

LEADING CAUSES OF DEATH, EL DORADO, 2006-2010

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Measures

This report provides statistics for the leading causes of death and premature death in El Dorado County for 2006-2010. The measures used were number of deaths, death rates, and premature death. A standardized coding system, the International Classification of Diseases (ICD), was used to classify causes of death and to group similar causes of death into categories for analysis. The cause of death groups were based on categories developed by the National Center for Health Statistics. To identify the leading causes of death, the cause of death groups were ranked by the number of deaths in each group.

When a person dies, it is likely that several factors or conditions contributed to the death. For this report, we analyzed the underlying cause of death, which is the condition that most directly caused the death. By using a single cause of death rather than considering all the conditions present at the time of death, the number of deaths and rates in this report do not reflect the full impact of certain diseases and conditions.

Mortality

Measuring death rates is a valuable tool for monitoring progress in disease prevention and health improvement. The predominant health threats in the United States throughout the 1900s were diseases, predominantly infectious, associated with poor infrastructure, poor maternal and infant health, and diseases and injuries associated with hazardous occupations. With scientific advancements, such as vaccinations and antibiotics, the impact of these diseases has decreased significantly.

Currently, five chronic diseases account for two-thirds of all deaths in the United States- heart disease, cancer, stroke, chronic lower respiratory disease, and diabetes. Heart disease and cancer combined account for more than half of all deaths.¹The elderly population in the United States is growing rapidly. By 2050, one in every five Americans will be 65 years of age and over.² As the elderly population increases, more services will be required for the prevention, treatment and management of chronic and acute health conditions.

Despite overall declines in mortality, race/ethnic and gender inequities remain. Low-income groups continue to have poorer health outcomes. A profile of mortality for the residents of El Dorado County by sex, and race/ethnicity will provide us with part of a picture of disparities in disease burden, which can help us to develop comprehensive interventions that address individual behaviors, neighborhood environments, and public policy.

According to year 2009 census single race population estimates, 91.8% of the population in El Dorado County is white, 1.3% black or African American, and 3.7% Asian. American Indians or Alaskan Natives make up less than 2% of El Dorado County's population, and a little over 12% are of Hispanic origin. The gender distribution is 49.8% female and 50.2% male. The two most prominent racial/ethnic groups, Whites and Hispanics, were used for statistical comparison because they had numbers large enough to accurately represent disease burden. It is important to note that disparities in disease burden exist between all racial/ethnic groups although they are not illustrated in this report.

Leading Causes of Premature Death

Premature or early death is measured in years of potential life lost (YPLL). Since most deaths occur among elderly people, death rates are dominated by the causes of death most common to the elderly. The measure of years of potential life lost has been used as an alternative to illuminate mortality patterns among the younger age groups. The measure of YPLL used in this report represents the number of years of life lost due to death before age 75, summed over all age groups.

Since many premature deaths could be prevented by public health interventions, this measure indicates the potential for prevention in a population. Premature death can be viewed as a loss to society in terms of lost years of productivity.



Explanation of figures

The following series of figures compares the ranking of the 10 leading causes of death with the 10 leading causes of premature death (death before age 75) for the county overall and selected population groups. These figures are designed to facilitate comparisons. The following table illustrates the color coding that has been used throughout the document.

- I. The 10 leading causes of death are shown from highest (top) to lowest (bottom) based on the number of deaths from each cause. Each cause is color coded to make comparisons easier.
- II. The 10 leading causes of premature death are shown from highest (top) to lowest (bottom) based on the number of years of life lost before age 75 from each cause.

I Leading causes of death			II Leading causes of premature** death		
Rank	Cause of death (A)	No. of Deaths (B)	Rank	Cause of death (C)	Years of life lost * (D)
1	Coronary heart disease		1	Motor vehicle accident	
2	Diabetes		2	Coronary heart disease	
3	Stroke		3	Liver disease	
4	Liver disease		4	Drug overdose	
5	Motor vehicle accident		5	Diabetes	
6	Pneumonia/influenza		6	Stroke	
7	Lung cancer		7	Suicide	
8	COPD		8	Breast cancer	
9	Colorectal cancer		9	Leukemia	
10	Breast cancer		10	Lung cancer	

A. The cause of death group coded by color

B. Number of deaths due to the specific cause

C. The cause of premature death group coded by color

D. The total years of life lost before age 75 for the specific cause of death

*Excludes infants less than 1 year of age and persons of unknown age.

**Death before age 75 years.

Figure 1. Ten leading causes of death and premature death

El Dorado County					
6077 total deaths					
98,564 years of life lost*					
Leading causes of death			Leading causes of premature** death		
Rank	Cause of death	No. of deaths	Rank	Cause of death	Years of life lost *
1	Coronary heart disease	1320	1	Cancer	18,000
2	Cancer	1298	2	Coronary heart disease	12,000
3	Stroke	402	3	Motor vehicle accidents	9,900
4	COPD	220	4	Drug overdose	8,900
5	Pneumonia/influenza	192	5	Suicide	6,000
6	Diabetes	180	6	Perinatal complications	5,100
7	Liver disease	84	7	Homicide	5,000
8	Motor vehicle accidents	77	8	Liver disease	4,200
9	Alzheimers	78	9	Stroke	4,000
10	Suicide	70	10	Diabetes	2,000

- ◆ Coronary heart disease, the overall leading cause of death and premature death, caused one of every four deaths.
- ◆ Homicide (35 deaths), motor vehicle crash (77 deaths), drug overdose (29 deaths), and suicide (70 deaths) were the leading causes of death among younger people.
- ◆ The median age at death from motor vehicle accidents was 27 years compared with 88 years for coronary heart disease.
- ◆ The years of life lost from motor vehicle accidents (9,900 years) and coronary heart disease (12,000 years) were similar, yet coronary heart disease caused more than seventeen times more deaths than motor vehicle accidents. This underscores the importance of motor vehicle accidents as a cause of death among young people.
- ◆ In general, if the cause of death was ranked high in premature death, it occurred frequently in the younger age groups.

*Excludes infants less than 1 year of age and persons of unknown age.

**Death before age 75 years.

Figure 2. Ten leading causes of death and premature death, males

Males					
3047 total deaths					
69,867 years of life lost*					
Leading causes of death			Leading causes of premature** death		
Rank	Cause of death	No. of deaths	Rank	Cause of death	Years of life lost *
1	Coronary heart disease	715	1	Coronary heart disease	15,000
2	Lung cancer	506	2	Motor vehicle accidents	6,800
3	Stroke	162	3	Drug overdose	5,200
4	COPD	113	4	Homicide	4,500
5	Pneumonia/influenza	86	5	Suicide	4,200
6	Diabetes	78	6	Liver disease	2,900
7	Liver disease	62	7	Lung cancer	2,130
8	Suicide	54	8	Stroke	1,962
9	Prostate cancer	50	9	Diabetes	960
10	Motor vehicle accidents	48	10	Prostate cancer	852

- ◆ For men, liver disease, motor vehicle accidents, and suicide caused 5% of the deaths and 20% of the years life lost.
- ◆ Homicide was the 11th-leading cause of death, and the 4th-leading cause of premature death for men. 4,500 years of life were lost due to homicide.

*Excludes infants less than 1 year of age and persons of unknown age.

**Death before age 75 years.

Figure 3. Ten leading causes of death and premature death, females

Females					
3030 total deaths					
28,697 years of life lost*					
Leading causes of death			Leading causes of premature** death		
Rank	Cause of death	No. of deaths	Rank	Cause of death	Years of life lost *
1	Coronary heart disease	605	1	Coronary heart disease	8,932
2	Lung cancer	478	2	Breast cancer	6,800
3	Stroke	240	3	Lung cancer	5,302
4	COPD	107	4	Stroke	4,725
5	Pneumonia/influenza	106	5	Motor vehicle accidents	4,200
6	Diabetes	102	6	Diabetes	3,256
7	Breast cancer	83	7	Drug overdose	3,009
8	Alzheimers	54	8	Liver disease	2,798
9	Colorectal cancer	42	9	Colorectal cancer	1,695
10	Hypertension & renal dysfunction	38	10	suicide	997

- ◆ The number of coronary heart disease deaths for men and women was similar, but men lost almost three times more years of life than women. The median age at death from coronary heart disease was 86 years for women and 75 years for men.
- ◆ Alzheimer’s disease was the eighth-leading cause of death for women.
- ◆ The years of life lost from breast cancer in women, and motor vehicle accidents in men were identical.

*Excludes infants less than 1 year of age and persons of unknown age.

**Death before age 75 years.

Figure 4 . Comparison of the leading causes of death, by sex

Sex Number of deaths Age-adjusted death rate	#1 cause Number of deaths Age-adjusted death rate	#2 cause Number of deaths Age-adjusted death rate	#3 cause Number of deaths Age-adjusted death rate	#4 cause Number of deaths Age-adjusted death rate	#5 cause Number of deaths Age-adjusted death rate
Males 3047 695 per 100,000	Coronary heart disease 715 163 per 100,000	Lung cancer 506 115 per 100,000	Stroke 162 37 per 100,000	COPD 113 25 per 100,000	Pneumonia/influenza 86 20 per 100,000
Female 3030 692 per 100,000	Coronary heart disease 605 138 per 100,000	Lung cancer 478 109 per 100,000	Stroke 240 54 per 100,000	COPD 107 24 per 100,000	Pneumonia/influenza 106 24 per 100,000

- ◆ Males and females shared the same top five-leading causes of death.
- ◆ Women had more deaths attributed to stroke and pneumonia/influenza than men.
- ◆ The seventh-leading cause of death differed between the sexes. The seventh leading cause of death for men was liver disease, while the seventh-leading cause of death for females was breast cancer.

Figure 4. Leading causes of death, by age group and gender

	Gender Deaths from all causes	#1 cause Number of deaths	#2 cause Number of deaths	#3 cause Number of deaths
0-14 years 46 deaths	Male 25	Perinatal period condition 6	Birth defect 4	Motor vehicle crash 2
	Female 21	Perinatal period condition 5	Birth defect 4	Drowning 2
15-24 years 105 deaths	Male 74	Motor vehicle crash 13	Drug overdose 9	Suicide 3
	Female 31	Motor vehicle crash 9	Drug overdose 5	Suicide 2
25-44 years 480 deaths	Male 330	Drug overdose 42	Suicide 18	Motor vehicle crash 15
	Female 150	Drug overdose 20	Motor vehicle crash 13	Breast cancer 11
45-64 years 1342 deaths	Male 831	Coronary heart disease 123	Lung cancer 26	Liver disease 19
	Female 511	Coronary heart disease 72	Breast cancer 30	Lung cancer 13
65-74 years 935 deaths	Male 523	Coronary heart disease 135	Liver disease 39	Lung cancer 14
	Female 412	Coronary heart disease 96	Lung cancer 26	COPD 18
75+ years 3228 deaths	Male 1406	Coronary heart disease 396	COPD 76	Stroke 52
	Female 1822	Coronary heart disease 400	Stroke 42	Alzheimer's disease 35

Figure 4. Ten leading causes of death and premature death, whites

White					
5772 total deaths					
40,723 years of life lost*					
Leading causes of death			Leading causes of premature** death		
Rank	Cause of death	No. of deaths	Rank	Cause of death	Years of life lost *
1	Coronary heart disease	1,368	1	Coronary heart disease	4,756
2	Lung cancer	426	2	Drug overdose	2,932
3	COPD	335	3	Suicide	2,422
4	Stroke	299	4	Lung cancer	2,263
5	Alzheimers	238	5	Motor vehicle accidents	2,221
6	Pneumonia/influenza	186	6	Liver disease	1,785
7	Diabetes	172	7	COPD	1,532
8	Colorectal cancer	101	8	Breast cancer	1,487
9	Breast cancer	78	9	Diabetes	1,180
10	Motor vehicle accidents	48	10	Colorectal cancer	984

- ◆ Among whites, Alzheimer’s ranked higher as a cause of death than for the county overall.
- ◆ Drug overdose was the second-leading cause of premature death with 2,932 years of life lost.
- ◆ Suicide, drug overdose, lung cancer, and motor vehicle accidents accounted for 28% of years life lost among whites.

*Excludes infants less than 1 year of age and persons of unknown age.

**Death before age 75 years.

Figure 5. Ten leading causes of death and premature death, Hispanics

Hispanic					
710 total deaths					
8,209 years of life lost*					
Leading causes of death			Leading causes of premature** death		
Rank	Cause of death	No. of deaths	Rank	Cause of death	Years of life lost *
1	Coronary heart disease	156	1	Motor vehicle accident	680
2	Diabetes	68	2	Coronary heart disease	598
3	Stroke	42	3	Liver disease	582
4	Liver disease	31	4	Drug overdose	530
5	Motor vehicle accident	30	5	Diabetes	459
6	Pneumonia/influenza	18	6	Stroke	437
7	Lung cancer	15	7	Suicide	374
8	COPD	11	8	Breast cancer	298
9	Colorectal cancer	9	9	Leukemia	175
10	Breast cancer	5	10	Lung cancer	159

- ◆ As a cause of death and premature death, diabetes ranked higher for Hispanics than for the county overall.
- ◆ Motor vehicle accidents was the number one-leading cause of premature death among Hispanics.
- ◆ The median age at death from coronary heart disease was 67 years for Hispanics.

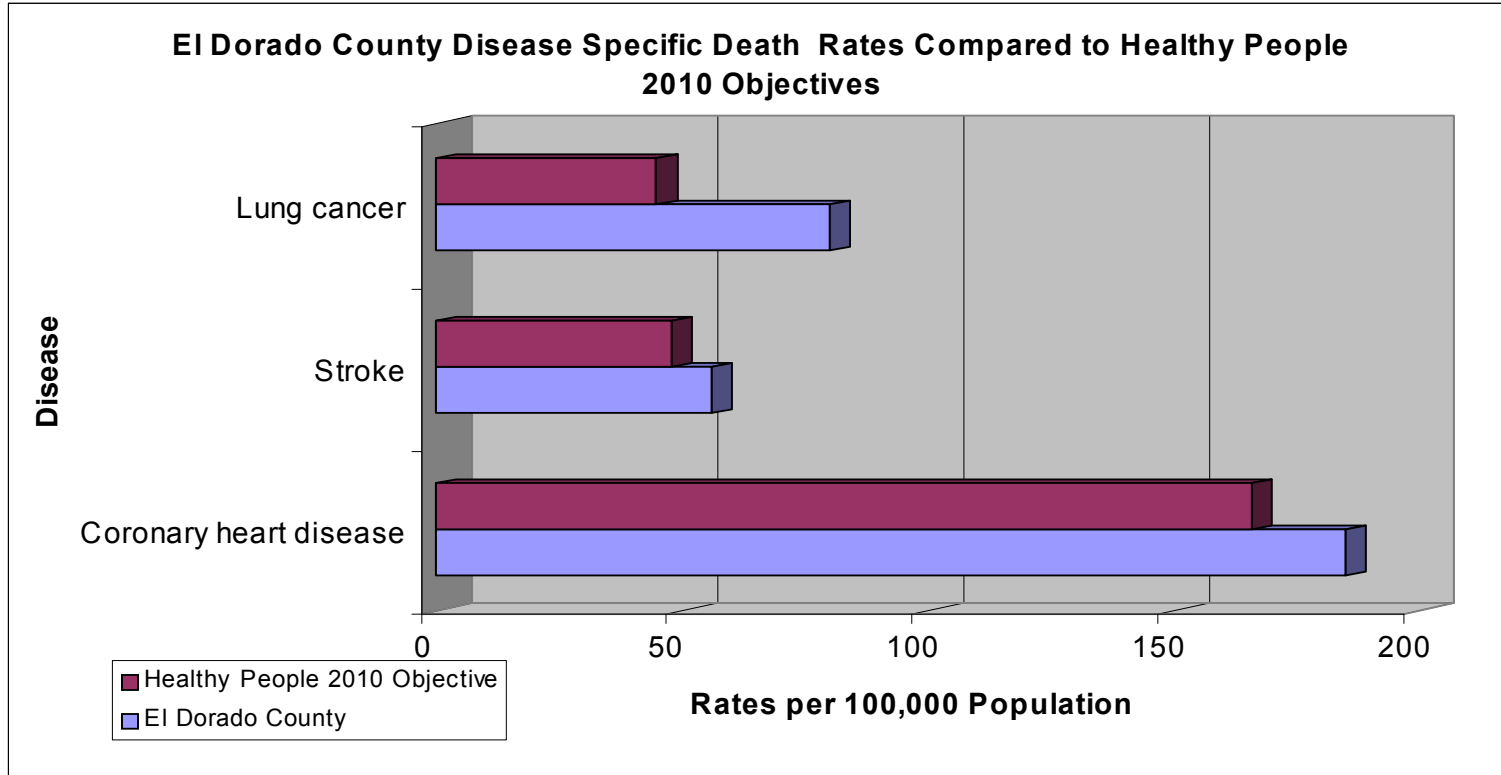
*Excludes infants less than 1 year of age and persons of unknown age.

**Death before age 75 years.

Figure 6. Comparison of the leading causes of death, by race/ethnicity

Race/ethnicity Number of deaths Age-adjusted death rate	#1 cause Number of deaths Age-adjusted death rate	#2 cause Number of deaths Age-adjusted death rate	#3 cause Number of deaths Age-adjusted death rate	#4 cause Number of deaths Age-adjusted death rate	#5 cause Number of deaths Age-adjusted death rate
White 5772 798 per 100,000	Coronary heart disease 1,368 190 per 100,000	Lung cancer 426 59 per 100,000	COPD 335 46 per 100,000	Stroke 299 41 per 100,000	Alzheimers 238 33 per 100,000
Hispanic 710 657 per 100,000	Coronary heart disease 156 144 per 100,000	Diabetes 68 63 per 100,000	Stroke 42 39 per 100,000	Liver disease 31 29 per 100,000	Motor vehicle accident 30 28 per 100,000

- ◆ Coronary heart disease was the leading cause of death for both whites and Hispanics although the rate for whites (190 per 100,000) was higher than the rate for Hispanics (144 per 100,000).
- ◆ Stroke was the number three cause of death for Hispanics and the number four cause for whites, although the rate of stroke was higher among whites.



- ◆ El Dorado County had rates higher than the Healthy People 2010 objectives for lung cancer, stroke, and coronary heart disease.
- ◆ The rate of lung cancer among El Dorado County residents was approximately two times higher than the 2010 objective.

Final thoughts

This report represents an important step in improving the County's ability to assess health needs more accurately at the population level. The information provided by these methods, however, needs to be combined with data on the relative effectiveness and efficiency of different interventions to improve the public's health. The matching of priorities with resources to support these interventions includes not only the County, but public and private partners as well. Reducing the burden of disease among residents of El Dorado County requires a coordinated effort of public and private programs, policies, and priorities.

This report defines disease burden primarily in relation to disease outcomes and does not address the burden imposed by specific behaviors that profoundly influence health. For example, an analysis of national mortality statistics found that one-third of all deaths in the United States in 1990 were directly attributable to smoking, poor nutrition, or lack of physical activity.³ A more recent study by the Institute of Medicine identified the large number of deaths attributable to health care provider errors, which are not readily identified on vital statistics death records.⁴ These findings highlight the importance of considering the root causes of morbidity and mortality when designing and implementing health care services and public health programs.

It is my hope that these data will be used in conjunction with other measures to help drive policies and priorities that will improve the health of all residents in El Dorado County.

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