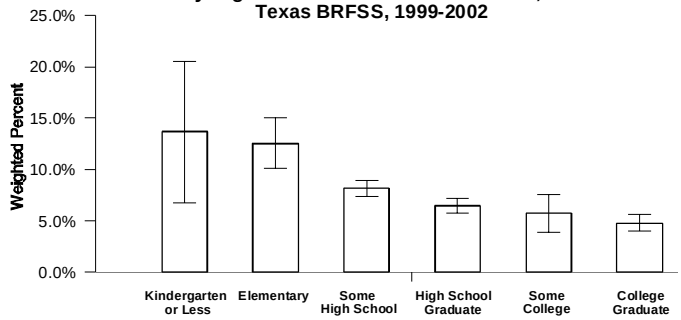
Figure 4. Diagnosed Diabetes* by Household Income, Texas BRFSS, 1999-2002



*Told to have diabetes by healthcare professional

Education—The prevalence of diabetes was highest among those who had less than a high school education and lowest among those who had some college education or were college graduates (Figure 5).

Figure 5. Diagnosed Diabetes* by Highest Education Level Attained, Texas BRFSS, 1999-2002

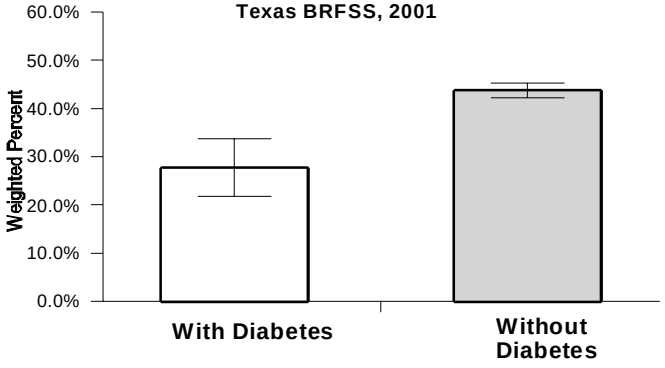


*Told to have diabetes by healthcare professional

Related Behavioral Risk Factors

Physical Activity—Studies indicate that a lack of physical activity can contribute to a person developing Type 2 diabetes. The Finnish Diabetes Prevention Study and the U.S. Diabetes Prevention Program both showed that people with prediabetes could prevent or delay onset of diabetes by modest weight loss and physical activity.[2] Data from the Texas BRFSS for 2001 show that only about 28% of people with diabetes participate in regular and sustained physical activity, which could control their diabetes or, at the very least, prevent some of the complications from diabetes (Figure 6). Approximately 44% of those without diabetes reported participating in regular and sustained physical activity. It should be noted that desirable health behaviors are often over-reported; thus, these percentages are most likely even lower.

Figure 6.
Percent of Adult Texans Who Reported Doing Regular and Sustained Physical Activity* by Diabetes Status, Texas BRFSS, 2001



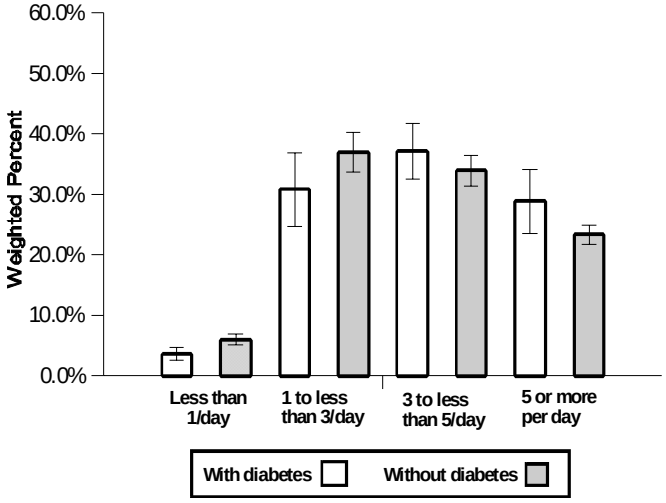
*Physical activity for 30 or more minutes, 5 or more times per week, regardless of intensity

Number of Servings of Fruits and Vegetables—Evidence has shown that eating a diet rich in fruits and vegetables can prevent many chronic diseases, such as cancer, heart disease, and stroke. Studies suggest that eating more fruits and vegetables may also prevent diabetes. In a study of 6,000 non-diabetic men and women conducted in the United Kingdom, hemoglobin A1c levels, an indicator of long-term blood glucose control, were found to be higher in those individuals who had the lowest consumption of fruit and green leafy vegetables.[6]

For this report, data from the combined years of 2000 and 2002 shows that people with diabetes reported eating more fruits and vegetables than those without diabetes; however, the differences were not statistically significant (Figure 7).

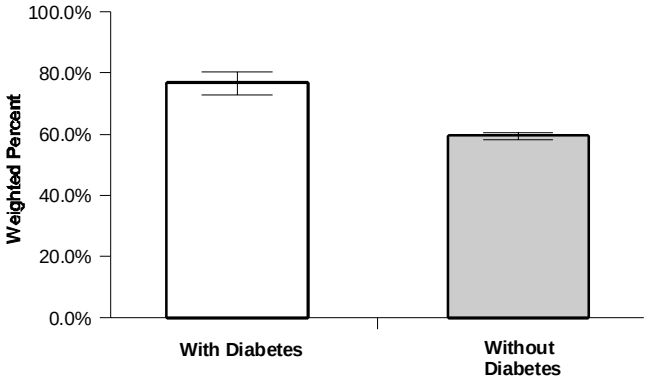
Approximately 37% of those individuals with diabetes reported consuming 3 to 4 servings per day compared to 34% for those individuals without diabetes. In the category of 5 or more servings per day, people with diabetes also were higher—29% versus 23% for those people without diabetes.

Figure 7.
Number of Servings/Day of Fruits and Vegetables by Diabetes Status, Texas BRFSS, 2000 and 2002



Overweight and Obesity—The prevalence of obesity in the United States increased 61% during 1991 to 2000. Some 38.8 million United States adults are thought to be obese. In 2001, approximately 21% of the adult population in the United States was obese.[7] In Texas, for the combined years of 1999 through 2002, approximately 77% of those respondents with diabetes had a BMI of 25 or greater, indicating that they were either overweight or obese. Only about 60% of those without diabetes were overweight or obese (Figure 8).

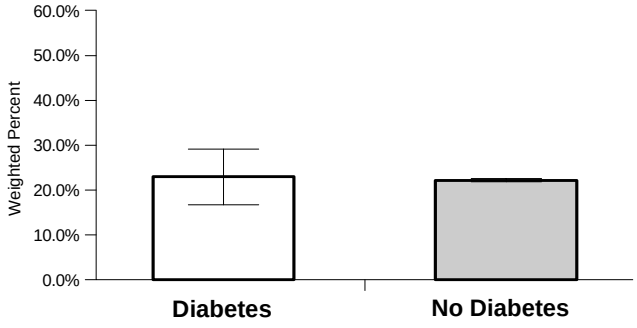
Figure 8.
Percentage of Adult Texans that are either Overweight* or Obese by Diabetes Status, Texas BRFSS, 1999-2002**



*BMI ≥ 25 but < 30
**BMI ≥ 30

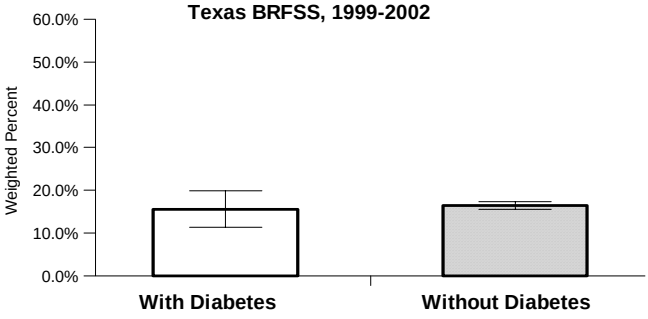
Cigarette Smoking— There is no statistical difference between the percentage of people with diabetes (23%) and those without diabetes (22%) who reported being current cigarette smokers (Figure 9).

Figure 9.
Percentage of Adult Texans Who Currently Smoke by Diabetes Status, Texas BRFSS, 1999-2002



Acute Alcohol Consumption (Binge Drinking)—Some evidence shows that light to moderate alcohol consumption can decrease the risk of developing Type 2 diabetes in adults. However, chronic use of alcohol in people who already have Type 2 diabetes can result in both hypoglycemia (low blood sugar) and hyperglycemia (high blood sugar) and can cause problems with long term and short term glucose metabolism.[8] One study found that "All levels of alcohol consumption were associated with more atherosclerosis in participants with diabetes".[9] Figure 10 shows little difference between respondents with diabetes (16%) and those without diabetes (17%) in the acute consumption of alcohol.

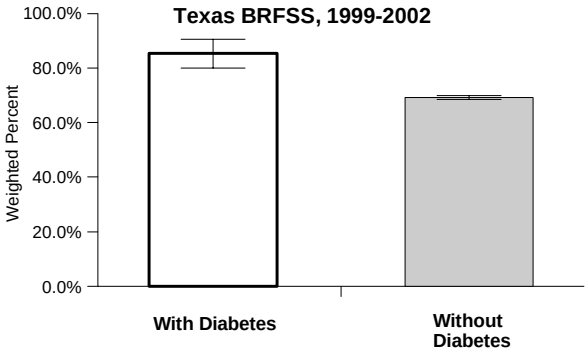
Figure 10.
Percentage of Adult Texans With Recent Acute Alcohol Consumption* by Diabetes Status, Texas BRFSS, 1999-2002



***Consumed 5+ alcoholic beverages in the past month.**

Routine Physical Exam—Figure 11 shows that a higher percentage of people with diabetes (85.3%) reported having had a routine physical exam in the past year than did those without diabetes (69.2%).

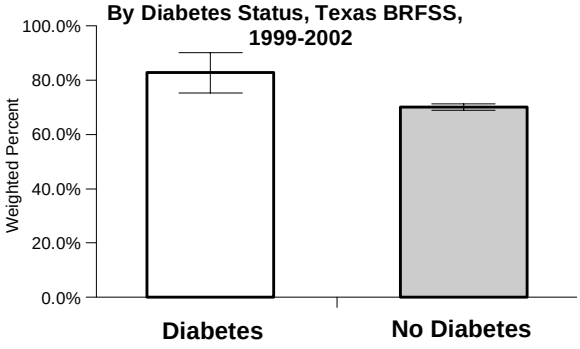
Figure 11.
Percentage of Adult Texans That Have Had a Recent Routine Exam* by Diabetes Status, Texas BRFSS, 1999-2002



***Respondents were asked if they had had a routine exam within the previous year (1999-2000).**

Cholesterol Check—Figure 12 shows that approximately 83% of people with diabetes have had their cholesterol checked within the past 5 years. Only about 70% of those without diabetes reported having their cholesterol checked in the past 5 years.

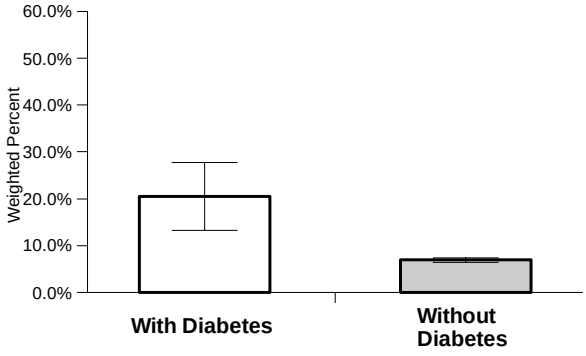
Figure 12.
Percentage of Adult Texans Who Have Had Their Blood Cholesterol Checked in the Past 5 Years By Diabetes Status, Texas BRFSS, 1999-2002



Complicating Health Factors

Heart Disease— Coronary Heart Disease (CHD) is the number one cause of death for adults with diabetes.[10] Figure 13 shows that almost 3 times more people with diabetes (20.5%) reported having heart disease than did people without diabetes (6.9%).

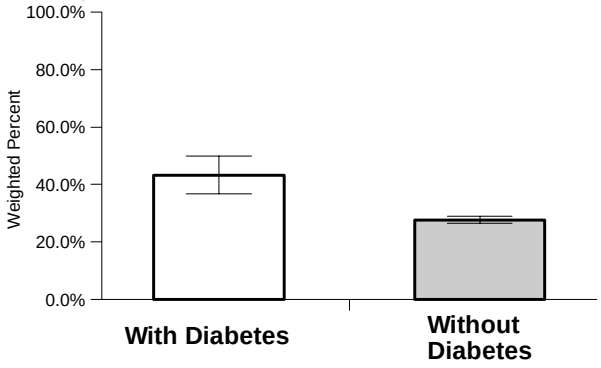
Figure 13.
Percent of Adult Texans Ever Told They Have Heart Disease*
by Diabetes Status, Texas BRFSS, 1999-2002



***Told to have heart disease by healthcare professional**

High Cholesterol—Cholesterol plays a major role in CHD, and people with diabetes often have high levels of LDL, or so called "bad" cholesterol, as well as low levels of HDL, or "good" cholesterol. Amazingly, up to 60% of people with diabetes do not believe they are at risk for cholesterol problems.[11] In Texas, 43.3% of those with diabetes reported having high cholesterol. By comparison 27.7% of those without diabetes have high cholesterol (Figure 14).

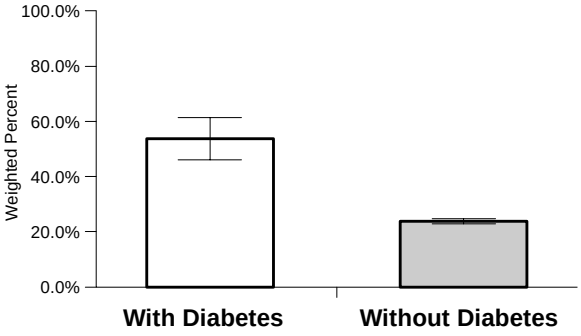
Figure 14.
Percent of Adult Texans Ever Told They Have High Cholesterol*
by Diabetes Status, Texas BRFSS, 1999-2002



***Told to have high cholesterol by health care professional**

Hypertension—Hypertension, or high blood pressure, greatly increases the risk for stroke. Diabetes increases the risk of death due to a stroke by approximately three-fold.[10] It is important that people with diabetes control their hypertension. Figure 15 shows that people with diabetes were more than twice as likely as people without diabetes to report that they had been told by a health care professional that they have high blood pressure.

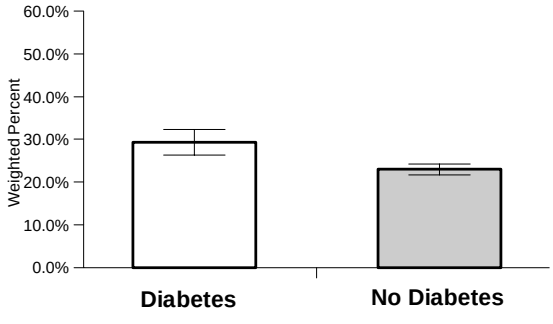
Figure 15.
Percent of Adult Texans Told They Have Hypertension*
by Diabetes Status, Texas BRFSS, 1999-2002



***Told that they have hypertension by healthcare professional**

No Health Insurance—People with diabetes (29.4%) were slightly more likely to report that they did not have any type of health insurance at some point in the previous year than were those without diabetes (23.0%); however, it was not significant (Figure 16).

Figure 16.
Percentage of Adult Texans Who Have No Insurance*
by Diabetes Status,Texas BRFSS, 1999-2002

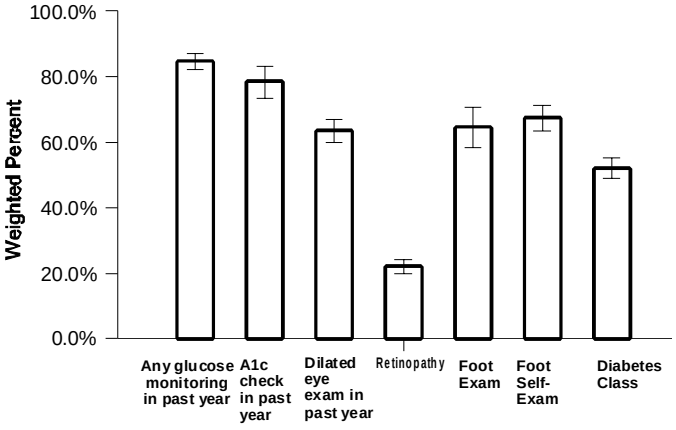


***Reported having no insurance at some point during the previous year**

Diabetes Care Practices

Many of the debilitating and life-threatening complications of diabetes can be prevented through regular screenings and by blood glucose control. Controlling blood glucose is the essence of any successful treatment program for diabetes. Research has shown that "for every 1% reduction in results of A1c blood tests, the risk of developing microvascular diabetic complications (eye, kidney, and nerve disease) is reduced by 40%".[1] According to data from the Texas BRFSS, 1999-2002, the majority of people with diabetes (78.4%) reported that they had received an A1c screening within the past year (Figure 17) and were using some kind of medication to control their blood glucose. Almost 70% reported that they take oral diabetes medication and 25% use insulin (Figure 18).

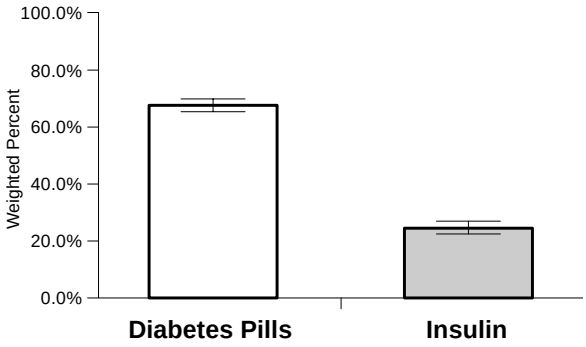
Figure 17.
Diabetes Care Practices,
Texas BRFSS, 1999-2002



Diabetes can increase the risk of several different types of eye problems, such as glaucoma and cataracts. However, the most serious form of eye disease in people with diabetes is proliferative retinopathy. This condition is caused by a weakening and leaking of blood vessels in the eye that can result in hemorrhaging and scar tissue. Ultimately it can lead to vision loss. Often there are no symptoms until the disease has progressed to a stage where damage is irreversible.[12] It is imperative that people with diabetes have regular dilated eye examinations. As shown in Figure 17, only 63% of Texas respondents said they had had a dilated eye exam in the past year, and 22% reported that a healthcare professional had told them that they have some form of retinopathy.

Diabetes is the number one cause of non-traumatic lower limb amputations in the United States[1] Most of these amputations are caused by nervous system damage and reduced circulation in the feet. By examining the feet on a daily basis and seeking treatment for any cuts or lesions, most foot problems can be avoided.[13] According to the Texas BRFSS, 1999-2002, only 67% of those with diabetes examined their feet on a daily basis, and only 65% said that their physician or health care provider had examined their feet in the past year (Figure 17).

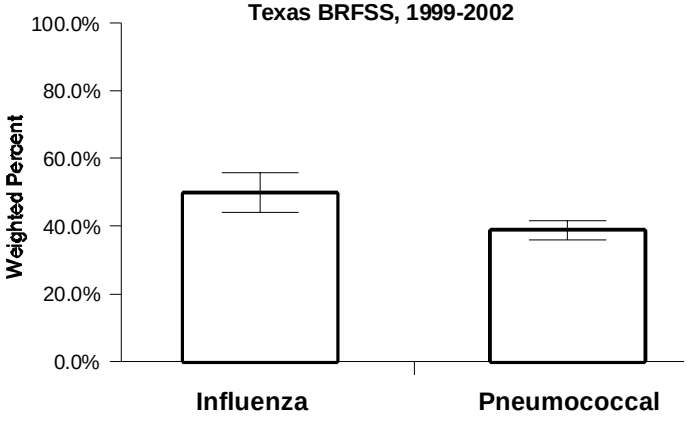
Figure 18.
Percent of Those with Diabetes Who Use Oral Diabetes Medications or Insulin, Texas BRFSS, 1999-2002



People with diabetes are at higher risk for infection than are people without diabetes and are 3 times more likely to die from influenza and pneumonia. An estimated 10,000 to 30,000 people with diabetes die from complications of influenza and pneumonia every year.[2] Most of these deaths could be prevented through vaccination.

Figure 19 shows that only about half of people with diabetes have had an influenza vaccination in the previous year and only 39% have ever had a pneumococcal (pneumonia) vaccination.

Figure 19.
Percent of Adult Texans with Diabetes who Have Received an Influenza* and/or a Pneumococcal Vaccination, Texas BRFSS, 1999-2002**



*Received an influenza vaccination within the previous year.

**Received a pneumococcal vaccination at any time in their life.

Quality of Life Indicators

People with diabetes rate their health, both physical and mental, as poorer than that of people without diabetes, and research confirms that depression is more prevalent in people with diabetes. One study found that having diabetes doubled the probability of having depression. The prevalence of depression was significantly higher in women and in those whose diabetes was uncontrolled.[14]

All four of the quality of life indicators that were examined for this report showed significant ($p < 0.05$) differences between people with diabetes and people without diabetes (Figure 20). More than double the percentage of people with diabetes reported that their physical health was poor for 5 or more days in the past month, and approximately 31% of those with diabetes reported that their mental health was poor for 5 or more days in the past month. This is in comparison to 18% of those without diabetes.

Half of those with diabetes rated their general health as only fair or poor, while 18% of those without diabetes rated their general health as fair to poor.

Figure 20.
Quality of Life Indicators, Texas BRFSS, 1999-2002

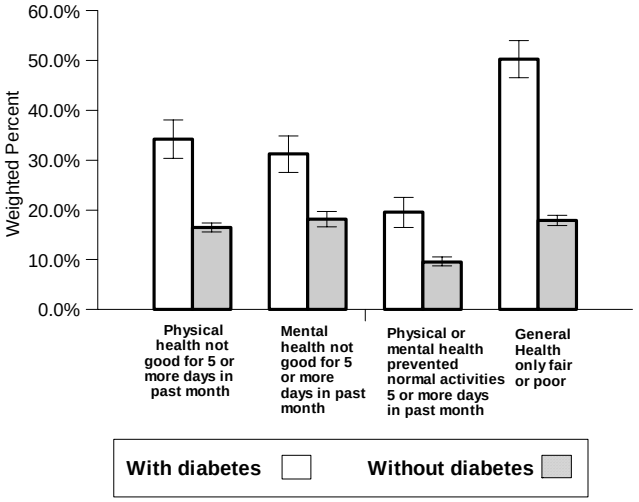


Table 1. Prevalence of Diagnosed Diabetes Among Adult Texans by Sex, Race/Ethnicity, Age, Income, and Education Level, 1999-2001.

	%	95% CI	
	Prevalence	Lower	Upper
Total (n = 15,922)	**6.6**	**5.8**	**7.5**
Age			
18-24	0.6	0.3	0.8
25-34	1.4	0.9	1.8
35-44	3.7	3.3	4.1
45-54	9.6	8.0	11.2
55-64	14.3	13.3	15.2
65+	14.7	12.8	16.6
Race/Ethnicity			
White	6.0	5.0	7.0
Hispanic	7.1	6.0	8.2
African American	9.5	8.1	11.0
Other	5.8	4.1	7.5
Sex			
Male	6.5	5.8	7.3
Female	6.7	5.8	7.6
Household Income			
<$10,000	12.4	9.6	15.1
$10K–$14,999	9.6	7.0	12.2
$15K - $19,999	7.4	6.6	8.2
$20K - $24,999	7.0	5.6	8.3
$25K - $34,999	6.3	4.9	7.8
$35K - $49,999	6.1	5.1	7.0
$50K - $74,999	4.6	3.9	5.4
$75,000+	4.2	2.4	6.0
Education Level			
Kindergarten or less	13.7	6.8	20.5
Elementary	12.5	10.0	15.0
Some high school	8.2	7.4	9.0
High school graduate	6.5	5.8	7.2
Some college	5.8	3.9	7.6
College graduate	4.8	4.0	5.6

Table 2. Prevalence of Diabetes Related Behavioral Rick Factors and Preventative Health Care Practices in Adult Texans With Diabetes vs. Those Without Diabetes, 1999-2002

	With Diabetes	Without Diabetes
	% [95% CI]	% [95% CI]
Met Recommended Physical Activity	27.7 [21.8–33.6]	43.7 [42.2–45.2]
5 or More Servings of Fruits/Vegetables	28.7 [23.4–34.0]	23.3 [21.7–24.9]
Overweight/Obesity	76.8 [73.1–80.5]	59.5 [58.4–60.6]
Current Smoking	23.0 [16.7–29.2]	22.2 [21.9–22.6]
Binge Drinking	15.6 [11.3–19.9]	16.5 [15.5–17.4]
Routine Exam	85.3 [80.0–90.6]	69.2 [68.5–69.6]
Cholesterol Check	82.8 [75.3–90.2]	70.0 [68.8–71.2]

Table 3. Prevalence of Complicating Health Factors in Adult Texans with Diabetes vs. Those Without Diabetes, 1999-2002.

	With Diabetes	Without Diabetes
	% [95% CI]	% [95% CI]
Heart Disease	20.5 [13.2–27.7]	6.9 [6.4–7.4]
High Cholesterol	43.3 [36.8–49.8]	27.7 [26.5–28.9]
Hypertension	53.7 [46.1–61.3]	23.8 [22.8–24.7]
No Insurance	29.4 [26.4–32.3]	23.0 [21.7–24.3]

Table 4. Diabetes Care Practices in Adult Texans with Diabetes, 1999-2002.

		95% CI	
	%	Lower	Upper
Taking Diabetes Pills	67.6	65.4	69.9
Taking Insulin	24.6	22.4	26.9
Glucose Monitoring In Past Year	84.6	82.1	87.1
A1c Check in Past Year	78.4	73.6	83.1
Dilated Eye Exam In Past Year	63.4	59.8	66.9
Diagnosed with Retinopathy	22.1	20.0	24.3
Feet Checked in Past Year by Doctor	64.7	58.5	70.8
Self-Examined Feet Daily	67.3	63.4	71.3
Taken Diabetes Class	52.1	49.1	55.2
Flu Shot	49.9	44.0	55.8
Pneumococcal Shot	38.9	36.0	41.7

Table 5. Quality of Life Indicators in Adult Texans with Diabetes vs. Those Without Diabetes, Texas BRFSS, 1999–2002.

	With Diabetes	Without Diabetes
	% [95% CI]	% [95% CI]
Physical Health Not Good for 5 or More Days per Month	34.2 [30.3–38.1]	16.5 [15.6–17.4]
Mental Health Not Good for 5 or More Days per Month	31.2 [27.5–34.9]	18.2 [16.6–19.7]
Poor Physical or Mental Health Prevented Normal Activity for 5 or More Days per Month	19.5 [16.5–22.5]	9.6 [8.8–10.5]
General Health Only Fair or Poor	50.3 [46.6–54.0]	17.9 [16.8–18.9]

Conclusions

- The overall prevalence of diabetes in Texas for the years 1999 through 2002 is 6.6%.
- Age is an important risk factor for diabetes, and the prevalence of diagnosed diabetes is highest among those aged 65 and older.
- Race/ethnicity also plays a key role in the prevalence of diabetes. African Americans have the highest prevalence of diabetes and are almost twice as likely to suffer from diabetes compared to Non-Hispanic Whites. Hispanics also have a higher prevalence of diabetes.
- Overweight/obesity and a lack of physical activity are the greatest preventable factors that contribute to the diabetes epidemic. Almost 77% of those with diabetes reported that they were either overweight or obese compared to 60% for those without diabetes. Only 28% of those with diabetes reported that they took part in regular and sustained physical activity.
- People with diabetes were slightly more likely to report getting 5 or more servings of fruits and vegetables than were people without diabetes.
- People with diabetes were more likely to report that they had routine physical exams and had their cholesterol checked.
- Heart disease, high cholesterol, and hypertension were all dramatically more prevalent in those with diabetes.
- People with diabetes did well on having their A1c levels checked annually (78.4%). However, they were less likely to have a dilated eye exam annually (63%), to have a health care provider examine their feet annually (65%), or to get vaccinated as needed (Flu-50%, Pneumonia-39%).
- All four of the quality of life indicators that were examined for this report showed significant differences ($P < 0.05$) between those with diabetes and those without diabetes. People with diabetes were more likely to report poor mental and physical health for 5 or more days in the past month, and half of those with diabetes rated their general health as only fair or poor.

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Texas BRFSS
Behavioral Risk Factor Surveillance System

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