

# Diabetes Mortality in Idaho

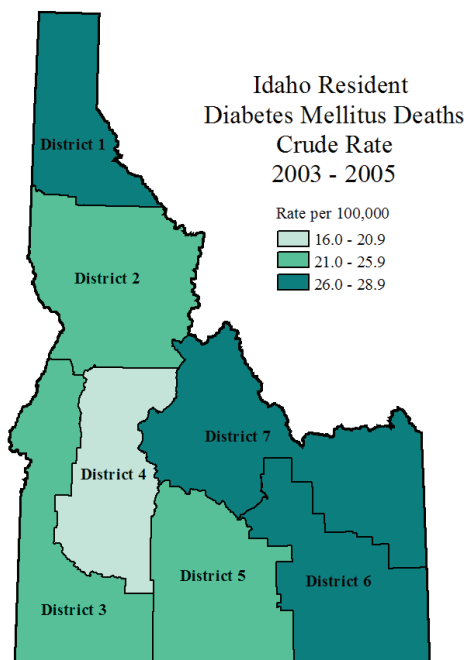
Diabetes mellitus is a group of diseases characterized by high levels of glucose resulting from defects in insulin secretion, insulin action, or both.<sup>1</sup> The percentage of Idaho adults with diabetes has increased 94.3 percent over the past decade, from 3.5 percent in 1996 to 6.8 percent in 2005. Adults 65 and over were significantly more likely to have ever been diagnosed with diabetes (16.7 percent) when compared with those under age 65 (5.0 percent) in 2005.<sup>2</sup> Diabetes was the sixth leading cause of death in the U.S. in 2004 (latest year available) and the seventh leading cause of death in Idaho in 2005.

From 2003 through 2005, there were 995 Idaho deaths in which diabetes was the underlying cause of death. During the three years, there were an additional 1,433 deaths in which diabetes was listed as contributing to the cause of death, but the underlying cause of death was attributed to other causes.

## Idaho Public Health Districts

Idaho Resident Diabetes Deaths  
Number, Percent, Crude Rate, and Mean Age  
by District of Residence  
2003-2005

Residence	Total Deaths	Diabetes Deaths			
		Number	Percent	Crude Rate <sup>3</sup>	Mean Age
Idaho	30,890	995	3.2%	23.8	73.3
District 1	4,996	165	3.3	28.3	73.8
District 2	2,741	77	2.8	25.5	74.5
District 3	5,019	167	3.3	25.3	73.0
District 4	6,917	187	2.7	16.5	72.1
District 5	4,250	119	2.8	23.5	73.1
District 6	3,609	133	3.7	27.9	73.2
District 7	3,358	147	4.4	28.2	74.1



A total of 995 Idahoans died from diabetes from 2003-2005. This accounted for 3.2 percent of the 30,890 total deaths. Diabetes accounted for 73,138 deaths (3.1 percent of the total number of deaths) in the United States in 2004. Diabetes was responsible for 2.7 percent of District 4 resident deaths, which is 20.6 percent lower than the rest of the state. The 2003 through 2005 crude rate for District 4 (16.5 deaths per 100,000 population) was significantly lower than Idaho's rate of 23.8 deaths per 100,000 population and the remaining districts. Diabetes accounted for 4.4 percent of District 7 resident deaths, which was 41.9 percent higher than the rest of the state.

From 2003 through 2005, the mean age of death for Idahoans who died from diabetes was 73.3. The mean age of death did not vary much by district of residence. The mean age of death for District 4 residents was 72.1, which is 1.7 percent lower than Idaho's mean age. The mean age of death for District 2 residents was 74.5, which is 1.6 higher than Idaho's mean age.

# Age and Gender

A total of 76.7 percent (763 of 995) of the diabetes deaths in Idaho from 2003 to 2005 were to people 65 years old and older. Idahoans less than 45 years old only accounted for 5.1 percent (51 of 995) of the diabetes deaths. This age group accounts for 8.4 percent of the total number of deaths in Idaho from 2003 to 2005. The remaining 181 diabetes deaths (18.2 percent) were to Idahoans 45-64 years old.

The overall diabetes crude rate was similar for males (24.1 deaths per 100,000 males) and females (23.5 deaths per 100,000 females). The largest difference between the age-specific diabetes rates for males and females was in the 45-54 year old age group, where the male rate (19.3 deaths per 100,000 males) was more than double the rate for females (8.9 deaths per 100,000 females).

In the 85 and older age category, there were 45 more diabetes deaths among females than males. The female rate of 319.9 deaths per 100,000 females, was 31.5 percent lower than the rate for males, 420.8 deaths per 100,000 males.

Idaho Resident Diabetes Deaths  
Number and Age-Specific Rates  
by Gender  
2003-2005

Age	Female		Male	
	Number	Rate <sup>3</sup>	Number	Rate <sup>3</sup>
TOTAL	489	23.5	506	24.1
<15	-	-	-	-
15-24	1	0.3	2	0.6
25-34	6	2.3	5	1.7
35-44	14	4.9	23	7.9
45-54	26	8.9	56	19.3
55-64	51	25.1	48	23.7
65-74	102	78.9	110	90.8
75-84	147	162.7	165	242.9
85+	142	319.9	97	420.8

Diabetes was the fifth leading cause of death to Idahoans aged 35-44 and 65-74. Among Idahoans aged 25-34, 45-54, and 55-64, diabetes was the sixth leading cause of death. Diabetes was the seventh leading cause of death among those 75 and older.

# Race and Ethnicity

Idaho Resident Diabetes Deaths  
Number, Crude Rate and Mean Age  
by Race/Ethnicity  
2003-2005

Race/Ethnicity	Number	Crude Rate <sup>3</sup>	Mean Age
Race	995	23.8	73.3
White	946	23.5	73.6
Black	3	9.8	74.0
American Indian	33	50.1	67.4
Asian/Pacific Islander	5	9.5	74.4
Other race	8	NC	NC
Ethnicity	995	23.8	73.3
Hispanic	38	10.2	64.7
Non-Hispanic	954	25.1	73.6
Not stated	3	NC	NC

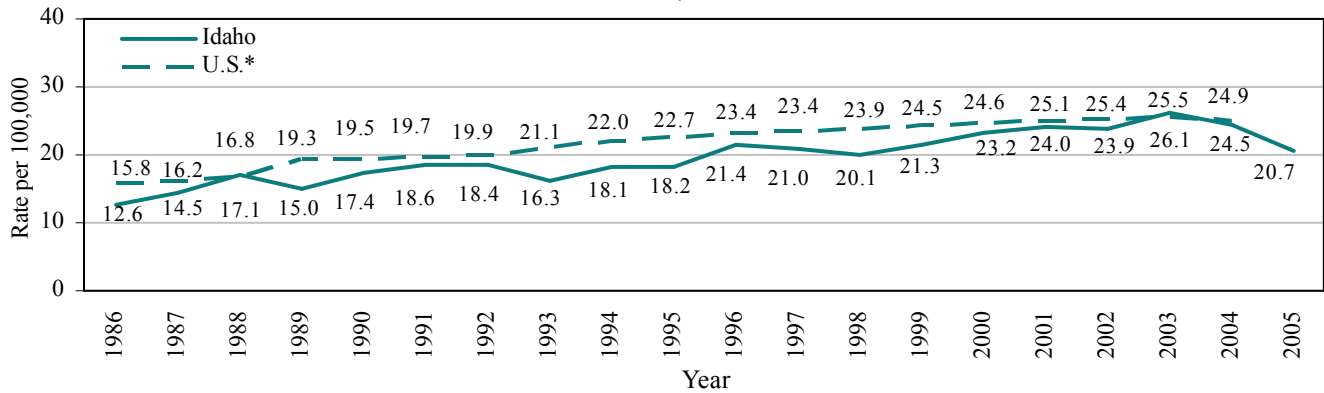
NC: Crude rates and mean age not calculated for other race and ethnicity not stated.

American Indians accounted for 1.2 percent of all deaths in Idaho from 2003 to 2005, but accounted for 3.3 percent (33 of 995) of the diabetes deaths in Idaho from 2003 to 2005. This race had the highest crude rate (50.1 deaths per 100,000 population) of all the races from 2003 to 2005. The crude rate for American Indians was 2.1 times the rate for whites. On average, American Indians who died from diabetes were 6.2 years younger than whites who died from diabetes.

A total of 4.8 percent (38 of 798) of all deaths to Hispanics were due to diabetes, compared with 3.2 percent (954 of 30,057) for Non-Hispanics. On average, Hispanics who died from diabetes were 8.9 years younger than Non-Hispanics who died from diabetes.

# Idaho and the United States

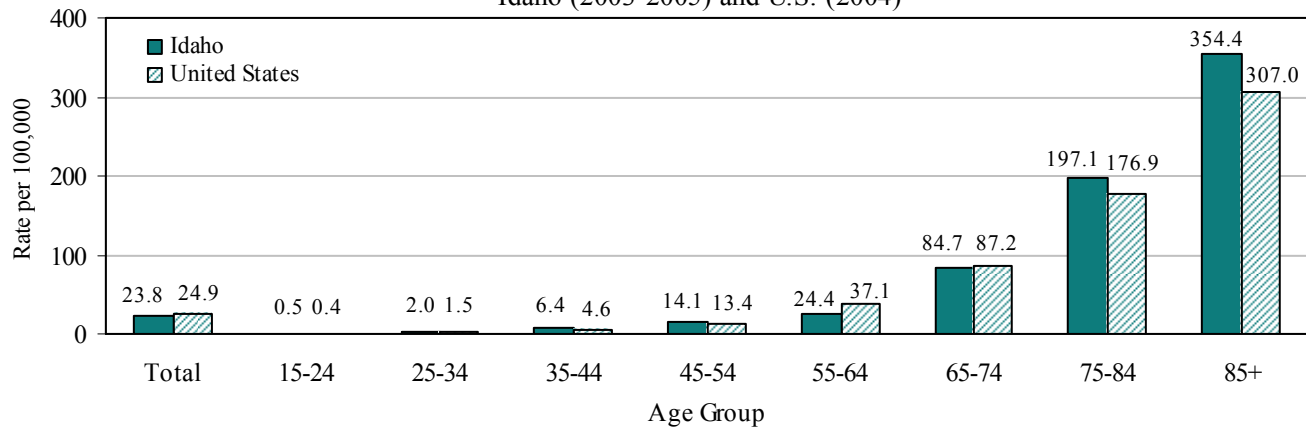
Diabetes Crude Death Rates  
Idaho and U.S., 1986-2005



Rates are per 100,000 population. \* U.S. 2005 is unavailable.  
U.S. and Idaho statistics for 1986 to 1998 have been revised using Modified ICD-9 codes and comparability ratios.  
Source U.S. data: Centers for Disease Control and Prevention, WONDER on-line database, April 2007.

The U.S. crude death rate increased in a stable manner over the past twenty years, increasing 57.8 percent from 15.8 in 1986 to 24.9 deaths per 100,000 population in 2004. Idaho's rate, which fluctuated greatly over the past two decades, ranged from a low of 12.6 deaths per 100,000 population in 1986 to a high of 26.1 deaths per 100,000 population in 2003. Idaho's diabetes rate was lower than the diabetes rate for the United States each year except for 1988 and 2003. The largest difference in rates occurred in 1993 when the U.S. rate (21.1 deaths per 100,000 population) was 29.7 percent higher than Idaho's rate (16.3 deaths per 100,000 population).

Age-Specific Diabetes Death Rates  
Idaho (2003-2005) and U.S. (2004)



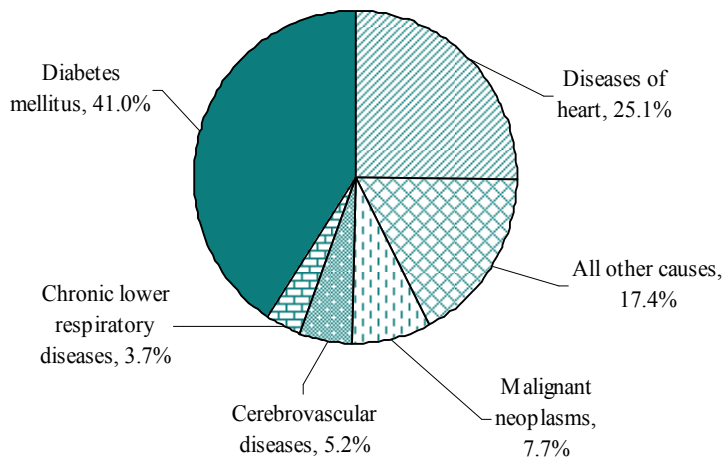
Source U.S. data: Centers for Disease Control and Prevention, WONDER on-line database, April 2007.

Idaho's average-annual diabetes rate for 2003-2005 (23.8 deaths per 100,000 population) was 4.6 percent lower than the 2004 U.S. rate (24.9 deaths per 100,000 population). The largest difference between the U.S. and Idaho's age-specific diabetes rates was in the 55-64 year old age group, where the U.S. rate (37.1 deaths per 100,000 population) was 52.0 percent higher than Idaho's rate (24.4 deaths per 100,000 population). The rate for Idahoans aged 35-44 (6.4 deaths per 100,000 population) was 28.5 percent higher than the U.S. rate (4.6 deaths per 100,000 population). Age-specific diabetes rates were higher for Idahoans in every age group except the 55-64 and 65-74 year old age groups. The U.S. rate for 65-74 year olds was 2.9 percent higher than the rate for Idahoans.

# Diabetes-Related Deaths

Diabetes-related deaths include Idaho resident deaths occurring in Idaho and out of state in which the underlying cause of death was diabetes, plus all other deaths to Idahoans who died in Idaho in which diabetes was listed anywhere in the cause-of-death section. Literal information for out-of-state deaths are not reported on the death certificates provided to the Bureau of Health Policy and Vital Statistics. Therefore, numbers and rates are underreported for diabetes-related deaths that occur out of state.

Diabetes-Related Deaths  
by Underlying Cause of Death



From 2003 to 2005, 2,428 Idahoans had diabetes listed somewhere in the cause-of-death section. People with diabetes may die from the disease or may die from another cause of death. 41.0 percent of the death certificates that mentioned diabetes in the cause of death section had diabetes as the underlying cause of death. The other 59.0 percent had a different underlying cause of death listed. For example, 25.1 percent of deaths with diabetes listed in cause of death were due to Diseases of heart.

There were 30,890 deaths to Idahoans from 2003 to 2005; 3.2 percent of them died from diabetes. A total of 7.9 percent of all Idahoans had diabetes listed somewhere in the cause-of-death section. Diabetes contributed to 8.2 percent of all Diseases of heart deaths, 2.7 percent of Malignant neoplasm deaths, 5.8 percent of Cerebrovascular disease deaths, and 4.7 percent of Chronic lower respiratory disease deaths.

Idaho Resident Deaths  
by Underlying Cause of Death and Diabetes Listed on Certificate  
2003-2005

Cause of Death	Underlying Cause of Death		Diabetes Listed Anywhere in the Cause of Death Section	
	Number	Percent	Number	Percent
Total, All Causes of Death	30,890	100.0%	2,428	7.9%
Diabetes mellitus	995	3.2	995	100.0
Diseases of heart	7,454	24.1	609	8.2
Malignant neoplasms	6,899	22.3	186	2.7
Cerebrovascular diseases	2,182	7.1	126	5.8
Chronic lower respiratory diseases	1,893	6.1	89	4.7
All other causes of death	11,467	37.1	423	3.7

- Centers for Disease Control and Prevention, "Diabetes, Frequently Asked Questions," [www.cdc.gov/diabetes/faq/basics.htm](http://www.cdc.gov/diabetes/faq/basics.htm), retrieved December 28, 2006.
- Idaho Behavioral Risk Factors: Results from the 2005 Behavioral Risk Factor Surveillance System*. Boise: Idaho Department of Health and Welfare, Division of Health, Bureau of Health Policy and Vital Statistics, 2006.
- Three-year crude rate: Average number of deaths per 100,000 individuals. Rates are based on mid-year population.