

Diabetes

Diabetes is a group of diseases whose main characteristic is abnormally high levels of blood glucose. Normally, with the aid of the hormone insulin, glucose enters the cells and is converted to energy. In Type I diabetes, the pancreas does not produce enough insulin. In Type II diabetes, insulin is present but the body has become insulin resistant and is unable to use it. In diabetes, glucose and fats remain in the blood and cause damage to vital organs, veins, and nerves.¹

Mortality

Diabetes is the sixth most common cause of death (as specified on death certificates) nationwide. In 1999, diabetes was listed as the cause of 68,399 deaths. This accounted for 2.9 percent of all deaths, and 25.2 deaths per 100,000 people. Diabetes was a contributing cause of an additional 131,000 deaths. The true mortality associated with diabetes is probably higher, as diabetes is thought to be underreported on death certificates. In Tennessee in 1999, the diabetes death rate was 26.6 per 100,000 population. Tennessee had the 21st highest rate of all states of death due to diabetes.²

The risk of death from any cause is about twice as high for people with diabetes as for people without diabetes, and even greater for younger people and women.¹

Complications

Heart disease is the leading cause of diabetes-related death. Adults with diabetes die from heart disease at two to four times the rate of adults without diabetes.¹ The risk of stroke is also two to four times higher for persons with diabetes. Cardiovascular disease accounts for 48% of deaths of persons with diabetes.³

Diabetes increases the risk of complications and death from influenza and pneumonia. Each year from 10,000 to 30,000 persons with diabetes die from complications of these two illnesses. Persons with diabetes are three times more likely to die of flu and pneumonia complications than persons without diabetes.⁴

Diabetes is the leading cause of new cases of blindness. Each year, from 12,000 to 24,000 persons lose their sight because of diabetes. Diabetes is also the leading cause of nontraumatic lower limb amputations, causing approximately 86,000 such amputations each year. Diabetes can also lead to kidney failure. Each year more than 38,000 people with diabetes begin treatment for renal disease.²

Preventive Care

Diabetes cannot be cured; however, with proper management (glucose monitoring, diet, exercise, and in some cases medication), these dangerous and disabling complications can be avoided. Therefore it is important for people who have diabetes to be aware of it, and to make regular visits to their health care provider. It is estimated that 35 percent of people who have diabetes have not been diagnosed.¹

Healthy People 2010

One of the goals of Healthy People 2010 is "Through prevention programs, reduce the disease and economic burden of diabetes, and improve the quality of life for all persons who have or are at risk for diabetes."⁵

National and State Prevalence

The nationwide prevalence of diagnosed diabetes as reported by the Behavioral Risk Factor Surveillance System has steadily increased between 1995 and 2001, from 4.4% in 1995 to 6.5% in 2001. The prevalence of diabetes in Tennessee has been higher than the nationwide figure in all years except 1997. Tennessee's prevalence decreased from 1995 to 1997, then climbed from a low of 4.4% in 1997 to a high of 7.7% in 2001. ⁶

Preventive Care Practices

The Centers for Disease Control and Prevention Diabetes Surveillance System reports that in a survey of 42 states in 2001, 89.6% of adults with diabetes had visited a health professional in the past year for diabetes (the age-adjusted rate is 86.7%).⁷ In 2001, 90.5% of adults with diabetes in Tennessee reported a visit to a health professional in the past year for diabetes.⁸

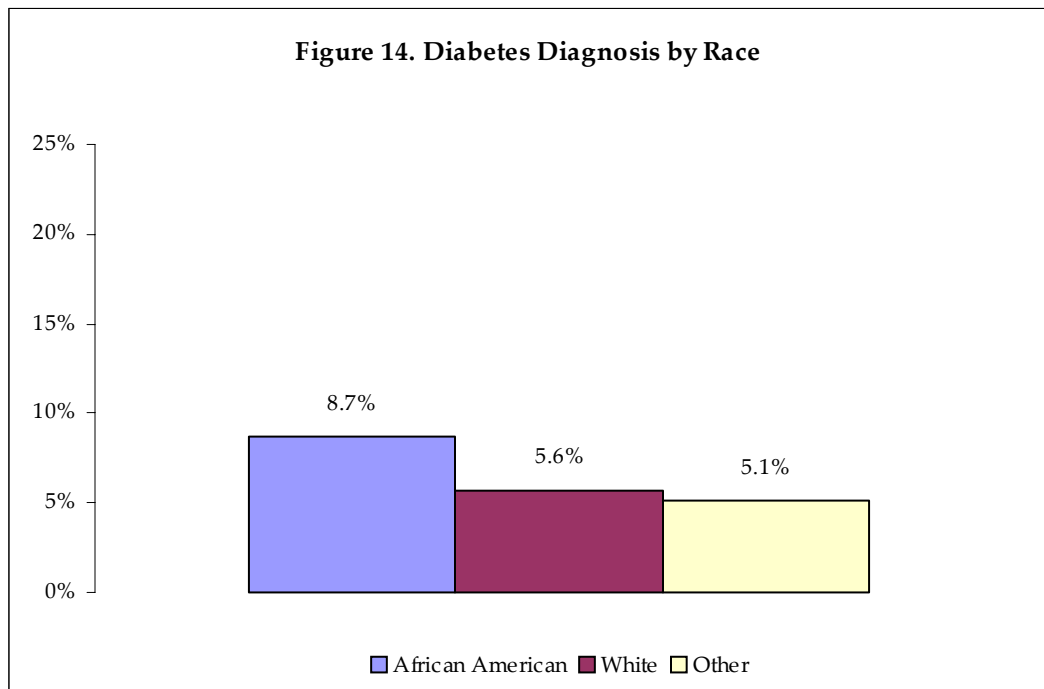
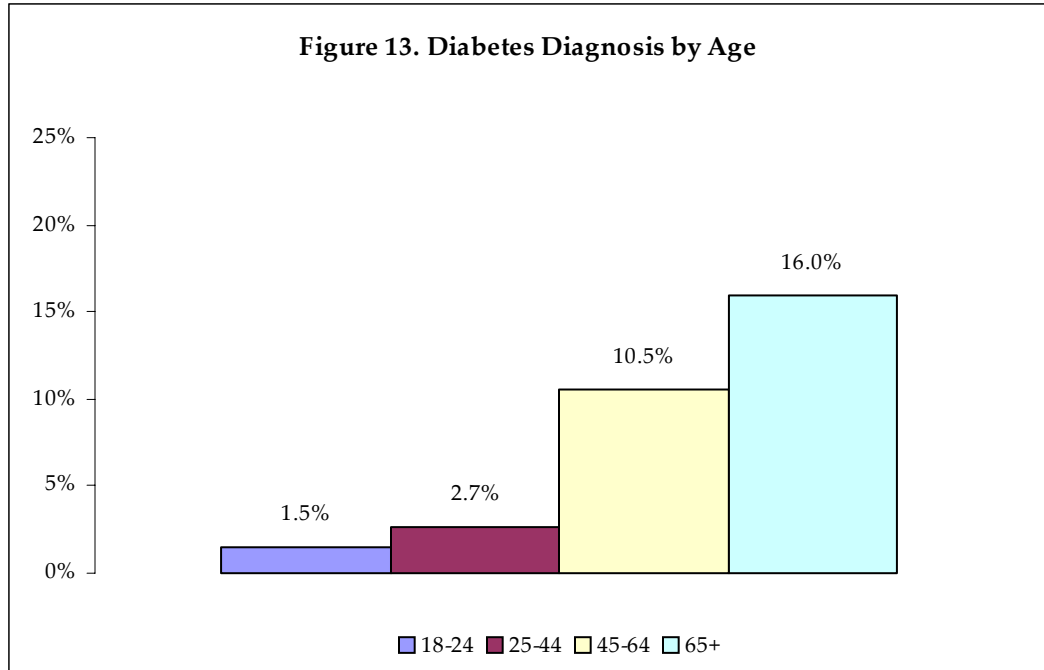
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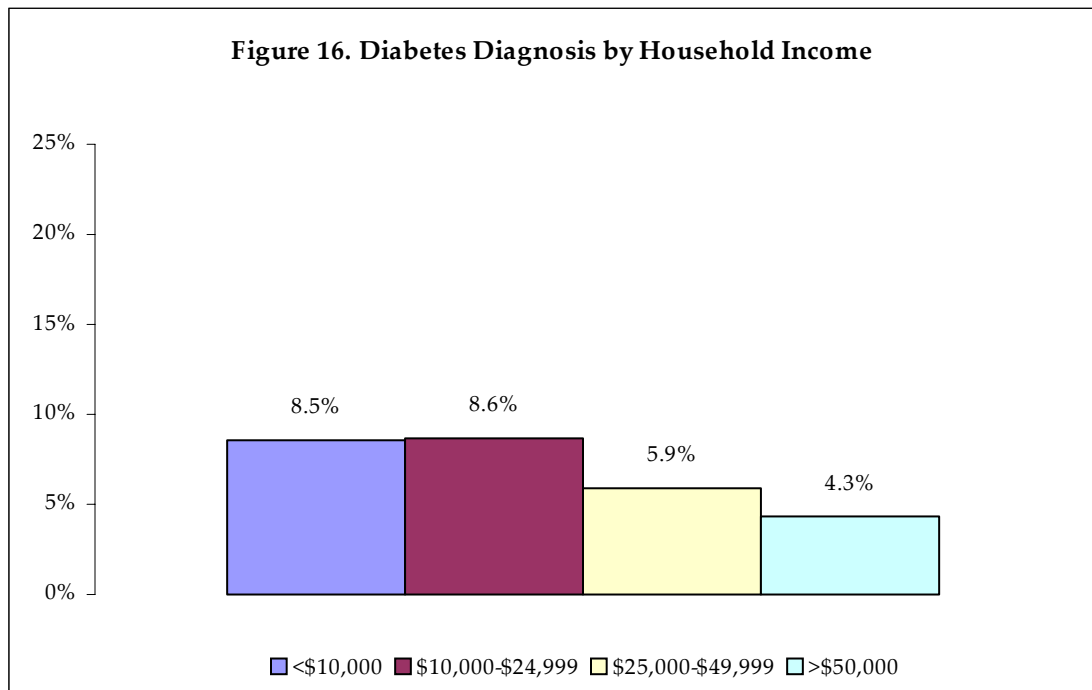
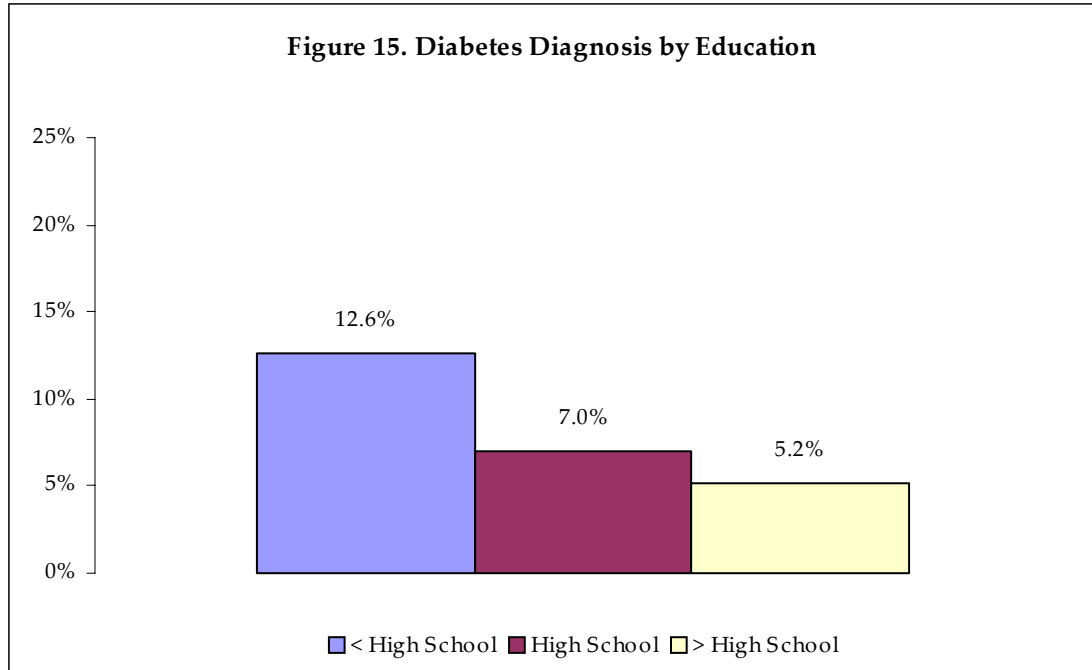
Prevalence of diabetes was measured by asking, "Have you ever been told by a doctor that you have diabetes?" If the response was "Yes" and the respondent was female, she was also asked "Was this only during a pregnancy?" Respondents indicating they had been given a diagnosis of diabetes not limited to pregnancy were then asked "About how many times in the past 12 months have you seen a doctor, nurse, or other health professional, for your diabetes?" Due to small numbers of responses, this question was analyzed as a dichotomous variable indicating that the respondent had or had not visited a healthcare professional in the past year for diabetes.

Results

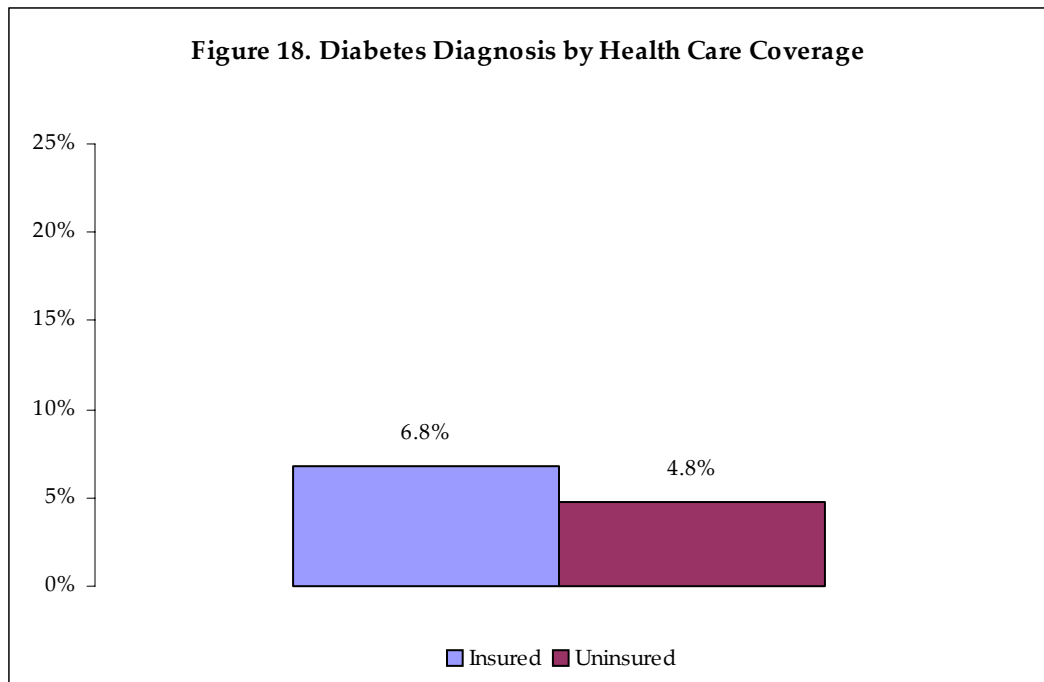
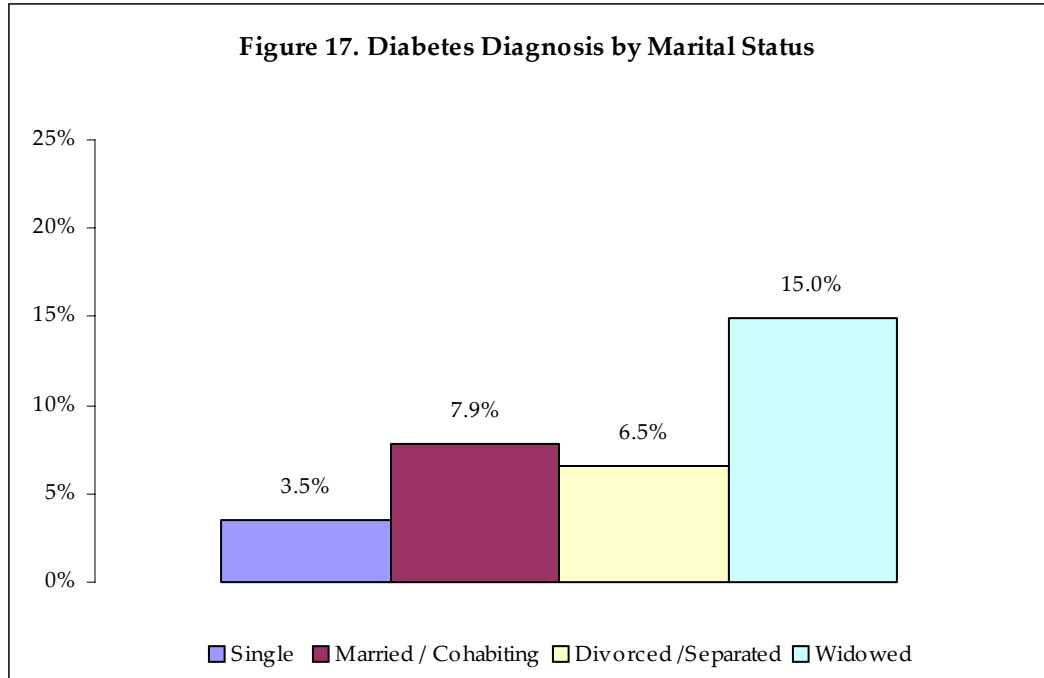
Diagnosis and Awareness

- **Overall:** Of Davidson County respondents, 6.5% (95% confidence interval, 5.4% - 7.63%) said they had been told they had diabetes, not including only during pregnancy.
- **Age:** Likelihood of a diabetic diagnosis increased with age. Of respondents 65 and older, 16.0% said they had been told they had diabetes, compared to 10.5% of the 45 to 64 year old group, 2.7% of respondents from 25 to 44, and 1.5% of respondents 18 to 24 years of age. (Figure 13)
- **Race:** A substantially higher percentage of African Americans (8.7%) reported having diabetes compared to Whites (5.6%) and Others (5.1%). (Figure 14)
- **Gender:** There was no significant difference between males and females in percentage reporting having diabetes.





- Educational Attainment:** Percentages of respondents reporting that they had diabetes varied substantially between levels of educational attainment, from 12.6% of those without a high school diploma, 7.0% of high school graduates, and 5.2% of those with education beyond high school, reporting that they had been told they had diabetes. (Figure 15)
- Income:** The rate of diabetes diagnosis was substantially higher in the two lower income groups compared to the two higher groups. The two lower income groups had very similar rates of reported diabetes. The percentage of respondents reporting a diagnosis



of diabetes dropped from 8.6% for those with a household income of \$10,000 to \$24,999, to 5.9% for incomes of \$25,000 to \$49,999, and 4.3% for incomes over \$50,000. (Figure 16)

- Marital Status:** The rate of reported diabetes was substantially lower among never-married singles, and substantially higher among widowed persons, than for married/cohabiting and divorced/separated respondents. Married/cohabiting and divorced/separated percentages were not significantly different from each other. (Figure 17)

- **Health Insurance Coverage:** Substantially higher percentages of respondents with health insurance coverage reported having been told they had diabetes (6.8%), compared to those without coverage, 4.8%. (Figure 18)

Preventive Care and Disease Management

Overall, 79.9% (95% confidence interval, 76.5% - 83.3%) of respondents who were diabetic said they had seen a healthcare professional within the last year for diabetes. This is approximately 10 percentage points lower than both the nationwide and statewide figures. There were no substantial differences between any of the demographic groups in percentage of persons with diabetes who had visited a doctor in the past year.

References

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Table 3. Diabetes. Results of the 2001 Community Health Behavior Survey in Davidson County, Tennessee Weighted by Council District (95% Confidence Interval)

<i>Demographics</i>	<u>Ever told you had diabetes (other than during pregnancy)</u>	<u>Seen a Doctor in Past 12 Months for Diabetes (Percent of Those with Diabetes)</u>
<u>Total</u>	6.5% (5.4 - 7.6)	79.9% (76.5 - 83.3)
<u>Age</u>		
18-24	1.5% (0.6 - 2.4)	44.2% (11.8 - 76.7)
25-44	2.7% (2.1 - 3.2)	67.2% (57.1 - 77.2)
45-64	10.5% (9.2 - 11.9)	87.8% (83.6 - 92.1)
65+	16.0% (14.0 - 18.0)	84.8% (79.3 - 89.8)
<u>Race</u>		
African American	8.7% (7.4 - 10.0)	81.5% (75.6 - 87.4)
White	5.6% (5.0 - 6.3)	78.0% (73.6 - 82.4)
Other	5.1% (2.1 - 8.1)	93.3% (78.5 - 100.0)
<u>Gender</u>		
Male	6.9% (5.9 - 7.8)	82.6% (77.2 - 88.0)
Female	6.2% (5.5 - 6.9)	77.4% (73.0 - 81.9)
<u>Income</u>		
<\$10,000	8.5% (5.3 - 11.7)	83.3% (70.0 - 96.7)
\$10,000-\$24,999	8.6% (7.3 - 9.9)	83.2% (77.7 - 88.7)
\$25,000-\$49,999	5.9% (5.0 - 6.8)	76.3% (69.7 - 82.9)
\$50,000 or more	4.3% (3.3 - 5.3)	82.8% (73.9 - 91.6)
<u>Education</u>		
<High School	12.6% (10.4 - 14.8)	81.9% (74.9 - 88.9)
High School	7.0% (5.9 - 8.2)	80.1% (73.8 - 86.5)
>High School	5.2% (4.5 - 5.8)	79.1% (74.1 - 84.2)
<u>Marital Status</u>		
Single	3.5% (2.7 - 4.3)	79.3% (73.7 - 84.8)
Married/Cohabiting	7.9% (6.4 - 9.3)	84.3% (77.4 - 91.3)
Divorced/Separated	6.5% (5.6 - 7.4)	74.2% (64.7 - 83.7)
Widowed	15.0% (12.6 - 17.4)	81.3% (74.7 - 88.0)
<u>Insurance Coverage</u>		
Insured	6.8% (6.2 - 7.4)	80.1% (76.5 - 83.6)
Uninsured	4.8% (3.6 - 5.9)	77.7% (63.9 - 91.5)