

Health Risk Behaviors and Mortality Rates in Delta County: Results from the Behavioral Risk Factor Surveillance System and Vital Statistics Data, 1997

An update from the Survey Research Unit

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BRIEF

The Colorado Behavioral Risk Factor Surveillance System (BRFSS) is an ongoing statewide telephone survey designed to monitor the prevalence of health behaviors and preventive health practices associated with the leading causes of premature death, disability, and disease. While the BRFSS provides reliable statewide estimates of various health behaviors, the sample reflects the state population in which 80 percent of respondents live in the urbanized Front Range areas of Colorado. To better assess a rural area of the state, a special point-in-time survey was conducted with adults ages 18 to 64 in Delta County from June to September, 1997. This survey used the same methodology and many of the same questions as the 1997 statewide BRFSS. In this report, prevalence estimates for health behaviors and preventive health practices of adults ages 18 to 64 in Delta County are compared to estimates derived for all other counties in the state. In addition to the BRFSS data, vital statistics cause of death data for Delta County and the rest of the state are compared for 1997.

Methodology

Using random digit dialing techniques, 401 Delta County residents 18 to 64 were interviewed during a four-month time period in 1997. Data were weighted for the probability of selection, adjusted for the age and gender distributions of the county, and then used to generate prevalence estimates. The chi-square statistic was used to determine whether differences between Delta County and the remainder of the state were statistically significant.

For this report, federal poverty guidelines were used to calculate poverty level, based on the number of people in the household and the reported household income. Because income was asked categorically, some respondents could not be placed with certainty into the poverty level categories of above 185 percent of poverty or below 185 percent of poverty. These respondents were designated as “at or near 185 percent of poverty.”

The reported education and poverty level distributions of respondents differed in the two areas (see Table 1). Compared to the remainder of the state, adults in Delta County were significantly less likely to have attended college and more likely to report incomes below 185 percent of the federal poverty level. Age, gender, and ethnicity distributions for the two regions were similar.

Self-Reported Health Status

There were no statistically significant differences in reported health status between the two areas (see Table 2 on page 3). In both areas, the prevalence of reporting “fair”

Table 1. Sample characteristics of Delta County and the remainder of the state: Colorado BRFSS, 1997

Characteristic	Delta County (%) n=401	Remainder of state (%) n=1463
Age		
18-34	35.6	38.9
35-44	26.6	28.8
45-54	21.9	20.2
55-64	15.9	12.0
Gender		
Male	50.4	50.3
Female	49.6	49.7
Ethnicity		
Hispanic	11.5	13.9
Non-Hispanic	88.5	86.1
Education*		
Less than high school	9.3	9.0
High school graduate	42.2	25.8
Some college	48.5	65.2
Poverty Level*		
Below 185% of Poverty	30.6	15.9
At or near 185% of Poverty	17.5	12.2
Above 185% of Poverty	51.9	71.9

*difference between the two areas is significant at $p < .05$

or “poor” health increased with age. Respondents in both areas with incomes below 185 percent of poverty were more likely than those with incomes above 185 percent of poverty to report poor health. Lower incomes have been linked both to health status and early mortality. People with low incomes have mortality rates that are twice the rates of people with incomes above the poverty level.¹

Health Insurance

The proportion of uninsured adults in Delta County (36.7 percent) was significantly higher compared to adults in the rest of state (14.2 percent); this difference remained significant across gender, age and poverty level. Young adults in both regions were more likely to lack health insurance than older respondents. In both areas, adults below 185 percent of the federal poverty level were the most likely to lack health insurance. Regional differences appear to play a more important role than poverty level; the proportion of uninsured respondents in Delta County with incomes above 185 percent of poverty was over twice that of respondents in the same income category in the rest of the state.

Cardiovascular Disease Risk Factors

BRFSS data can be used to estimate the prevalence of several cardiovascular disease risk factors including overweight, current cigarette use, hypertension, high blood cholesterol, and diabetes. Data are also collected on how often adults have their blood pressure and blood cholesterol checked. Overweight is defined as a Body Mass Index (BMI=weight in kilograms/height in meters²) of 27.3 or higher for females and 27.8 or higher for males. Approximately the same proportion of adults in Delta County (28.0 percent) was overweight compared to adults in the rest of the state (24.7 percent).

Current smokers were identified as those respondents who had smoked at least 100 cigarettes in their lives and who currently smoked. The prevalence of people who currently smoked was similar for Delta County and the rest of the state. In both areas, smoking prevalence was highest for those in the lowest income category.

Overall, respondents in both areas reported similarly when asked if they had ever been told that their blood pressure or blood cholesterol was high. While respondents reported similar prevalences of high blood pressure or high cholesterol, it should be noted that residents in Delta County were significantly less likely to have had their blood pressure

checked in the past two years or their blood cholesterol checked in the past five years.

The proportion of respondents who reported ever being told by a health professional that they had diabetes was similar for the two areas.

Motor Vehicle Safety

Respondents in Delta County (40.9 percent) were significantly more likely to report that they do not always use their safety belts while riding in or driving a car compared to the rest of the state (28.5 percent). In particular, younger adults and adults above 185 percent of poverty in Delta County were significantly more likely to not use safety belts, compared to their counterparts in the rest of the state.

Fire Safety

Over 60 percent of adults in both areas reported having smoke detectors in their homes and that they had been tested in the past six months. There were no statistically significant differences in the proportions by gender, age, or poverty level.

Dental Health

In Delta County, 54 percent of adults reported having been to a dentist in the past year compared to 67 percent in the rest of the state, a statistically significant difference. The difference between the two areas remains significant for males and females, adults over the age of 45, and adults above 185 percent of poverty. For men, adults 18-34 and 55-64, and those below 185% of poverty in Delta County, fewer than half had been to a dentist in the past year.

Asthma

In Delta County, approximately 9 percent of adults had ever been told by a health professional that they had asthma. Adults ages 18 to 34 were the most likely to report having been told they had asthma. Questions about asthma were not included in the statewide BRFSS survey in 1997.

Women’s Cancer Screening

Significantly fewer women 50 years or older in Delta County (56.8 percent) had received both a mammogram and a clinical breast exam in the past two years compared to women of the same age in the rest of the state (75.8 percent). Women in Delta County were also less likely to have received a Pap test for cervical cancer in the past three years. This difference was statistically significant for women 35 or older, and women in both poverty levels (See Table 3 on page 3).

Table 2. Health behaviors by area of the state, gender, age, and poverty level: Colorado BRFSS, 1997

Health Behavior	Gender			Age				Poverty Level		
	Total*	Male	Female	18-34	35-44	45-54	55-64	Below 185%	Near 185%	Above 185%
Self-reported health status of "Fair" or "Poor"										
Delta County	11.0	12.1	9.8	7.9	9.8	12.0	18.3	13.5	12.1	8.3
Remainder of state	8.1	8.2	8.1	4.4	7.4	12.6	14.6	17.8	8.6	6.2
No health insurance										
Delta County	36.7	36.4	36.9	49.0	32.9	27.5	28.3	63.1	39.0	18.6
Remainder of state	14.2	15.9	12.5	19.8	14.6	7.0	7.3	35.4	21.6	7.7
Overweight										
Delta County	28.0	29.4	26.5	19.9	27.2	34.7	37.6	24.8	33.5	29.0
Remainder of state	24.7	26.6	22.7	17.3	28.4	31.9	27.5	25.9	24.5	24.7
Current smoker										
Delta County	23.8	19.8	27.9	25.2	23.4	23.3	21.9	31.5	20.2	20.2
Remainder of state	24.6	25.8	23.4	27.2	25.4	21.0	20.1	37.7	31.7	20.2
Ever been told blood pressure is high										
Delta County	13.6	12.1	15.2	5.8	4.3	24.7	31.6	15.5	9.1	14.7
Remainder of state	16.4	17.1	15.7	9.3	12.9	22.3	38.2	11.5	19.9	17.8
Ever been told blood cholesterol is high										
Delta County	15.4	18.4	12.4	5.3	13.6	22.8	30.1	4.4	19.6	20.1
Remainder of state	17.6	18.4	16.8	7.8	16.2	27.2	35.1	10.9	12.2	20.5
Blood pressure checked within past 2 years										
Delta County	87.5	87.3	87.6	88.4	82.7	88.7	91.5	77.1	89.4	92.6
Remainder of state	92.5	87.8	97.3	91.3	93.0	93.7	93.3	91.1	86.8	94.0
Blood cholesterol checked within past 5 years										
Delta County	57.1	56.7	57.6	39.7	53.7	68.0	85.7	35.1	63.4	69.4
Remainder of state	66.5	62.7	70.4	52.3	67.8	78.4	88.1	45.7	59.4	73.7
Ever been told they have diabetes										
Delta County	3.5	4.4	2.5	1.8	2.7	7.1	3.6	2.5	5.4	3.4
Remainder of state	2.9	2.6	3.1	1.2	2.9	4.8	4.9	4.3	2.5	2.7
Do not always use safety belt										
Delta County	40.9	47.0	34.7	52.7	38.4	28.7	35.3	42.1	41.3	37.7
Remainder of state	28.5	32.2	24.8	32.9	25.6	25.9	25.7	40.1	31.7	25.3
Tested smoke detector in past 6 months										
Delta County	64.2	65.8	62.6	67.4	57.5	67.3	64.6	61.4	60.1	67.9
Remainder of state	61.5	62.2	60.9	60.2	61.0	64.3	62.4	59.3	65.2	61.4
Seen a dentist in last year										
Delta County	54.1	49.0	59.1	46.4	62.2	63.8	43.6	40.4	54.8	61.4
Remainder of state	67.2	64.1	70.3	57.9	71.9	77.0	69.3	50.4	63.3	72.3
Ever been told have asthma										
Delta County	9.2	8.1	10.4	12.0	8.0	6.0	9.5	9.4	10.8	8.1
Remainder of state	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Bold=difference between Delta County and remainder of the state is significant at p < .05 before adjusting for poverty level.

*Total for ages 18-64

Table 3. Women's cancer screening by area of the state, age, and poverty level: Colorado BRFSS, 1997

Health Behavior	Total*	Age				Poverty Level		
		18-24	25-34	35-49	50-64	Below 185%	Near 185%	Above 185%
Mammogram and Clinical Breast Exam in past 2 years								
Delta County	—	—	—	—	56.8	**	**	70.7
Remainder of state	—	—	—	—	75.8	**	**	85.3
Pap Test in past 3 years								
Delta County	72.7	**	**	76.2	66.2	63.3	**	80.3
Remainder of state	87.0	**	**	88.2	79.6	81.7	**	91.1

Bold=difference between Delta County and remainder of the state is significant at p < .05 before adjusting for poverty level.

—question not asked of women 18-49 years old.

*Total for women age 18-64.

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

Mortality Data

Table 4 gives the number of deaths and the age-adjusted death rates* by the leading causes of death for Delta County and the rest of Colorado in 1997. The condition causing the greatest number of deaths in Delta County and the rest of the state was heart disease (82 and 6,437).

Delta County had similar age-adjusted death rates as the rest of the state (See Table 4). Only the age-adjusted suicide rate was statistically significantly higher in Delta

County compared to the rest of the state in 1997. However, given the small number of actual suicide deaths in the county for that year (1997), we also compared the five year annual average suicide rate for Delta and the rest of the state. From 1994 through 1998, the five year annual average age adjusted suicide rate was 23 per 100,000 residents compared to 15.3 per 100,000 for the remainder of the state. This difference was not statistically significant.

*Age-adjusted rates are standardized to the age distribution of a particular population so that it is, in effect, independent of the age distribution of the population it represents. Age adjusted rates are used to compare rates over time or among different geographical areas.

Table 4. Age-adjusted death rates and 95 percent confidence intervals, Delta County and the remainder of the state, 1997

Underlying Cause of Death	Delta County, 1997			Remainder of State, 1997		
	N	Age Adjusted Rate	95% Confidence Intervals	N	Age Adjusted Rate	95% Confidence Intervals
All Causes	311	460.3	(392.6-528.0)	25,295	420.3	(414.7-425.9)
Heart Disease (390-398,402,404-429)	82	89.2	(64.3-114.0)	6,437	96.5	(93.9-99.1)
Malignant Neoplasms (140-208)	58	93.1	(61.9-122.8)	5,580	102.7	(99.9-105.6)
Lung Cancer (162)	10	21.4	(6.5-35.9)	1,312	25.1	(23.6-26.5)
Female Breast Cancer (174)	6	21.5	(0.0-43.7)	451	15.9	(14.3-17.5)
Cerebrovascular Diseases (430-438)	16	21.5	(7.6-35.5)	1,696	23.0	(21.8-24.2)
Chronic Obstructive Pulmonary Disease (490-496)	23	27.0	(13.6-39.3)	1,636	26.4	(25.1-27.8)
Pneumonia and Influenza (480-487)	20	19.4	(6.5-31.6)	833	10.3	(9.5-11.1)
Unintentional Injuries (E800-E949)	15	33.5	(11.9-55.3)	1,453	31.8	(30.0-33.5)
Motor Vehicle (E810-E825)	6	18.0	(1.7-34.4)	631	15.6	(14.4-16.9)
All Others (E800-E809,E826-E949)	9	15.5	(1.3-29.8)	822	16.1	(14.9-17.3)
Suicide (E950-E959)	13	45.7	(18.9-72.5)	614	14.7	(13.5-15.9)
Artherosclerosis (440)	6	3.0	(0.5-5.5)	385	4.1	(3.6-4.5)
Diabetes Mellitus (250)	6	13.0	(0.4-25.2)	521	9.0	(8.1-9.8)
Nephritis, Nephrosis, Nephrotic Syndrome (580-598)	5	3.5	(0.3-6.8)	245	3.4	(2.9-3.9)
Chronic Liver Disease and Cirrhosis (571)	4	7.1	(0.0-15.2)	342	7.4	(6.6-8.2)

Death rates are per 100,000 residents and include deaths to residents of all ages. The 1940 standard population was used in developing age-adjusted death rates.

References

¹Amler, R.W. and H.B. Dull. 1987. *Closing the Gap: The Burden of Unnecessary Illness*. New York: Oxford University Press.