The Burden of Cardiovascular Disease in Idaho

Heart Disease and Stroke Data
from the 2007 Behavioral Risk Factor Surveillance System (BRFSS)

Bureau of Community and Environmental Health
Bureau of Vital Records and Health Statistics
Division of Health
Idaho Department of Health and Welfare
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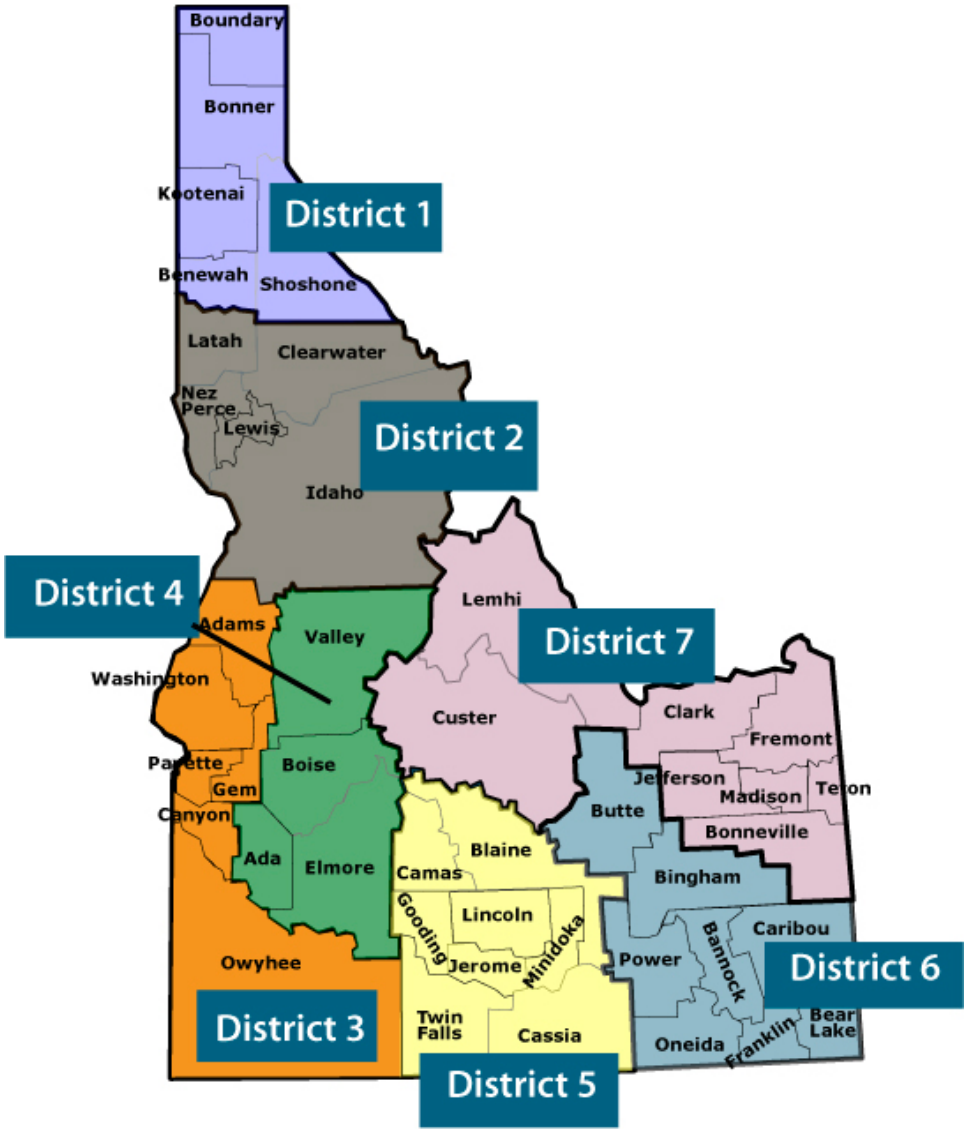
Introduction

This burden document contains data from the Idaho Bureau of Vital Records and Health Statistics and the Behavioral Risk Factor Surveillance Survey (BRFSS) for Idaho residents. It presents data on the mortality from heart disease and stroke (cardiovascular disease) along with recent trends for Idaho. This report also presents information about major associated risk factors for heart disease and stroke. Data is presented for the entire State of Idaho. Additionally, some data are also presented by Idaho Health District and some are presented by county. In Idaho there are seven regional health districts. A map of the health districts is presented below.

BRFSS is conducted as a random telephone survey of the non-institutionalized adult population. A minimum of 700 Idahoans were interviewed within each health district, for a total sample size of 5,343 in 2007. Additional information regarding BRFSS methodology is available online at http://www.cdc.gov/brfss. Prevalence estimates based on denominators with fewer than 50 respondents have been suppressed and are indicated in the data tables with an asterisk (*).

In the data presented, if the sample size for the denominator for prevalence estimates is fewer than fifty, the data have been suppressed and are indicated in the data tables with an asterisk (*). Any difference determined to be statistically significant (different through statistical testing), will be preceded by the words "significantly" or "statistically."



Executive Summary

The purpose of the 2009 burden document is to help identify areas of concern regarding heart disease and stroke mortality, morbidity, and accompanying risk factors. Cardiovascular disease comprises cerebrovascular diseases (stroke), diseases of the heart, and other cardiovascular diseases.

Mortality

In 2005 (the most recent year data are available nationally), Idaho ranked 39th among states for heart disease deaths and 16th for stroke deaths. Although Idaho has seen its age-adjusted heart disease death rate decrease 25.5% from 219.2 in 1999 to 163.2 in 2007, in 2003 the national ranking for Idaho was 40th and 17th respectively.

In 2007:

- Cardiovascular diseases (heart disease and stroke) accounted for 28.4% of Idaho resident deaths.
- Heart disease was the leading cause of death accounting for 22.5% of all resident deaths.
- Cerebrovascular disease (stroke) accounted for 5.9% of all Idaho resident deaths and was the 4th leading cause of death.
- Women were more likely to die from a stroke than men.
- Men were more likely to die from diseases of the heart than women.

Mortality rates for heart disease and stroke vary across Idaho. For heart disease deaths, Southeastern District Health Department (health district 6) and Eastern Idaho Public Health District (health district 7) both have statistically significant higher rates of heart disease death than the overall rate for Idaho based on the 2005-2007 age-adjusted death rates. The Idaho mortality rate is 169.8 per 100,000 population whereas the rates for Southeastern District Health Department (health district 6) and Eastern Idaho Public Health District (health district 7) are 198.2 and 189.6 per 100,000 population respectively. Overall, the Panhandle Health District (health district 1), Idaho North Central District (health district 2), Southwest District Health Department (health district 3), Central District Health Department (health district 4), and South Central Public Health District (health district 5) were not statistically different from the rest of the state.

While there was variation in the rate of stroke deaths among the health districts, the differences between the Idaho rate and the individual health district rates were not statistically significant. The stroke mortality rate for Idaho is 48.8 per 100,000 population, based on the 2005-2007 age-adjusted death rates.

Morbidity

Idaho does not currently have comprehensive statewide hospitalization data. This makes morbidity (incidence of disease/rate of sickness) difficult to measure. Idaho does collect information on heart disease and stroke morbidity for adults aged 18 and older via the Idaho Behavior Risk Factor Surveillance System (BRFSS). BRFSS is a random landline telephone survey of the non-institutionalized adult population. For the 2007 BRFSS (the most recent year data were available for analysis) a minimum of 700 Idaho adults were interviewed in each of the seven health districts, for a total sample size of 5,343.

2007 Behavior Risk Factor Surveillance System (BRFFS):

Heart Disease

- 3.8% of Idaho adults report they have been diagnosed with heart disease.
- Males were slightly more likely to be diagnosed with heart disease (4.2% vs. 3.3% for females), although this was not statistically significant.
- Among Idaho adults aged 65 and older, 14.4% had diagnosed heart disease. This is much higher than the 0 .7% for adults aged 18-44 or the 3.4% for adults aged 45-64. The difference for those aged 65 and older was statistically significant.
- There were no statistically significant differences in heart disease prevalence among the seven health districts.

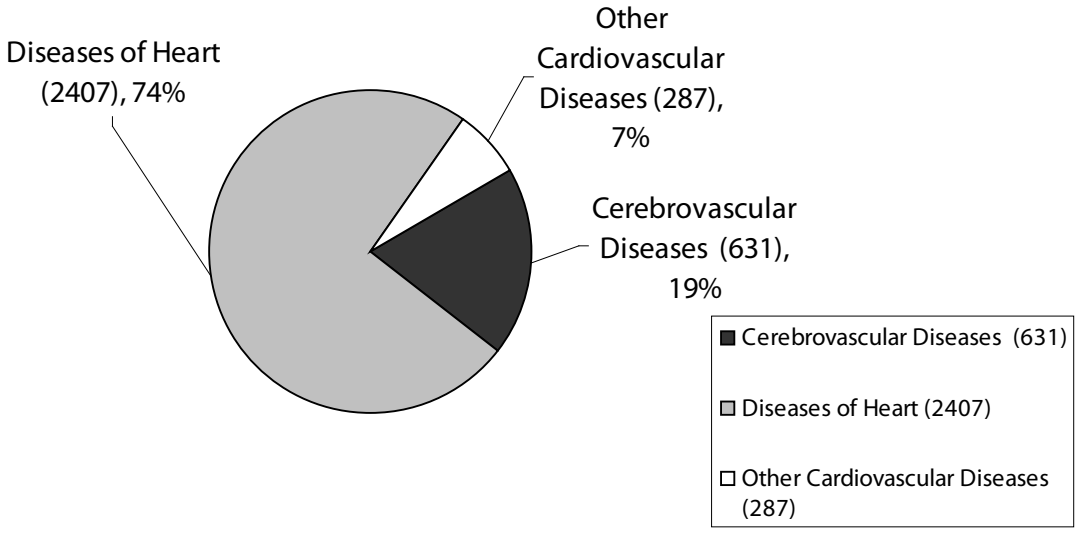
Heart Attack

- 4.2% of Idahoan adults report they have had a heart attack/myocardial infarction.
- Males were significantly more likely to report having had a heart attack (5.4% vs. 3.1% of females).
- Idaho adults reporting an annual income of $35,000 or more were significantly less likely to report they had a heart attack than those making less than $15,000. Additionally, Idaho adults who graduated from college were significantly less likely to have had a heart attack than those adults with lower educational attainment.
- There were no statistically significant differences in heart attack prevalence among the seven health districts.

Stroke

- 2.5% of Idaho adults reported having been diagnosed with a stroke. There was no statistically significant difference between males and females.
- Approximately one-in-thirteen (7.9%) of adults aged 65 and older have been diagnosed with a stroke. This is significantly higher than those younger than 65.
- Idaho adults who graduated from college were significantly less likely to report being diagnosed with a stroke than those adults with lower educational attainment.
- There were no statistically significant differences in stroke prevalence among the seven health districts.

Idaho Resident Deaths Due to Cardiovascular Disease, 2007



Risk Factors

The risk factors associated with heart disease and stroke include high blood pressure (hypertension), high blood cholesterol, obesity, poor diet, sedentary lifestyle, and smoking. Adults who have been diagnosed with high blood pressure, high blood cholesterol or diabetes are significantly more likely to have ever been diagnosed with heart disease or stroke.

High Blood Pressure (hypertension)

Having high blood pressure increases the risk of developing heart disease, stroke or other serious conditions and it is often called the "silent killer" due to having no noticeable warning signs or symptoms.

- 25.9% of Idaho adults have been diagnosed with high blood pressure.
- Idaho adults with high blood pressure were almost five times more likely to have had a heart attack than adults without high blood pressure (10.1% vs. 2.2% respectively).
- Idaho adults with high blood pressure were over four times more likely to have a stroke than adults without high blood pressure (5.9% vs. 1.3% respectively).
- Slightly more than one-fourth (27.9%) of Idaho adults who have high blood pressure were not taking their blood pressure medication in 2007.

High Blood Cholesterol

Having high blood cholesterol increases the risk of developing heart disease, stroke or other serious conditions. When there is too much cholesterol in your body, it accumulates in arteries and can lead to narrowing of the arteries and to heart disease.

- In 2007, one-third (33.3%) of Idaho adults reported not having their blood cholesterol checked in the past five years.
- Idaho adults with high blood cholesterol were almost three times more likely to have had a heart attack than adults without high cholesterol (9.2% vs. 3.3% respectively).
- Idaho adults with high blood cholesterol were over two times more likely to have had a stroke than adults without high cholesterol (5.0% vs. 2.1% respectively).
- American Indian/Alaskan Native Idaho adults were significantly more likely to have not had their cholesterol checked within the past five years than White adults (46.2% vs. 32.0%)
- Idaho Hispanic adults were significantly more likely to have not received a screening for blood cholesterol levels in the last five years than Non-Hispanic adults (54.4% vs. 31.6%).

Diabetes

People with diabetes are at least twice as likely to develop heart disease.

- In 2007, 7.9% of Idaho adults were told they have diabetes.
- Idaho adults with diabetes were five times more likely to have ever had a heart attack than adults without diabetes (17.4% vs. 3.1% respectively).
- Idaho adults with diabetes were over four times more likely to have ever had a stroke than adults without diabetes (8.8% vs. 2.0%).
- Idaho American Indian/Alaskan Native adults were significantly more likely to have been diagnosed with diabetes than Whites or African Americans (14.8% vs. 7.2% and 3.3% respectively.)

Overweight/Obesity

Being overweight or obese increases the risk of developing heart disease or stroke. Overweight is classified as a body mass index (BMI) greater than or equal to 25. Obese is classified as a BMI greater than or equal to 30.

- In 2007, 63.1% of Idaho adults were overweight.
- In 2007, 25.1% of Idaho adults were classified as obese.
- Idaho American Indian/Alaskan Native adults were significantly more likely to be obese (40.6%) than Whites (24.2%) and Asians (11.0%).

Sedentary Lifestyle

Physical activity is important to maintain health. The American Heart Association's guidelines recommend that adults should get at least 30 minutes of moderate intensity activity at least 5 days per week.

- In 2007, 8.9% of Idaho adults did not engage in moderate or vigorous physical activity.

Smoking

Cigarette smoking is a striking risk factor for heart disease and stroke. Cigarette smoking increases blood pressure and increases the tendency for blood to clot. It also decreases HDL (good) cholesterol.

- In 2007, 19.1% of Idaho adults were current smokers.
- Idaho adults who had been diagnosed with a heart attack or stroke reported higher rates of smoking (23.1% and 27.3% respectively) although this was not statistically significant.
- One-third (33.2%) of Idaho American Indian/Alaskan Native adults smoke cigarettes; which was significantly higher than Whites (17.6%) and Asians (6.9%).

Racial and Ethnic Disparities for Heart Disease and Stroke

The data on the various races and ethnicities in Idaho are limited due to the relatively small proportion of Idaho adults who report that they are of other racial categories other than White or other ethnicities beyond Non-Hispanic. By aggregating data from multiple years we are able to provide some limited data on Asians, American Indian/Alaskan Natives and persons of Hispanic ethnicity.

American Indian/Alaskan Natives are at significantly greater risk for many of the risk factors for heart disease, such as diabetes, smoking and being overweight or obese. Persons of Hispanic ethnicity were significantly less likely to have a heart attack or stroke than Non-Hispanics. Hispanics were also significantly less likely to have high blood pressure. Although, Hispanics were less likely to have had their cholesterol checked in the last five years, those Hispanics who did have their cholesterol checked were less likely than Non-Hispanics to have high cholesterol.

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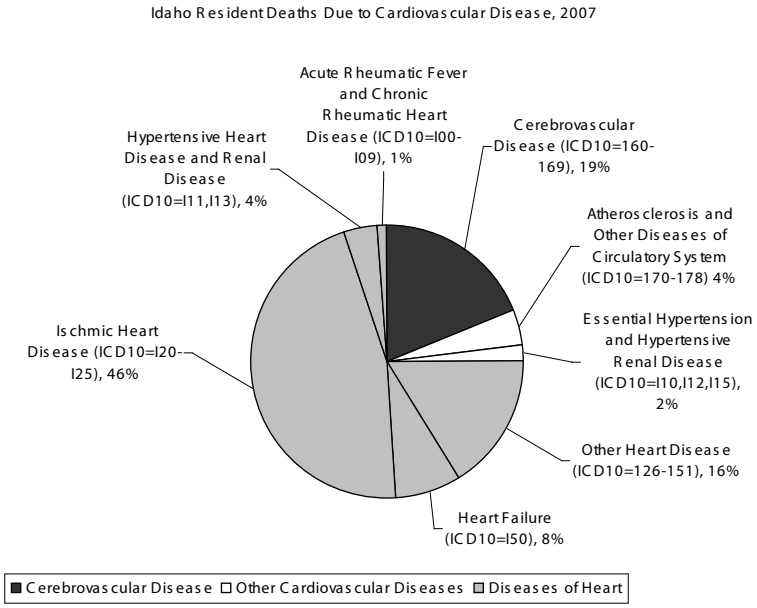
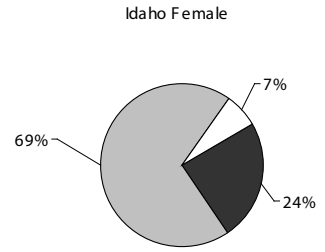
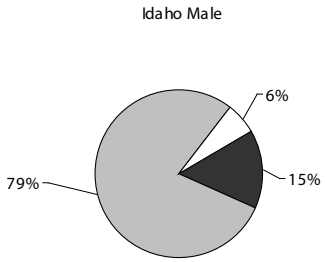
Cardiovascular Disease Mortality in Idaho

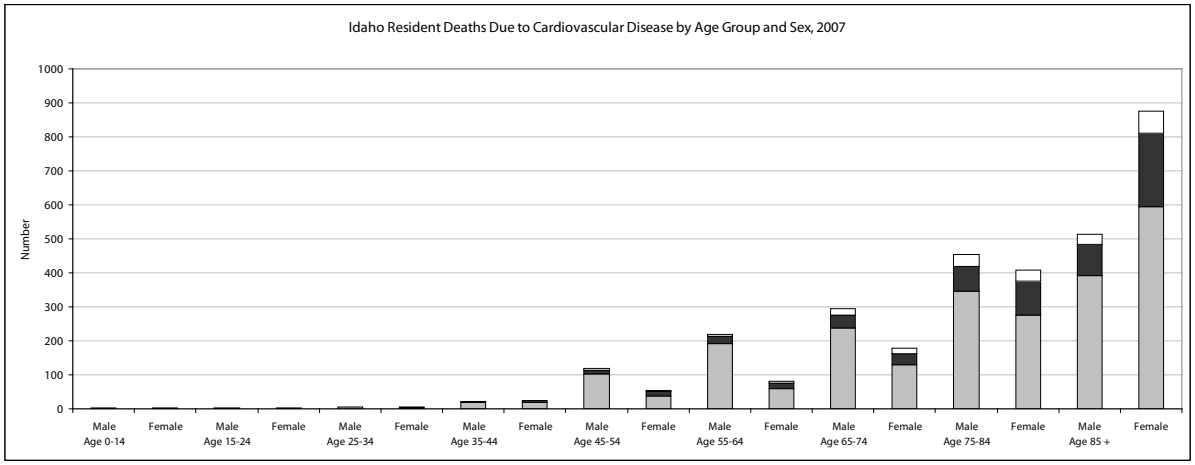
Overview







ICD-10 disease classification for ischemic heart disease includes; angina pectoralis, acute myocardial infarction (heart attack), other acute ischemic heart diseases and chronic ichemic heart disease. Together they account for the largest portion of major CVD deaths in 2007 (46 percent).



In 2007, Cardiovascular deaths (heart disease and stroke) were evenly distributed between men (1633 deaths) and women (1632 deaths), although men were more likely than women to die from Cardiovascular Disease between the ages of 45 to 74. Idaho women were more likely to die of a stroke than men whereas men were more likely to die of diseases of heart than women.

		Age 0-14	Age 15-24	Age 25-34	Age 35-44	Age 45-54	Age 55-64	Age 65-74	Age 75-84	Age 85 +
Diseases of Heart	Male	1	2	5	20	103	192	238	345	391
	Female	2	1	3	19	37	60	130	275	595
Cerebrobrovascular Disease	Male	1		1	1	11	22	37	75	93
	Female	1	2	2	4	15	15	33	102	216
Other Cardiovascular Diseases	Male				1	5	6	19	34	30
	Female				1	3	5	15	31	65
Total		5	5	11	46	174	300	472	862	1390

Ten Leading Causes of Death to Idahoans
Cause-Specific Crude and Age-Adjusted Rates 2007

In Idaho, the majority of deaths due to "diseases of the heart" and "cerebrovascular diseases" occur in persons older than 75 years of age. This results in fewer years of potential life lost (or premature mortality) for these causes of death when compared to others, such as "accidents", which occur mainly among younger age groups.

CAUSE OF DEATH		DEATHS		DEATH RATES[1]			
				Crude		Age-Adjusted[2]	
		Number	Percent	Idaho[3]	U.S.[4] 2006	Idaho[3]	U.S.[4] 2006
ALL CAUSES		10,742	100.0%	716.4	810.4	729.2	776.5
1.	Diseases of heart	2,419	22.5%	161.3	211.0	163.2	200.2
2.	Malignant neoplasms (cancer)	2,384	22.2%	159.0	187.0	164.2	180.7
3.	Chronic lower respiratory diseases	664	6.2%	44.3	41.6	46.5	40.5
	-- Bronchitis, chronic and unspecified	3	0.0%	0.2	0.2	NA	0.2
	-- Emphysema	83	0.8%	5.5	4.2	5.9	4.1
	-- Asthma	18	0.2%	1.2	1.2	NA	1.2
	-- Other chronic lower respiratory						
	diseases	560	5.2%	37.3	36.0	39.2	34.9
4.	Cerebrovascular diseases	631	5.9%	42.1	45.8	42.7	43.6
5.	Accidents (Unintentional injuries)	614	5.7%	40.9	40.6	41.3	39.8
	-- Transport accidents	278	2.6%	18.5	16.2	18.7	16.0
	------ Motor vehicle accidents	255	2.4%	17.0	15.1	17.2	15.0
	-- Nontransport accidents	336	3.1%	22.4	24.4	22.5	23.8
6.	Alzheimer's disease	416	3.9%	27.7	24.2	28.2	22.6
7.	Diabetes mellitus	331	3.1%	22.1	24.2	22.7	23.3
8.	Influenza and Pneumonia	231	2.2%	15.4	18.8	15.3	17.8
9.	Intentional self-harm (suicide)	220	2.0%	14.7	11.1	14.9	10.9
10.	Chronic liver disease and cirrhosis	156	1.5%	10.4	9.2	10.2	8.8
	All other causes	2,676	24.9%	NA	NA	NA`	NA

[1]Rates are per 100,000 population.
[2]Age-adjusted rates are artificial measures developed to eliminate the bias inherent in differing age compositions, thus allowing comparisons between geographic regions. Idaho and U.S. age-adjusted rates were calculated using the 2000 U.S. population estimate as the standard population.
[3]Idaho rates are based on July 1, 2007 population estimates based on 2000 Census.
[4]U.S. crude and age-adjusted rates are 2006 final data for leading causes of death.
Rates are calculated using 2006 population estimates based on the 2000 Census.
NA: Age-adjusted rates not calculated for causes with fewer than 20 deaths; crude and age-adjusted rates not applicable for all other causes.

Years of Potential Life Lost Before Age 75

Ten Leading Causes of Death Based on Premature Mortality[1]
Total Population and by Sex 2007

Cause of Death	Persons Aged Less than 75 Years		Years of Potential Life Lost (YPLL) Before Age 75		
	Number of Deaths	Percent of Deaths	Average Number of YPLL per Death	Total Number of YPLL	YPLL Rate[2]
Total Population	4,437	100.0%	19.8	87,786.5	5,854.8
1. Accidents (unintentional injuries)	466	10.5	35.8	16,660.0	1,111.1
--Transport accident	248	5.6	38.6	9,581.0	639.0
----Motor vehicle accident	227	5.1	39.4	8,942.5	596.4
--Nontransport accident	218	4.9	32.5	7,079.0	472.1
2. Malignant neoplasms (cancer)	1,242	28.0	13.1	16,325.0	1,088.8
3. Diseases of heart	813	18.3	13.5	10,938.5	729.5
4. Intentional self-harm (suicide)	205	4.6	34.0	6,973.5	465.1
5. Certain conditions originating in the perinatal period	78	1.8	74.5	5,810.0	387.5
6. Congenital malformations	67	1.5	60.6	4,060.5	270.8
7. Chronic liver disease and cirrhosis	131	3.0	20.7	2,712.5	180.9
8. Chronic lower respiratory diseases	237	5.3	9.7	2,300.5	153.4
9. Diabetes mellitus	156	3.5	13.8	2,154.0	143.7
10. Cerebrovascular diseases	145	3.3	14.0	2,025.5	135.1
All Other Causes	897	20.2	19.9	17,826.5	1,188.9
Total Males	2,617	100.0	20.3	53,073.5	7,034.3
1. Accidents (unintentional injuries)	312	11.9	35.3	11,020.0	1,460.6
--Transport accident	175	6.7	36.5	6,390.5	847.0
----Motor vehicle accident	155	5.9	37.3	5,778.5	765.9
--Nontransport accident	137	5.2	33.8	4,629.5	613.6
2. Malignant neoplasms (cancer)	632	24.1	13.2	8,337.0	1,105.0
3. Diseases of heart	561	21.4	13.5	7,561.5	1,002.2
4. Intentional self-harm (suicide)	172	6.6	33.4	5,743.0	761.2
5. Certain conditions originating in the perinatal period	38	1.5	74.5	2,830.0	375.1
6. Congenital malformations	32	1.2	68.1	2,178.0	288.7
7. Chronic liver disease and cirrhosis	82	3.1	19.9	1,631.0	216.2
8. Assault (homicide)	37	1.4	43.0	1,590.5	210.8
9. Diabetes mellitus	88	3.4	13.9	1,220.0	161.7
10. Cerebrovascular diseases	73	2.8	12.1	881.5	116.8
All Other Causes	590	22.5	17.1	10,081.0	1,336.1
Total Females	1,820	100.0	19.1	34,713.0	4,660.1
1. Malignant neoplasms (cancer)	610	33.5	13.1	7,988.0	1,072.4
2. Accidents (unintentional injuries)	154	8.5	36.6	5,640.0	757.1
--Transport accident	73	4.0	43.7	3,190.5	428.3
----Motor vehicle accident	72	4.0	43.9	3,164.0	424.8
--Nontransport accident	81	4.5	30.2	2,449.5	328.8
3. Diseases of heart	252	13.8	13.4	3,377.0	453.3
4. Certain conditions originating in the perinatal period	40	2.2	74.5	2,980.0	400.1
5. Congenital malformations	35	1.9	53.8	1,882.5	252.7
6. Intentional self-harm (suicide)	33	1.8	37.3	1,230.5	165.2
7. Chronic liver disease and cirrhosis	49	2.7	22.1	1,081.5	145.2
8. Cerebrovascular diseases	72	4.0	15.9	1,144.0	153.6
9. Chronic lower respiratory diseases	106	5.8	10.8	1,141.0	153.2
10. Diabetes mellitus	68	3.7	13.7	934.0	125.4
All Other Causes	401	22.0	18.2	7,314.5	981.9

1. Ranking based on total number of years potential lost life (YPLL).
2. YPLL rate: Total number of years of potential life lost per 100,000 population aged less than 75 years. See Technical Notes for methodology.

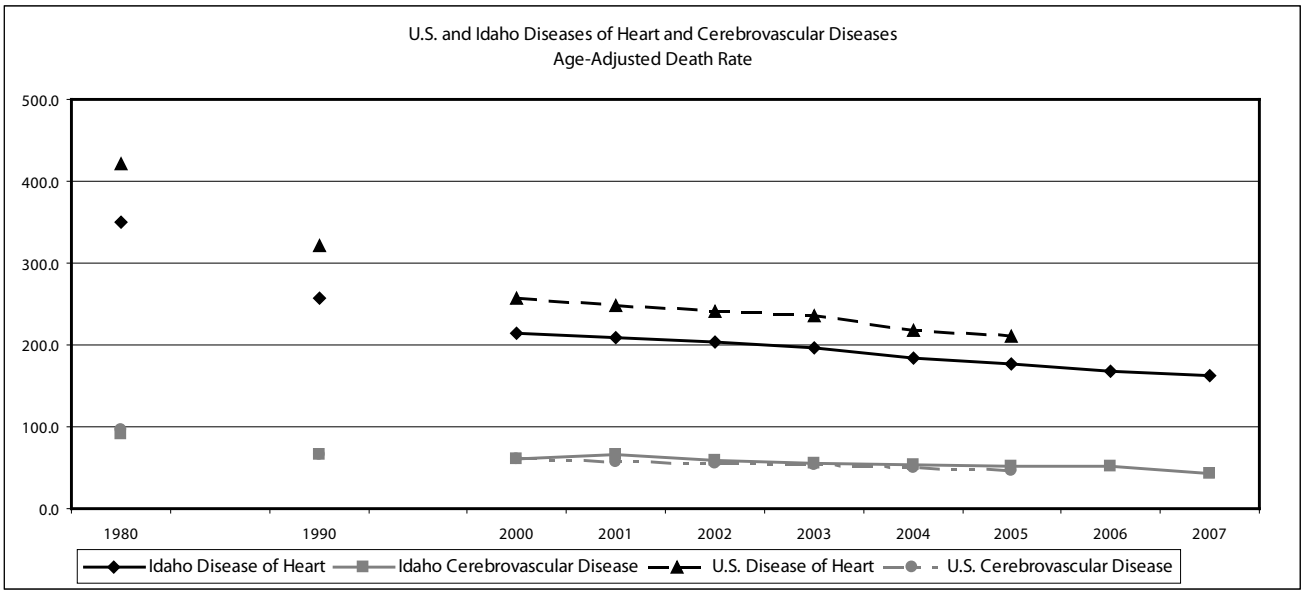
Heart Disease and Cerebrovascular diseases (stroke) Crude Death Rates

U.S. and Idaho Diseases of Heart and Cerebrovascular Diseases (Stroke) Age-Adjusted Death Rates

Age-Adjusted Death Rate	1980	1990	2000	2001	2002	2003	2004	2005	2006	2007
Idaho Diseases of Heart[1]	350.5	257.9	214.4	208.1	202.9	197.0	183.8	177.4	167.5	163.2
U.S. Diseases of Heart[1]	421.1	321.8	257.6	247.8	240.8	235.6	217.0	211.1	NA	NA
Idaho Cerebrovascular Disease[2]	90.8	65.2	61.2	65.6	59.4	55.8	53.5	51.8	51.5	42.7
U.S. Cerebrovascular Disease[2]	96.4	65.5	60.9	57.9	56.2	53.5	50.0	46.6	NA	NA
International Classification of Disease	ICD-9	ICD-9	ICD-10	ICD-10	ICD-10	ICD-10	ICD-10	ICD-10	ICD-10	ICD-10

1. Diseases of heart: Diseases of heart (ICD-9*=390-398, 402, 404-429), Diseases of heart (ICD-10=I00-I09, I11, I13, I20-I51)]
2. Cerebrovascular diseases: Cerebrovascular diseases (ICD-9*=430-434, 436-438), Cerebrovascular diseases (ICD-10=I60-I69)]
Age-Adjusted rate: Number of deaths per 100,000 population adjusted to the age composition of the area. Data was age-adjusted based on U.S. 2000 population data.
NA: Data not available
U.S. data source: CDC WONDER, http://wonder.cdc.gov/

Deaths due to Diseases of Heart and Cerebrovascular Diseases have significantly decreased since 1980.



Heart Disease and Cerebrovascular diseases (stroke) Mortality by Race/Ethnicity

Idaho Resident Deaths Due to Disease of Heart and Cerebrovascular Diseases by Race and Ethnicity Three-Year Total Number and Average-Annual Age-Adjusted Rates, 2005-2007

Race and Ethnicity	Diseases of Heart		Cerebrovascular Diseases	
	Number	Age-Adjusted Rate Per 100,000	Number	Age-Adjusted Rate Per 100,000
Total Deaths	7,246	169.8	2,065	48.8
White, Non-Hispanic	7,005	171.7	1,979	48.7
Black, Non-Hispanic	12	143.1	3	40.1
American Indian, Non-Hispanic	57	179.4	12	41.5
Asian Pacific Islander, Non-Hispanic	40	113.5	15	44.6
Asian, Non-Hispanic	38	NA	13	NA
Native Hawaiian or other Pacific Islander, Non-Hispanic	2	NA	2	NA
Other race, Non-Hispanic	2	NA	2	NA
Non-Hispanic, any race	7,119	171.3	2,011	48.7
Hispanic, any race	120	107.0	51	51.8
Race and/or Ethnicity Not Stated	10	NA	3	NA

Notes:
Average-annual age-adjusted rate: average number of deaths per 100,000 population in the race/ethnic group.
Population estimate based on mid-year of the three years (July 1, 2006).
NA: not applicable. Compatible population estimates are not available.
Rates by race and ethnicity were age adjusted to the Idaho three-year average-annual age-adjusted rate using the indirect method of standardization.
Cause-specific death rates for some races are based on small numbers (< 20 deaths). Caution must be exercised when attempting to draw conclusions. It is recommended to show the number of deaths with the rate.
Race and Hispanic origin of the decedent are reported separately on the Idaho death certificate. Persons of Hispanic origin may be of any race. The number of deaths and death rates for Hispanics should be interpreted with caution. According to the National Center for Health Statistics (NCHS), Hispanic ethnicity is underreported on the death certificate, and there are inconsistencies in reporting Hispanic origin on the death certificate as compared with ethnicity on censuses, surveys, and birth certificates.
Multiple race(s) of decedent may be selected on the Idaho death certificate. If death occurred in Idaho and multiple races are reported, then one bridged-race is designated for the decedent for analysis. If the death occurred out of state and multiple races are reported, then race is designated as unknown. The number of out-of-state deaths with multiple races is very small (1 or 2 total per year). In Idaho, "other" race is a category on the death certificate, however, population estimates for "other" race are not available. The majority of persons of "other" race are of Hispanic ethnicity. Data are provided by race for non-Hispanic ethnicity to minimize the "other" race category since rates can not be calculated for this category.
Data Source: Bureau of Vital Records and Health Statistics, Idaho Department of Health and Welfare (3/2009).
Population Source: U.S. Census Bureau and the National Center for Health Statistics, July 1, 2006 population estimate, Internet release August 16, 2007.

Diseases of Heart Mortality

The age-adjusted three year rate of deaths due to heart disease decreased significantly from 214.0 in 1999 to 2001 to 169.8 in 2005 to 2007.

Idaho Resident Deaths Due to Diseases of the Heart
Three-Year Total Number of Deaths and Average-Annual Age-Adjusted Rate (AAR)
1999-2001, 2002-2004, and 2005-2007

	Deaths	AAR	95% C.I.	
Idaho, 1999-2001	7,516	214.0	209.1	218.8
Idaho, 2002-2004	7,541	193.2	188.8	197.6
Idaho, 2005-2007	7,246	169.8	165.9	173.7

Rate in 2005-2007 is significantly lower than in 2002-2004 and 1999-2001 at the 95% confidence level.
AAR: Average-annual age-adjusted rate: average number of deaths per 100,000 population. Population based on mid-year of the three years.
Idaho and district rates were age adjusted using the direct method of standardization based on the U.S. standard million population of 2000.
Population Source: U.S. Census Bureau and the National Center for Health Statistics.
Source: Bureau of Vital Records and Health Statistics, Idaho Department of Health and Welfare (3/2009).

Based on age-adjusted death rates, Idaho ranked 39th among the states for deaths due to diseases of heart. The table above shows the top five states, Idaho's ranking, and the bottom five states for deaths due to diseases of heart.

Diseases of Heart Deaths, State Ranking 1999-2005

Rank	State	Number of Deaths	Age Adjusted Rate per 100,000
1	Mississippi	8,637	293.3
2	Alabama	12,869	264.5
3	Oklahoma	10,043	261.7
4	Louisiana	11,008	251.7
5	Kentucky	10,782	251.3
39	Idaho	2,450	178.7
46	Alaska	627	163.9
47	Colorado	6,307	162.5
48	Utah	2,872	159.5
49	Hawaii	2,319	157.5
50	Minnesota	7,926	143.5

Data Source: CDC WONDER Compressed Mortality File Underlying Cause-of-Death, 1999-2005; http://wonder.cdc.gov
Note: Idaho data from national files may differ slightly from the Idaho Bureau of Vital Records and Health Statistics data.

Diseases of Heart Mortality (continued)

Diseases of heart have been on the decline in both Idaho and the U.S. The Idaho age-adjusted death rate decreased 2.3% from 2006 to 2007 (from 167.5 per 100,000 population in 2006 to 163.2 per 100,000 population in 2007).

Idaho Diseases of Heart Mortality, 1999-2007

					Idaho Diseases of the Heart Death Rates (rate per 100,000)		
Year	**Idaho Population**	**Idaho Total Deaths**	**Idaho Diseases of the Heart**	**Percent of Deaths due to Diseases of the Heart**	**Crude**	**Age-Adjusted**	**Age-Adjusted Rate percent change from previous year**
1999	1,251,700	9,508	2,522	26.5	201.5	219.2	
2000	1,293,953	9,535	2,510	26.3	194.0	214.4	-2.2
2001	1,321,006	9,751	2,484	25.5	118.0	208.1	-2.9
2002	1,341,131	9,909	2,530	25.5	188.6	202.9	-2.5
2003	1,366,332	10,364	2,568	24.8	187.9	197.0	-2.9
2004	1,393,262	10,013	2,443	24.4	175.3	183.8	-6.7
2005	1,429,096	10,513	2,443	23.2	170.9	177.4	-3.5
2006	1,466,465	10,556	2,384	22.6	162.6	167.5	-5.6
2007	1,499,402	10,742	2,419	22.5	161.3	163.2	-2.3

U.S. Diseases of Heart Mortality, 1999-2007

		U.S. Diseases of the Heart Death Rates (rate per 100,000)		
Year	**Percent of Deaths due to Diseases of the Heart**	**Crude**	**Age-Adjusted**	**Age-Adjusted Rate percent change from previous year**
1999	30.3	259.9	266.5	
2000	29.6	252.6	257.6	-3.3
2001	29.0	245.8	247.8	-3.8
2002	28.5	241.7	240.8	-2.8
2003	28.0	235.6	232.3	-3.5
2004	27.2	222.2	217.0	-6.6
2005	27.2	222.0	211.1	-2.7
2006	NA	NA	NA	NA
2007	NA	NA	NA	NA

Crude rate: Number of deaths per 100,000 population.
Age-Adjusted rate: Number of deaths per 100,000 population.
Diseases of Heart ICD-10: I00-I09, I11, I13, I20-I51
NA: data not available.

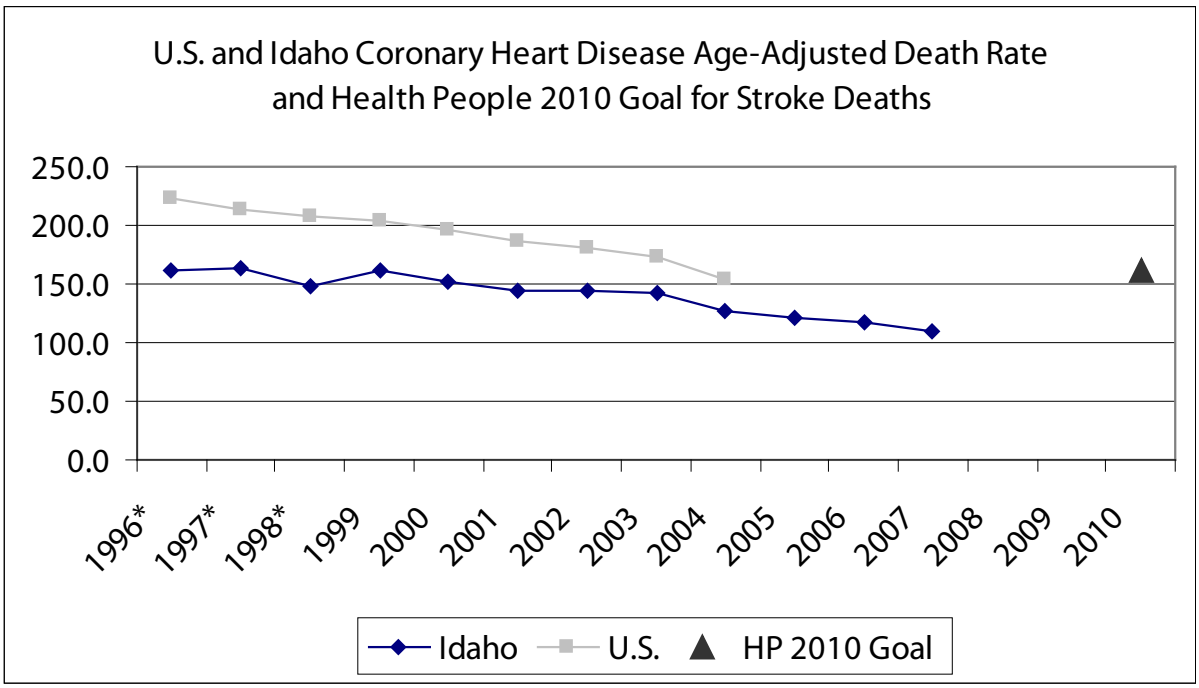
Diseases of Heart Mortality (continued)

U.S. and Idaho Coronary Heart Disease Mortality Trend (1996-2007) and Health People 2010 Goal

	Age-Adjusted Rate per 100,000	Age-Adjusted Rate per 100,000	
	Idaho	**U.S.**	**HP 2010 Goal**
1996*	160.6	222.5	
1997*	164.4	213.8	
1998*	147.2	207.6	
1999	161.4	202.9	
2000	152.7	195.4	
2001	144.1	186.5	
2002	143.8	180.0	
2003	141.4	172.4	
2004	127.4	153.9	
2005	121.6	NA	
2006	116.7	NA	
2007	108.9	NA	
2008	NA	NA	
2009	NA	NA	
2010	NA	NA	162.0

*1996-1998 Age-Adjusted rates are based on modified ICD-9 codes (402, 410-414, 429.2), and had the comparability ratio of 1.0502 applied to them. Coronary heart disease defined by HP2010 includes the ICD-10 codes: I11 (the code for Hypterensive heart disease) and I20-I25 (the codes for Ischemic heart disease).
U.S. data source: CDC WONDER, http://wonder.cdc.gov/
NA: data not available

A Healthy People 2010 goal is to reduce coronary heart disease deaths to an age-adjusted death rate of 162.0 per 100,000 population.



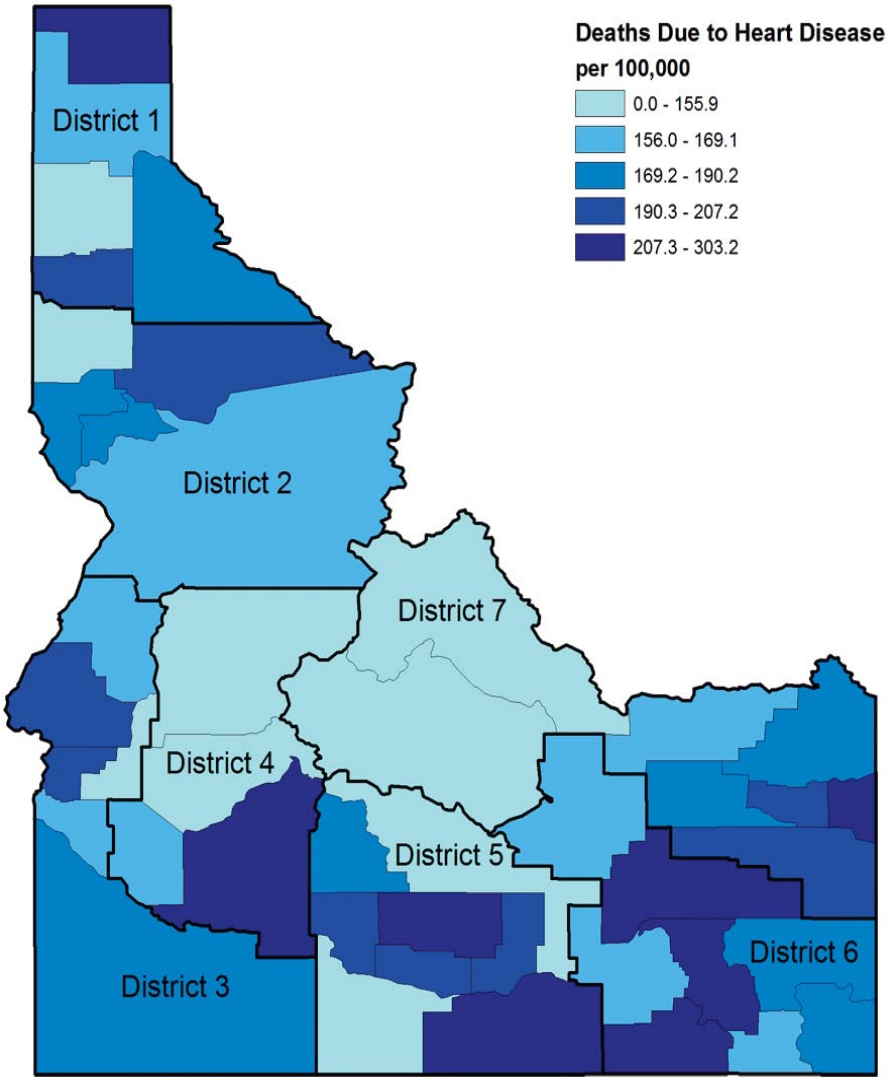
Diseases of Heart - Idaho Resident Deaths by Health District and County of Residence - 2005-2007

Idaho Resident Deaths Due to Diseases of Heart
Deaths by District of Residence
Three-Year Total Number of Deaths and Average Annual Age Adjusted Rate (AAR), 2005-2007

	Deaths	AAR	95% C.I.		Any District rate significantly higher than Idaho at the 95% confidence level
Idaho	7,246	169.8	165.9	173.7	
Dist 1	1,104	161.9	152.3	171.5	
Dist 2	639	161.8	149.1	174.5	
Dist 3	1,160	165.4	155.8	175.0	
Dist 4	1,641	163.5	155.5	171.5	
Dist 5	990	169.1	158.5	179.7	
Dist 6	893	198.2	185.2	211.3	Significantly higher than Idaho
Dist 7	819	189.6	176.6	202.7	Significantly higher than Idaho

AAR: Average-annual age-adjusted rate: average number of deaths per 100,000 population. Population based on mid-year of the three years (July 1, 2006).
Idaho and district rates were age adjusted using the direct method of standardization based on the U.S.
million population in 2000.
Population Source: U.S. Census Bureau and the National Center for Health Statistics, July 1, 2006 population estimate, Internet release August 16, 2007.
Source: Bureau of Vital Records and Health Statistics, Idaho Department of Health and Welfare (3/2009).

Age-Adjusted Idaho Resident Deaths Due to Diseases of Heart by County



Idaho Resident Deaths Due to Heart Disease by County of Residence and Health District

Three-Year Aggregate Number and Average Annual Rates, 2005-2007

	Total Deaths	Age-Adjusted Rate	95% C.I.	
Idaho	7,246	169.8	165.9	173.7
District 1	1,104	161.9	152.3	171.5
Benewah	70	204.3	159.0	258.6
Bonner	198	164.9	141.4	188.4
Boundary	103	303.2	243.8	362.6
Kootenai	632	146.4	134.9	157.9
Shoshone	101	179.2	143.9	214.4
District 2	639	161.8	149.1	174.5
Clearwater	71	191.8	149.5	242.3
Idaho	116	169.1	137.9	200.3
Latah	116	116.7	95.0	138.3
Lewis	31	174.5	116.8	250.5
Nez Perce	305	174.6	154.6	194.6
District 3	1,160	165.4	155.8	175.0
Adams	24	156.2	99.0	234.4
Canyon	725	158.0	146.4	169.7
Gem	106	147.2	118.8	175.7
Owyhee	64	188.5	145.2	240.8
Payette	148	199.2	166.8	231.6
Washington	93	191.9	153.9	236.4
District 4	1,641	163.5	155.5	171.5
Ada	1,456	161.5	153.1	169.8
Boise	23	120.5	74.6	184.3
Elmore	122	218.5	179.2	257.9
Valley	40	144.6	102.3	198.4
District 5	990	169.1	158.5	179.7
Blaine	40	86.8	60.8	120.2
Camas	5	175.2	NC	NC
Cassia	156	213.1	179.3	246.9
Gooding	98	195.8	158.4	239.3
Jerome	116	203.0	166.0	240.1
Lincoln	30	223.4	150.8	319.0
Minidoka	124	190.5	156.8	224.2
Twin Falls	421	155.9	140.7	171.1
District 6	893	198.2	185.2	211.3
Bannock	430	207.9	188.1	227.7
Bear Lake	42	172.7	124.4	233.4
Bingham	230	209.5	182.3	236.8
Butte	18	162.4	NC	NC
Caribou	47	190.2	139.7	252.9
Franklin	59	162.3	123.2	209.8
Oneida	34	208.7	144.6	291.7
Power	33	165.2	113.7	232.1
District 7	819	189.6	176.6	202.7
Bonneville	478	203.5	185.2	221.9
Clark	4	167.5	NC	NC
Custer	14	78.6	NC	NC
Fremont	64	176.1	135.6	224.9
Jefferson	88	181.3	145.2	223.6
Lemhi	46	147.6	107.2	198.1
Madison	98	207.2	167.8	253.0
Teton	27	240.5	155.7	355.1

Cerebrovascular Diseases (Stroke) Mortality

The age-adjusted rate of cerebrovascular disease decreased significantly from 64.6 in 1999 to 2001 to 48.8 in 2005 to 2007.

Idaho Resident Deaths Due to Cerebrovascular Disease
Three-Year Total Number of Deaths and Average-Annual Age-Adjusted Rate (AAR)
1999-2001, 2002-2004, and 2005-2007

	Deaths	AAR	95% C.I.	
Idaho, 1999-2001	2,259	64.6	62.0	67.3
Idaho, 2002-2004	2,207	56.8	54.4	59.1
Idaho, 2005-2007	2,065	48.8	46.7	50.9

Rate in 2005-2007 is significantly lower than in 2002-2004 and 1999-2001 at the 95% confidence level.
AAR: Average-annual age-adjusted rate: average number of deaths per 100,000 population. Population based on mid-year of the three years.
Idaho and district rates were age adjusted using the direct method of standardization based on the U.S. standard million population in 2000.
Population Source: U.S. Census Bureau and the National Center for Health Statistics.
Source: Bureau of Vital Records and Health Statistics, Idaho Department of Health and Welfare (3/2009).

Idaho ranked 16th among the states for deaths due to cerebrovascular disease based on age-adjusted death rates.

Cerebrovascular Disease (Stroke) Deaths State Ranking 1999-2005

Rank	State	Number of Deaths	Age-Adjusted Rate per 100,000
1	South Carolina	19,433	71.4
2	Arkansas	14,900	70.6
3	Tennessee	27,608	69.6
4	North Carolina	37,054	67.9
5	Oregon	17,788	67.2
16	Idaho	5,200	59.6
46	New Mexico	5,390	44.9
47	Florida	70,750	44.6
48	Rhode Island	4,049	44.5
49	New Jersey	27,822	43.6
50	New York	52,291	36.9

Data Source: CDC WONDER Compressed Mortality File Underlying Cause-of-Death, 1999-2005; http://wonder.cdc.gov

Cerebrovascular Diseases (Stroke) Mortality

Both the U.S. and Idaho's stroke death rates have been on the decline since 1999. In Idaho stroke deaths showed the largest decline in 2007, decreasing from 17.1%. Historically, Idaho's age-adjusted stroke death rate has remained higher than the U.S. age-adjusted stroke death rates.

Idaho Cerebrovascular Diseases (Stroke) Mortality, 1999-2007

					Idaho Stroke Death Rates (rate per 100,000)		
Year	**Idaho Population**	**Idaho Total Deaths**	**Idaho Stroke Deaths**	**Percent of Deaths due to Stroke**	**Crude**	**Age-Adjusted**	**Age-Adjusted Rate percent change from previous year**
1999	1,251,700	9,508	767	8.1	61.3	66.9	
2000	1,293,953	9,535	713	7.5	55.1	61.2	-8.5
2001	1,321,006	9,751	779	8.0	59.0	65.6	7.2
2002	1,341,131	9,909	737	7.4	55.0	59.4	-9.5
2003	1,366,332	10,364	762	7.4	55.8	58.8	-1.0
2004	1,393,262	10,013	708	7.1	50.8	53.5	-9.0
2005	1,429,096	10,513	712	6.8	49.8	51.8	-3.2
2006	1,466,465	10,556	722	6.8	49.2	51.5	-0.1
2007	1,499,402	10,742	631	5.9	42.1	42.7	-17.1

U.S. Cerebrovascular Diseases (Stroke) Mortality, 1999-2005

		U.S. Stroke Death Rates (rate per 100,000)		
Year	**Percent of Deaths due to Stroke**	**Crude**	**Age-Adjusted**	**Age-Adjusted Rate percent change from previous year**
1999	**7.0**	60.0	61.6	
2000	**7.0**	59.6	60.9	-1.1
2001	**6.8**	57.4	57.9	-4.9
2002	**6.7**	56.4	56.2	-2.9
2003	**6.4**	54.2	53.5	-4.8
2004	**6.3**	51.1	50.0	-6.5
2005	**6.0**	48.4	46.6	-6.8
2006	**NA**	NA	NA	NA
2007	**NA**	NA	NA	NA

Crude rate: Number of deaths per 100,000 population.
Age-Adjusted rate: Number of deaths per 100,000 population adjusted to the age composition of the area.
Cerebrovascular diseases (stroke) ICD-10 codes: I60-I69
NA: data not available.

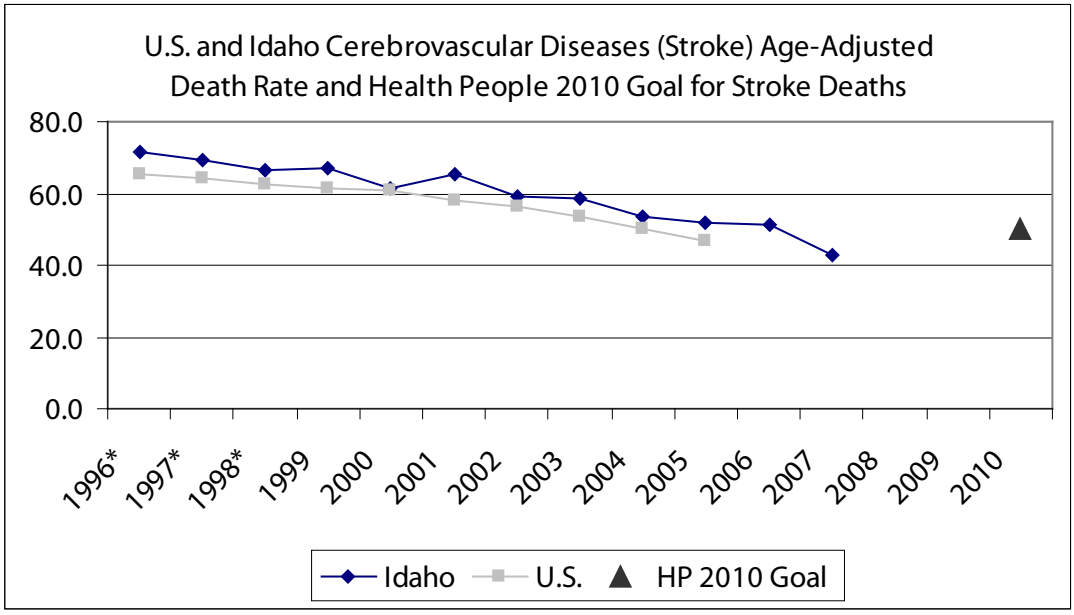
Cerebrovascular Diseases (Stroke) Mortality

U.S. and Idaho Cerebrovascular Diseases (Stroke) Mortality Trend (1996-2007) and Healthy People 2010 Stroke Mortality Goal

	Age-Adjusted Rate per 100,000	Age-Adjusted Rate per 100,000	
	Idaho	U.S.	HP 2010 Goal
1996*	71.4	65.6	
1997*	69.4	64.2	
1998*	66.3	62.3	
1999	66.9	61.6	
2000	61.2	60.9	
2001	65.6	57.9	
2002	59.4	56.2	
2003	58.8	53.5	
2004	53.5	50.0	
2005	51.8	46.6	
2006	51.5	NA	
2007	42.7	NA	50.0

*1996-1998 Age-Adjusted rates are based on modified ICD-9 codes (430-434,436-438), and had the comparability ratio of 1.0502 applied to them.
Cerebrovascular diseases (stroke) ICD-10 codes: I60-I69
U.S. data source: CDC WONDER, http://wonder.cdc.gov/
NA: data not available

The Healty People 2010 goal for stroke deaths is 50.0 per 100,000 population for the age-adjusted death rate. In 2004 and 2005, the U.S. met that goal and in 2007 Idaho's age-adjusted stroke death rate was 42.7 (7% lower than the Healthy People 2010 goal).



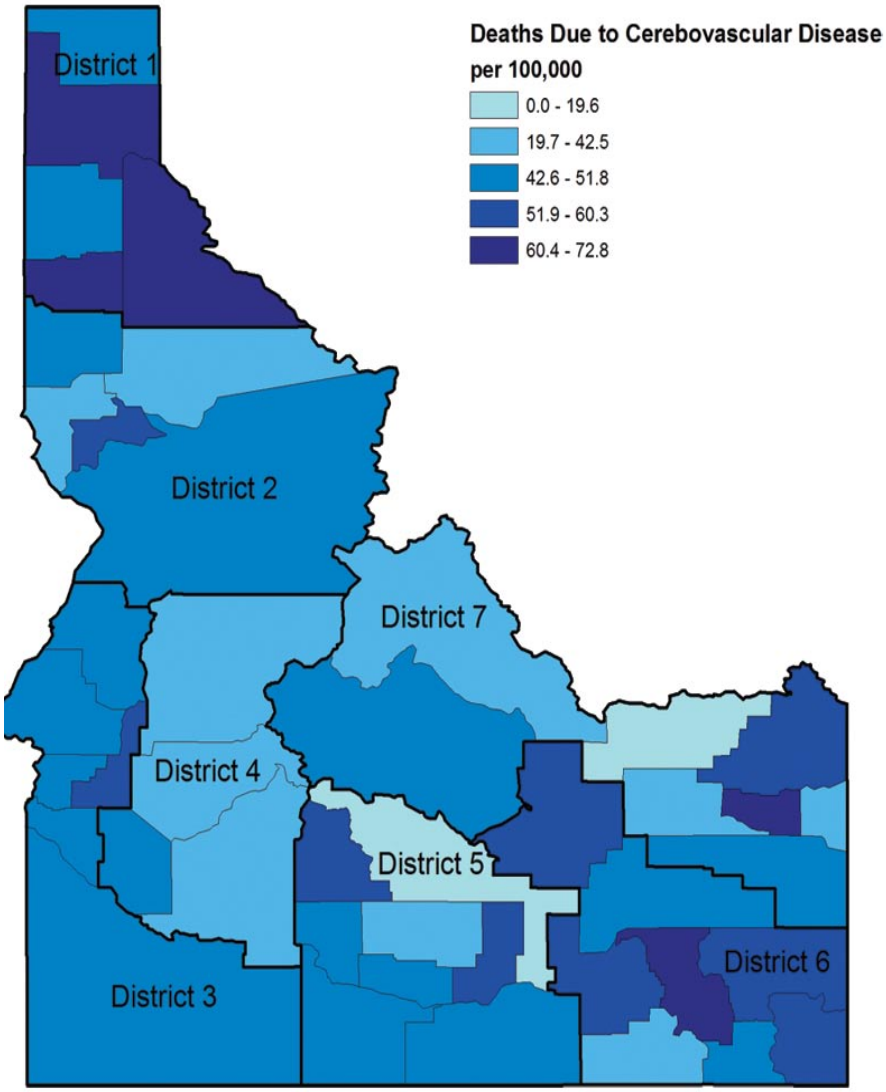
Cerebrovascular Diseases (Stroke) - Idaho Resident Deaths by Health District and County of Residence - 2005-2007

Idaho Resident Deaths Due to Cerebrovascular Disease (Stroke)
Deaths by Health District of Residence
Three-Year Total Number of Deaths and Average-Annual Age-Adjusted Rate (AAR), 2005-2007

	Deaths	AAR	95% C.I.	
Idaho	2,065	48.8	46.7	50.9
Dist 1	362	54.0	48.4	59.6
Dist 2	174	43.7	37.1	50.3
Dist 3	356	51.0	45.7	56.4
Dist 4	442	45.1	40.8	49.3
Dist 5	266	45.0	39.5	50.4
Dist 6	254	57.1	50.1	64.1
Dist 7	211	49.7	43.0	56.5

AAR: Average-annual age-adjusted rate: average number of deaths per 100,000 population. Population based on mid-year of the three years (July 1, 2006).
Idaho and district rates were age adjusted using the direct method of standardization based on the U.S. million population in 2000.
Population Source: U.S. Census Bureau and the National Center for Health Statistics, July 1, 2006 population estimate, Internet release August 16, 2007.
Source: Bureau of Vital Records and Health Statistics, Idaho Department of Health and Welfare (3/2009).

Age-Adjusted Idaho Resident Deaths Due to Cerebrovascular Disease (Stroke) by County



Idaho Resident Deaths Due to Cerbrovascular Disease (Stroke) by County of Residence and Health District

Three-Year Aggregate Crude Number and Average-Annual Age-Adjusted Rates, 2005-2007

	Deaths	Age-Adjusted Rate	95% C.I.	
Idaho	2,065	48.8	46.7	50.9
District 1	362	54.0	48.4	59.6
Benewah	25	72.8	47.1	107.5
Bonner	82	72.4	57.3	90.2
Boundary	15	44.5	NC	NC
Kootenai	201	47.0	40.5	53.6
Shoshone	39	67.7	48.1	92.5
District 2	174	43.7	37.1	50.3
Clearwater	14	42.5	NC	NC
Idaho	32	46.0	31.5	64.9
Latah	44	45.8	33.0	61.9
Lewis	10	59.2	NC	NC
Nez Perce	74	40.2	31.4	50.6
District 3	356	51.0	45.7	56.4
Adams	6	48.7	NC	NC
Canyon	232	51.0	44.4	57.6
Gem	39	55.6	39.3	76.3
Owyhee	16	48.2	NC	NC
Payette	37	49.3	34.5	68.2
Washington	26	51.8	33.5	76.5
District 4	442	45.1	40.8	49.3
Ada	402	45.8	41.3	50.4
Boise	6	32.6	NC	NC
Elmore	24	40.4	25.6	60.6
Valley	10	37.4	NC	NC
District 5	266	45.0	39.5	50.4
Blaine	9	19.6	NC	NC
Camas	2	57.1	NC	NC
Cassia	33	44.9	30.7	63.4
Gooding	25	49.5	31.7	73.6
Jerome	28	49.3	32.7	71.2
Lincoln	6	42.3	NC	NC
Minidoka	36	55.6	38.7	77.3
Twin Falls	127	45.5	37.5	53.6
District 6	254	57.1	50.1	64.1
Bannock	130	63.7	52.7	74.8
Bear Lake	14	56.4	NC	NC
Bingham	54	50.7	38.1	66.1
Butte	6	55.1	NC	NC
Caribou	15	60.3	NC	NC
Franklin	19	51.8	NC	NC
Oneida	5	30.8	NC	NC
Power	11	55.8	NC	NC
District 7	211	49.7	43.0	56.5
Bonneville	113	49.0	39.9	58.1
Clark	0	0.0	NC	NC
Custer	8	46.4	NC	NC
Fremont	21	58.7	36.3	89.7
Jefferson	20	42.1	25.7	65.1
Lemhi	13	41.9	NC	NC
Madison	32	68.7	47.0	97.0
Teton	4	40.4	NC	NC

2007 Behavioral Risk Factor Surveillance System (BRFSS*) Data Related to Cardiovascular Disease Risk Factors

Heart Disease Prevalence

Has a doctor, nurse, or other health professional EVER told you that you had angina or coronary heart disease?

The prevalence of heart disease has decreased from 5.0% in 2005 to 3.8% in 2007.

Percent of Idaho Adults Who Had Angina/Heart Disease, 2005-2007 BRFSS

	%	95% C.I.		n
2005	5.0	4.1	6.0	5672
2006	3.6	3.1	4.2	5300
2007	3.8	3.3	4.3	5253

Males (4.2%) were slightly more likely to have been diagnosed with heart disease than females (3.3%). Of Idaho adults aged 65 and older 14.4% had heart disease, which was significantly higher than those aged 45-64 (3.4%) and 18-44 (0.7%). Among income groups the prevalence of heart disease ranged from a high of 7.6% among those with a household income less than $15,000 to a low of 1.8% among those whose household income was $50,000-$74,999. The likelihood of having heart disease decreased with education. Those with a K-11th grade education were twice as likely to have heart disease than those with a college degree (5.4% of those with a K-11th grade education had heart disease compared with 2.7% of college graduates).

Percent of Idaho Adults Who Had Angina/Heart Disease, 2007 BRFSS

	%	95% C.I.		n
Total	3.8	3.3	4.3	5253
Sex				
Males	4.2	3.4	5.1	2064
Females	3.3	2.7	4.0	3189
Age				
18-44	0.7	0.4	1.3	1782
45-64	3.4	2.6	4.4	2115
65+	14.4	12.2	16.9	1320
Income				
Less than $15,000	7.6	5.3	10.8	473
$15,000-$24,999	5.9	4.4	8.0	840
$25,000-$34,999	4.2	3.0	5.9	700
$35,000-$49,999	2.4	1.4	3.9	883
$50,000-$74,999	1.8	1.1	2.9	831
$75,000+	2.2	1.4	3.3	913
Education				
K-11th Grade	5.4	3.6	8.0	456
12th Grade or GED	4.1	3.2	5.3	1636
Some College	3.9	3.1	5.0	1661
College Graduate+	2.7	2.0	3.6	1487

*BRFSS is conducted as a random telephone survey of the non-institutionalized adult population. A minimum of 700, Idahoans were interviewed within each health district, for a total sample size of 5,343 in 2007. Additional information regarding BRFSS methodology is available online at http://www.cdc.gov/brfss. Prevalence estimates based on denominators with fewer than 50 respondents have been suppressed and are indicated in the data tables with an asterisk (*).

Heart Disease Prevalence (continued)

Approximately, one-in-ten Idaho adults with high cholesterol (9.3%) and high blood pressure (10.4%) have been diagnosed with heart disease. Idaho adults with diabetes were significantly more likely to have heart disease than adults without diabetes (15.4% and 2.8%, respectively). Heart disease was more prevalent among non-binge drinkers than binge drinkers (4.1% and 1.8%, respectively). This was a significant relationship. However, this finding contradicts studies of patterns of drinking which have consistently found an increased risk of cardiovascular death (particularly sudden death) with binge drinking.[3] There was no statistically significant relationship between chronic drinking and heart disease.

Percentage of Idaho Adults with Angina/Heart Disease by Selected Risk Factors, 2007 BRFSS

	%	95% C.I.		n
High Cholesterol				
No	2.7	2.0	3.5	2390
Yes	9.3	7.9	11.0	1686
Hypertension				
No	1.5	1.1	1.9	3566
Yes	10.4	8.8	12.2	1677
Diabetes				
No	2.8	2.4	3.3	4724
Yes	15.4	11.9	19.6	520
Low SES[1]				
No	1.6	1.2	2.2	2723
Yes	3.4	2.2	5.0	975
Binge Drinking[2]				
No	4.1	3.5	4.8	4584
Yes	1.8	1.0	3.3	582
Chronic Drinking[2]				
No	3.8	3.3	4.4	4895
Yes	1.9	0.8	4.6	224

[1]Low SES definition: a) less than high school education, or b) annual household income less than $25,001, or c) Medicaid or Medicare is health care coverage used to pay for most medical care or no health care coverage. Excluded from the low SES category are those with a household income greater than $50,000 or those with a 4-year college education. Analysis includes adults ages 25-64.
[2]Binge drinking for females is defined as consuming four or more alcoholic beverages on one occasion in the last 30 days. For males binge drinking is five or more alcoholic beverages on one occasion in the last 30 days. Heavy drinking for females is defined as consuming more than 30 alcoholic beverages in the last 30 days. For males, heavy drinking is more than 60 alcoholic beverages in the last 30 days.
[3]Britton, A., McKee M. The relationship between alcohol and cardiovascular disease in eastern Europe: explaining the paradox. Journal of Epidemiology and Community Health. 2000;54:325-332.

Heart Disease Prevalence (continued)

Idaho adults who were not engaged in leisure time, moderate, or vigorous activity were twice as likely to have heart disease than those who are physically active. While overweight and obese adults were more likely to have been diagnosed with heart disease than those who were not overweight or obese, the difference was not statistically significant. Almost half (45.2%) of those who have suffered a heart attack have heart disease. Approximately one-in-five (19.1%) adults who have had a stroke have heart disease.

Percentage of Idaho Adults with Angina/Heart Disease by Selected Risk Factors, 2007 BRFSS

	%	95% C.I.		n
No Leisure Time Physical Activity				
No	3.1	2.6	3.7	4077
Yes	6.4	5.0	8.2	1165
Moderate and Vigorous Active[1]				
Meets Recommendation	3.0	2.4	3.7	2587
Insufficient Activity	3.2	2.4	4.1	1743
No Activity	8.0	5.8	11.0	531
Population Density Designation				
Urban	3.5	2.9	4.2	3126
Rural	4.2	3.2	5.5	1463
Frontier	4.7	3.2	6.8	609
Overweight (BMI>25)				
No	2.8	2.2	3.7	1796
Yes	4.2	3.6	5.0	3190
Obese (BMI>30)				
No	3.4	2.8	4.1	3672
Yes	4.7	3.6	6.0	1314
Did Not Eat Five Servings of Fruits and Vegetables Daily				
No	4.3	3.2	5.6	1228
Yes	3.6	3.0	4.2	3911
Current Smoker				
No	3.9	3.3	4.5	4293
Yes	3.3	2.2	4.7	947
Heart Attack				
No	2.0	1.6	2.4	4960
Yes	45.2	37.8	52.8	270
Stroke				
No	3.3	2.9	3.9	5079
Yes	19.1	12.7	27.7	160

[1]Adults with 30+ minutes of moderate physical activity five or more days per week, or vigorous physical activity for 20+ minutes three or more days per week.

Heart Disease Prevalence (continued)

The prevalence of heart disease ranged from a low of 2.7% in Health District 2 to a high of 5.3% in Health District 5. This was not a statistically significant difference.

Adult Angina/Heart Disease Prevalence in Idaho's Health Districts, 2007 BRFSS

	%	95% C.I.		n
Statewide	3.8	3.3	4.3	5253
District 1	4.5	3.3	6.2	761
District 2	2.7	1.8	4.2	768
District 3	3.7	2.4	5.6	742
District 4	3.0	2.0	4.3	747
District 5	5.3	3.8	7.4	743
District 6	4.8	3.6	6.5	744
District 7	2.9	2.0	4.2	748

Asians were significantly less likely to have been diagnosed with heart disease (0.3%) than Whites (4.4%). Six percent of Hispanic adults had been diagnosed with heart disease while only 4.1% of non-Hispanics had. This was not a statistically significant difference.

Prevalence of Angina/Heart Disease Among Idaho Adults by Race and Ethnicity, 2005-2007 Aggregate BRFSS

	%	95% C.I.		n
African American	3.2	0.5	19.7	51
Asian	0.3	0	1.8	91
American Indian or Alaskan Native	2.7	1.5	5	227
Native Hawaiian or Pacific Islander	*	*	*	25
White	4.4	3.9	4.9	15127
Hispanic	5.9	2.7	12.2	911
Non-Hispanic	4.1	3.7	4.4	15124
Hispanics Who Did Not Take the Survey In Spanish	2.4	1.3	4.2	567
Hispanics Who Took The Survey in Spanish	9.9	3.9	23.2	344

*Figure is not reliable by BRFSS standards (n<50)

Idaho adults who had been diagnosed with heart disease were almost four times as likely to report 'fair' or 'poor' general health than adults who did not have heart disease (49.6% and 13.3%, respectively). One-in-two (51.5%) adults who have heart disease have activities limited due to poor health. Only one-in-five (18.5%) who do not have heart disease have activities limited due to poor health. Twenty percent of adults who have had heart disease required the use of special equipment, while only 5.1% of those without heart disease did.

Percent of Idaho Adults With Health Complications by Heart Disease Diagnosis, 2007 BRFSS

	%	95% C.I.		n
'Fair' or 'Poor' General Health				
No Heart Disease	13.3	12.2	14.6	4967
Heart Disease	49.6	42.5	56.8	275
Activities Limited Due to Poor Health				
No Heart Disease	18.5	17.1	20.0	4908
Heart Disease	51.5	44.3	58.7	269
Health Problems Require Equipment[1]				
No Heart Disease	5.1	4.5	5.9	4921
Heart Disease	20.0	15.3	25.7	269

[1]Equipment includes any special equipment such as a cane, wheelchair, special bed, or special telephone.

Heart Attack Prevalence

Has a doctor, nurse, or other health professional EVER told you that you had a heart attack, also called a myocardial infarction?

Percent of Idaho Adults Who Have Had a Heart Attack/Myocardial Infarction, 2005-2007 BRFSS

	%	95% C.I.		n
2005	4.2	3.7	4.8	5688
2006	3.6	3.1	4.2	5317
2007	4.2	3.7	4.9	5284

The prevalence of heart attacks has remained fairly constant in the State of Idaho.

Percent of Idaho Adults Who Have Had a Heart Attack/Myocardial Infarction, 2007 BRFSS

	%	95% C.I.		n
Total	4.2	3.7	4.9	5284
Sex				
Males	5.4	4.4	6.7	2078
Females	3.1	2.6	3.7	3206
Age				
18-44	1.1	0.6	2.1	1782
45-64	4.4	3.5	5.6	2124
65+	14.0	11.9	16.4	1342
Income				
Less than $15,000	10.4	7.7	14.0	482
$15,000-$24,999	6.7	4.8	9.2	846
$25,000-$34,999	5.5	3.7	8.1	703
$35,000-$49,999	3.8	2.4	5.9	891
$50,000-$74,999	1.9	1.2	3.1	834
$75,000+	1.5	0.9	2.5	913
Education				
K-11th Grade	10.8	7.4	15.4	462
12th Grade or GED	4.2	3.3	5.2	1653
Some College	4.3	3.3	5.5	1662
College Graduate+	2.1	1.5	3.1	1494

Female adults were significantly less likely to have been diagnosed with a heart attack than males (3.1% and 5.4%, respectively). Fourteen percent of Idaho adults age 65 and older have ever had a heart attack. Idaho adults with household incomes less than $15,000 were significantly more likely to have had a heart attack than adults whose household income was $35,000 or more. Of adults with a K-11th grade education 10.8% had ever had a heart attack compared with 4.2% of those who have a 12th Grade or GED and 4.3% of those with some college. Adults who had graduated from college (2.1%) were significantly less to have ever had a heart attack than adults in any other education category.

Heart Attack Prevalence (continued)

Idaho adults with high cholesterol were almost three times as likely to have ever had a heart attack than adults without high cholesterol (9.2% and 3.3%, respectively). Adults with high blood pressure were almost five times as likely to have had a heart attack than adults without high blood pressure (10.1% and 2.2%, respectively). Idaho adults with diabetes were five times as likely to have ever had a heart attack than adults without diabetes (17.4% and 3.1%, respectively).

Percentage of Idaho Adults Who Have Had a Heart Attack/Myocardial Infarction by Selected Risk Factors, 2007 BRFSS

	%	95% C.I.		n
High Cholesterol				
No	3.3	2.4	4.4	2407
Yes	9.2	7.7	10.8	1699
Hypertension				
No	2.2	1.7	3.0	3573
Yes	10.1	8.6	11.8	1701
Diabetes				
No	3.1	2.6	3.8	4738
Yes	17.4	13.9	21.6	538
Low SES[1]				
No	1.6	1.2	2.2	2726
Yes	5.3	3.8	7.4	980
Binge Drinking[2]				
No	4.5	3.9	5.2	4614
Yes	3.1	1.5	6.3	584
Chronic Drinking[2]				
No	4.3	3.7	5.1	4930
Yes	2.7	1.1	6.2	224

[1]Low SES definition: a) less than high school education, or b) annual household income less than $25,001, or c) Medicaid or Medicare is health care coverage used to pay for most medical care or no health care coverage. Excluded from the low SES category are those with a household income greater than $50,000 or those with a 4-year college education. Analysis includes adults ages 25-64.
[2]Binge drinking for females is defined as consuming four or more alcoholic beverages on one occasion in the last 30 days. For males binge drinking is five or more alcoholic beverages on one occasion in the last 30 days. Heavy drinking for females is defined as consuming more than 30 alcoholic beverages in the last 30 days. For males, heavy drinking is more than 60 alcoholic beverages in the last 30 days.

Heart Attack Prevalence (continued)

Adults who did not participate in leisure time physical activity or moderate and vigorous physical activity were more than twice as likely to have had a heart attack than adults who were physically active (3.3% and 8.4%, respectively). There was not a significant relationship between overweight or obesity and heart attacks. Almost half (48.4%) of Idaho adults who had ever had a heart attack also have been diagnosed with heart disease and a third (35.2%) of those who have had a stroke have also had a heart attack.

Percentage of Idaho Adults Who Have Had a Heart Attack/Myocardial Infarction by Selected Risk Factors, 2007 BRFSS

	%	95% C.I.		n
No Leisure Time Physical Activity				
No	3.5	2.9	4.3	4091
Yes	7.2	5.7	9.1	1182
Moderate and Vigorous Activity[1]				
Meets Recommendation	3.3	2.6	4.4	2597
Insufficient Activity	4.1	3.2	5.3	1756
No Activity	8.4	6.2	11.2	534
Population Density Designation				
Urban	3.9	3.2	4.8	3132
Rural	5.1	3.9	6.6	1481
Frontier	4.6	3.2	6.5	616
Overweight (BMI>25)				
No	2.7	2.0	3.7	1805
Yes	5.2	4.4	6.2	3208
Obese (BMI>30)				
No	3.8	3.1	4.5	3691
Yes	5.8	4.4	7.6	1322
Did Not Eat Five Servings of Fruits and Vegetables Daily				
No	4.1	3.2	5.4	1237
Yes	4.2	3.6	5.1	3933
Current Smoker				
No	4.0	3.4	4.7	4319
Yes	5.1	3.6	7.3	953
Angina				
No	2.2	1.8	2.8	4962
Yes	48.4	41.2	55.6	268
Stroke				
No	3.4	2.9	4.0	5106
Yes	35.2	25.2	46.6	163

[1]Adults with 30+ minutes of moderate physical activity five or more days per week, or vigorous physical activity for 20+ minutes three or more days per week.

Heart Attack Prevalence (continued)

The prevalence of heart attacks ranged from a low of 3.0% in Health District 7 to a high of 5.0% in Health District 1. This was not a statistically significant difference.

Adult Heart Attack/Myocardial Infarction Prevalence in Idaho's Health Districts, 2007 BRFSS

	%	95% C.I.		n
Statewide	4.2	3.7	4.9	5284
District 1	5.0	3.5	6.9	762
District 2	3.5	2.4	4.9	774
District 3	4.6	3.3	6.4	742
District 4	4.0	2.7	6.0	750
District 5	4.8	3.5	6.6	754
District 6	4.7	3.5	6.3	754
District 7	3.0	2.0	4.4	748

4.2% of both American Indians/Alaskan Natives and White Idaho adults had ever had a heart attack. Whites were significantly more likely to have experienced a heart attack than Asians (4.2 percent compared with 0.7%). Idaho Non-Hispanic adults were significantly more likely to have ever had a heart attack (4.2%) than Hispanic adults (1.6%).

Prevalence of Heart Attack/Myocardial Infarction Among Idaho Adults by Race and Ethnicity, 2005-2007 Aggregate BRFSS

	%	95% C.I.		n
African American	0.0	0.0	0.0	51
Asian	0.7	0.2	2.8	90
American Indian or Alaskan Native	4.2	2.4	7.3	230
Native Hawaiian or Pacific Islander	*	*	*	25
White	4.2	3.8	4.5	15185
Hispanic	1.6	1.0	2.6	916
Non-Hispanic	4.2	3.9	4.6	15182
Hispanics Who Did Not Take the Survey In Spanish	2.7	1.6	4.4	573
Hispanics Who Took The Survey in Spanish	0.4	0.1	1.4	343

*Figure is not reliable by BRFSS standards (n<50)

Idaho adults who had been diagnosed with a heart attack were four times as likely to report 'fair' or 'poor' general health than adults who had not had a heart attack (45.0% and 13.5%, respectively). Almost one-in-two (48.2%) adults who have had a heart attack have activities limited to poor health. Only one-in-five (18.6%) adults who had not had a heart attack have activities limited due to poor health. Of adults who had suffered a heart attack 18.7% required the use of special equipment, while only 5.2% of those who had not suffered a heart attack did.

Percent of Idaho Adults With Health Complications by Heart Attack Diagnosis, 2007 BRFSS

	%	95% C.I.		n
Fair' or 'Poor' General Health				
No Heart Attack	13.5	12.3	14.7	4974
Heart Attack	45.0	37.9	52.4	298
Activities Limited Due to Poor Health				
No Heart Attack	18.6	17.2	20.1	4971
Heart Attack	48.2	40.7	55.8	291
Health Problems Require Equipment[1]				
No Heart Attack	5.2	4.5	5.9	4931
Heart Attack	18.7	14.1	24.3	291

[1]Equipment includes any special equipment such as a cane, wheelchair, special bed, or special telephone.

Percent of Idaho Adults Who Have Been Diagnosed With a Heart Attack by County, Aggregate 2005-2007 BRFSS

	%	95% C.I.		n
STATEWIDE	4.0	3.7	4.4	15987
ADA	3.0	2.3	3.9	1860
ADAMS	5.6	2.3	13.1	68
BANNOCK	4.2	3.2	5.6	1049
BEAR LAKE	4.3	2.1	8.9	114
BENEWAH	6.9	3.5	12.9	143
BINGHAM	4.9	3.5	6.9	592
BLAINE	2.3	1.0	5.1	308
BOISE	6.0	2.3	14.5	83
BONNER	4.1	2.7	6.2	515
BONNEVILLE	3.9	2.9	5.2	1141
BOUNDARY	3.0	1.3	6.4	172
BUTTE	3.0	0.9	9.4	65
CAMAS	*	*	*	20
CANYON	4.4	3.5	5.6	1498
CARIBOU	5.5	2.5	11.5	110
CASSIA	4.8	2.9	8.0	311
CLARK	*	*	*	22
CLEARWATER	5.4	3.0	9.3	254
CUSTER	3.5	1.2	9.7	73
ELMORE	4.0	2.0	7.7	152
FRANKLIN	2.1	0.8	5.3	154
FREMONT	2.8	1.2	6.6	157
GEM	6.6	3.9	11.0	196
GOODING	6.4	3.7	10.7	220
IDAHO	4.4	2.8	6.7	450
JEFFERSON	7.1	4.7	10.8	320
JEROME	4.1	2.3	7.3	251
KOOTENAI	3.8	2.9	5.0	1350
LATAH	3.1	1.9	5.0	661
LEMHI	11.4	6.7	18.8	113
LEWIS	2.2	0.6	7.8	106
LINCOLN	2.5	0.8	7.7	64
MADISON	1.3	0.6	2.5	321
MINIDOKA	3.6	2.2	6.1	266
NEZPERCE	5.1	3.7	6.9	802
ONEIDA	3.8	1.1	12.9	52
OWYHEE	4.1	1.8	9.2	112
PAYETTE	9.2	5.9	14.2	238
POWER	5.7	2.4	12.7	109
SHOSHONE	7.2	4.5	11.3	207
TETON	2.2	0.5	8.3	106
TWIN FALLS	4.3	3.1	5.8	954
VALLEY	3.6	1.0	11.9	76
WASHINGTON	4.4	2.0	9.4	152

*Figure is not reliable by BRFSS standards (n<50)

Percent of Idaho Adults Who Have Been Diagnosed With Heart Disease by County, Aggregate 2005-2007 BRFSS

	%	95% C.I.		n
STATEWIDE	4.2	3.8	4.7	15923
ADA	3.2	2.5	4.1	1852
ADAMS	5.1	1.8	13.5	68
BANNOCK	3.7	2.8	5.0	1045
BEAR LAKE	4.8	2.1	10.5	113
BENEWAH	6.2	3.2	11.6	143
BINGHAM	5.6	3.9	8.0	588
BLAINE	2.9	1.5	5.8	306
BOISE	23.5	7.6	53.4	82
BONNER	4.2	2.8	6.2	507
BONNEVILLE	4.1	3.2	5.4	1144
BOUNDARY	4.2	2.1	8.1	172
BUTTE	4.2	1.5	11.1	64
CAMAS	*	*	*	20
CANYON	4.2	3.2	5.5	1495
CARIBOU	5.6	2.6	11.8	108
CASSIA	3.1	1.7	5.8	306
CLARK	*	*	*	22
CLEARWATER	3.7	1.9	7.4	253
CUSTER	4.2	1.6	10.5	72
ELMORE	4.1	2.0	8.1	152
FRANKLIN	2.5	1.0	5.7	152
FREMONT	2.0	0.7	5.4	155
GEM	3.6	1.8	7.0	198
GOODING	6.5	3.5	11.5	219
IDAHO	3.9	2.3	6.4	445
JEFFERSON	4.5	2.7	7.4	318
JEROME	5.3	2.7	10.0	249
KOOTENAI	4.4	3.5	5.6	1348
LATAH	2.1	1.3	3.6	661
LEMHI	9.3	5.0	16.8	111
LEWIS	2.9	0.9	9.1	106
LINCOLN	1.6	0.4	6.4	63
MADISON	2.7	1.1	6.6	320
MINIDOKA	4.3	2.5	7.1	263
NEZPERCE	5.5	4.0	7.4	807
ONEIDA	12.6	5.5	26.3	51
OWYHEE	2.0	0.5	8.2	109
PAYETTE	5.9	3.3	10.3	235
POWER	4.0	1.4	11.1	109
SHOSHONE	6.4	3.9	10.4	209
TETON	1.9	0.5	7.4	105
TWIN FALLS	4.9	3.6	6.6	950
VALLEY	2.4	0.6	10.3	75
WASHINGTON	2.2	0.7	6.6	153

*Figure is not reliable by BRFSS standards (n<50)

Cerebrovascular Disease (Stroke) Prevalence

Has a doctor, nurse, or other health professional EVER told you that you had a stroke?

The prevalence of stroke has remained consistent since 2005.

Percent of Idaho Adults Who Have Been Diagnosed With a Stroke, 2005-2007 BRFSS

	%	95% C.I.		n
2005	2.4	2.0	2.9	5718
2006	2.3	1.9	2.7	5324
2007	2.5	2.0	3.0	5298

There was no significant difference in the prevalence of stroke among men and women. Approximately one-in-thirteen (7.9%) adults aged 65 and older have been diagnosed with a stroke. This was significantly higher than those aged 45-64 (2.4%) and 18-44 (0.9%). With the exception of adults with a household income of $50,000-$74,999, adults whose income was $75,000 or greater were significantly less likely to have been diagnosed with a stroke than adults in any other income category. Stroke prevalence has an inverse relationship to education. As education increases the prevalence of stroke decreases. Six percent (6.2%) of adults with a K-11th grade education had ever had a stroke in comparison to 1.1% of college graduates.

Percent of Idaho Adults Who Have Been Diagnosed With a Stroke, 2007 BRFSS

	%	95% C.I.		n
Total	2.5	2.0	3.0	5298
Sex				
Males	2.7	2.0	3.7	2085
Females	2.3	1.8	2.9	3213
Age				
18-44	0.9	0.5	1.8	1783
45-64	2.4	1.7	3.3	2125
65+	7.9	6.3	10.0	1354
Income				
Less than $15,000	4.8	3.0	7.5	489
$15,000-$24,999	4.2	2.7	6.6	845
$25,000-$34,999	2.4	1.3	4.5	704
$35,000-$49,999	2.5	1.5	4.0	891
$50,000-$74,999	1.2	0.6	2.2	833
$75,000+	0.6	0.3	1.3	915
Education				
K-11th Grade	6.2	3.6	10.6	466
12th Grade or GED	2.6	1.9	3.6	1654
Some College	2.5	1.9	3.3	1669
College Graduate+	1.1	0.7	1.7	1496

Cerebrovascular Disease (Stroke) Prevalence (continued)

Idaho adults with high cholesterol were twice as likely to have been diagnosed with a stroke than adults without high cholesterol (5.0% and 2.1%, respectively). Six percent (5.9%) of adults with high blood pressure have been diagnosed with a stroke. Only 1.3% of adults without high blood pressure have been diagnosed with a stroke. Idaho adults with diabetes were 4 times (8.8%) as likely to have been diagnosed with a stroke compared to adults without diabetes (2.0%). Low SES adults were more likely to have suffered a stroke than not low SES adults (3.9% and 0.8%, respectively). In Idaho, adults who self-reported as not being binge drinkers or chronic drinkers were twice as likely to have suffered a stroke compared to adults who were binge or chronic drinkers. This difference was not statistically significant. Despite the protective effect of light to moderate alcohol intake, heavy alcohol intake (including binge drinking) appears to increase the risk for hemorrhagic and ischemic strokes.[3]

Percentage of Idaho Adults with a Diagnosed Stroke By Selected Risk Factors, 2007 BRFSS

	%	95% C.I.		n
High Cholesterol				
No	2.1	1.5	3.0	2409
Yes	5.0	3.9	6.4	1708
Hypertension				
No	1.3	0.9	1.9	3576
Yes	5.9	4.7	7.4	1712
Diabetes				
No	2.0	1.5	2.5	4748
Yes	8.8	6.2	12.4	541
Low SES[1]				
No	0.8	0.5	1.2	2729
Yes	3.9	2.6	5.9	979
Binge Drinking[2]				
No	2.7	2.2	3.3	4625
Yes	1.2	0.3	4.1	585
Chronic Drinking[2]				
No	2.6	2.1	3.2	4939
Yes	1.2	0.4	3.3	225

[1]Low SES definition: a) less than high school education, or b) annual household income less than $25,001, or c) Medicaid or Medicare is health care coverage used to pay for most medical care or no health care coverage. Excluded from the low SES category are those with a household income greater than $50,000 or those with a 4-year college education. Analysis includes adults ages 25-64.
[2]Binge drinking for females is defined as consuming four or more alcoholic beverages on one occasion in the last 30 days. For males binge drinking is five or more alcoholic beverages on one occasion in the last 30 days. Heavy drinking for females is defined as consuming more than 30 alcoholic beverages in the last 30 days. For males, heavy drinking is more than 60 alcoholic beverages in the last 30 days.
[3]Reynolds, Kristi, et al. Alcohol Consumption and Risk of Stroke: A Meta-analysis. JAMA. 2003;289:579-588.

Cerebrovascular Disease (Stroke) Prevalence (continued)

Adults classified as low SES were more likely to have suffered a stroke than non low SES adults (3.9% and 0.8%, respectively). Idaho adults who were physically active were significantly less likely to have been diagnosed with a stroke than adults who were not physically active. No significant differences in stroke prevalence were seen between overweight and obesity categories. Idaho adults who smoke cigarettes were slightly more likely to have been diagnosed with a stroke than those who do not smoke (3.6% and 2.2%, respectively). This was not a statistically significant difference. Approximately one-in-ten (11.9%) adults who had been diagnosed with heart disease have also been diagnosed with a stroke, whereas one-in-five (20.5%) adults who had been diagnosed with a heart attack have also been diagnosed with a stroke.

Percentage of Idaho Adults with a Diagnosed Stroke By Selected Risk Factors, 2007 BRFSS

	%	95% C.I.		n
No Leisure Time Physical Activity				
No	1.8	1.3	2.3	4098
Yes	5.6	4.2	7.4	1189
Moderate and Vigorously Active[1]				
Meets Recommendation	1.9	1.3	2.7	2599
Insufficient Activity	2.4	1.7	3.3	1757
No Activity	6.1	4.2	9.0	542
Population Density Designation				
Urban	2.6	2.0	3.4	3145
Rural	2.1	1.4	3.0	1484
Frontier	2.5	1.5	4.1	614
Overweight (BMI>25)				
No	2.2	1.5	3.1	1806
Yes	2.7	2.1	3.5	3221
Obesity (BMI>30)				
No	2.6	2.1	3.3	3699
Yes	2.2	1.5	3.1	1328
Did Not Eat Five Servings of Fruits and Vegetables Daily				
No	2.6	1.9	3.6	1241
Yes	2.4	1.9	3.1	3943
Current Smoker				
No	2.2	1.8	2.8	4329
Yes	3.6	2.2	5.7	956
Angina/Heart Disease				
No	1.9	1.6	2.4	4966
Yes	11.9	7.9	17.6	273
Heart Attack				
No	1.7	1.3	2.0	4976
Yes	20.5	14.0	28.8	293

[1]Adults with 30+ minutes of moderate physical activity five or more days per week, or vigorous physical activity for 20+ minutes three or more days per week.

Cerebrovascular Disease (Stroke) Prevalence (continued)

The prevalence of strokes ranged from a high of 3.0% in Health District 4 to a low of 2.1% in Health District 6 and 1. This was not a statistically significant difference.

Adult Cerebrovascular Disease (Stroke) Prevalence in Idaho's Health Districts, 2007 BRFSS

	%	95% C.I.		n
Statewide	2.5	2.0	3.0	5298
District 1	2.1	1.2	3.5	766
District 2	2.2	1.4	3.3	776
District 3	2.7	1.7	4.4	743
District 4	3.0	1.9	4.7	752
District 5	2.2	1.4	3.5	755
District 6	2.1	1.4	3.3	755
District 7	2.4	1.6	3.6	751

Whites (2.5%) were significantly more likely to have had a stroke than Asians (0.3%). Idaho Hispanic adults were significantly less likely to have been diagnosed with a stroke than Non-Hispanic adults (1.1% and 2.5%, respectively).

Prevalence of Stroke Among Idaho Adults by Race and Ethnicity, 2005-2007 Aggregate BRFSS

	%	95% C.I.		n
African American	0.0	0.0	0.0	51
Asian	0.3	0.0	1.8	91
American Indian or Alaskan Native	2.6	1.4	4.9	231
Native Hawaiian or Pacific Islander	*	*	*	25
White	2.5	2.2	2.7	15232
Hispanic	1.1	0.6	2.0	915
Non-Hispanic	2.5	2.2	2.8	15235
Hispanics Who Did Not Take the Survey In Spanish	1.7	0.9	3.2	570
Hispanics Who Took The Survey in Spanish	0.4	0.1	1.8	345

*Figures are not reliable by BRFSS standards (n<50)

Idaho adults who had been diagnosed with a stroke were more than four times as likely to report 'fair' or 'poor' general health than adults who had not had a stroke (54.0% and 13.9%, respectively). Approximately one-in-two (54.6%) adults who have had a stroke have activities limited to poor health. Only one-in-five (19.1%) adults who have not had a stroke have activities limited due to poor health. Of adults who had a stroke 29.1% required the use of special equipment, while only 5.2% of those who have never had a stroke did.

Percent of Idaho Adults With Health Complications by Stroke Diagnosis, 2007 BRFSS

	%	95% C.I.		n
'Fair' or 'Poor' General Health				
No Stroke	13.9	12.7	15.1	5120
stroke	54.0	43.8	63.9	166
Activities Limited Due to Poor Health				
No Stroke	19.1	17.7	20.5	5061
stroke	54.6	44.3	64.5	161
Health Problems Require Equipment[1]				
No Stroke	5.2	4.5	5.9	5072
Stroke	29.1	21.4	38.2	163

[1]Equipment includes any special equipment such as a cane, wheelchair, special bed, or special telephone.

Percent of Idaho Adults Who Have Been Diagnosed With a Stroke by County, Aggregate 2005-2007 BRFSS

	%	95% C.I.		n
STATEWIDE	2.4	2.1	2.7	16035
ADA	2.0	1.5	2.8	1861
ADAMS	1.2	0.2	7.9	68
BANNOCK	2.2	1.5	3.2	1057
BEAR LAKE	1.7	0.5	6.0	114
BENEWAH	3.4	1.4	8.0	146
BINGHAM	2.6	1.7	4.0	593
BLAINE	0.8	0.1	5.1	309
BOISE	6.1	2.3	15.4	84
BONNER	3.7	2.3	5.9	516
BONNEVILLE	2.8	2.1	3.9	1148
BOUNDARY	1.8	0.7	4.6	173
BUTTE	6.3	2.5	15.0	65
CAMAS	*	*	*	20
CANYON	2.3	1.6	3.2	1504
CARIBOU	1.9	0.4	8.8	109
CASSIA	3.1	1.6	5.7	311
CLARK	*	*	*	22
CLEARWATER	2.0	0.9	4.4	255
CUSTER	2.0	0.5	7.9	72
ELMORE	1.1	0.3	3.7	152
FRANKLIN	0.7	0.2	3.0	153
FREMONT	3.3	1.5	7.1	156
GEM	3.6	1.7	7.2	198
GOODING	3.3	1.6	6.5	222
IDAHO	2.0	1.0	4.2	448
JEFFERSON	2.3	1.2	4.5	321
JEROME	3.2	1.6	6.3	251
KOOTENAI	2.3	1.6	3.2	1355
LATAH	2.6	1.5	4.4	663
LEMHI	6.8	3.3	13.6	113
LEWIS	2.4	0.6	8.4	105
LINCOLN	2.5	0.8	7.8	63
MADISON	1.9	0.6	6.4	322
MINIDOKA	1.6	0.7	3.6	266
NEZPERCE	4.0	2.9	5.7	813
ONEIDA	0.0	0.0	0.0	51
OWYHEE	2.9	0.9	8.8	111
PAYETTE	4.0	1.9	8.2	238
POWER	0.8	0.2	3.3	109
SHOSHONE	3.6	1.8	7.2	208
TETON	0.0	0.0	0.0	104
TWIN FALLS	1.7	1.1	2.7	957
VALLEY	0.7	0.1	4.9	76
WASHINGTON	1.5	0.3	7.0	153

*Figure is not reliable by BRFSS standards (n<50)

Hypertension Prevelance

Have you EVER been told by a health professional that you have high blood pressure?

The prevalence of high blood pressure in Idaho's adults population has not changed significantly over the last eleven years.

Percent of Idaho Adults With High Blood Pressure, 1997-2007 BRFSS

	%	95% C.I.		n
1997	24.1	22.5	25.7	4900
1999	23.0	21.6	24.4	4929
2001	24.6	23.1	26.1	4823
2003	23.2	21.8	24.6	4811
2005	23.6	22.3	25.0	5720
2007	25.9	24.5	27.4	5304

There was no significant difference between the percentage of males and the percentage of females who reported they had high blood pressure. Over half (58.0%) of Idaho adults age 65 or older had high blood pressure compared with 32.9% of adults age 45-64, and 11.5% of those age 18-44. Idaho adults who earn less than $15,000 were significantly more likely to have high blood pressure than adults who earn $75,000 or more (32.7% compared with 19.2%). However, no significant relationship existed between educational attainment and high blood pressure.

Percent of Idaho Adults Who Have Been Diagnosed With High Blood Pressure, 2007 BRFSS

	%	95% C.I.		n
Total	25.9	24.5	27.4	5,304
Sex				
Males	26.0	23.7	28.4	2,093
Females	25.9	24.1	27.7	3,211
Age				
18-44	11.5	9.7	13.6	1783
45-64	32.9	30.5	35.3	2132
65+	58.0	54.8	61.0	1354
Income				
Less than $15,000	32.7	27.4	38.4	490
$15,000-$24,999	30.6	26.7	34.7	847
$25,000-$34,999	28.0	24.3	32.1	705
$35,000-$49,999	26.3	22.8	30.1	892
$50,000-$74,999	23.8	20.0	28.0	835
$75,000+	19.2	16.4	22.4	914
Education				
K-11th Grade	23.3	19.2	28.1	467
12th Grade or GED	28.3	25.5	31.3	1,657
Some College	26.6	24.2	29.2	1,672
College Graduate+	23.4	20.8	26.1	1,495

Hypertension Prevalence (continued)

These major, rapid changes in blood pressure are thought to contribute to an increased risk of stroke. There was not a significant relationship between chronic drinking and blood pressure. Half (50.6%) of adults with high cholesterol had also been diagnosed with high blood pressure. Of adults with diabetes 67.9% have been diagnosed with high blood pressure. Only 22.3% of adults without diabetes have high blood pressure. Adults who meet the CDC recommendation for moderate and vigorous activity were significantly less likely to have high blood pressure (21.2%) than adults who were physically active, but did not meet the set recommendations (27.6%), and adults who were not physically active (41.0%). Binge drinking adults were significantly less likely to have high blood pressure than adults who were not binge drinkers (20.0% compared with 26.8%). However, when measured at the time of the event, blood pressure has been shown to increase while intoxicated from binge drinking then drop to below normal levels.[4]

Percentage of Idaho Adults With High Blood Pressure by Selected Risk Factors, 2007 BRFSS

	%	95% C.I.		n
High Cholesterol				
No	22.3	20.3	24.4	2410
Yes	50.6	47.7	53.6	1711
Diabetes				
No	22.3	20.9	23.8	4751
Yes	67.9	62.8	72.6	544
Low SES[1]				
No	21.2	19.3	23.1	2730
Yes	25.2	21.9	28.7	984
No Leisure Time Physical Activity				
No	23.9	22.3	25.5	4102
Yes	34.3	30.9	37.8	1192
Moderate and Vigorous Activity[2]				
Meets Recommendation	21.2	19.4	23.1	2601
Insufficient Activity	27.6	25.0	30.5	1760
No Activity	41.0	35.9	46.2	544
Binge Drinking[3]				
No	26.8	25.3	28.4	4632
Yes	20.0	16.0	24.7	585
Chronic Drinking[3]				
No	26.0	24.5	27.6	4947
Yes	20.5	14.9	27.5	224

[1]Low SES definition: a) less than high school education, or b) annual household income less than $25,001, or c) Medicaid or Medicare is health care coverage used to pay for most medical care or no health care coverage. Excluded from the low SES category are those with a household income greater than $50,000 or those with a 4-year college education. Analysis includes adults ages 25-64.
[2]Adults with 30+ minutes of moderate physical activity five or more days per week, or vigorous physical activity for 20+ minutes three or more days per week.
[3]Binge drinking for females is defined as consuming four or more alcoholic beverages on one occasion in the last 30 days. For males binge drinking is five or more alcoholic beverages on one occasion in the last 30 days. Heavy drinking for females is defined as consuming more than 30 alcoholic beverages in the last 30 days. For males, heavy drinking is more than 60 alcoholic beverages in the last 30 days.
[4]Seppa, Kaija, Sillanaukee, Pekka. Binge drinking and ambulatory blood pressure. Hypertension. 1999;33:79-82.

Hypertension Prevalence (continued)

Idaho adults who were overweight and obese were approximately twice as likely to have been diagnosed with high blood pressure than adults who were not overweight. Of overweight adults 31.8% had high blood pressure compared with 15.7% of adults who were not overweight; 39.7% of obese adults had high blood pressure compared with 21.2% of adults who were not obese. Idaho adults who have heart disease are three times as likely to also have high blood pressure than adults without heart disease (70.8% compared with 23.9%).

Percentage of Idaho Adults With High Blood Pressure by Selected Risk Factors, 2007 BRFSS

	%	95% C.I.		n
Population Density Designation				
Urban	26.1	24.2	28.1	3149
Rural	25.2	22.8	27.8	1485
Frontier	27.3	23.1	31.8	615
Overweight (BMI>25)				
No	15.7	13.7	17.9	1809
Yes	31.8	29.8	33.9	3225
Obese (BMI>30)				
No	21.2	19.7	22.9	3703
Yes	39.7	36.4	43.1	1331
Did Not Eat Five Servings of Fruits and Vegetables Daily				
No	26.0	23.2	29.1	1241
Yes	25.6	23.9	27.3	3949
Current Smoker				
No	26.7	25.0	28.3	4335
Yes	22.7	19.6	26.2	956
Angina/Heart Disease				
No	23.9	22.4	25.4	4967
Yes	70.8	64.0	76.8	276
Stroke				
No	25.0	23.5	26.5	5122
Yes	61.6	50.7	71.4	166
Heart Attack				
No	24.2	22.7	25.7	4976
Yes	61.4	53.2	69.0	298

Hypertension Prevalence (continued)

The hypertension prevalence ranged from a high of 29.7% in Health District 2 to a low of 23.4% in Health District 7. This was not a statistically significant difference.

Percent of Idaho Adults With High Blood Pressure by Health District, 2007 BRFSS

	%	95% C.I.		n
Statewide	25.9	24.5	27.4	5304
District 1	26.0	22.7	29.6	768
District 2	29.7	25.8	33.9	776
District 3	25.9	22.5	29.5	749
District 4	26.7	23.1	30.6	751
District 5	25.8	22.5	29.5	755
District 6	24.2	21.1	27.6	753
District 7	23.4	20.0	27.1	752

The prevalence of high blood pressure ranged from a high of 24.5% in Whites to a low of 12.5% in Asians. This was a statistically significant difference. Non-Hispanic adults were significantly more likely to have high blood pressure than Hispanic adults (24.9% compared with 15.0%).

Percent of Idaho Adults With High Blood Pressure by Race and Ethnicity, 2003-2007 Aggregate BRFSS

	%	95% C.I.		n
African American	*	*	*	46
Asian	12.5	6.9	21.7	92
American Indian or Alaskan Native	24.2	18.4	31.2	235
Native Hawaiian or Pacific Islander	*	*	*	26
White	24.5	23.7	25.4	14783
Hispanic	15.0	12.3	18.1	812
Non-Hispanic	24.7	23.9	25.6	14835

*Figures are not reliable by BRFSS standards (n<50)

Hypertension Prevalence (continued)

Idaho adults with high blood pressure were twice as likely to report 'fair' or 'poor' general health and activities limited due to poor health than adults without high blood pressure.

Percent of Idaho Adults With Health Complications by High Blood Pressure, 2007 BRFSS

	%	95% C.I.		n
'Fair' or 'Poor' General Health				
No High Blood Pressure	10.5	9.3	11.9	6578
High Blood Pressure	27.5	25.0	30.2	1714
Activities Limited Due to Poor Health				
No High Blood Pressure	16.0	14.4	17.7	3540
High Blood Pressure	31.5	28.8	34.3	1688
Health Problems Require Equipment[1]				
No High Blood Pressure	2.8	2.3	3.4	3548
High Blood Pressure	14.6	12.5	16.8	1698

Percent of Idaho Adults With High Blood Pressure Who Were Not Taking High Blood Pressure Medication by Diagnosed Cardiovascular Disease, 2007 BRFSS

	%	95% C.I.		n
Angina	7.5	3.6	14.8	197
Heart Attack	12.7	7.9	19.8	199
Stroke	12.9	7.3	22.0	109

Slightly more than one-fourth (27.9% in 2007) of Idaho adults with high blood pressure were not taking high blood pressure medication.

Percent of Idaho Adults With High Blood Pressure Who Were Not Taking High Blood Pressure Medication, 2001, 2003, 2005, 2007 BRFSS

	%	95% C.I.		N
2001	34.3	31.2	37.6	1236
2003	28.1	25.1	31.3	1281
2005	27.7	24.9	30.8	1635
2007	27.9	25.1	30.9	1716

Blood Cholesterol

Have you had your blood cholesterol checked within the last five years?

The percent of Idaho adults not having had their cholesterol checked in the past five years has remained fairly stable from 1997 (35.0%) to 2007 (33.3%).

Percent of Idaho Adults Who Had Not Had Cholesterol Checked With the Last Five Years, 2001, 2003, 2005, 2007 BRFSS

	%	95% C.I.		n
1997	35.0	33.2	36.9	4753
1999	36.2	34.6	37.9	4755
2001	34.1	32.4	35.8	4674
2003	32.6	30.9	34.3	4645
2005	33.6	31.8	35.4	5549
2007	33.3	31.4	35.3	5149

The percentage of adults who were screened and told they had high cholesterol has increased significantly since 1997 (from 29.8% to 37.6% in 2007).

Percent of Idaho Adults With High Cholesterol Among Those Who Have Been Screened, 2001, 2003, 2005, 2007 BRFSS

	%	95% C.I.		n
1997	29.8	27.7	32.0	3473
1999	30.1	28.2	32.0	3459
2001	30.3	28.6	32.1	3486
2003	31.1	29.3	32.9	3588
2005	36.3	34.5	38.1	4329
2007	37.6	35.7	39.5	4130

Blood Cholesterol (continued)

Males were slightly more likely than females to have not had their cholesterol checked in the last five years (35.6% and 31.0%, respectively). This was not a statistically significant difference. Approximately half (50.9%) of adults aged 18 to 44 had not had their cholesterol checked in the past 5 years. This was significantly higher than the 19.0% of adults aged 45 to 64 and the 8.3% of those aged 65 and older. Idaho adults whose household income was between $15,000-$24,999 (41.4%) were significantly more likely to have not had a cholesterol screening than adults whose income was $35,000-$49,999 (31.3%) and adults whose income was greater than $75,000 (32.1%). As education increases the percentage of adults who had not had their cholesterol checked decreases. Slightly over half (55.9%) of those with a K-11th grade education had not had had their cholesterol checked in the past five years, whereas 22.0% of those who were college graduates had.

Percent of Idaho Adults Who Had Not Had Their Cholesterol Checked Within the Last Five Years, 2007 BRFSS

	%	95% C.I.		n
Total	33.3	31.4	35.3	5,149
Sex				
Males	35.6	32.6	38.8	2,050
Females	31.0	28.8	33.4	3,099
Age				
18-44	50.9	47.8	54.1	1698
45-64	19.0	17.1	21.1	2102
65+	8.3	6.8	10.1	1314
Income				
Less than $15,000	37.3	30.9	44.2	465
$15,000-$24,999	41.4	36.2	46.8	832
$25,000-$34,999	34.2	29.3	39.5	687
$35,000-$49,999	31.5	27.4	35.8	868
$50,000-$74,999	31.3	26.6	36.3	818
$75,000+	23.1	19.3	27.5	900
Education				
K-11th Grade	55.9	49.5	62.1	452
12th Grade or GED	38.4	34.8	42.2	1,607
Some College	31.5	28.3	34.9	1,616
College Graduate+	22.0	19.0	25.3	1,463

Blood Cholesterol (continued)

More than one-in-two (58.8%) adults without a health care provider had not had their cholesterol checked in the last five years. Slightly over half (54.8%) of Idaho adults who could not see a doctor due to the cost had not had their cholesterol checked within the last five years. Low SES adults (50.8%) were twice as likely to have not had their cholesterol tested than non-low SES adults (25.8%).

Percentage of Idaho Adults Who Had Not Had Cholesterol Checked Within the Last Five Years by Selected Risk Factors, 2007 BRFSS

	%	95% C.I.		n
Have a Personal Health Care Provider				
No	58.8	54.8	62.7	1103
Yes	24.0	22.0	26.1	4031
Could Not See a Doctor Due to Cost				
No	29.1	27.0	31.2	4379
Yes	54.8	50.0	59.5	759
Health Care Coverage				
No	64.3	59.7	68.6	781
Yes	26.2	24.3	28.3	4355
Population Density Designation				
Urban	32.5	29.9	35.1	3064
Rural	32.7	29.6	36.0	1434
Frontier	38.7	33.1	44.6	598
Low SES[1]				
No	25.8	23.6	28.2	2663
Yes	50.8	46.4	55.3	956

[1]Low SES definition: a) less than high school education, or b) annual household income less than $25,001, or c) Medicaid or Medicare is health care coverage used to pay for most medical care or no health care coverage. Excluded from the low SES category are those with a household income greater than $50,000 or those with a 4-year college education. Analysis includes adults ages 25-64.

The percent of adults who had cholesterol checks was consistent across health districts. While those in District 4 were the most likely to have had their cholesterol checked and those in District 7 were the least likely, the difference was not statistically significant.

Percent of Idaho Adults Who Had Not Had Cholesterol Checked Within The Last Five Years by Health District, 2007 BRFSS

	%	95% C.I.		n
Statewide	33.3	31.4	35.3	5149
District 1	32.0	27.6	36.7	752
District 2	35.3	30.2	40.8	751
District 3	36.3	31.7	41.1	731
District 4	28.3	23.8	33.2	735
District 5	36.3	31.8	41.0	727
District 6	36.2	31.6	41.1	733
District 7	36.4	31.7	41.5	720

Blood Cholesterol (continued)

American Indian/Alaskan Native Idaho adults were significantly more likely to have not had their cholesterol checked within the past five years than White adults (46.2% compared with 32.0%). Idaho Hispanic adults were significantly more likely to have not received a screening for blood cholesterol levels in the last five years than non-Hispanic adults (54.4% compared with 31.6%)

Percent of Idaho Adults Who Have Not Had Cholesterol Checked Within the Last Five Years by Race and Ethnicity, 2003-2007 Aggregate BRFSS

	%	95% C.I.		n
African American	*	*	*	44
Asian	42.3	29.3	56.5	90
American Indian or Alaskan Native	46.2	36.6	56.0	225
Native Hawaiian or Pacific Islander	*	*	*	26
White	32.0	30.8	33.1	14329
Hispanic	54.4	49.6	59.1	802
Non-Hispanic	31.6	30.5	32.6	14479

* Figures are not reliable by BRFSS standards (n<50)

Have you EVER been told by a health professional that your blood cholesterol is too high?

There were no significant differences between males and females who had been told they had high cholesterol after being screened. Adults with incomes above $75,000 were significantly less likely to have been told they have high cholesterol than those with incomes below $15,000 (33.8% compared with 47.1%). The percentage of Idaho adults with high cholesterol did not vary by education level.

Percent of Idaho Adults Who Have High Cholesterol Among Those Screened, 2007 BRFSS

	%	95% C.I.		n
Total	37.6	35.7	39.5	4,130
Sex				
Males	37.1	34.2	40.1	1,612
Females	38.0	35.7	40.4	2,518
Age				
18-44	20.7	17.9	23.9	1024
45-64	43.5	40.8	46.2	1828
65+	56.6	53.4	59.8	1245
Income				
Less than $15,000	47.1	39.6	54.7	355
$15,000-$24,999	39.8	35.0	44.8	626
$25,000-$34,999	42.7	37.4	48.1	546
$35,000-$49,999	35.5	31.3	40.0	695
$50,000-$74,999	32.7	28.6	37.1	675
$75,000+	33.8	29.8	38.0	780
Education				
K-11th Grade	42.6	34.9	50.6	277
12th Grade or GED	41.2	37.7	44.8	1,233
Some College	35.4	32.3	38.5	1,332
College Graduate+	35.6	32.4	39.0	1,278

Blood Cholesterol (continued)

More than half (57.7%) of Idaho adults with high blood pressure also had high cholesterol. Adults with diabetes reported having high cholesterol almost twice as often as those who did not have diabetes (34.3% compared with 64.6%). Approximately half of Idaho adults who were not physically active had high cholesterol. Adults who were not binge drinkers were significantly more likely to have high cholesterol than binge drinkers (38.8% compared with 27.3%). There was no significant relationship between chronic drinking and cholesterol. Alcohol use has been found to increase HDL, or "good" cholesterol, however regular physical exercise can also produce the same effect.[4]

Percentage of Idaho Adults Who Have High Cholesterol Among Those Screened by Selected Risk Factors, 2007 BRFSS

	%	95% C.I.		n
Hypertension				
No	27.7	25.6	29.9	2567
Yes	57.7	54.6	60.9	1554
Diabetes				
No	34.3	32.4	36.3	3620
Yes	64.6	59.3	69.7	507
Low SES[1]				
No	33.4	31.0	35.8	2212
Yes	39.6	34.7	44.6	610
No Leisure Time Physical Activity				
No	35.6	33.5	37.7	3224
Yes	46.3	42.3	50.3	898
Moderate and Vigorous Activity[2]				
Meets Recommendation	33.3	30.8	35.9	2014
Insufficient Activity	39.6	36.3	43.0	1398
No Activity	50.2	44.3	56.0	433
Binge Drinking[3]				
No	38.8	36.8	40.8	3677
Yes	27.3	21.9	33.4	387
Chronic Drinking[3]				
No	37.8	35.9	39.8	3874
Yes	28.6	20.7	38.1	154

[1]Low SES definition: a) less than high school education, or b) annual household income less than $25,001, or c) Medicaid or Medicare is health care coverage used to pay for most medical care or no health care coverage. Excluded from the low SES category are those with a household income greater than $50,000 or those with a 4-year college education. Analysis includes adults ages 25-64.
[2]Adults with 30+ minutes of moderate physical activity five or more days per week, or vigorous physical activity for 20+ minutes three or more days per week.
[3]Binge drinking for females is defined as consuming four or more alcoholic beverages on one occasion in the last 30 days. For males binge drinking is five or more alcoholic beverages on one occasion in the last 30 days. Heavy drinking for females is defined as consuming more than 30 alcoholic beverages in the last 30 days. For males, heavy drinking is more than 60 alcoholic beverages in the last 30 days.
[4]www.americanheart.org

Blood Cholesterol (continued)

More than two-in-five (42.5%) of those who were overweight had been told they had high cholesterol. This was significantly higher than the 27.3% of those who were not overweight. Obesity was also a factor in cholesterol prevalence. Of those who were not obese 35.8% had high cholesterol compared with 41.8% of those who were obese.

Percentage of Idaho Adults Who Have High Cholesterol Among Those Screened by Selected Risk Factors, 2007 BRFSS

	%	95% C.I.		n
Population Density Designation				
Urban	37.6	35.2	40.1	2495
Rural	36.4	33.2	39.8	1140
Frontier	41.0	35.5	46.7	458
Overweight (BMI>25)				
No	27.3	24.5	30.3	1334
Yes	42.5	40.0	44.9	2597
Obese (BMI>30)				
No	35.8	33.6	38.0	2486
Yes	41.8	38.1	45.6	1085
Did Not Eat Five Servings of Fruits and Vegetables Daily				
No	36.2	32.7	39.8	1036
Yes	38.0	35.8	40.2	3007
Current Smoker				
No	37.4	35.4	39.4	3489
Yes	38.7	34.0	43.8	629
Angina/Heart Disease				
No	35.8	33.9	37.8	3816
Yes	67.8	60.3	74.5	260
Stroke				
No	36.9	35.0	38.8	3963
Yes	58.6	48.0	68.5	154
Heart Attack				
No	36.0	34.1	37.9	3836
Yes	62.5	54.1	70.3	270

Blood Cholesterol (continued)

The prevalence of high cholesterol ranged from a high of 41.4% in Health District 1 to a low of 35.8% in Health District 3. This was not a statistically significant difference.

Percent of Idaho Adults With High Cholesterol Among Those Who Have Been Screened by Health Districts, 2007 BRFSS

	%	95% C.I.		n
Statewide	37.6	35.7	39.5	4130
District 1	41.4	36.9	46.0	612
District 2	36.8	32.6	41.3	619
District 3	35.8	31.5	40.4	567
District 4	37.5	33.2	41.9	631
District 5	36.4	31.8	41.1	560
District 6	37.7	33.2	42.3	575
District 7	36.6	32.2	41.3	566

The prevalence of high cholesterol ranged from a high of 44.2% among Asian Idaho adults to a low of 35.1% among White Idaho adults. This was not a statistically significant difference. Non-Hispanic adults who have had a cholesterol screening were significantly more likely to have been diagnosed with high cholesterol than Hispanic adults (35.4% compared with 26.9%).

Percent of Idaho Adults With High Cholesterol Among Those Who Have Been Screened by Race and Ethnicity, 2003-2007 Aggregate BRFSS

	%	95% C.I.		n
African American	*	*	*	33
Asian	44.2	28.2	61.5	57
American Indian or Alaskan Native	40.3	31.4	49.8	169
Native Hawaiian or Pacific Islander	*	*	*	17
White	35.1	34.0	36.2	11403
Hispanic	26.9	22.0	32.4	449
Non-Hispanic	35.4	34.3	36.5	11485

*Figures are not reliable by BRFSS standards (n<50)

Adults with high cholesterol were twice as likely to report fair or poor general health, having activities limited due to poor health, and having to use special equipment than adults without high cholesterol.

Percent of Idaho Adults With Health Complications by High Cholesterol, 2007 BRFSS

	%	95% C.I.		n
'Fair' or 'Poor' General Health				
No High Cholesterol	11.3	9.9	12.9	2412
High Cholesterol	23.1	16.3	25.6	1712
Activities Limited Due to Poor Health				
No High Cholesterol	18.2	16.3	20.2	2393
High Cholesterol	30.2	27.6	32.9	1683
Health Problems Require Equipment[1]				
No High Cholesterol	5.2	4.2	6.4	2394
High Cholesterol	10.8	9.3	12.6	1691

[1]Equipment includes any special equipment such as a cane, wheelchair, special bed, or special telephone.

Smoking Prevalalence

Current smoker = respondent has smoked 100 or more cigarettes during lifetime, and currently smokes every day or some days.

The prevalence of cigarette smoking among Idaho adults ranged from a high of 22.3% in 2000 to a low of 16.8% in 2006.

Percent of Idaho Adults Who Currently Smoke Cigarettes, 1997-2007 BRFSS

	%	95% C.I.		n
1997	19.9	18.5	21.4	4915
1998	20.3	18.9	21.6	4925
1999	21.5	20.1	23.0	4942
2000	22.3	20.9	23.7	4967
2001	19.6	18.3	21.0	4823
2002	20.7	19.3	22.2	4846
2003	18.9	17.6	20.3	4813
2004	17.4	16.2	18.8	5054
2005	17.9	16.6	19.4	5719
2006	16.8	15.5	18.2	5328
2007	19.1	17.6	20.7	5302

Idaho adults who had been diagnosed with a heart attack or stroke reported higher rates of cigarette smoking than the statewide adult population. This was not a statistically significant difference.

Percent of Idaho Adults Who Smoke Cigarettes by Diagnosed Cardiovascular Disease, 2007 BRFSS

	%	95% C.I.		n
Angina	16.5	11.6	22.8	276
Heart Attack	23.1	16.7	30.9	298
Stroke	27.3	18.1	38.9	166

One-third (33.2%) of Idaho's Adult American Indians or Alaskan Natives smoke cigarettes; which was significantly higher than Whites (17.6%) and Asians (6.9%).

Percent of Idaho Adults Who Smoke Cigarettes by Race and Ethnicity, 2005-2007 Aggregate BRFSS

	%	95% C.I.		n
African American	32.0	16.7	52.6	51
Asian	6.9	3.4	13.4	93
American Indian or Alaskan Native	33.2	25.5	41.8	231
Hawaiian Native or Pacific Islander	*	*	*	25
White	17.6	16.7	18.5	15238
Hispanic	19.6	16.2	23.6	916
Non-Hispanic	17.7	16.8	18.6	15242
Hispanics Who Did Not Take the Survey In Spanish	22.4	18.2	27.3	572
Hispanics Who Took The Survey in Spanish	16.4	11.4	23.1	344

*Figures are not reliable by BRFSS standards (n<50)

Diabetes Prevalence

Have you EVER been told by a doctor that you have diabetes?

Diabetes has shown an increase of approximately 100% since 1997 (from 4.0% to 7.9%), a statistically significant difference.

Percent of Idaho Adults Who Have Ever Been Told They Have Diabetes, 1997-2007 BRFSS

	%	95% C.I.		n
1997	4.0	3.4	4.7	4921
1998	4.3	3.7	5.1	4928
1999	4.8	4.1	5.5	4953
2000	4.9	4.2	5.6	4973
2001	5.4	4.8	6.2	4830
2002	6.1	5.4	6.8	4853
2003	6.3	5.5	7.1	4823
2004	6.2	5.5	6.9	5070
2005	6.8	6.1	7.6	5726
2006	6.8	6.1	7.7	5339
2007	7.9	7.1	8.7	5306

Idaho adults with angina (31.5%), heart attack (32.2%), or stroke (27.8%) were significantly more likely to have been diagnosed with diabetes than the state population (7.9%).

Percent of Idaho Adults Who Have Been Told They Have Diabetes by Diagnosed Cardiovascular Disease, 2007 BRFSS

	%	95% C.I.		n
Angina	31.5	25.0	38.7	275
Heart Attack	32.2	25.9	39.2	298
Stroke	27.8	19.9	37.3	165

Idaho American Indians or Alaskan Natives were significantly more likely to have been diagnosed with diabetes than Whites or African Americans.

Percent of Idaho Adults Who Have Been Told They Have Diabetes by Race and Ethnicity, 2005-2007 Aggregate BRFSS

	%	95% C.I.		n
African American	3.3	1.1	9.2	51
Asian	5.4	2.2	12.8	93
American Indian or Alaskan Native	14.8	10.2	20.9	231
Native Hawaiian or Pacific Islander	*	*	*	25
White	7.2	6.7	7.7	15262
Hispanic	5.8	4.4	7.7	917
Non-Hispanic	7.4	6.9	7.9	15263
Hispanics Who Did Not Take the Survey In Spanish	7.6	5.5	10.5	572
Hispanics Who Took The Survey in Spanish	3.7	2.2	6.1	345

*Figures are not reliable by BRFSS standards (n<50)

Leisure Time Physical Activity

During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?

Percent of Idaho Adults Who Did Not Participate in Leisure Time Physical Activity, 1998-2007 BRFSS

	%	95% C.I.		n
1998	20.4	19.1	21.8	4930
1999	NA	NA	NA	NA
2000	19.8	18.5	21.1	4974
2001	21.0	19.6	22.5	4831
2002	19.4	18.1	20.7	4855
2003	18.3	17.0	19.7	4817
2004	18.8	17.5	20.1	5061
2005	21.6	20.2	23.1	5722
2006	20.8	19.4	22.2	5331
2007	19.6	18.2	21.0	5304

NA: Data not collected.

Approximately one third (33.1%) of Idaho adults who had been diagnosed with heart disease or a heart attack did not participate in leisure time physical activity. This was significantly higher than the statewide average. In addition, Idaho adults who had been diagnosed with a stroke were twice as likely to not participate in leisure time physical activity than the statewide average (43.6% compared with 19.6%).

Percent of Idaho Adults Who Did Not Participate in Leisure Time Physical Activity by Diagnosed Cardiovascular Disease, 2007 BRFSS

	%	95% C.I.		N
Angina	33.1	26.6	40.2	275
Heart Attack	33.1	26.7	40.2	297
Stroke	43.6	34.0	53.7	166

Idaho American Indian or Alaskan Native adults were significantly more likely to not participate in leisure time physical activity than White adults (30.5% compared with 20.2%). Idaho Hispanics were significantly more likely to not participate in leisure time physical activity than Non-Hispanics. Among Hispanics those that took the survey in Spanish were twice as likely to not participate in leisure time physical activity than those who did not take the survey in Spanish.

Percent of Idaho Adults Who Did Not Participate In Leisure Time Physical Activity by Race and Ethnicity, 2005-2007 Aggregate BRFSS

	%	95% C.I.		n
African American	23.2	10.3	44.2	51
Asian	15.0	7.1	28.9	93
American Indian or Alaskan Native	30.5	22.7	39.5	231
Native Hawaiian or Pacific Islander	*	*	*	25
White	20.2	19.3	21.1	15248
Hispanic	36.8	32.0	41.8	919
Non-Hispanic	19.4	18.6	20.3	15246
Hispanics Who Did Not Take the Survey In Spanish	24.7	20.5	29.4	574
Hispanics Who Took The Survey in Spanish	50.7	41.7	59.7	345

*Figures are not reliable by BRFSS standards (n<50)

Exercise

Exercise = 30+ minutes of moderate physical activity 5 or more days a week or vigorous physical activity for 20 minutes 3 or more days a week.

Percent of Idaho Adults Who Did Not Engage in Moderate or Vigorous Physical Activity, 2003-2007 BRFSS

	%	95% C.I.		n
2003	9.2	8.3	10.2	4580
2005	10.8	9.7	11.9	5290
2007	8.9	8.0	9.9	4914

Idaho adults who had been diagnosed with heart disease, a heart attack, or stroke were significantly more likely to not participate in moderate or vigorous physical activity than the statewide population.

Percent of Idaho Adults Who Did Not Engage in Moderate or Vigorous Physical Activity by Diagnosed Cardiovascular Disease, 2007 BRFSS

	%	95% C.I.		n
Angina	20.3	14.9	26.9	245
Heart Attack	18.2	13.5	24.1	264
Stroke	22.5	15.4	31.6	152

Hispanic adults were significantly more likely to not be engaged in physical activity than Non-Hispanic adults.

Percent of Idaho Adults Who Did Not Engage in Moderate or Vigorous Physical Activity by Race and Ethnicity, 2003, 2005, 2007 Aggregate BRFSS

	%	95% C.I.		n
African American	*	*	*	42
Asian	5.3	2.5	10.9	82
American Indian or Alaskan Native	14.8	10.3	20.9	218
Native Hawaiian or Pacific Islander	*	*	*	27
White	9.4	8.8	10.1	13839
Hispanic	17.1	13.0	22.2	734
Non-Hispanic	9.3	8.7	9.9	13876

*Figures are not reliable by BRFSS standards (n<50)

Weight Management

Overweight = Body Mass Index (BMI) greater than or equal to 25.

Overweight reached a high of 63.1 percent in 2007.

Percent of Idaho Adults Who Were Overweight (BMI>25), 1997-2007 BRFSS

	%	95% C.I.		n
1997	52.2	50.4	54.0	4803
1998	53.1	51.4	54.8	4784
1999	55.2	53.5	57.0	4809
2000	55.7	54.0	57.4	4781
2001	59.3	57.6	61.1	4588
2002	57.3	55.6	59.1	4661
2003	59.3	57.5	61.1	4583
2004	58.2	56.4	60.0	4890
2005	61.4	59.5	63.1	5439
2006	59.7	57.9	61.6	5091
2007	63.1	61.2	64.9	5042

Idaho adults who had been diagnosed with heart disease or a heart attack were significantly more likely to be overweight than the general population.

Percent of Idaho Adults Who Were Overweight (BMI>25) by Diagnosed Cardiovascular Disease, 2007 BRFSS

	%	95% C.I.		n
Angina	71.9	65.0	78.0	260
Heart Attack	76.7	69.8	82.4	284
Stroke	68.3	58.1	77.1	162

The prevalence of overweight ranged from a high of 71.0% among American Indians or Alaskan Natives to a low of 49.6% among Asians. This was not a statistically significant difference.

Percent of Idaho Adults Who Were Overweight (BMI>25) by Race and Ethnicity, 2005-2007 Aggregate BRFSS

	%	95% C.I.		n
African American	*	*	*	45
Asian	49.6	36.0	63.2	89
American Indian or Alaskan Native	71.0	61.2	79.3	223
Native Hawaiian or Pacific Islander	*	*	*	24
White	60.9	59.7	62.0	14586
Hispanic	64.7	58.8	70.2	774
Non-Hispanic	60.9	59.8	62.1	14623
Hispanics Who Did Not Take the Survey In Spanish	65.5	60.0	70.7	543
Hispanics Who Took The Survey in Spanish	63.4	50.8	74.4	231

*Figures are not reliable by BRFSS standards (n<50)

Weight Management (continued)

Obese = Body Mass Index (BMI) greater than or equal to 30.

One in four (25.1 percent) Idaho adults are classified as obese.

Percent of Idaho Adults Who Were Obese (BMI>30), 1997-2007 BRFSS

	%	95% C.I.		n
1997	16.3	15.0	17.7	4803
1998	16.4	15.2	17.7	4784
1999	20.0	18.6	21.4	4809
2000	18.9	17.6	20.2	4781
2001	20.5	19.2	21.9	4588
2002	20.4	19.1	21.8	4661
2003	22.0	20.5	23.5	4583
2004	21.1	19.7	22.5	4890
2005	24.5	23.1	26.1	5439
2006	24.1	22.7	25.6	5091
2007	25.1	23.6	26.7	5042

Idaho American Indian or Alaskan Native adults were significantly more likely to be obese (40.6%) than Whites (24.2%) and Asians (11.0%).

Percent of Idaho Adults Who Were Obese (BMI>30) by Diagnosed Cardiovascular Disease, 2007 BRFSS

	%	95% C.I.		n
Angina	31.5	25.2	38.7	260
Heart Attack	34.1	27.1	41.9	284
Stroke	21.7	15.4	29.8	162

American Indian/Alaskan Natives were more likely to be obese than any other racial group. This was a statistically significant difference.

Percent of Idaho Adults Who Were Obese (BMI>30) by Race and Ethnicity, 2005-2007 Aggregate BRFSS

	%	95% C.I.		n
African American	*	*	*	45
Asian	11.0	4.9	23.0	89
American Indian or Alaskan Native	40.6	32.3	49.4	223
Native Hawaiian or Pacific Islander	*	*	*	24
White	24.2	23.3	25.1	14586
Hispanic	28.2	24.1	32.7	774
Non-Hispanic	24.1	23.2	25.0	14623
Hispanics Who Did Not Take the Survey In Spanish	31.1	26.3	36.4	543
Hispanics Who Took The Survey in Spanish	23.6	17.3	31.5	231

*Figures are not reliable by BRFSS standards (n<50)

Fruit & Vegetable Consumption

How often do you eat/drink: fruit juices, fruit, green salad, potatoes, carrots, and other vegetables?

In 2007, over three-fourths (77.7%) of Idaho adults did not eat five servings of fruits and vegetables a day. The percentage of adults who did not get the recommended daily five servings of fruit and vegetables has not significantly changed over the last ten years.

Percent of Idaho Adults Who Did Not Eat Five Servings of Fruits and Vegetables Each Day, 1998-2007 BRFSS

	%	95% C.I.		n
1998	76.2	74.8	77.6	4931
2000	78.9	77.6	80.2	4978
2002	78.6	77.2	80.0	4856
2003	79.3	77.9	80.7	4823
2005	76.8	75.3	78.3	5625
2007	77.7	76.2	79.2	5201

Percent of Idaho Adults Who Did Not Eat Five Servings of Fruits and Vegetables Each Day by Diagnosed Cardiovascular Disease, 2007 BRFSS

	%	95% C.I.		n
Angina	74.5	67.7	80.3	267
Heart Attack	78.3	72.2	83.3	290
Stroke	76.3	67.9	83.0	162

American Indians/Alaskan Natives were significantly more likely than White Idaho Adults to eat the recommended five servings of fruits and vegetables (77.8% compared with 67.6%).

Percent of Idaho Adults Who Did Not Eat Five Servings of Fruits and Vegetables Each Day by Race and Ethnicity, 2003-2007 Aggregate BRFSS

	%	95% C.I.		n
African American	*	*	*	44
Asian	73.1	58.5	83.9	89
American Indian or Alaskan Native	67.6	57.5	76.4	233
Native Hawaiian or Pacific Islander	*	*	*	27
White	77.8	76.9	78.7	14622
Hispanic	76.8	70.5	82.1	792
Non-Hispanic	77.9	77.0	78.7	14672

*Figures are not reliable by BRFSS standards (n<50)

Mental Health

Idaho adults who had suffered a stroke indicated an average of seven days per month that they experienced poor mental health which was more than double the three days that adults who had not been diagnosed with a stroke reported.

Average Number of Poor Mental Health Days Among Idaho Adults by Heart Attack, Heart Disease, and Stroke, 2007 BRFSS

	Average # of Poor Mental Health Days	n
Heart Attack		
Yes	5.3	290
No	3.1	4917
Heart Disease		
Yes	4.8	267
No	3.1	4908
Stroke		
Yes	7.3	157
No	3.1	5060

Idaho adults who had been diagnosed with a heart attack, heart disease, or stroke reported twice as many days of poor physical health than adults who had not been diagnosed with these conditions.

Average Number of Poor Physical Health Days Among Idaho Adults by Heart Attack, Heart Disease, and Stroke, 2007 BRFSS

	Average # of Poor Physical Health Days	n
Heart Attack		
Yes	8.4	286
No	3.1	4907
Heart Disease		
Yes	10.1	265
No	3.1	4900
Stroke		
Yes	10.7	161
No	3.2	5045

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