

2012

Diabetes in Nevada

Behavioral Risk Factor Surveillance System

*Department of Health and Human Services
Division of Public and Behavioral Health
Office of Public Health Informatics and Epidemiology*



Brian Sandoval
Governor
State of Nevada

Michael J Willden
Director
Department of Health and Human
Services

May
2014

Version 1.0

Richard Whitley, MS
Administrator
Division of Public and Behavioral
Health

Tracey Green, MD
Chief Medical Officer
Division of Public and Behavioral
Health

Table of Contents

List of Figures.....	ii
List of Tables.....	ii
Purpose and Introduction.....	1
Summary.....	2
Technical Notes.....	4
Overall Prevalence of Diabetes in Nevada by Various Demographics, BRFSS 2012	5
Diabetes Prevalence in Nevada by Selected Demographics, 2002-2012 BRFSS Data.....	7
Diabetes Care and Management, 2002-2012 BRFSS Data	13
Diabetes Risk Factors, 2011-2012 BRFSS Data	21
Diabetes Quality of Life Indicators, 2012 BRFSS Data	23
References.....	32

List of Figures

FIGURE 1: DIABETES PREVALENCE IN NEVADA BY YEAR, 2002-2012 BRFSS DATA.....	7
FIGURE 2: DIABETES PREVALENCE IN NEVADA BY SEX, 2002-2012 BRFSS DATA	8
FIGURE 3: DIABETES PREVALENCE IN NEVADA BY RACE/ETHNICITY, 2011-2012 BRFSS DATA	9
FIGURE 4: DIABETES PREVALENCE IN NEVADA BY SEX AND RACE/ETHNICITY, POOLED 2011-2012 BRFSS DATA	10
FIGURE 5: DIABETES PREVALENCE IN NEVADA BY AGE-GROUPS, 2011-2012 BRFSS DATA	11
FIGURE 6: DIABETES PREVALENCE IN NEVADA BY SEX AND AGE-GROUPS, POOLED 2011-2012 BRFSS DATA	12
FIGURE 7: NEVADA ADULTS WITH PERSONAL DOCTOR, 2012 BRFSS DATA.....	13
FIGURE 8: NEVADA ADULTS WITH DIABETES WHO HAVE EVER TAKEN DIABETES SELF-MANAGEMENT EDUCATION, 2002-2012 BRFSS DATA.....	14
FIGURE 9: NEVADA ADULTS WITH DIABETES WHO HAD 'A ONE C' CHECKED TWICE WITHIN PAST YEAR, 2002-2012 BRFSS DATA	15
FIGURE 10: NEVADA ADULTS WITH DIABETES WHO HAD EYE EXAM IN PAST 12 MONTHS, 2002-2012 BRFSS DATA.....	16
FIGURE 11: NEVADA ADULTS WITH DIABETES WHO HAD FEET CHECKED BY HEALTH PROFESSIONAL IN PAST YEAR, 2002-2012 BRFSS DATA.....	17
FIGURE 12: NEVADA ADULTS WITH DIABETES WHO RECEIVED A FLU SHOT IN PAST 12 MONTHS, AND NEVADA ADULTS WITH DIABETES WHO HAVE EVER HAD A PNEUMONIA SHOT, 2002-2012 BRFSS DATA.....	18
FIGURE 13: NEVADA ADULTS WITH HIGH BLOOD PRESSURE, 2011 BRFSS DATA	19
FIGURE 14: NEVADA ADULTS WITH HIGH BLOOD CHOLESTEROL, 2011 BRFSS DATA	20
FIGURE 15: NEVADA ADULTS BY BODY MASS INDEX CATEGORIES, 2012 BRFSS DATA	21
FIGURE 16: NEVADA ADULTS WITH NO PHYSICAL ACTIVITY IN PAST 30 DAYS, 2012 BRFSS DATA	22
FIGURE 17: HEALTH STATUS OF NEVADA ADULTS, 2012 BRFSS DATA	23
FIGURE 18: NEVADA ADULTS- DAYS IN PAST 30 DAYS PHYSICAL HEALTH NOT GOOD, 2012 BRFSS DATA.....	24
FIGURE 19: NEVADA ADULTS- DAYS IN PAST 30 DAYS MENTAL HEALTH NOT GOOD, 2012 BRFSS DATA.....	25
FIGURE 20: NEVADA ADULTS WITH A HEALTH PROBLEM THAT REQUIRES USE OF SPECIAL EQUIPMENT,	26
FIGURE 21: NEVADA ADULTS WHOSE ACTIVITIES ARE LIMITED DUE TO PHYSICAL, MENTAL, OR EMOTIONAL	27
FIGURE 22: NEVADA ADULTS WITH ARTHRITIS, 2012 BRFSS DATA.....	28
FIGURE 23: NEVADA ADULTS WITH CORONARY HEART DISEASE, 2012 BRFSS DATA	29
FIGURE 24: NEVADA ADULTS WHO HAVE EXPERIENCED A HEART ATTACK, 2012 BRFSS DATA.....	30
FIGURE 25: NEVADA ADULTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE, 2012 BRFSS DATA.....	31

List of Tables

TABLE 1: OVERALL PREVALENCE OF DIABETES IN NEVADA BY SELECTED DEMOGRAPHICS, BRFSS 2012.....	5
---	---

Purpose and Introduction

The purpose of this report is to provide statistics about diabetes and its related risk factors in Nevada. The information presented in this report may guide the diabetes program and other stakeholders on areas to focus on with regard to diabetes education, interventions, and other program areas to reduce the negative effects of diabetes in Nevada.

Diabetes is a chronic disease of public health concern that is defined as the body experiencing a shortage of insulin or decreased ability to use insulin, causing blood glucose levels to be above normal.¹ According to Behavioral Risk Factor Surveillance System (BRFSS) 2012 data, nearly 8.9% of Nevadans had diabetes compared to 9.7% nationwide.² Unmanaged diabetes or prolonged undiagnosed diabetes could lead to serious complications and even death.

The most common types of diabetes are:

- **Type 1 Diabetes:** Also known as juvenile-onset diabetes or insulin-dependent diabetes, occurs usually in childhood, and is when the body does not produce the hormone insulin. 5-10% of the diabetic population has type 1 diabetes.¹ Type 1 diabetes is not preventable and requires lifelong use of insulin injections.
- **Type 2 Diabetes:** The more common form of diabetes is when the body is either insulin deficient or insulin resistant. About 90-95% of the diabetic population has type 2 diabetes. Unlike type 1 diabetes, type 2 diabetes can be prevented. Risk factors for type 2 diabetes include: age, family history, race/ethnicity (Blacks, Hispanics, and American Indians are at increased risk), bodyweight, physical activity, and lifestyle choices.¹

Before individuals develop type 2 diabetes, they almost always have pre-diabetes. Pre-diabetes is characterized by having blood glucose levels above normal but not high enough to be classified as diabetes.³ Early diagnosis and treatment often result in returning blood glucose levels to normal.

- **Gestational Diabetes:** Occurs in pregnant women who have high blood glucose levels during pregnancy. 4% of diabetes cases are related to gestational diabetes.¹ Risk factors include being older than 25 years, having pre-diabetes, or having an immediate family member with type 2 diabetes.⁴

Measures to prevent diabetes complications are important and require an active and effective management care system. Preventative care practices include: an annual eye exam, annual foot exam, doctor visits, self-monitoring of blood glucose, glycosylated hemoglobin (A1C) tests, diabetes self-management education, and influenza and pneumococcal vaccination.⁵

Summary

Diabetes is a chronic disease that affects about 25.8 million people (8.3%) of the United States (US) population. Diabetes is a major cause of heart disease and stroke. In 2011, it was the seventh leading cause of death and eighth leading cause of death in the US⁶ and Nevada⁷ respectively. In addition, diabetes is the leading cause of kidney failure, non-traumatic lower-limb amputations, and new cases of blindness among adults in the US.¹ In 2012, 9.7% Americans had diabetes compared to 8.9% Nevadans.⁸

Some risk factors for diabetes include increased age, race/ethnicity, being overweight or obese, and physical inactivity. According to the 2012 Nevada BRFSS:

- Adults aged 65 years and older (19.8%) had the highest diabetes prevalence compared to 55-64 year olds (16.0), 45-54 year olds (8.1%), 35-44 year old (5.9%), 25-34 year olds (1.7%), and 18-24 year olds (0.3%). Adults in the age groups 55-64 years and 65 years and older had significantly higher diabetes prevalence compared to adults in the age groups 18-44 years and 45-54 years.
- 13.3% of adults of other race had diabetes compared to Hispanics (8.4%), Blacks (8.3%) and Whites (8.0%). The differences were not statistically significant.
- 83.9 % of Nevada adults with diabetes were overweight or obese compared to 60.4% of adults without diabetes and the difference was statistically significant.
- 32.0% of adults with diabetes reported no physical activity in the past 30 days compared to 20.2% of adults without diabetes. The difference was statistically significant.

Diabetes can be managed to avoid complications by improved blood glucose control, preventive care practices of the eyes and feet, flu and pneumonia vaccinations, lower blood pressure and lower blood cholesterol control.

In 2012:

- 65.7% Nevadans with diabetes had their “A one C” checked at least twice in the past 12 months compared to Healthy People (HP) 2020 objective of 71.1%. The difference between Nevada’s estimate and the HP 2020 goal was not statistically significant.
- 56.2% Nevadans with diabetes had a dilated eye exam within the past 12 months compared to HP 2020 objective of 58.7%. The difference between Nevada’s estimate and the HP 2020 goal was not statistically significant.
- 59.7% Nevadans with diabetes had their feet checked by a professional in the past 12 months compared to HP 2020 objective of 74.8%. The difference between Nevada’s estimate and the HP 2020 goal was statistically significant.
-

- 47.2% of adults with diabetes had a flu shot in the past 12 months compared to 25.9 % of adults without diabetes. The difference was statistically significant.
- 50.1% of adults with diabetes have ever had pneumonia shot compared to 25.0 % of adults without diabetes. The difference was statistically significant.

In 2011:

- 75.7% of adults with diabetes had higher blood cholesterol compared to adults without diabetes (31.4%). The difference was statistically significant.
- 71.5% of adults with diabetes had a high blood pressure compared to adults without diabetes (26.1%). The difference was statistically significant.

Technical Notes

BRFSS is a state-based system of health surveys that targets non-institutionalized adults, ages 18 years and older. BRFSS was established in 1984 by the Centers for Disease Control and Prevention (CDC). Currently, all 50 states, including the District of Columbia, Puerto Rico, and the US Virgin Islands participate in BRFSS, the largest, on-going telephone health survey in the world. BRFSS collects information on chronic conditions, health risk behaviors, preventive health practices, and health care access related to chronic disease and injury.⁹ BRFSS has required core modules, optional modules that states and territories can elect to include, and “State-added questions” to address local health issues. Statistics in the “Diabetes in Nevada Report” were drawn from Nevada BRFSS data from 2002-2012. In 2011, BRFSS weighting methodology changed and cell phone sampling was added. Because of these changes, it may be misleading to compare statistics before and after the change in the methodology.

Healthy People (HP) 2020 provides science-based, 10-year national objectives for improving the health of all Americans by establishing nationwide health improvement priorities.¹⁰ HP 2020 has about 600 objectives with over 1,300 measures with the following distinctive goals:

- Attain high-quality, longer lives free of preventable disease, disability, injury, and premature death.
- Achieve health equity, eliminate disparities, and improve the health of all groups.
- Create social and physical environments that promote good health for all.
- Promote quality of life, healthy development, and healthy behaviors across all life stages.

The overall HP 2020 goal for diabetes is to: reduce the disease and economic burden of diabetes mellitus and improve the quality of life for all persons who have, or at risk for diabetes mellitus.¹⁰ There are 16 HP 2020 objectives for diabetes and whenever possible, these objectives were included for data comparison and state goal achievement.

Overall Prevalence of Diabetes in Nevada by Various Demographics, BRFSS 2012

Table 1: Overall Prevalence of Diabetes in Nevada by Selected Demographics, 2012 BRFSS Data

Demographic	Grouping	Yes % (CI)	No % (CI)
Nevada	Statewide	8.9 (7.7- 10.1)	91.1 (89.9- 92.3)
Region	Clark County	9.5 (7.9-11.1)	90.5 (88.9-92.1)
	Washoe County	6.6 (5.0-8.2)	93.4 (91.8-95.0)
	Balance of State	8.2 (6.5-10.0)	91.8 (90.0-93.5)
Age	18 - 24	0.3 (0.0-0.8)	99.7 (99.2-100.0)
	25 - 34	1.7 (0.6-2.9)	98.3 (97.1-99.4)
	35 - 44	5.9 (3.2-8.7)	94.1 (91.3-96.8)
	45 - 54	8.1 (5.5-10.7)	91.9 (89.3-94.5)
	55 - 64	16.0 (11.7-20.2)	84.0 (79.8-88.3)
	65+	19.8 (16.2-23.3)	80.2 (76.7-83.8)
Sex	Male	9.0 (7.2-10.8)	91.0 (89.2-92.8)
	Female	8.8 (7.2-10.4)	91.2 (89.6-92.8)
Race/Ethnicity	White	8.0 (6.8-9.3)	92.0 (90.7-93.2)
	Black	8.3 (4.5-12.2)	91.7 (87.8-95.5)
	Other Race	13.3 (7.6-19.1)	86.7 (80.9-92.4)
	Hispanic	8.4 (5.8-11.0)	91.6 (89.0-94.2)

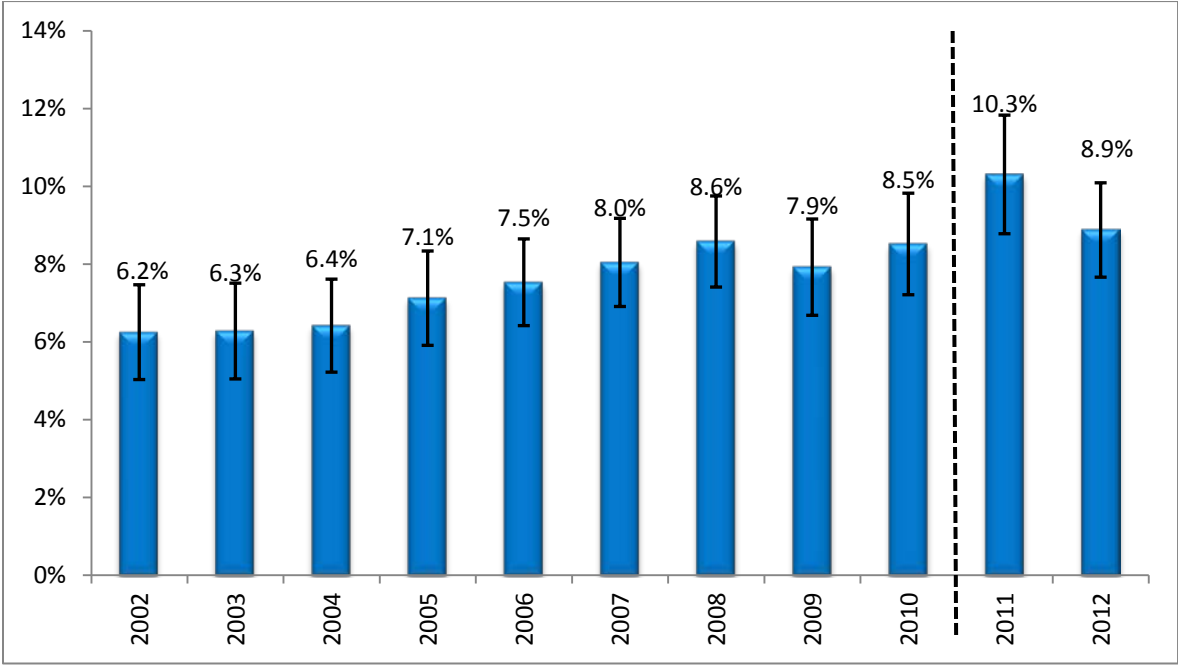
**Table 1: Overall Prevalence of Diabetes in Nevada by Selected Demographics, 2012 BRFSS Data
(continued)**

Demographic	Grouping	Yes % (CI)	No % (CI)
Education	Less than H.S.	9.5 (6.2-12.8)	90.5 k (87.2-93.8)
	H.S. or G.E.D.	10.9 (8.2-13.6)	89.1 (86.4-91.8)
	Some Post H.S.	7.6 (5.9-9.4)	92.4 (90.6-94.1)
	College Graduate	7.6 (5.5-9.7)	92.4 (90.3-94.5)
Income	< \$15,000	11.1 (6.8-15.4)	88.9 (84.6-93.2)
	\$15,000 to \$24,999	10.4 (7.2-13.6)	89.6 (86.4-92.8)
	\$25,000 to \$34,999	7.6 (4.7-10.5)	92.4 (89.5-95.3)
	\$35,000 to \$49,999	10.0 (6.5-13.5)	90.0 (86.5-93.5)
	\$50,000 to \$74,999	8.8 (5.7-12.0)	91.2 (88.0-94.3)
	\$75,000+	6.4 (4.2-8.5)	93.6 (91.5-95.8)
Veteran	Yes	8.6 (6.2-11.1)	91.4 (88.9-93.8)
	No	8.9 (7.6-10.3)	91.1 (89.7-92.4)

Diabetes Prevalence in Nevada by Selected Demographics, 2002-2012 BRFSS Data

In 2012, the estimated overall prevalence of diabetes in Nevada adults 18 years and older was 8.9% which slightly lower than in 2011 but the difference was not statistically significant.

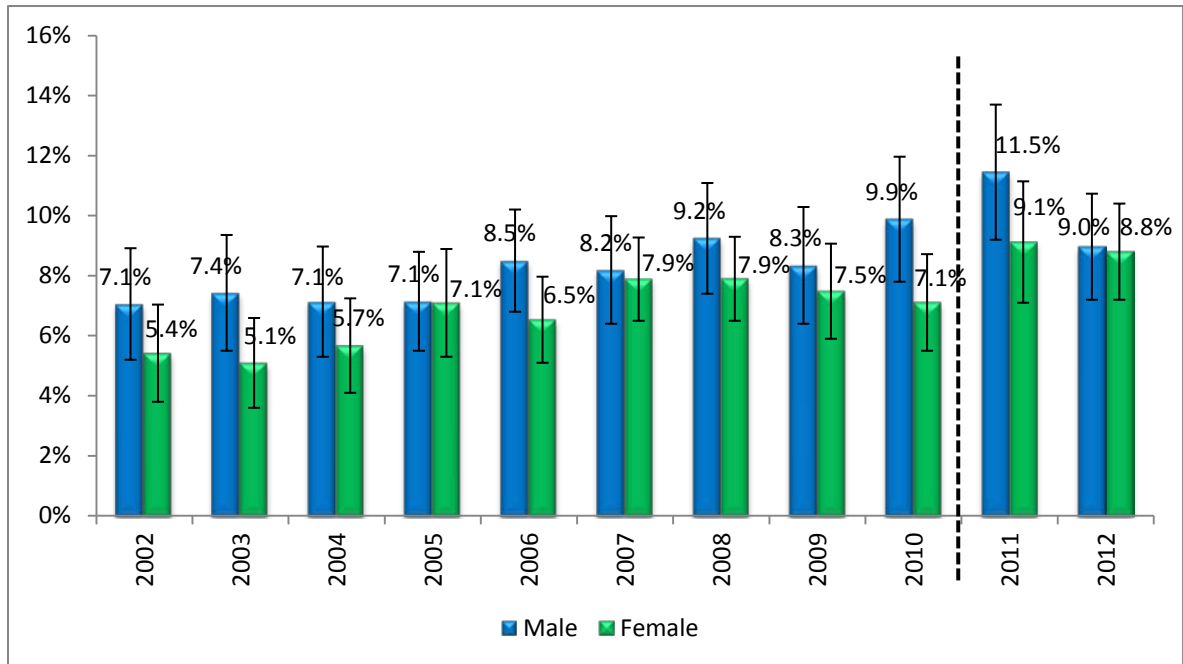
Figure 1: Diabetes Prevalence in Nevada by Year, 2002-2012 BRFSS Data



..... BRFSS methodology changed in 2011, therefore, it may be misleading to compare statistics before and after the methodology change.

In 2012, the prevalence of diabetes among Nevada adults 18 years and older by sex was 9.0% and 8.8% among males and females respectively. In 2011, the prevalence among males (11.5%) was higher compared to females (9.1%), however, the difference was not statistically significant.

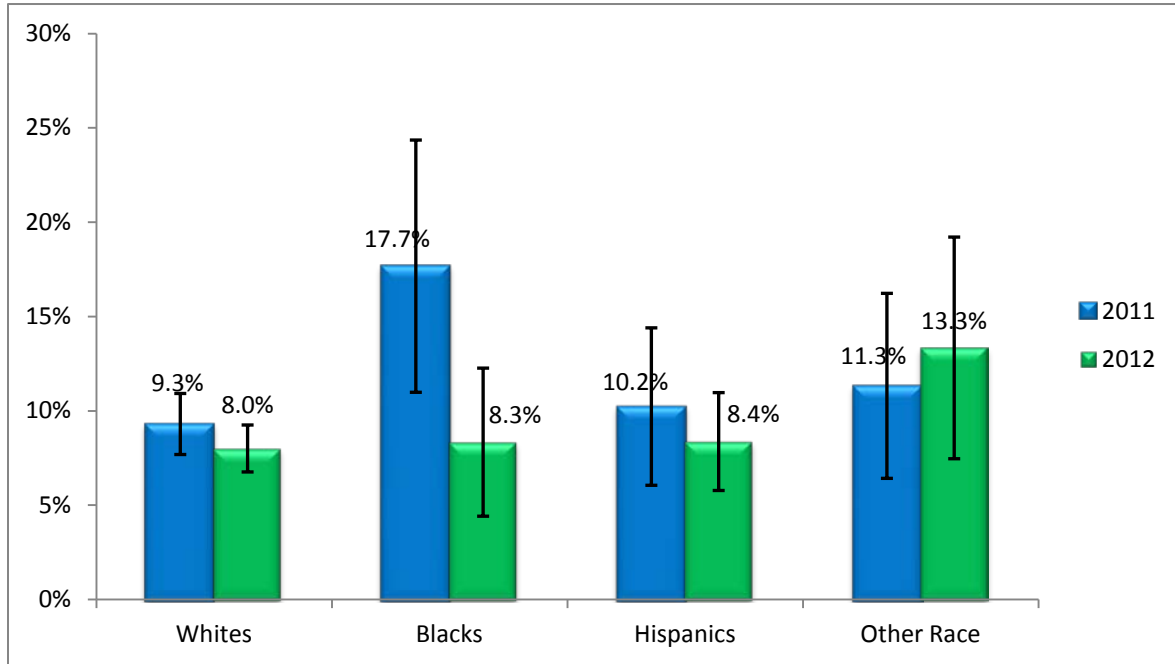
Figure 2: Diabetes Prevalence in Nevada by Sex, 2002-2012 BRFSS Data



..... BRFSS methodology changed in 2011, therefore, it may be misleading to compare statistics before and after the methodology change.

In 2012, 8.0% of Whites, 8.3% of Blacks, 8.4% of Hispanics, and 13.3% of other race had diabetes in Nevada. The differences between racial/ethnic groups in 2011 and 2012 were not statistically significant.

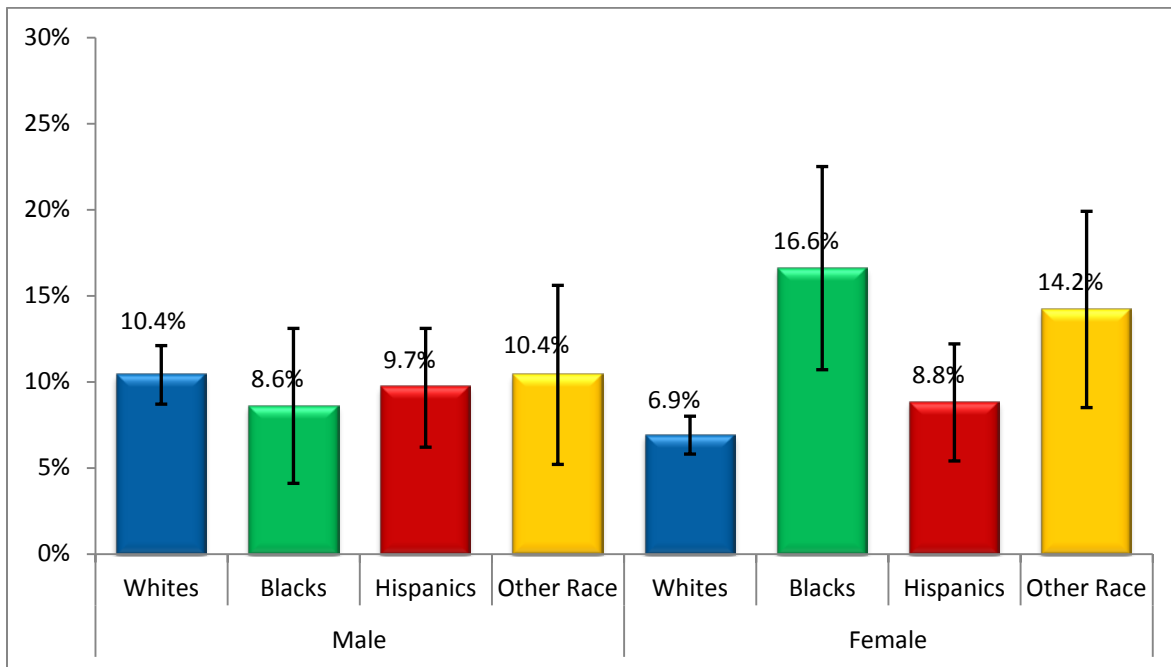
Figure 3: Diabetes Prevalence in Nevada by Race/Ethnicity, 2011-2012 BRFSS Data



Note: BRFSS methodology changed in 2011, therefore, it may be misleading to compare statistics before and after the methodology change.

Figure 4 shows diabetes prevalence by sex and race/ethnicity (2011-2012 BRFSS pooled data). The prevalence among White males, Black males, Hispanic males, and other race males was 10.4%, 8.6%, 9.7%, and 10.4% respectively. While the prevalence among White females, Black females, Hispanic females, and other race females was 6.9%, 16.6%, 8.8% and 14.2% respectively. There were no differences between males among the racial/ethnic groupings. However, differences between White females and Black females were statistically significant.

Figure 4: Diabetes Prevalence in Nevada by Sex and Race/Ethnicity, Pooled 2011-2012 BRFSS Data



Increased age is a risk factor for diabetes. In 2012, diabetes prevalence among Nevada adults aged 18-24 years, 25-34 years, 35-44 years, 45-54 years, 55-64 years, and 65 years and older was 0.3%, 1.7%, 5.9%, 8.1%, 16%, and 19.8% respectively. In 2012, adults in the age groups 55-64 years and 65 years and older had significantly higher diabetes prevalence compared to adults in the age groups 18-44 years and 45-54 years. In 2011, adults aged 45 years and older had significantly higher diabetes prevalence than adults aged 18-44 years.

Figure 5: Diabetes Prevalence in Nevada by Age-groups, 2011-2012 BRFSS Data

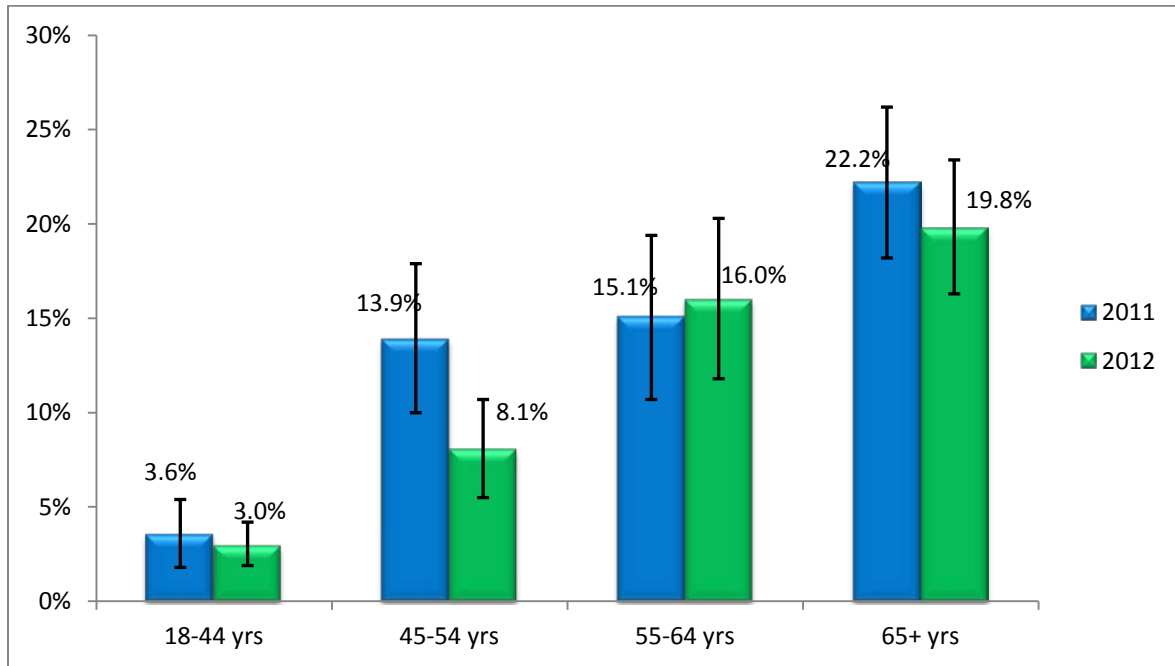
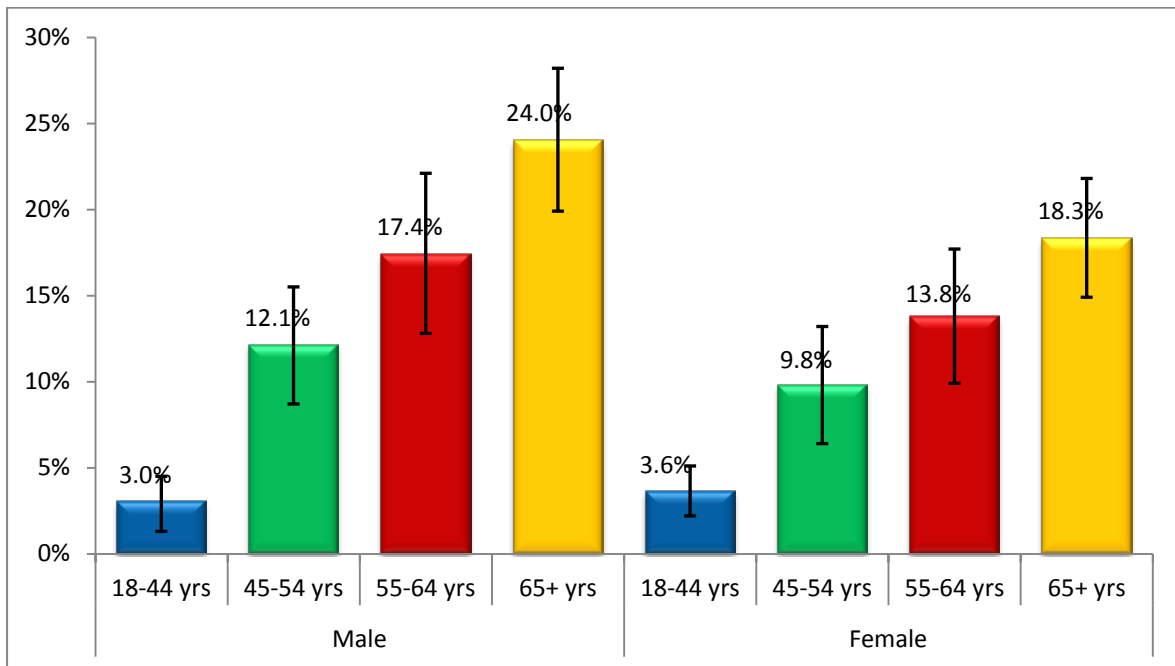


Figure 6 shows diabetes prevalence by sex and age groups (2011-2012 BRFSS pooled data). The prevalence among males aged 18-44 years, 45-54 years, 55-64 years, and 65 years and older was 3.0%, 12.1%, 17.4%, and 24.0% respectively. While the prevalence among females aged 18-44 years, 45-54 years, 55-64 years, and 65 years and older was 3.6%, 9.8%, 13.8%, and 18.3% respectively. The differences between adults aged 18-54 years and 65 years and older for both males and females were statistically significant.

Figure 6: Diabetes Prevalence in Nevada by Sex and Age-groups, Pooled 2011-2012 BRFSS Data

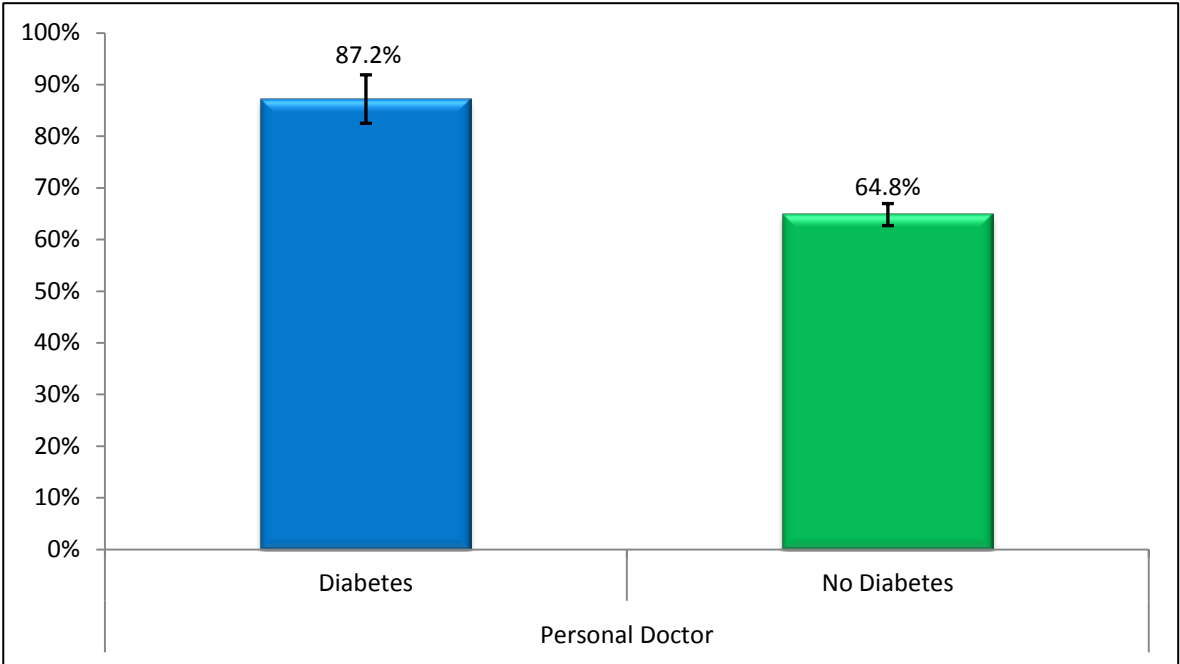


Diabetes Care and Management, 2002-2012 BRFSS Data

Having a personal doctor is very important for individuals with diabetes because visiting a doctor annually allows for a tighter diabetes regimen and less complications in the future. During a doctor visit, feet are checked for circulation, numbness, and cuts or sores. Both blood pressure and weight are recorded and an A1C test is done so that adjustments in the treatment plan can be made if necessary.
11

In 2012, 87.2% of individuals with diabetes had a personal doctor, and 64.8% of those without diabetes had a personal doctor in Nevada.

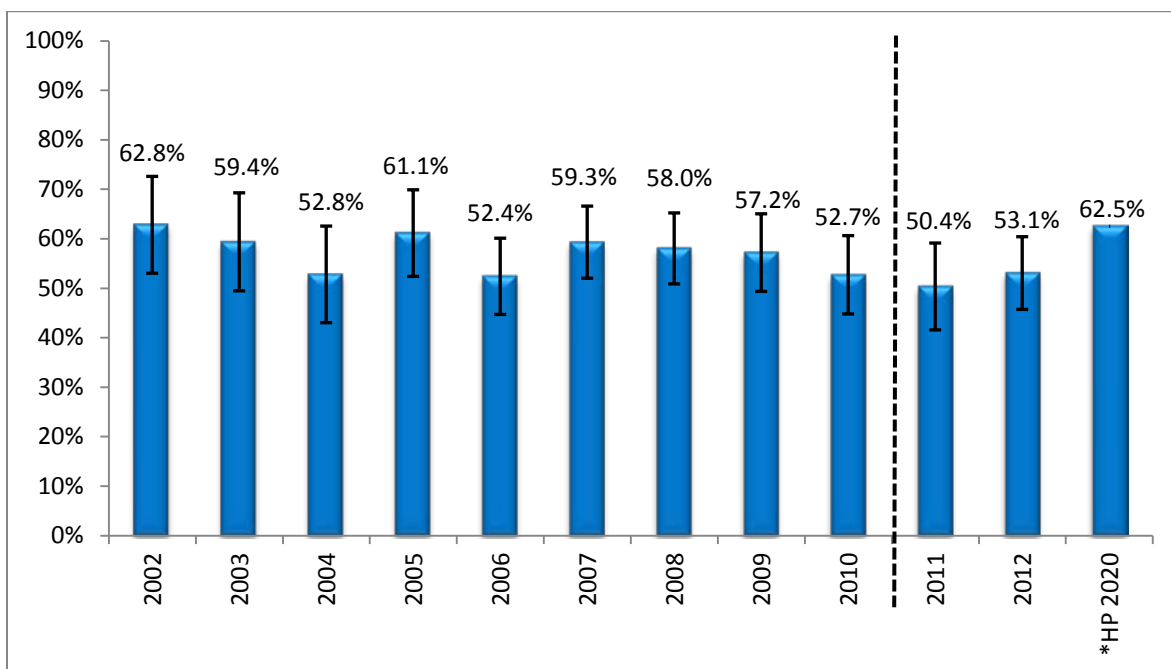
Figure 7: Nevada Adults with Personal Doctor, 2012 BRFSS Data



Diabetes self-management education (DSME) helps people with diabetes and their family members better understand the disease by clarifying patient goals, values, and motivations. Information about various treatment options, costs, and benefits are discussed. Nutrition, exercise, new treatments, and medical advances are all discussed. DSME allows patients and health care professionals to work together and come up with the best health care options.¹²

In 2012, 53.1% of Nevada adults with diabetes had taken a course or class on how to manage diabetes. HP 2020 has a target goal of 62.5% for individuals diagnosed with diabetes who have taken a formal diabetes education class.¹⁰ Nevada has not achieved the HP 2020 goal for the last few years.

Figure 8: Nevada Adults with Diabetes who have ever taken Diabetes Self-Management Education, 2002-2012 BRFSS Data



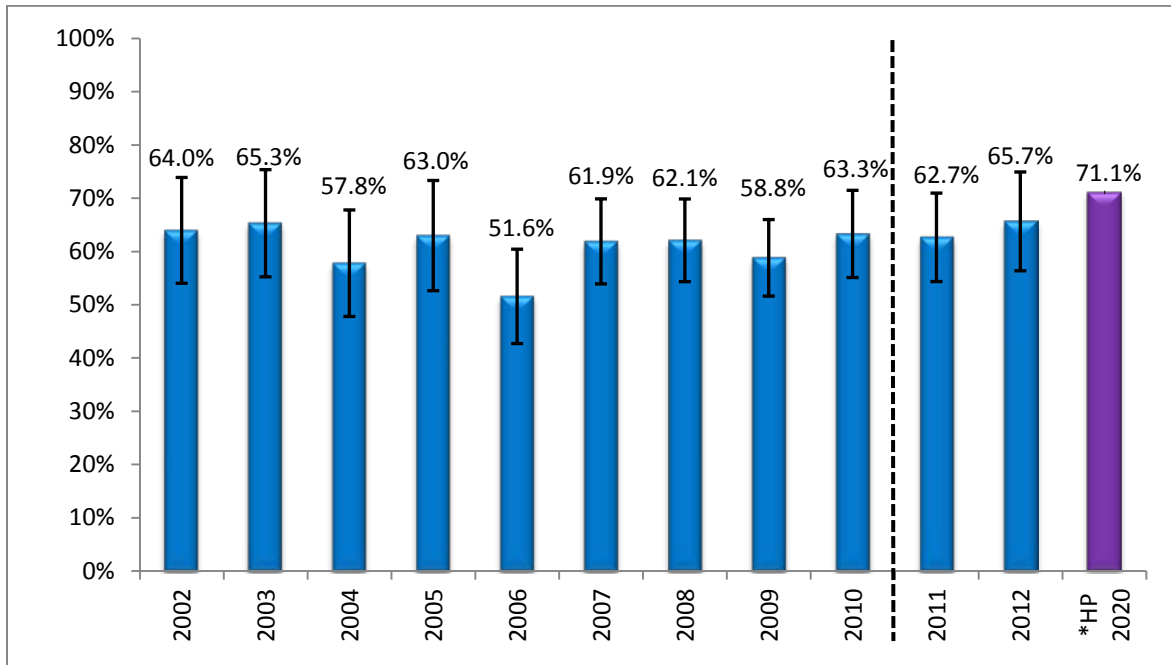
..... BRFSS methodology changed in 2011, therefore, it may be misleading to compare statistics before and after the methodology change.

*HP 2020- Healthy People 2020

‘A one C,’ also known as glycosylated hemoglobin or hemoglobin A1C shows average blood glucose levels for the past 2-3 months.¹³ During a doctor visit, an A1C is done to assess blood glucose management. Two or more A1C tests should be taken annually to help manage diabetes by confirming glucose results and judging whether a treatment plan is working. The recommended value for A1C and blood glucose level is 7% and 154 mg/dl respectively.¹³ High A1C levels could eventually lead to diabetes complications if left untreated or unchanged.

In 2012, 65.7% of Nevada adults with diabetes reported having their A1C level checked at least twice in the past year. The target goal set by HP 2020 for individuals with diabetes who have their A1C taken at least twice a year is 71.1%.¹⁰ The difference between Nevada’s A1C estimate and the HP 2020 goal is not statistically significant.

Figure 9: Nevada Adults with Diabetes who had 'A one C' checked twice within Past Year, 2002-2012
BRFSS Data



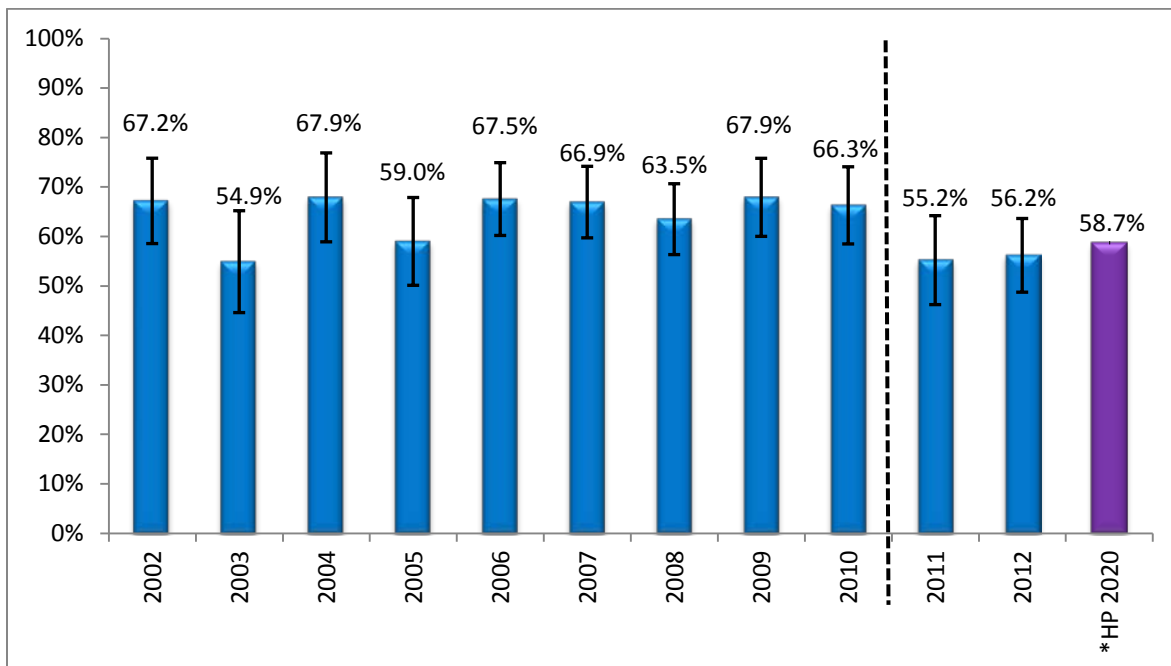
..... BRFSS methodology changed in 2011, therefore, it may be misleading to compare statistics before and after the methodology change.

*HP 2020- Healthy People 2020

Diabetes is the leading cause of new blindness cases each year in American adults.¹ Uncontrolled high blood sugar levels can cause damage to the blood vessels of the eye and cause the retina not to function properly. An annual dilated eye exam is important for early detection and prevention of eye complications.

In 2012, 56.2% of Nevadans with diabetes had an eye exam in the past year. HP 2020 target goal for individuals with diabetes who have an annual dilated eye examination is 58.7%. The difference between Nevada’s estimate for individuals with diabetes who had an eye exam in the past year and the HP 2020 goal is not statistically significant.¹⁰

Figure 10: Nevada Adults with Diabetes who had Eye Exam in Past 12 Months, 2002-2012 BRFSS Data



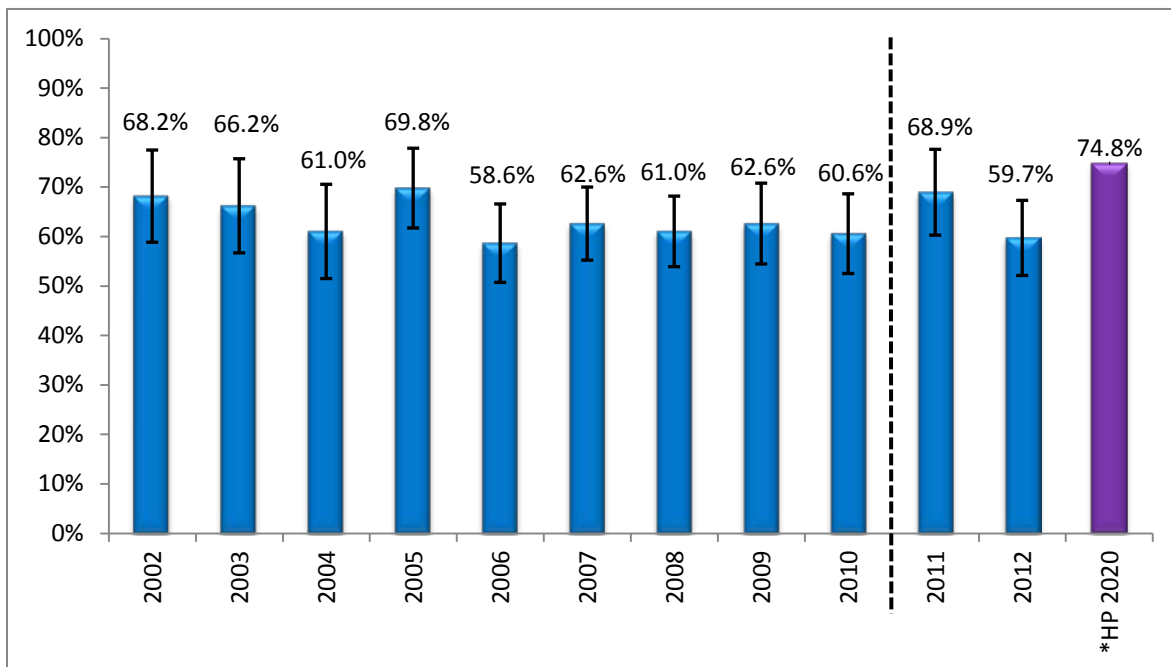
..... BRFSS methodology changed in 2011, therefore, it may be misleading to compare statistics before and after the methodology change.

*HP 2020- Healthy People 2020

People with diabetes are asked to perform daily self-examinations of their feet to check for sores, irregular bumps, dry/cracked skin, and temperature changes. In addition, an annual foot exam by a health professional allows for a general inspection of feet, a dermatological assessment for calluses or nail dystrophies, and a neurological assessment for identifying loss of sensation. Good foot care is important because it prevents the unnecessary loss of a toe, foot, or leg.

In 2012, 59.7% of Nevadans with diabetes had their feet checked by a health professional within the past year. The HP 2020 benchmark is 74.8% and Nevada did not meet this goal¹⁰ in 2012.

Figure 11: Nevada Adults with Diabetes who had Feet Checked by Health Professional in Past Year, 2002-2012 BRFSS Data



..... BRFSS methodology changed in 2011, therefore, it may be misleading to compare statistics before and after the methodology change.

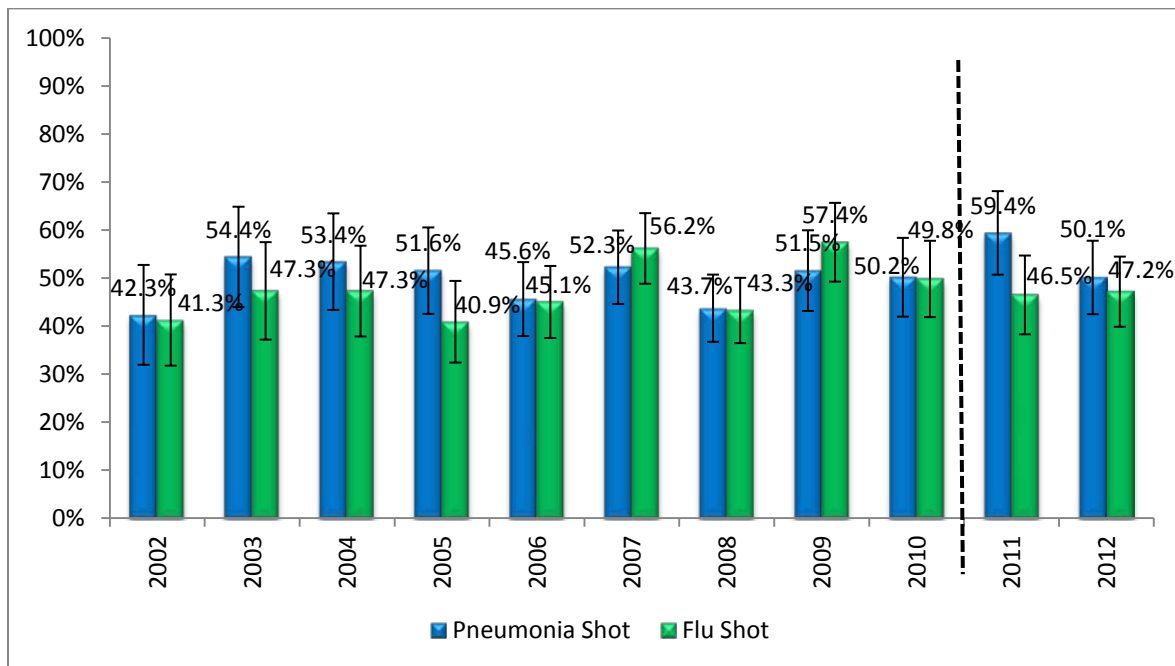
*HP 2020- Healthy People 2020

Diabetes weakens the immune system rendering individuals with diabetes at an increased risk for flu-related complications such as pneumonia.¹⁴ Catching the flu adds stress to the body which affects blood sugar levels and makes diabetes management challenging. If possible, family members of a person with diabetes should also be vaccinated against the flu.

In addition, diabetes increases the risk for morbidity and mortality from pneumonia. Getting the pneumococcal vaccine is critical for individuals with diabetes to prevent this life threatening illness.

In 2012, 47.2% and 50.1% of adults with diabetes in Nevada had the flu and pneumonia shots respectively.

Figure 12: Nevada Adults with Diabetes who received a Flu Shot in Past 12 Months, and Nevada Adults with Diabetes who have ever had a Pneumonia Shot, 2002-2012 BRFSS Data

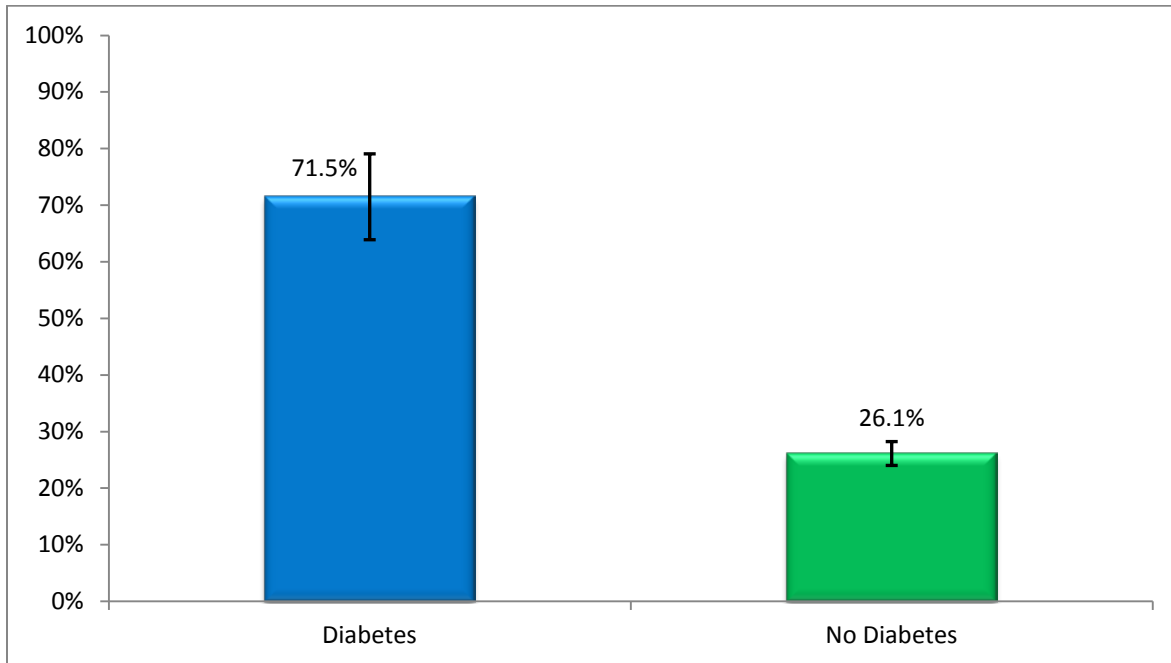


..... BRFSS methodology changed in 2011, therefore, it may be misleading to compare statistics before and after the methodology change.

High blood pressure (hypertension) is a risk factor for heart attack, stroke, and kidney disease. If untreated, high blood pressure can lead to death. The new 2014 guidelines for the management of high blood pressure recommend a blood pressure goal of less than 140/90 mm Hg for adults with diabetes aged 18 years and older.¹⁵

In 2011, 71.5% of adults with diabetes in Nevada had high blood pressure compared to 26.1% of adults without diabetes. The difference was statistically significant.

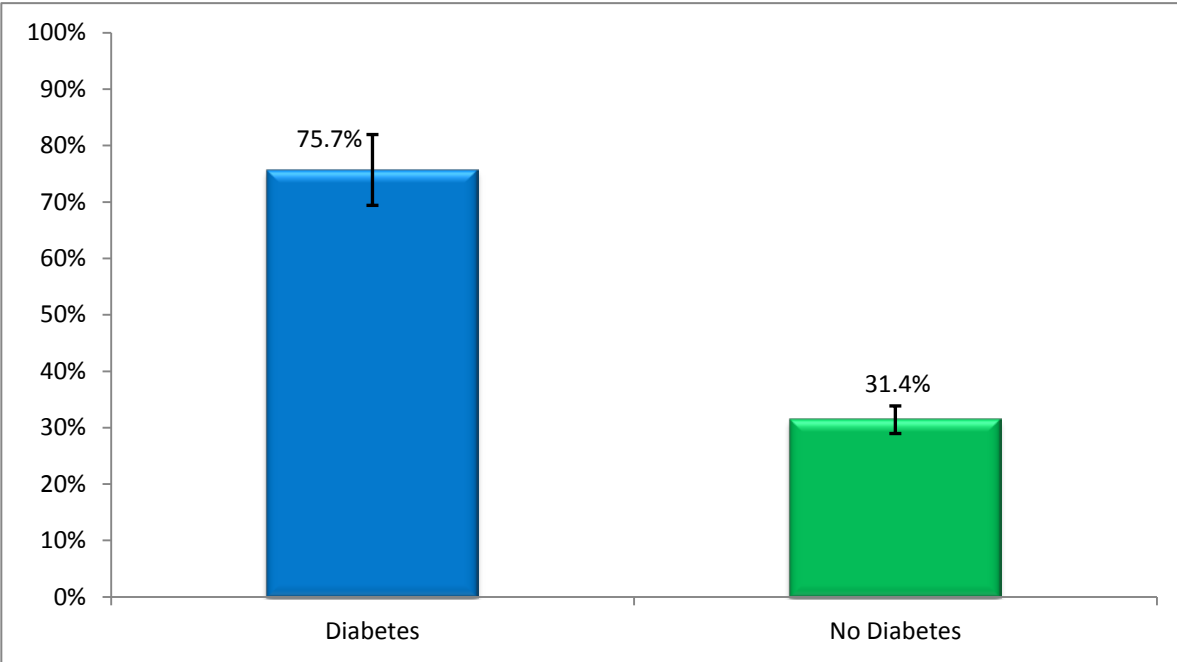
Figure 13: Nevada Adults with High Blood Pressure, 2011 BRFSS Data



High blood cholesterol is a major risk factor for heart disease. Age, sex, genetics, and diet also influence a person’s blood cholesterol levels. In addition, having other risk factors for heart disease such as high blood pressure and smoking further increases the risk of heart disease.¹⁶

In 2011, 75.7% of adults with diabetes, and 31.4% of those without diabetes had high blood cholesterol. The difference was statistically significant.

Figure 14: Nevada Adults with High Blood Cholesterol, 2011 BRFSS Data

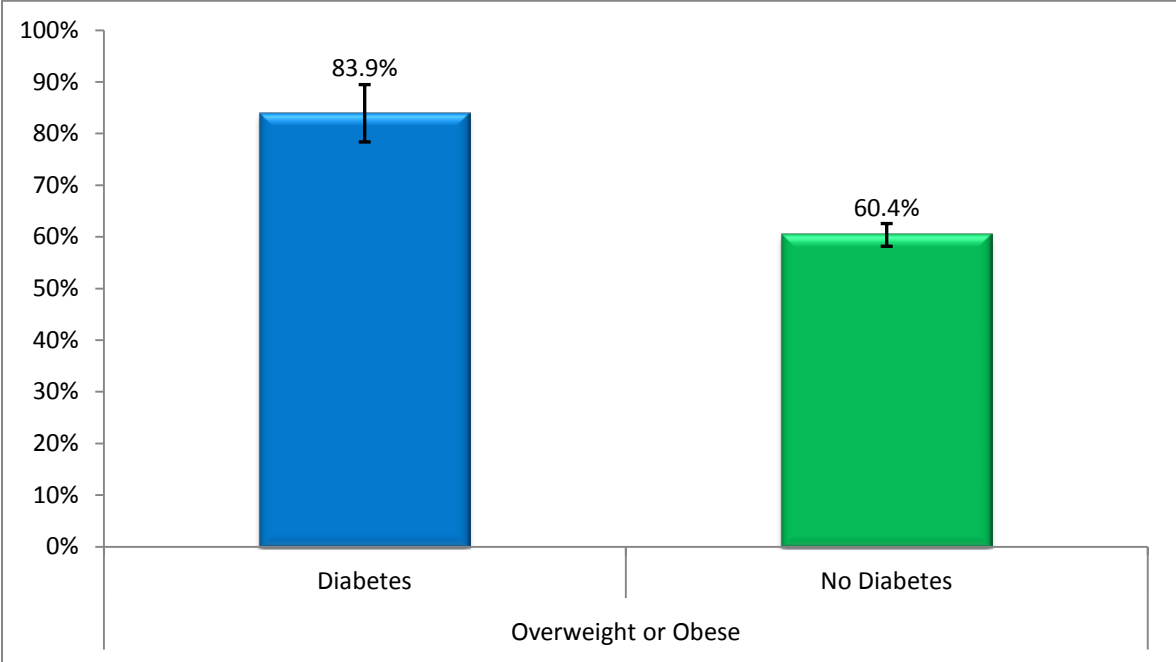


Diabetes Risk Factors, 2011-2012 BRFSS Data

Being overweight or obese puts individuals at risk for developing type 2 diabetes, heart disease, and other health problems. Body Mass Index (BMI) is calculated from a person’s height. BMI is categorized into the following four groups: underweight (BMI less than 18.5), normal weight (BMI between 18.5 and 24.9), overweight (BMI between 25 and 29.9), and obese (BMI greater than 30).¹⁷

In 2012, 83.9% of Nevada adults with diabetes were overweight or obese and 60.4% of individuals without diabetes were overweight or obese. The difference was statistically significant.

Figure 15: Nevada Adults who are Overweight or Obese, 2012 BRFSS Data

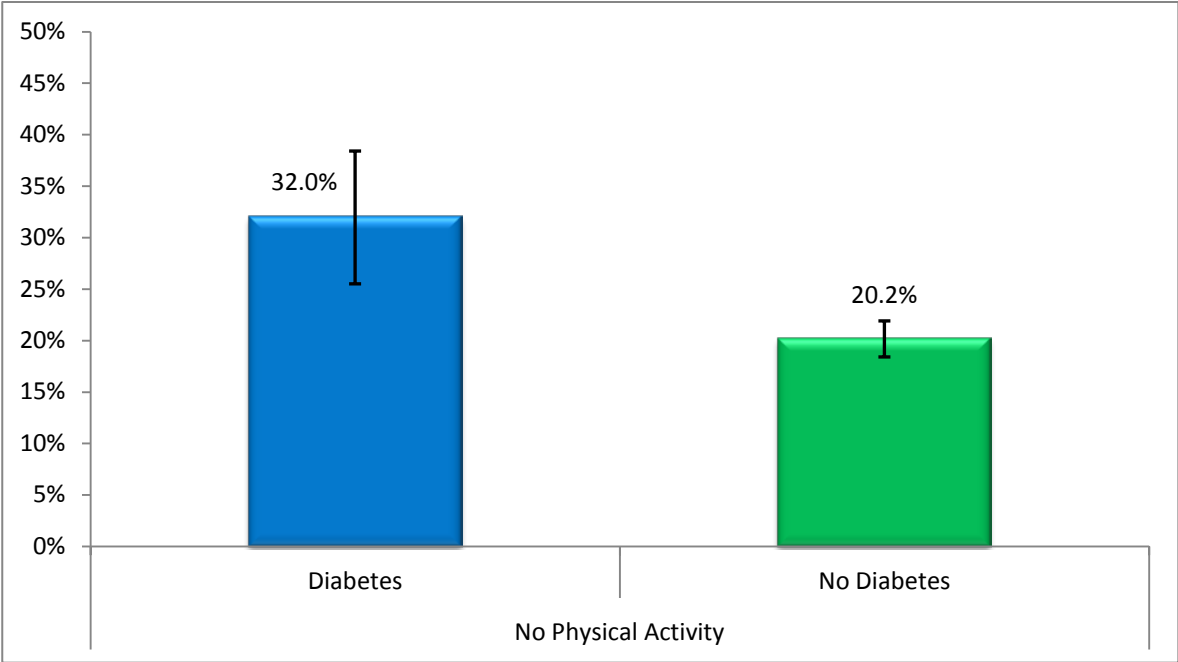


]

Physical activity helps control blood glucose, blood pressure, and body weight. The risk for pre-diabetes and type 2 diabetes is lowered by engaging in physical activity. The risk for heart disease and nerve damage is also reduced due to increased blood flow. Moderate exercise, like walking briskly or bicycling, for at least 30 minutes five days a week is recommended.¹⁸

In 2012, 32.0% Nevada adults with diabetes and 20.2% of adults without diabetes did not engage in any type of physical activity in the past 30 days. The difference was statistically significant.

Figure 16: Nevada Adults with No Physical Activity in Past 30 Days, 2012 BRFSS Data

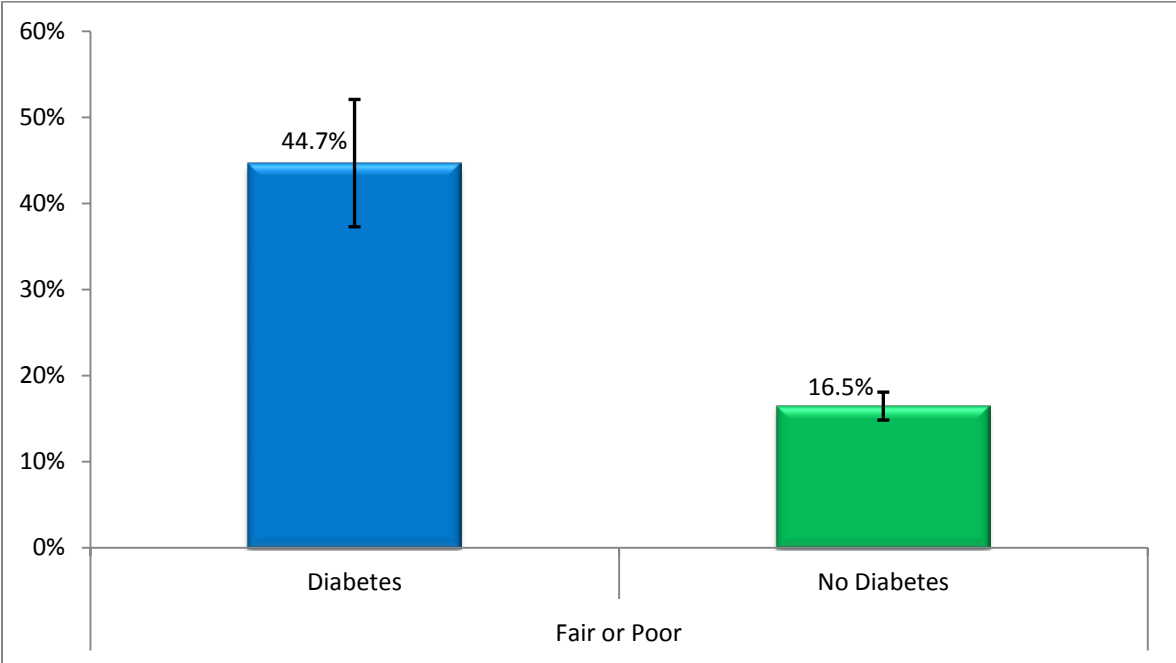


Diabetes Quality of Life Indicators, 2012 BRFSS Data

Diabetes is a demanding chronic disease that requires a strict regimen, and people with diabetes often feel challenged by their illness and the day-to-day demands of managing or controlling it. Individuals must deal with their diabetes every day, making numerous decisions to prevent diabetic complications. This section covers the health status, days in the past 30 days when physical, and mental health was not good. In addition, the topics of limitation in any way due to health problems or having a health problem that requires using special equipment are also addressed.

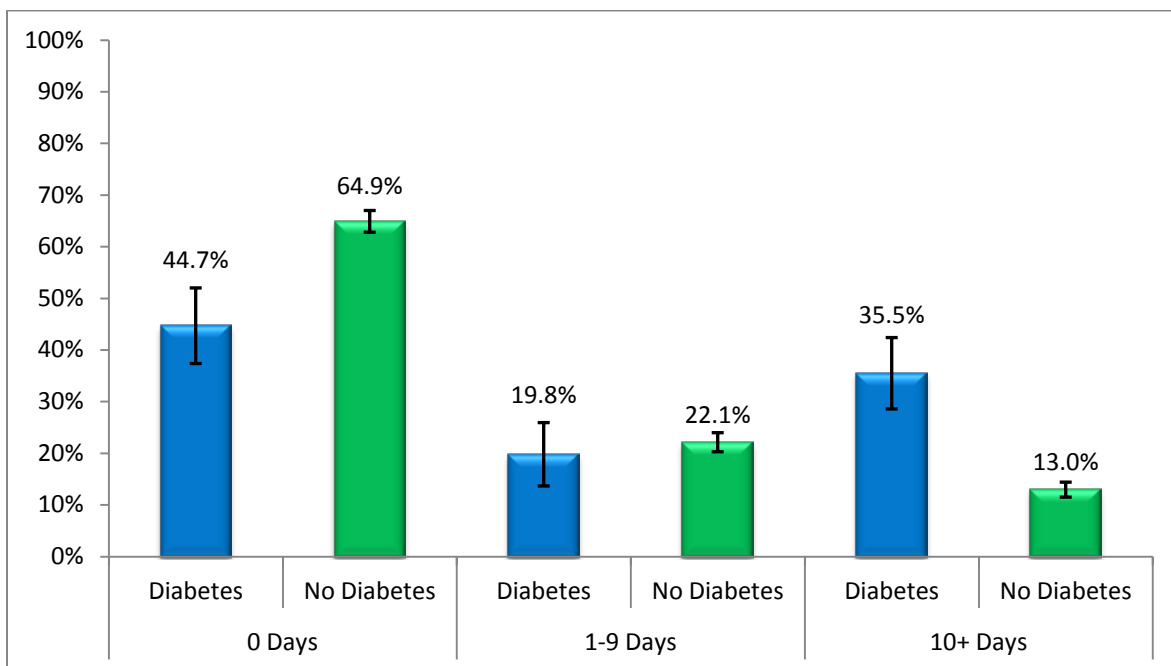
In 2012, 44.7% of Nevada adults with diabetes reported fair or poor health compared to 16.5% of adults without diabetes. The difference was statistically significant.

Figure 17: Health Status of Nevada Adults, 2012 BRFSS Data



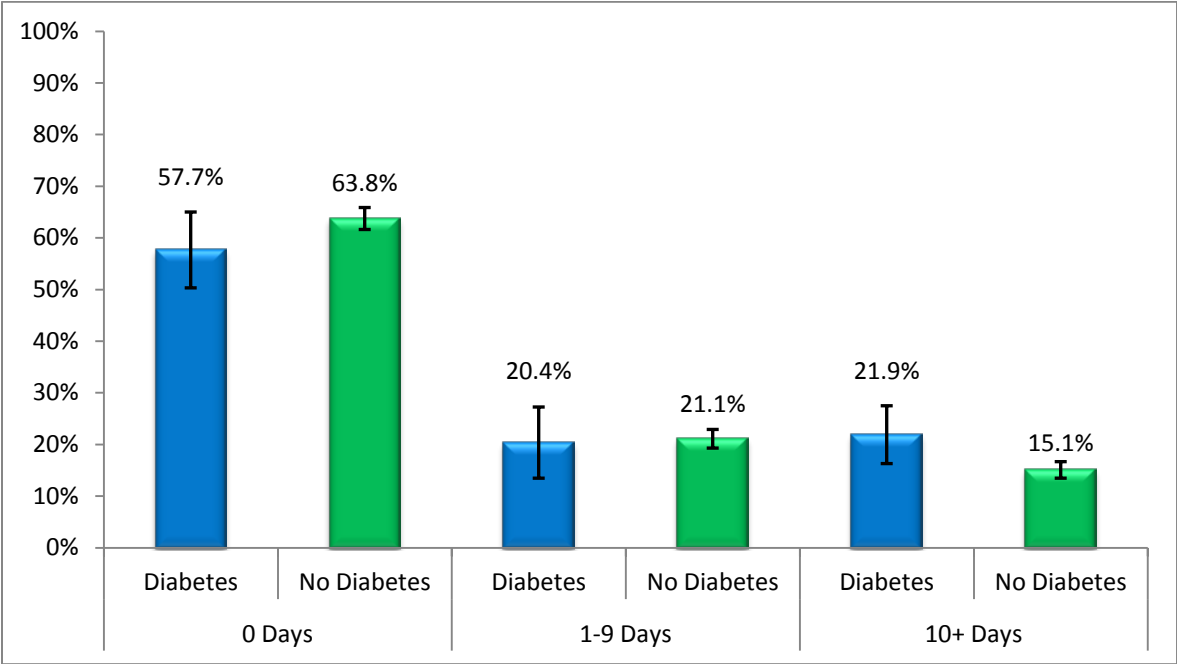
The 2012 BRFSS survey asked respondents the following question: “Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?” 44.7% of Nevada adults with diabetes reported having no poor physical health days in the past 30 days, compared to 64.9% of adults without diabetes. In addition, 35.5% of Nevada adults with diabetes reported 10 or more days with poor physical health compared to 13.0% of adults without diabetes. The prevalence of adults without diabetes reporting zero days in the past 30 days when their physical health was not good was higher compared to adults with diabetes. In addition, the prevalence of adults with diabetes reporting 10 days or more in the past 30 days when their physical health was not good was higher compared to adults without diabetes. These differences were statistically significant.

Figure 18: Nevada Adults- Days in Past 30 Days Physical Health Not Good, 2012 BRFSS Data



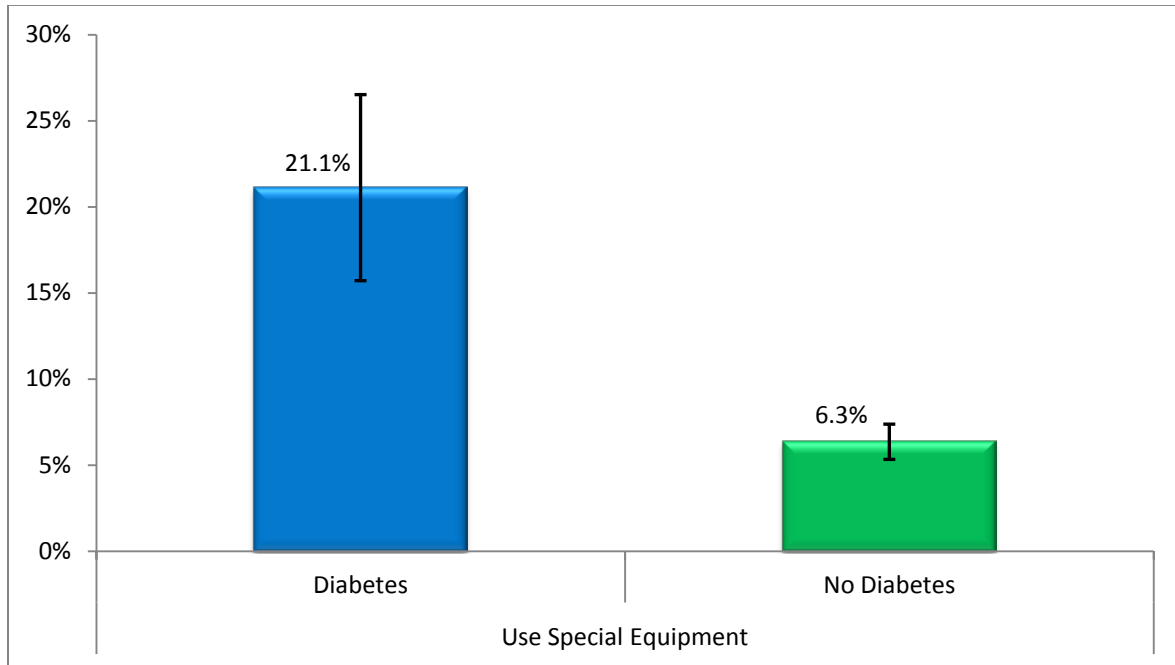
Respondents were also asked, “Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?” 57.7% of Nevada adults with diabetes reported that they had no poor mental health days in the past 30 days compared to 63.8% of adults without diabetes. In addition, 21.9% of adults with diabetes reported 10 or more days in the past 30 days of poor mental health compared to 15.1% of adults without diabetes. These differences were not statistically significant.

Figure 19: Nevada Adults- Days in Past 30 Days Mental Health Not Good, 2012 BRFSS Data



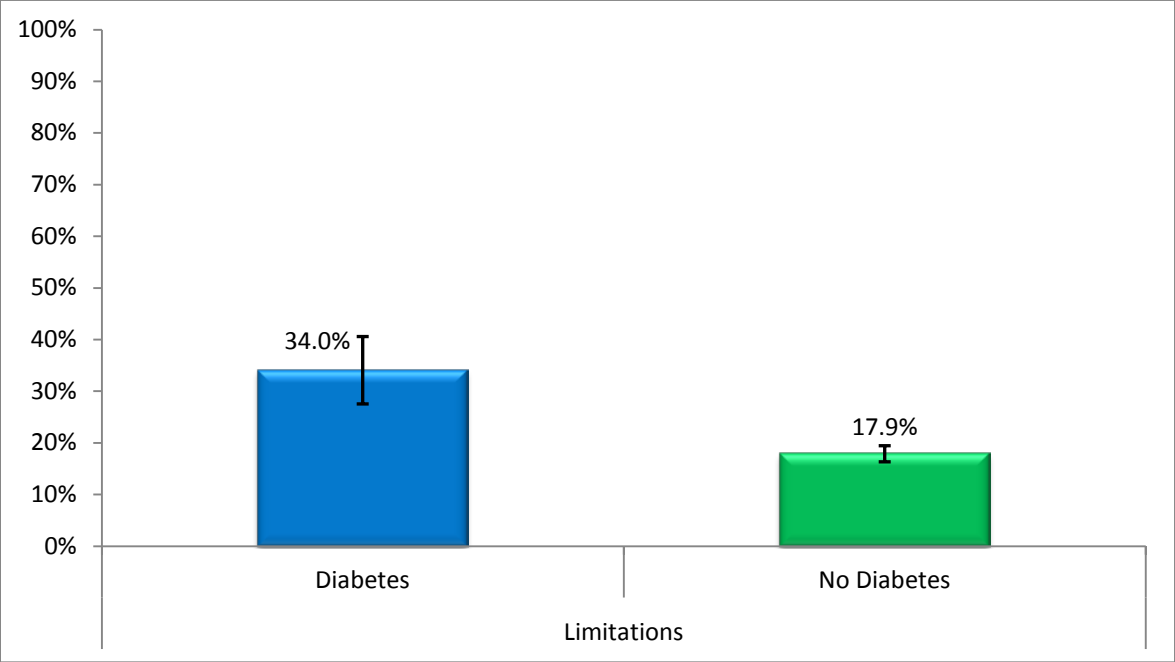
Special equipment includes a cane, wheelchair, special bed, special telephone, and so on. In 2012, 21.1% of Nevada adults with diabetes required the use of special equipment due to a health problem compared to 6.3% of adults without diabetes. The difference was statistically significant.

Figure 20: Nevada Adults with a health problem that requires use of special equipment, 2012 BRFSS Data



In 2012, 34.0% of Nevada adults with diabetes compared to 17.9% of adults without diabetes were limited in some way to perform some activities due to physical, mental, or emotional problems. This difference was statistically significant.

Figure 21: Nevada Adults whose activities are limited due to physical, mental, or emotional problems, 2012 BRFSS Data



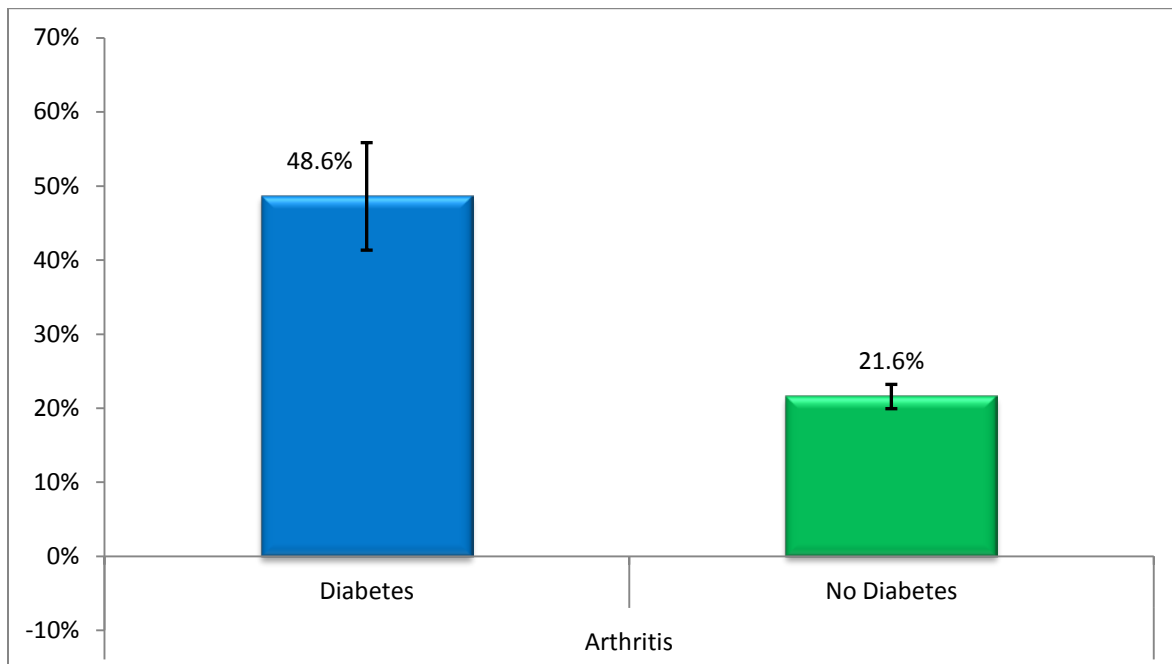
Diabetes and Other Chronic Conditions, BRFSS 2012 Data

The prevalence of multiple chronic conditions in the United States has been increasing significantly in recent years from 21.8 % in 2001 to 26.0% in 2010. Arthritis, hypertension, and diabetes are the most common co-occurring chronic conditions.¹⁹ In 2012, the following chronic conditions were most prevalent among Nevada adults with diabetes: arthritis, coronary heart disease, and chronic obstructive pulmonary disease (COPD). Kidney disease, cancer, and asthma did not show much difference between adults with diabetes and adults without diabetes.

Arthritis is a form of joint inflammation that varies in severity and location which causes stiffness and pain. Physical activity and weight management are important in managing pain and stiffness from arthritis.²⁰

In 2012, 48.6% of Nevada adults with diabetes and 21.6% of adults without diabetes had arthritis.

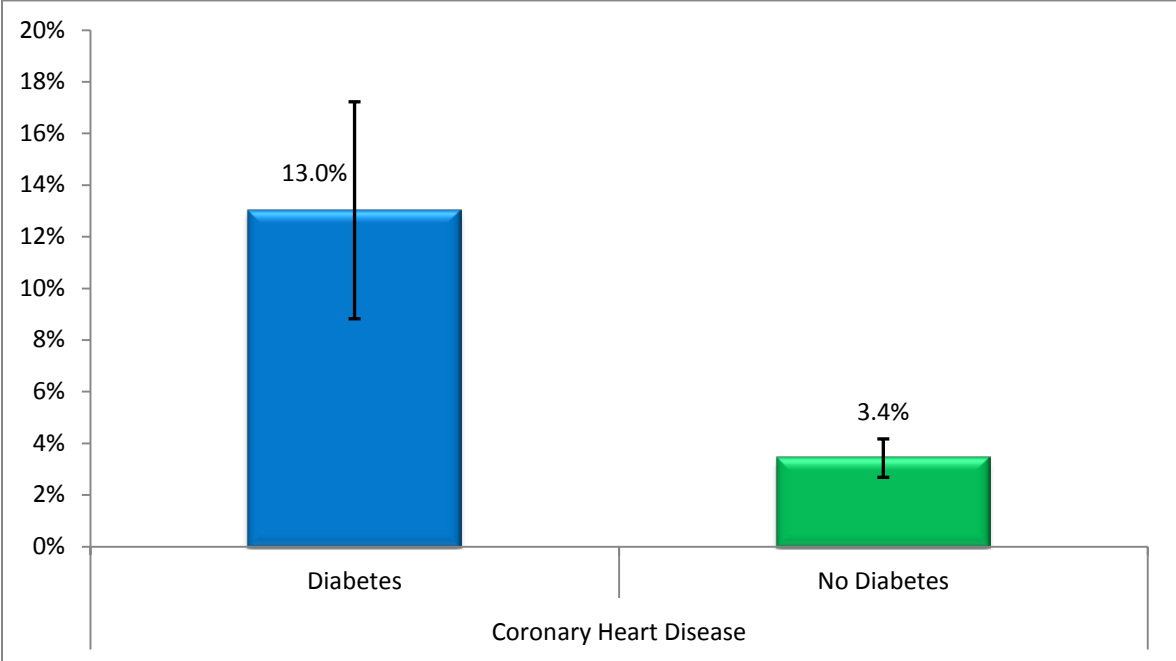
Figure 22: Nevada Adults with Arthritis, 2012 BRFSS Data



Coronary Heart Disease (CHD) is a leading cause of morbidity and mortality among adults in the US. Risk factors for CHD include high blood pressure, high blood cholesterol, diabetes, and cigarette smoking, physical inactivity, unhealthy diet, obesity, heavy drinking, and genetics. Living a healthy lifestyle can play a big role in avoiding CHD. Examples include incorporating good nutrition, physical activity, weight management, and not smoking.¹⁶

In 2012, 13.0% of Nevada adults with diabetes and 3.4% of adults without diabetes had CHD.

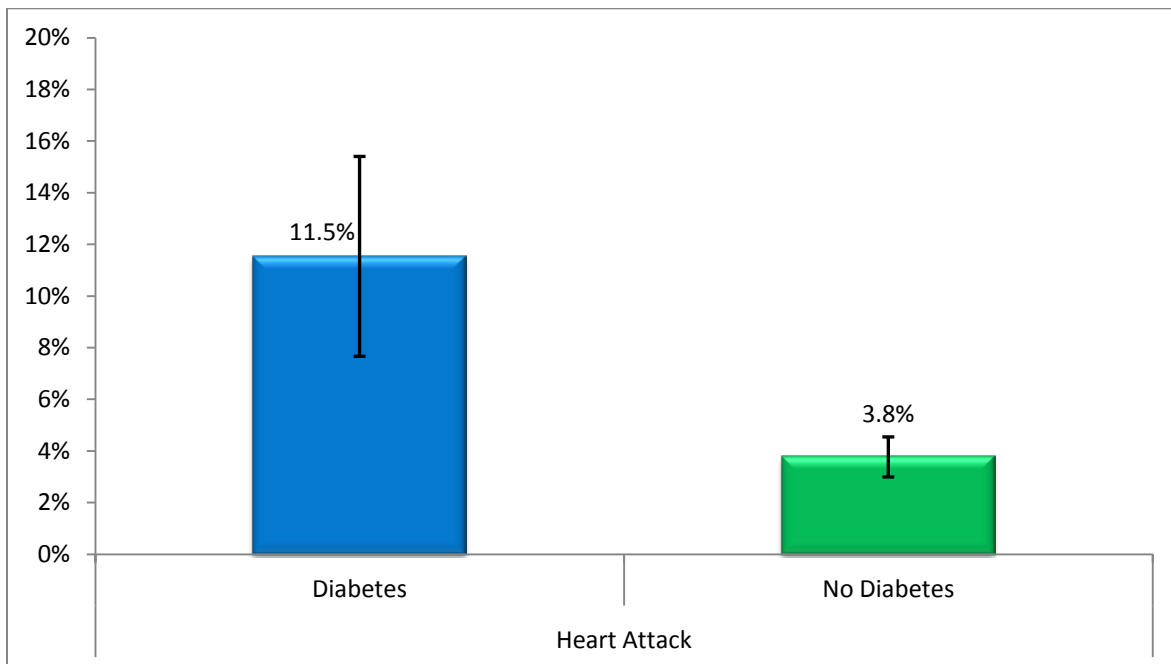
Figure 23: Nevada Adults with Coronary Heart Disease, 2012 BRFSS Data



A heart attack, also known as a myocardial infarction, occurs when a section of the heart muscle dies or becomes damaged because of reduced blood supply.¹⁶ High blood pressure, high blood cholesterol, smoking, increased age, physical inactivity, unhealthy diet, previous heart attacks, family history of stroke, obesity, or diabetes increase a person's chances of having a heart attack.²¹ If a heart attack were to occur, it is important to seek medical attention immediately to prevent further damage to heart muscle.

In 2012, 11.5% of Nevada adults with diabetes and 3.8% of adults without diabetes reported having had a heart attack.

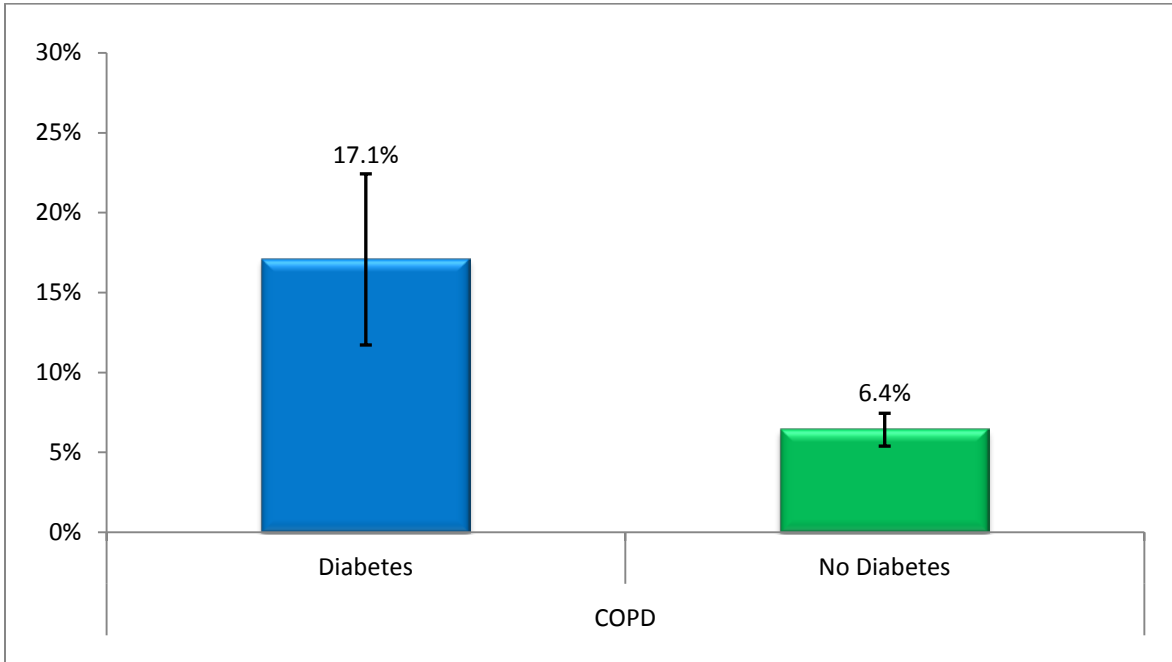
Figure 24: Nevada Adults who have experienced a Heart Attack, 2012 BRFSS Data



Chronic Obstructive Pulmonary Disease (COPD) includes emphysema and chronic bronchitis, and refers to airflow blockage and breathing related problems. Tobacco smoke is the key source in the development and progression of COPD.²²

In 2012, 17.1% of Nevada adults with diabetes, and 6.4% of adults without diabetes had COPD.

Figure 25: Nevada Adults with Chronic Obstructive Pulmonary Disease, 2012 BRFSS Data



References

1. Centers for Disease Control and Prevention. National diabetes fact sheet: national estimates and general information on diabetes and prediabetes in the United States, 2011. 2011. http://www.cdc.gov/diabetes/pubs/pdf/ndfs_2011.pdf. Accessed November 4, 2013.
2. American Diabetes Association. Diabetes Statistics. 2013. <http://www.diabetes.org/diabetes-basics/diabetes-statistics>. Accessed November 20, 2013.
3. American Diabetes Association. Prediabetes. 2013. <http://www.diabetes.org/diabetes-basics/prevention/pre-diabetes>. Accessed November 4, 2013.
4. American Diabetes Association. What is gestational diabetes? . 2013. <http://www.diabetes.org/diabetes-basics/gestational/what-is-gestational-diabetes.html>. Accessed November 4, 2013.
5. Centers for Disease Control and Prevention. Basics About Diabetes. 2012. <http://www.cdc.gov/diabetes/consumer/learn.htm>. Accessed November 4, 2013.
6. Hoyert DL, Xu JQ. Deaths: Preliminary data for 2011. National vital statistics reports; vol 61 no 6. 2012. http://www.cdc.gov/nchs/data/nvsr/nvsr61/nvsr61_06.pdf. Accessed December 12, 2013.
7. Nevada State Health Division. Preliminary Report: Leading Causes of Death Age-Adjusted Rates by Year, Nevada Residents, 2001-2011. 2013. http://health.nv.gov/PDFs/2001-2011_deaths_rates_leading_causes_2013_03.pdf. Accessed December 12, 2013.
8. Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System Survey 2012 Data. 2013. <http://apps.nccd.cdc.gov/brfss/list.asp?cat=CH&yr=2012&qkey=8151&state=All>. Accessed December 12, 2013.
9. Centers for Disease Control and Prevention. About the Behavioral Risk Factor Surveillance System. 2013. <http://www.cdc.gov/brfss/about/index.htm>. Accessed November 4, 2013.
10. U.S. Department of Health and Human Services. Office of Disease Prevention and Health Promotion. Healthy People 2020. Diabetes. 2013. <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicid=8>. Accessed November 4, 2013.
11. American Diabetes Association. Living with Diabetes: Your First Visit. 2013 <http://www.diabetes.org/living-with-diabetes/treatment-and-care/who-is-on-your-healthcare-team/your-first-visit.html>. Accessed November 20, 2013.
12. Partnership for Prevention. Diabetes Self-Management Education (DSME): Establishing a Community-Based DSME Program for Adults with Type 2 Diabetes to Improve Glycemic Control: An Action Guide. . 2009. <http://www.prevent.org/data/files/initiatives/diabetesprogram.pdf>. Accessed November 20, 2013.
13. American Diabetes Association. Living with Diabetes: A1C and eAG. 2013. <http://www.diabetes.org/living-with-diabetes/treatment-and-care/blood-glucose-control/a1c/>. Accessed November 4, 2013.
14. Centers for Disease Control and Prevention. Flu and People with Diabetes. 2013. <http://www.cdc.gov/flu/diabetes/index.htm>. Accessed November 20, 2013.
15. James PA, Oparil S, Carter BL, et al. 2014 Evidence-Based Guideline for the Management of High Blood Pressure in Adults: Report From the Panel Members Appointed to the Eighth Joint National Committee (JNC 8). *JAMA*. 2012.
16. American Heart Association. Understand Your Risk of Heart Attack. 2012. http://www.heart.org/HEARTORG/Conditions/HeartAttack/UnderstandYourRiskofHeartAttack/Understand-Your-Risk-of-Heart-Attack_UCM_002040_Article.jsp. Accessed November 4 , 2013.
17. Centers for Disease Control and Prevention. About BMI for Adults. 2011. http://www.cdc.gov/healthyweight/assessing/bmi/adult_BMI/. Accessed November 4, 2013.
18. Centers for Disease Control and Prevention. Diabetes Public Health Resource. Be Active. 2012. <http://www.cdc.gov/diabetes/consumer/beactive.htm>. Accessed November 4, 2013.

19. Ward BW, Schiller JS. Prevalence of Multiple Chronic Conditions Among US Adults: Estimates From the National Health Interview Survey, 2010. *Prev Chronic Dis* 10: 120203. DOI: <http://dx.doi.org/10.5888/pcd10.120203External> 2013.
20. Arthritis Foundation. Prevent and Manage Arthritis. 2013. <http://www.arthritis.org/conditions-treatments/prevent-and-manage-arthritis>. Accessed November 25, 2013.
21. Centers for Disease Control and Prevention. Heart Attack. 2012. <http://www.cdc.gov/heartdisease/conditions.htm>. Accessed November 25, 2013.
22. Centers for Disease Control and Prevention. Annual smoking-attributable mortality, years of potential life lost, and productivity losses—United States, 1997–2001. *MMWR*. 54(250):625-628. 2005.

For additional information regarding this publication, please contact:

Adel Mburia-Mwalili
amburia@health.nv.gov
(775) 684-4149

Compiled and Written by:

Breanna Anderson
Community Health Sciences Student Intern
University of Nevada, Reno

Adel Mburia-Mwalili, MPH
Division of Public and Behavioral Health
Office of Public Health Informatics and Epidemiology

Recommended Citation:

Office of Public Health Informatics and Epidemiology. Division of Public and Behavioral Health.
Diabetes in Nevada: 2012. Carson City, Nevada. May 2014. e 1.0.

This publication was supported by the Division of Public and Behavioral Health through Grant Number 1U58DP004820-01 from the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention.

