

Leading Causes of Death in Utah by Age and Sex

**Bureau of Surveillance and Analysis
Office of Public Health Data**



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Preventing premature death is one of the most important goals of health care and of public health. Examining the leading causes of death and considering the cost and effectiveness of available prevention methods are, together, a first step toward appropriately allocating scarce health care and public health resources.

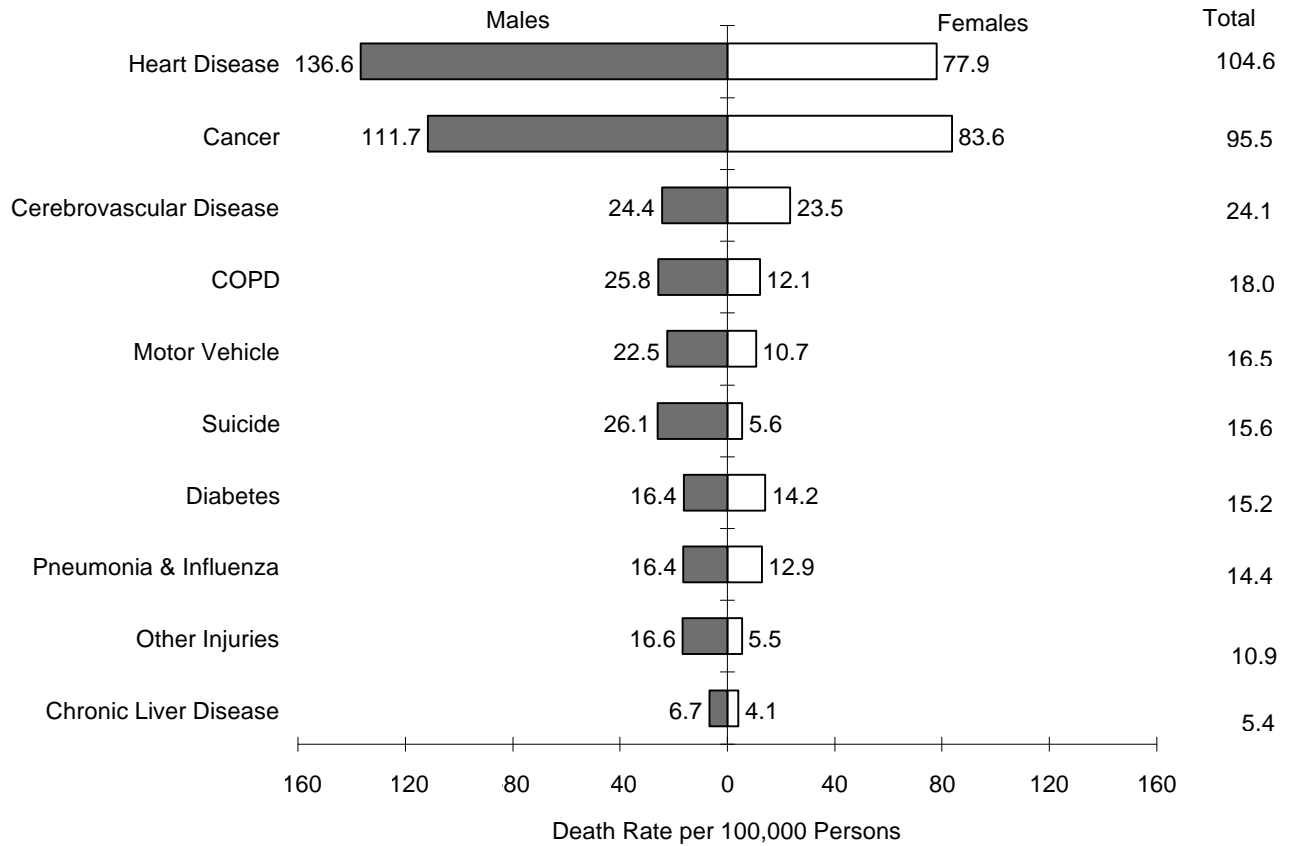
The most important causes of premature death are different at different ages and for men and women. This report presents the leading causes of death for men and women in seven age groups (<1 year, 1-14 years, 15-24 years, 24-44 years, 45-64 years, 65-84 years, 85 years and over) during the five-year period, 1991-1995. For selected causes, trends are examined for the ten-year period, 1986-1995, and rates are presented by local health department districts.

Summary

The major findings from this analysis of the leading causes of death in Utah are:

- At all ages, boys and men have higher death rates overall and from most specific causes than girls and women.
- While injuries and suicide are the main threats for younger people, heart disease, cancer and other chronic diseases become the main dangers for older people.
- Motor vehicle crashes and suicide are leading causes of death for boys and men from age 15 to age 44.
- Several notable trends were observed, including:
 - Deaths from HIV/AIDS increased dramatically for young men aged 25-44 years.
 - Deaths from motor vehicle crashes increased for boys and men aged 15-24 years.
 - Heart disease death rates decreased for Utahns aged 45-64 and 65-84 years; the decrease was greater for men.

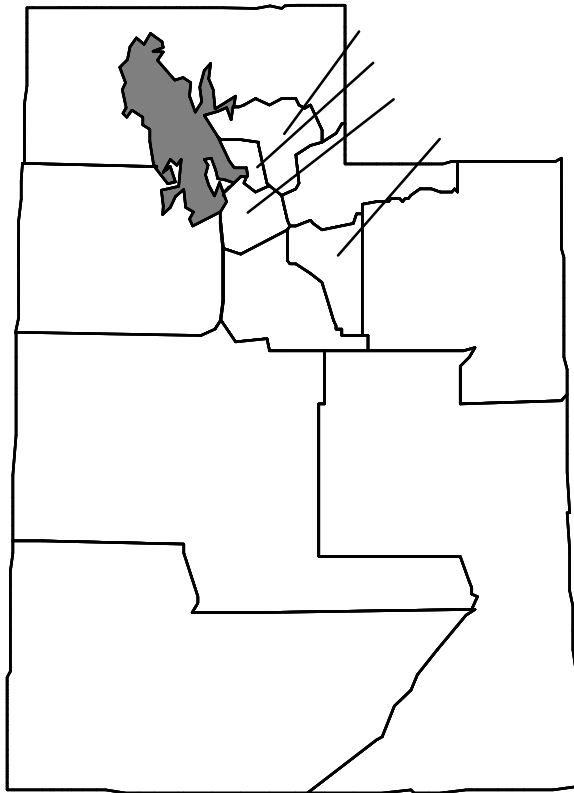
Death Rates from the Leading Causes of Death
All Ages, Utah, 1991-1995



Age-adjusted all cause death rates (per 100,000 persons)	
Total	418.3
Male	521.5
Female	330.2
Average annual number of deaths: 10,189	

- The leading causes of death in Utah are heart disease and cancer; together they are responsible for 47% of all deaths. The death rates from heart disease and cancer are much higher among men than among women.

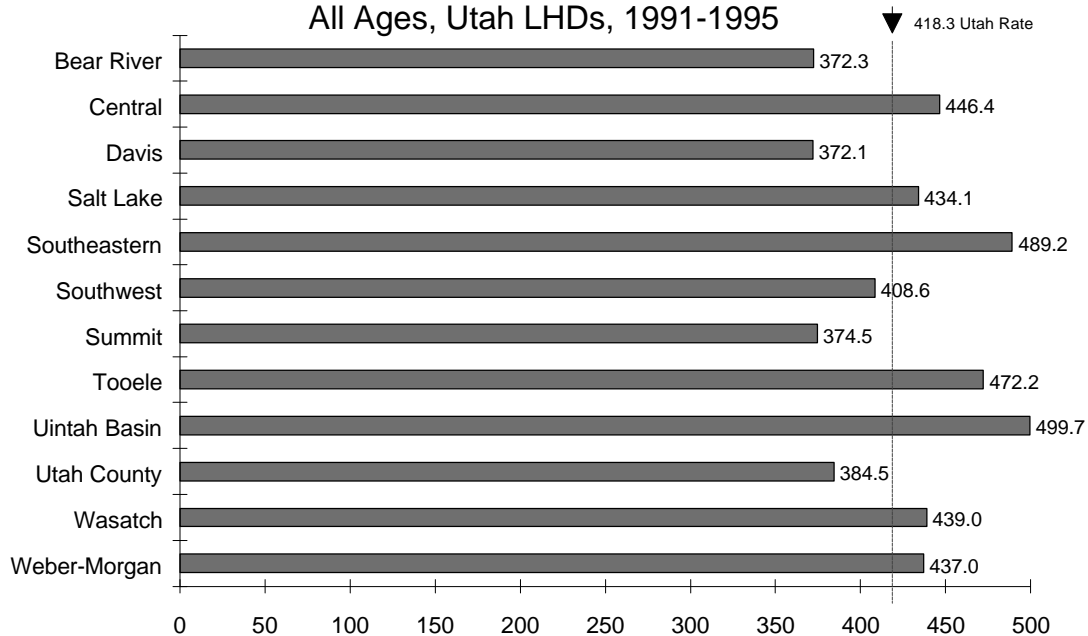
All Ages



Health District	1995* Population	Per Capita 1995* Personal Income	1995* Unemployment Rate	Adults with at Least High School Degree (1990 Census)
Bear River Cache Box Elder Rich	120,890	\$16,200	3.6%	89.3% 83.6% 81.8%
Central Juab Millard Piute Sanpete Sevier Wayne	59,398	\$13,400	5.4%	77.3% 84.9% 79.8% 82.0% 81.9% 82.0%
Davis	214,994	\$17,100	3.4%	89.9%
Salt Lake	806,280	\$20,700	3.1%	85.3%
Southeast Carbon Emery Grand San Juan	53,486	\$14,400	7.3%	74.3% 82.4% 79.9% 59.7%
Southwest Beaver Garfield Iron Kane Washington	110,968	\$15,800	4.1%	83.4% 79.9% 85.8% 82.5% 84.5%
Summit	22,367	\$28,900	4.0%	91.6%
Tooele	29,522	\$14,800	5.6%	77.3%
Uintah Basin Daggett Duchesne Uintah	38,670	\$12,800	7.9%	75.4% 74.8% 73.7%
Utah	308,607	\$15,800	2.9%	87.9%
Wasatch	12,168	\$17,000	4.9%	83.2%
Weber/Morgan Morgan Weber	181,677	\$18,400	4.3%	90.1% 82.5%
State Total	1,959,025	\$18,226	3.6%	

* From 1997 Economic Report to the Governor, Governor's Office of Planning and Budget
 ** U.S. Bureau of the Census, 1990 Census of Population.

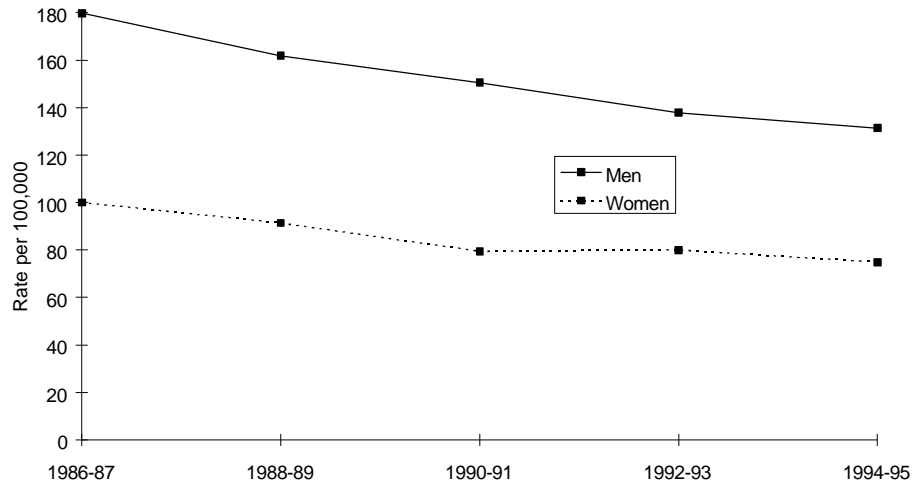
Death Rates from All Causes All Ages, Utah LHDs, 1991-1995



Note: Age-adjusted to U.S. 1940 population

Deaths per 100,000 Persons

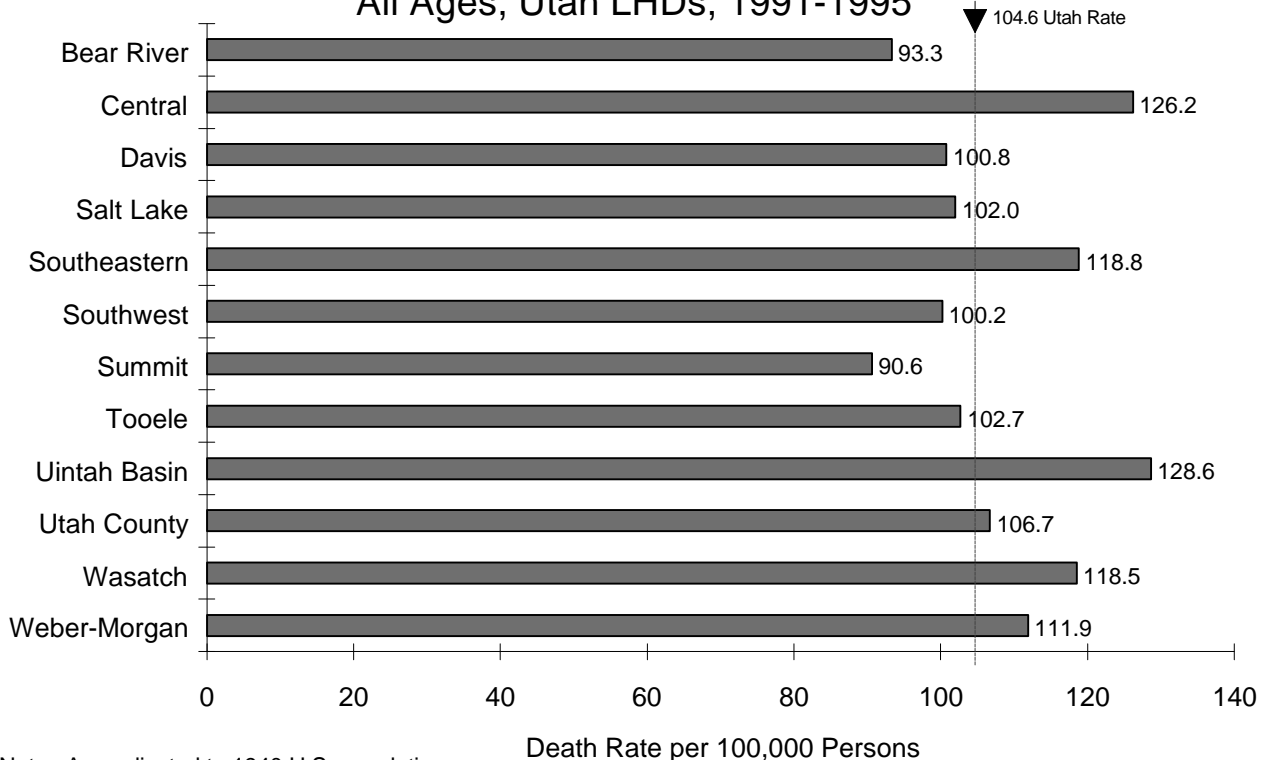
Heart Disease Death Rates by Gender
All Ages, Utah, 1986 to 1995



Note: Age-adjusted to 1940 U.S. population

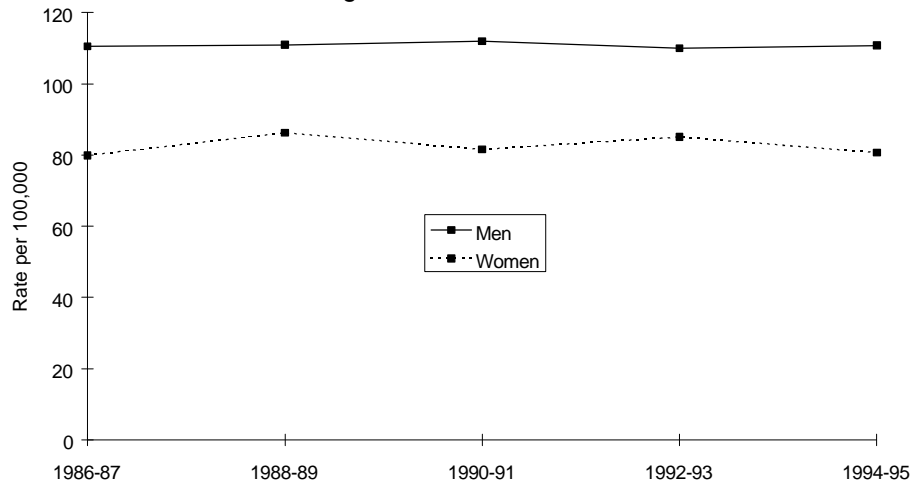
- Heart disease death rates decreased steadily over this 10-year time period.
- The decrease was somewhat greater for men, narrowing the gap between men and women.
- The heart disease death rate is significantly lower than the overall Utah rate in Bear River Health District and Summit Health District, and significantly higher in Central, Southeastern, Uintah Basin, and Wasatch Health Districts.

Death Rates from Heart Disease
All Ages, Utah LHDs, 1991-1995



Note: Age-adjusted to 1940 U.S. population

Cancer Death Rates by Gender
All Ages, Utah, 1986 to 1995



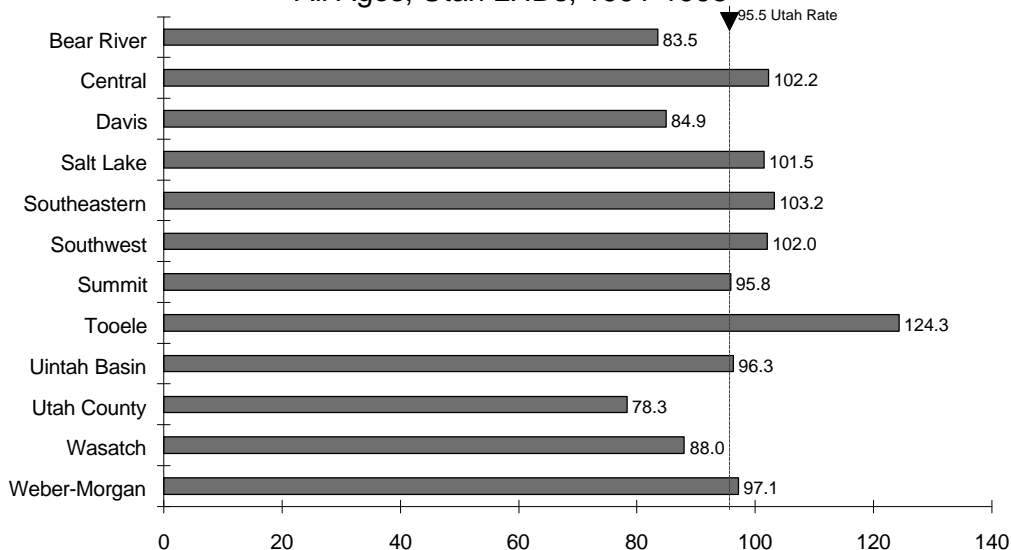
Note: Age-adjusted to 1940 U.S. population

Table 1. Number and Percent of Cancer-Related Deaths by Cancer Type, Utah, 1990-1994

Type of Cancer (ICD Codes)	Number of Deaths	% of Cancer Deaths
Trachea, Bronchus and Lung (162)	1725	16.9%
Colon and Rectum (153-4)	1123	11.0%
Prostate (185)	968	9.5%
Breast, Female (174)	954	9.4%
Pancreas (157)	527	5.2%
Leukemia (204-208)	490	4.8%
Ovary and Adnexa (183)	352	3.5%
Brain (191)	315	3.1%
Stomach (151)	260	2.6%
Melanoma (172)	231	2.3%

- Cancer includes several different specific cancers, which have different causes. Lung cancer is the most common cause of cancer death (Table 1).
- Cancer death rates are significantly lower than the state rate in Bear River, Davis, and Utah County Health Districts. Rates are higher for several districts.

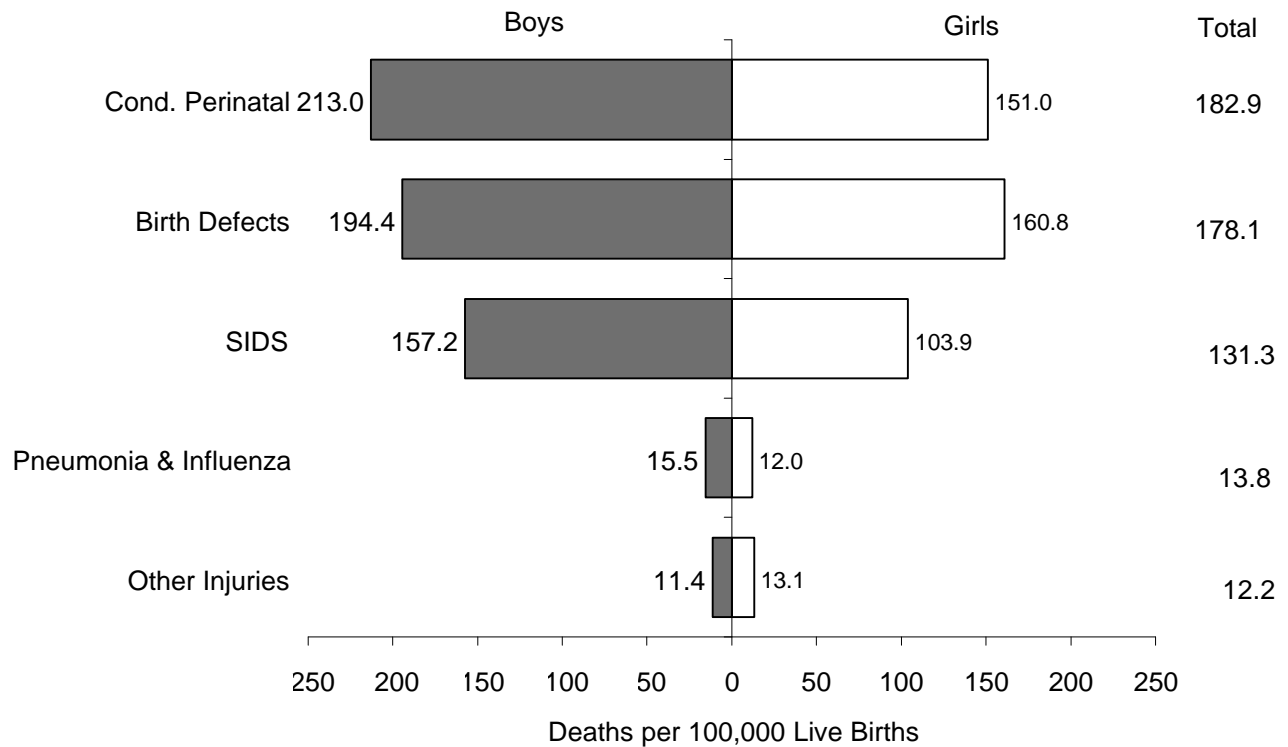
Death Rates from Cancer
All Ages, Utah LHDs, 1991-1995



Note: Age-adjusted to 1940 U.S. population

Death Rate per 100,000 Persons

Death Rates from the Leading Causes of Death Age <1 Year, Utah, 1991-1995

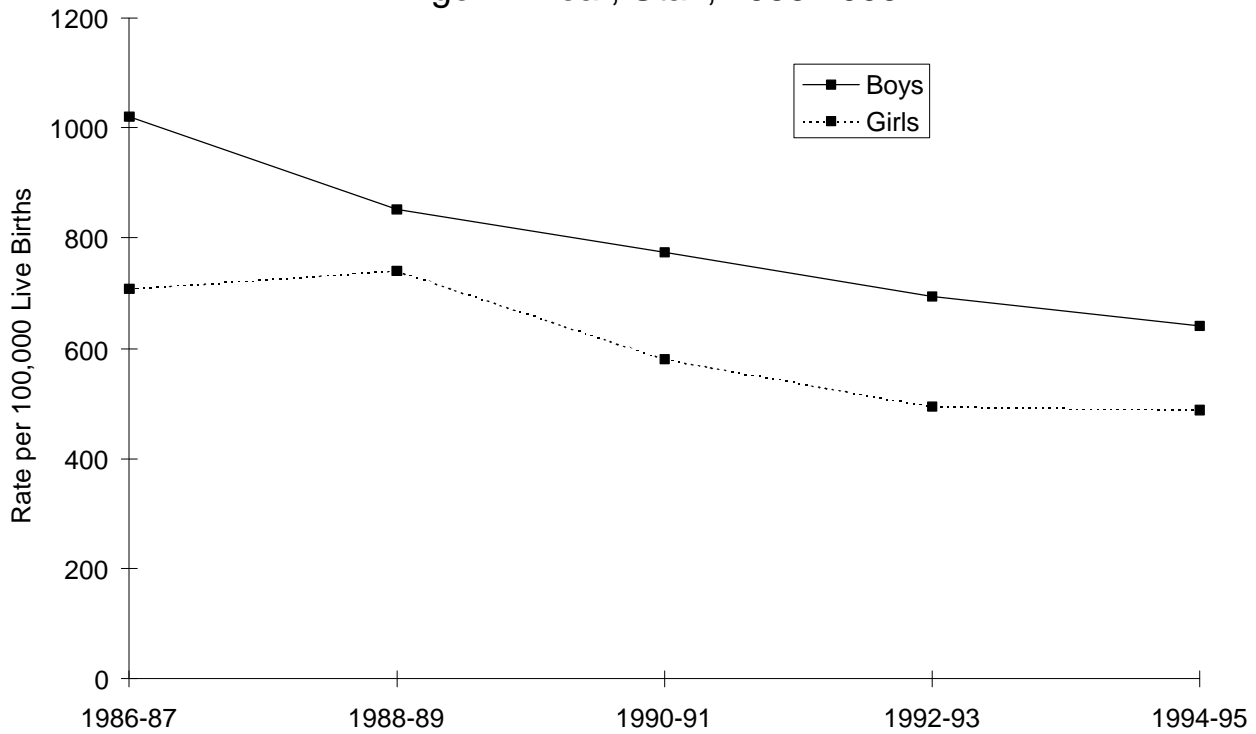


All cause death rates (per 100,000 live births) for age <1	
Total	584.7
Boys	674.5
Girls	490.0
Average annual number of deaths: 221	
These ten causes account for 88.2% of all deaths in this age group.	

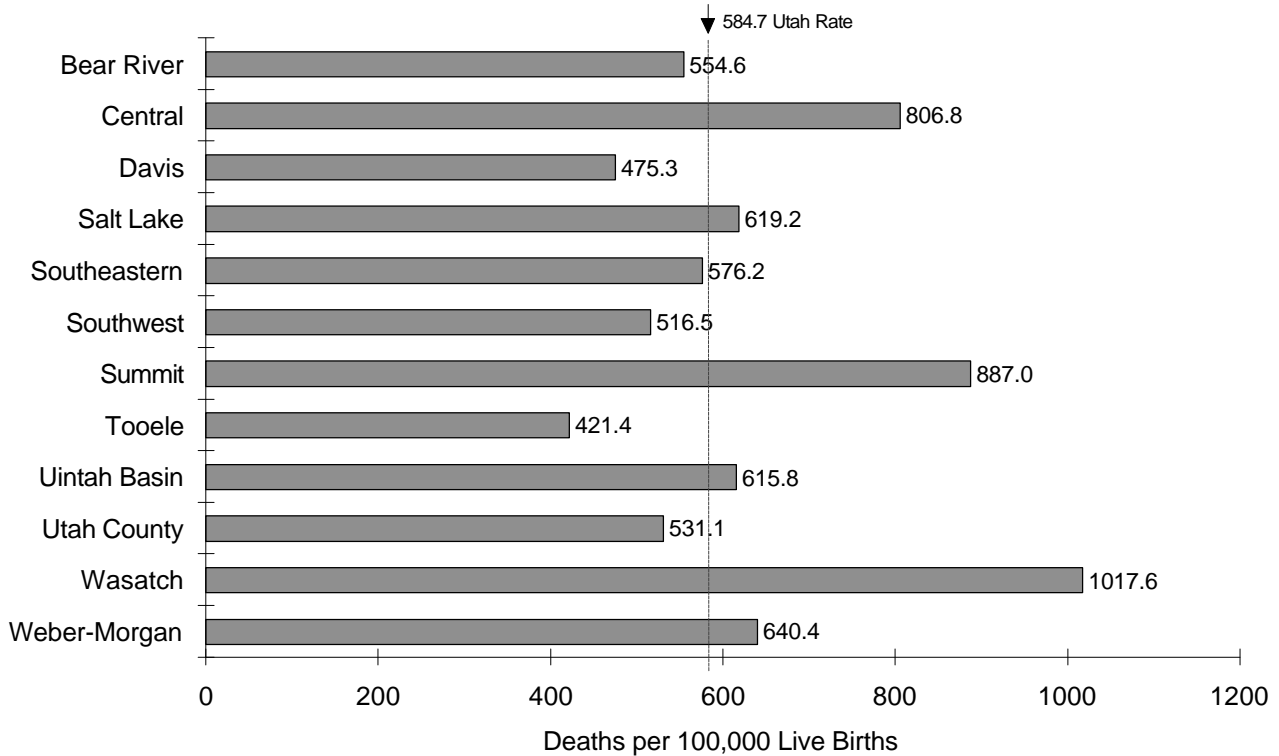
- Deaths of infants under one year of age are called infant mortality and are an important indicator of the health of a population. Infant mortality is usually presented as a rate per 1,000 live births, but is presented here as rate per 100,000 so the rates will be of comparable magnitude as the death rates in other age groups.
- Birth defects, conditions arising in the perinatal period, and sudden infant death syndrome (SIDS) are the leading causes of death, responsible for 84% of all deaths in this age group.

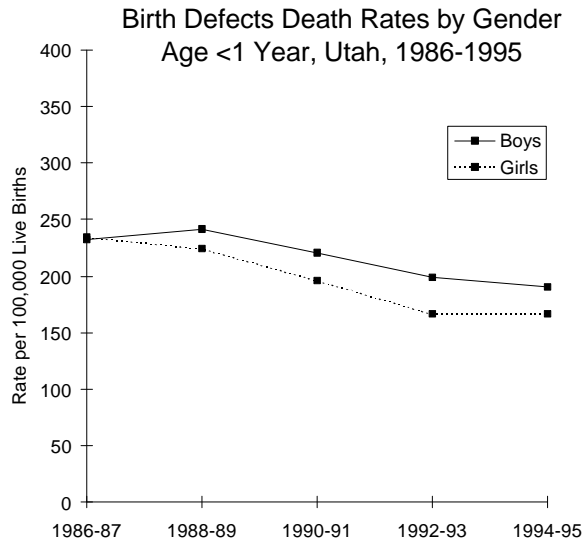
Age <1 Year

Death Rates from All Causes by Gender Age <1 Year, Utah, 1986-1995

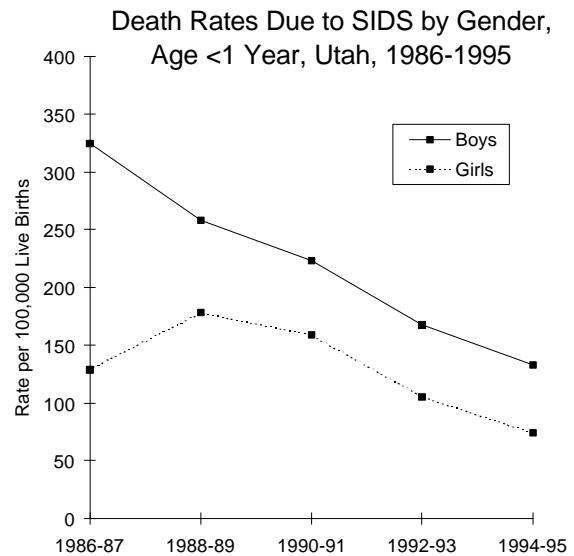
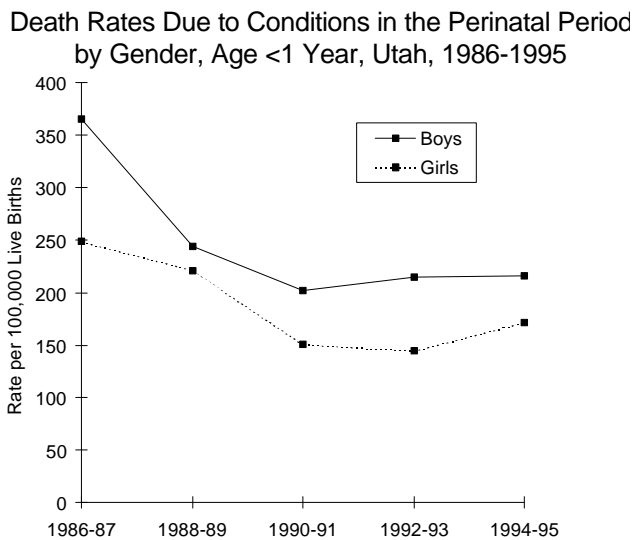


Death Rates from All Causes Age <1 Year, Utah LHDs, 1991-1995



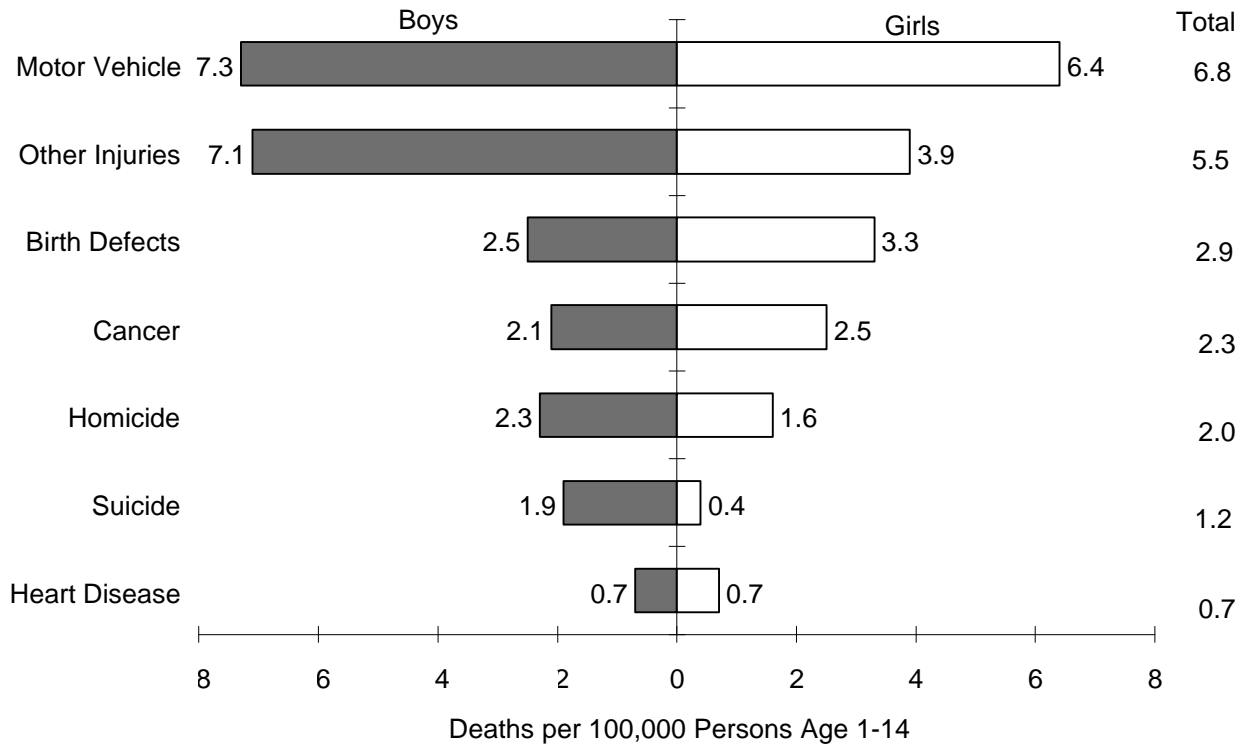


- Over the ten-year period, 1986 - 1995, the death rate for children under the age of one year, also referred to as the infant mortality rate, declined for boys and girls.
- Death rates declined for the three most important causes of infant mortality.
- Infant mortality rates differed substantially by local health district, but for most, the confidence limits were wide so that most of the observed variation is a result of random variability.



Age 1 - 14 Years

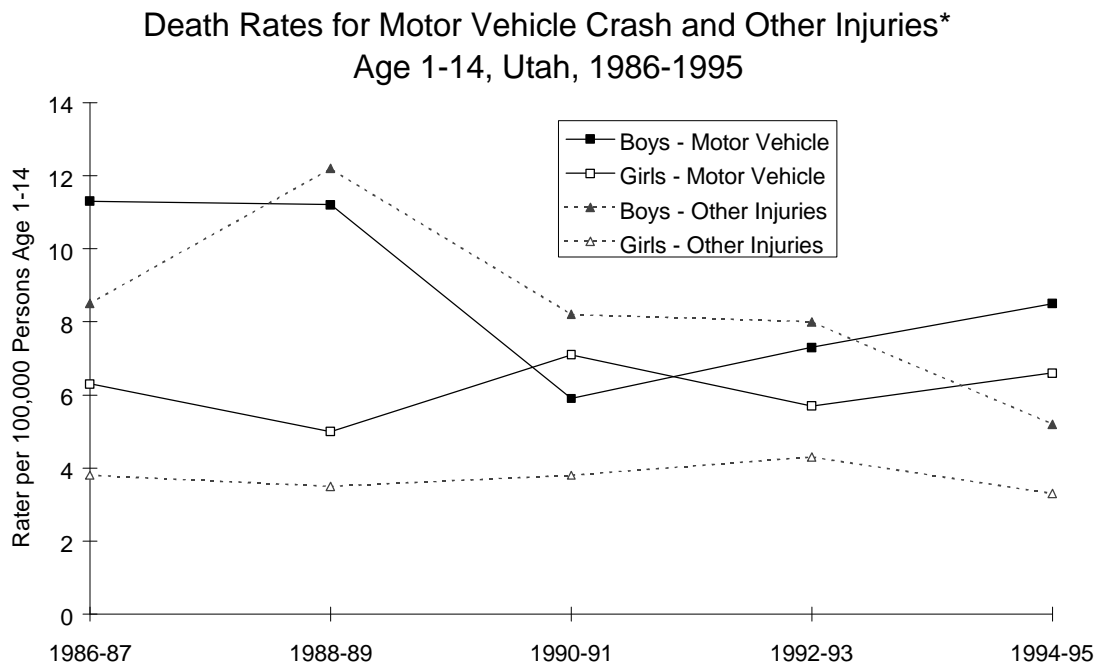
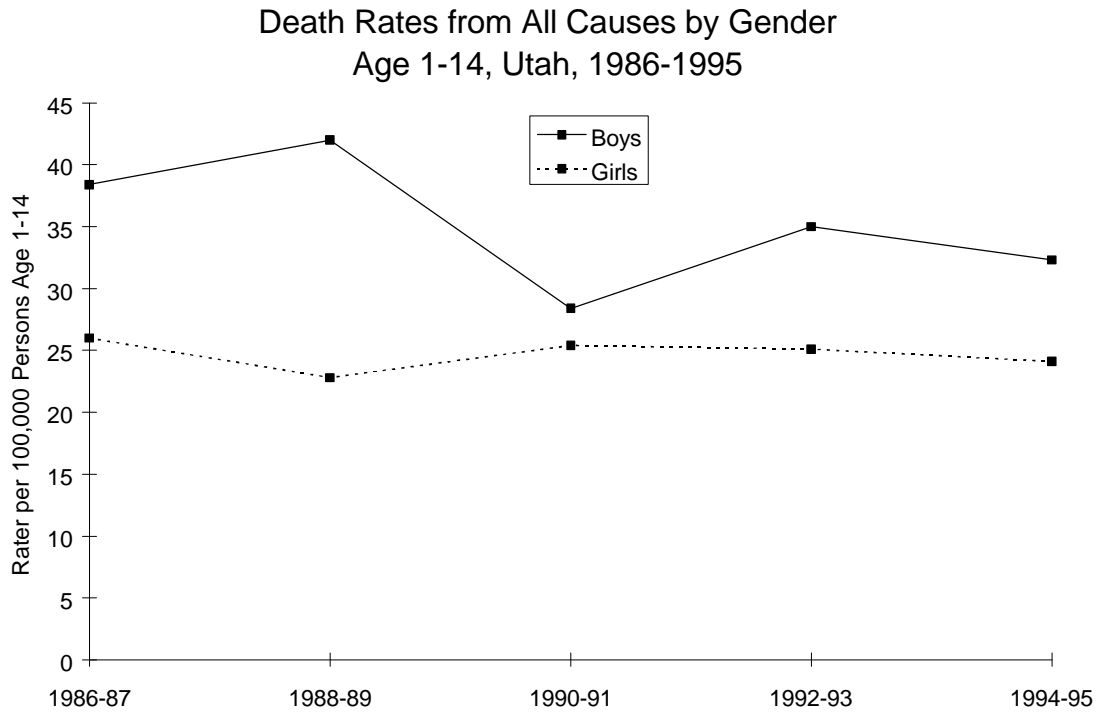
Death Rates From the Leading Causes of Death Age 1-14, Utah, 1991-1995



All cause death rates (per 100,000 persons) for age 1-14	
Total	29.1
Boys	33.0
Girls	25.0
Average annual number of deaths: 152	
These seven causes account for 73.3% of all deaths in this age group.	

- Motor vehicle crashes and other unintentional injuries are the leading causes of death for children age 1 to 14 and are responsible for 42% of all deaths in this age group in Utah.
- The death rate from injuries other than motor vehicle crashes is 1.8 times as high among boys as among girls.
- Drowning, burns, and suffocation are the most common “other injuries” for this age group.

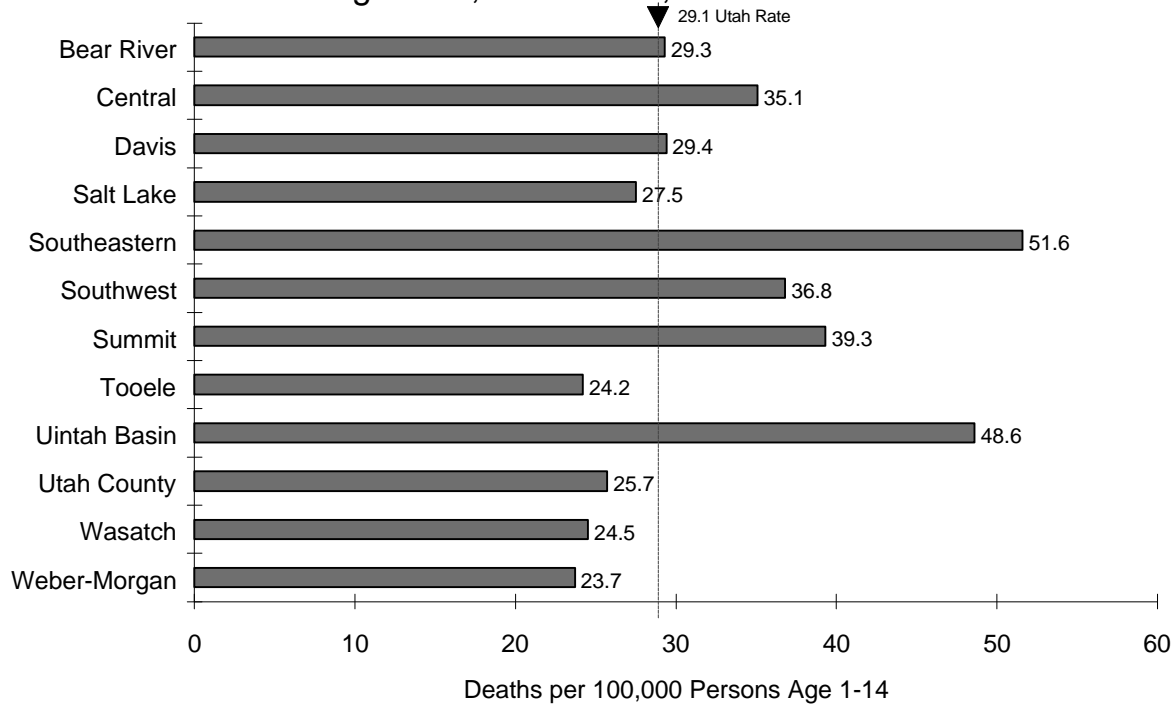
- The overall death rate for this age group decreased somewhat for boys.



* Unintentional injury deaths other than those from motor vehicle crashes

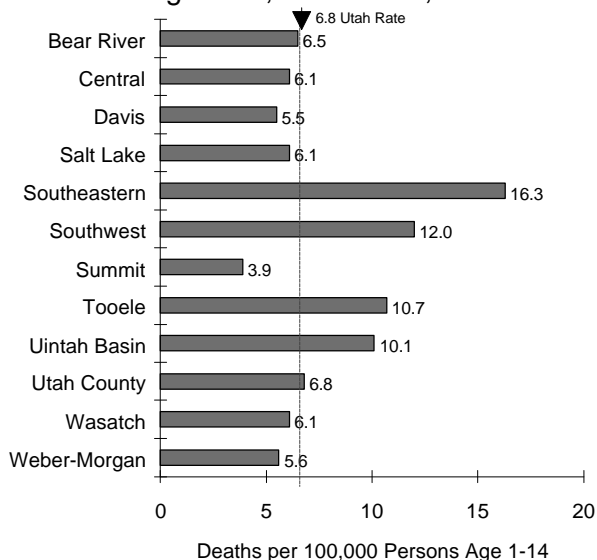
Age 1 - 14 Years

Death Rates from All Causes Age 1-14, Utah LHDs, 1991-1995

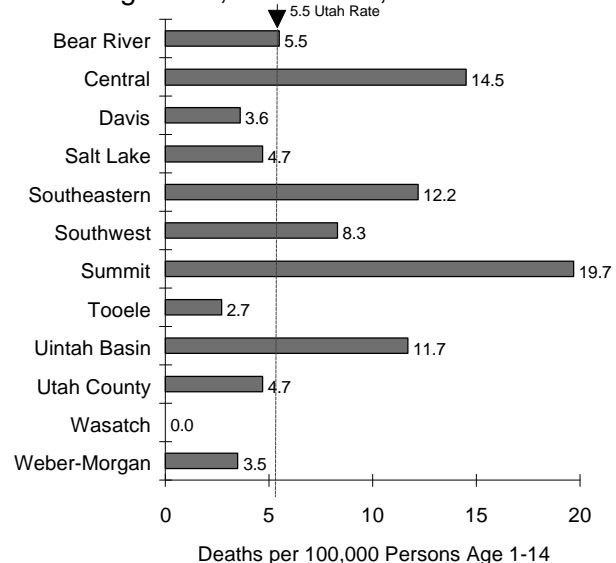


- The motor vehicle crash death rates were significantly higher than the State rate for Southeastern District, and death rates from other injuries were significantly higher in Central, Southeastern, and Summit Districts.

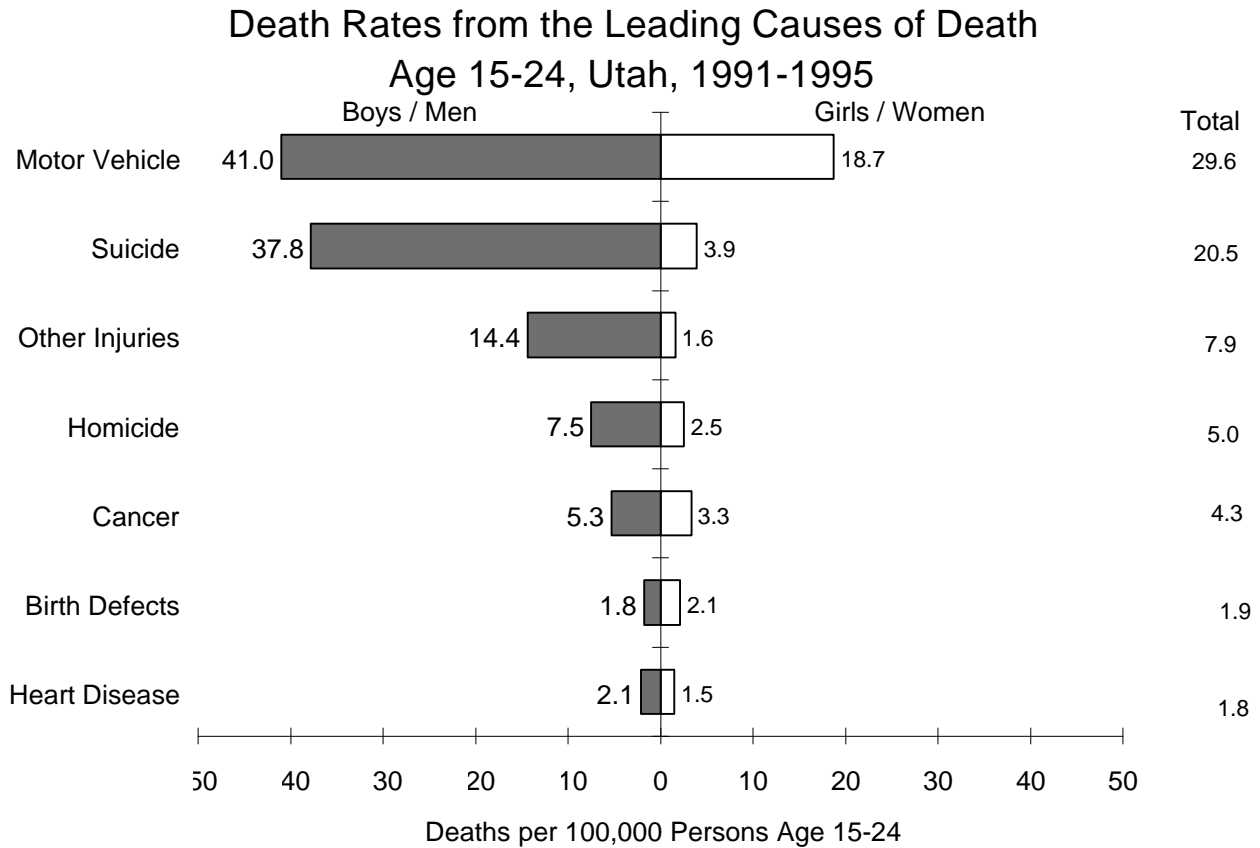
Motor Vehicle Crash Death Rate Age 1-14, Utah LHDs, 1991-1995



Deaths from Other Injuries* Age 1-14, Utah LHDs, 1991-1995



* Unintentional injuries other than motor vehicle crash injuries



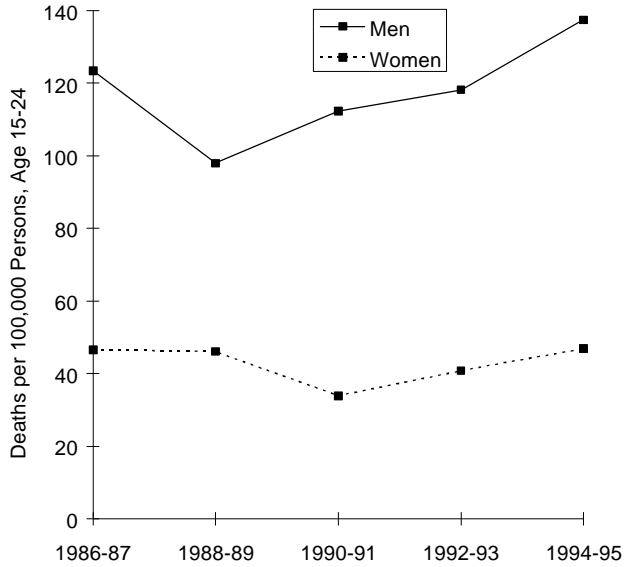
All cause death rates (per 100,000 persons) for age 15-24	
Total	82.0
Men	124.5
Women	41.3
Average annual number of deaths: 265	
These seven causes account for 86.3% of all deaths in this age group.	

- Injuries, either unintentional (due to motor vehicle crashes and other causes) or intentionally inflicted (suicide and homicide), are the leading causes of death for Utahns 15 to 24 years old and are responsible for 77% of all deaths in this age group in Utah.
- Death rates from all four injury categories are substantially higher for boys and men than for girls and women in this age group. The death rate among males is 2.2 times as high as that for females from motor vehicle crashes, 9.7 times as high from suicide, 9.0 times as high from other unintentional injuries, and 3.0 times as high from homicide. Overall, the death rate for men in this age group is over 3 times that for females.

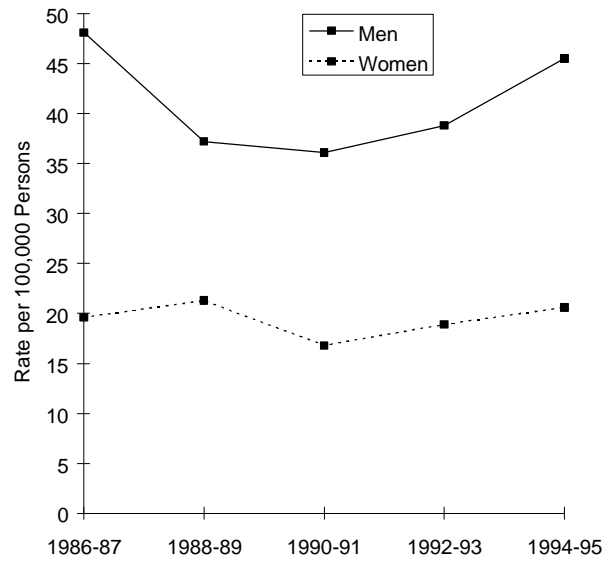
Age 15 - 24 Years

- Death rates for young males from motor vehicle crashes declined from 1986-87 to 1990-91, but then increased substantially through 1994-95.

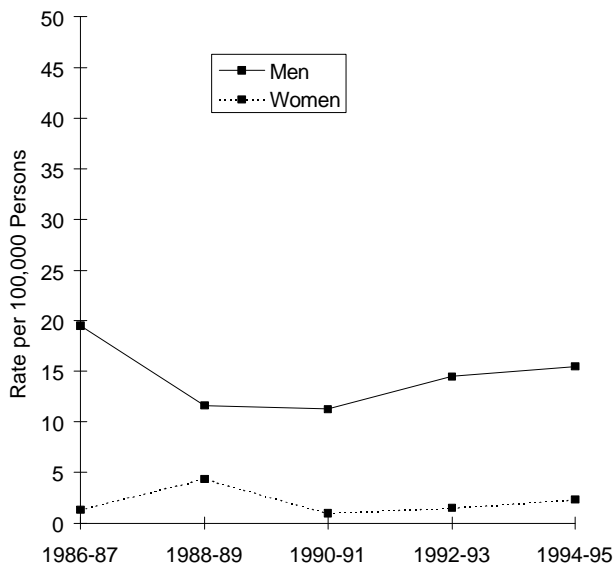
Death Rates from All Causes by Gender
Age 15-24, Utah, 1986-1995



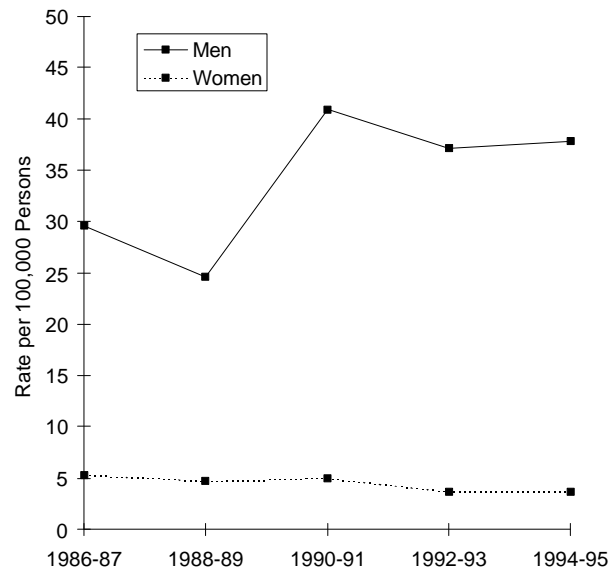
Death Rates from Motor Vehicle Crash by Gender
Age 15-24, Utah, 1986-1995



Death Rates from Other Injuries* by Gender
Age 15-24, Utah, 1986-1995



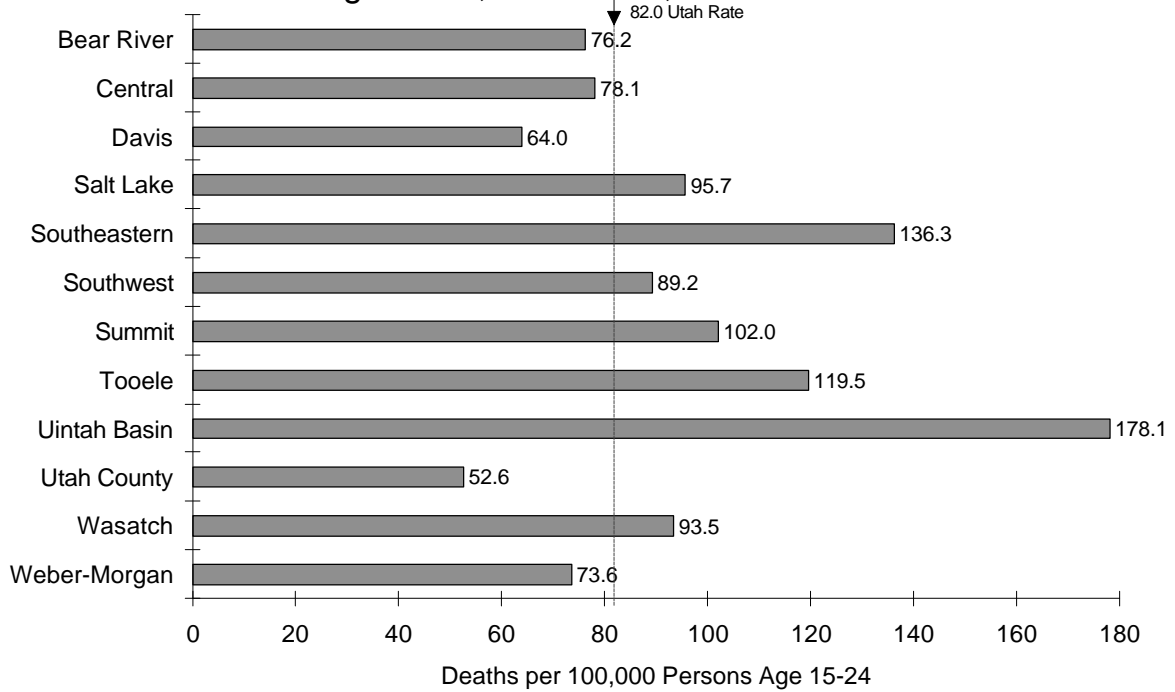
Death Rates from Suicide by Gender
Age 15-24, Utah, 1986-1995



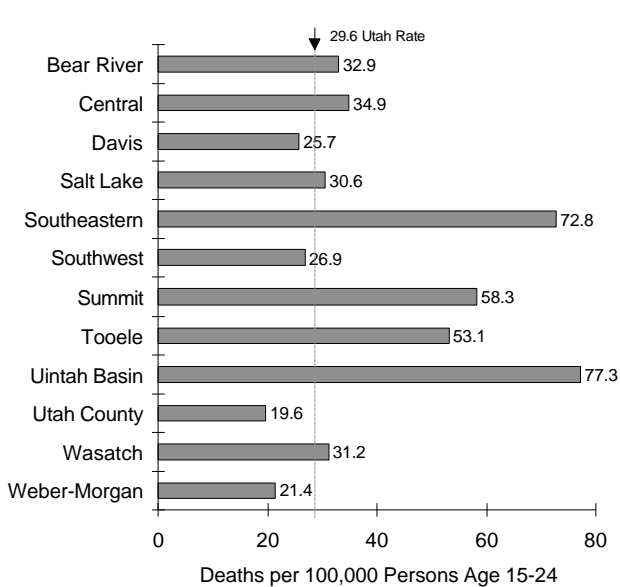
* Unintentional injuries other than motor vehicle crash injuries

- Death rates from motor vehicle crashes are significantly higher than the Utah rate for Southeastern and Uintah Basin Districts and lower for Utah County and Weber-Morgan Districts. The male suicide death rate is significantly higher for Salt Lake District and lower for Utah County District.

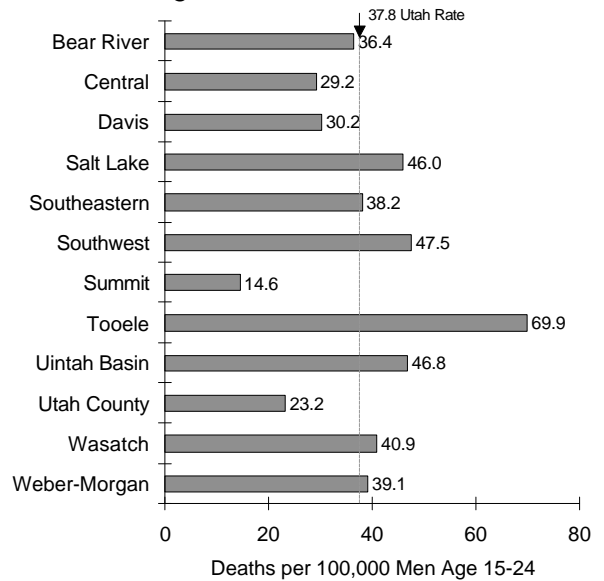
Death Rates from All Causes
Age 15-24, Utah LHDs, 1991-1995



Death Rates from Motor Vehicle Crash
Age 15-24, Utah LHDs, 1991-1995



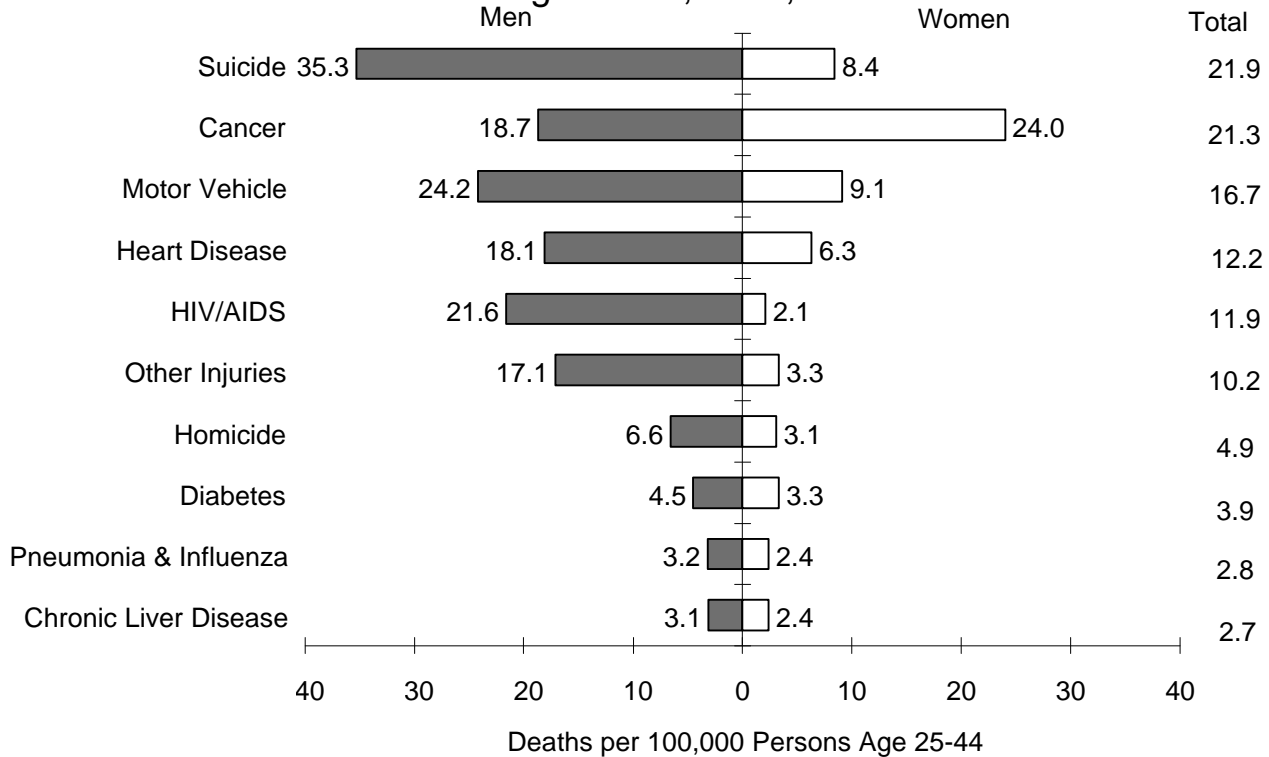
Death Rates from Suicide
Men Age 15-24, Utah LHDs, 1991-1995



Age 25 - 44 Years

Death Rates from the Leading Causes of Death

Age 25-44, Utah, 1991-1995



All cause death rates (per 100,000 persons) for age 25-44

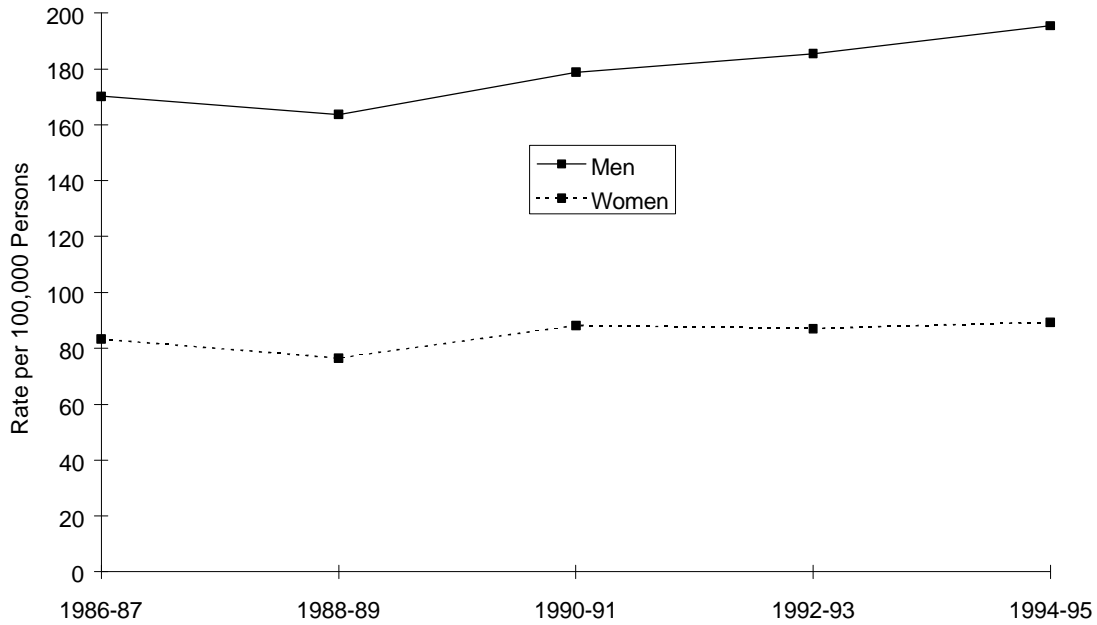
Total	139.4
Men	189.9
Women	88.5

Average annual number of deaths: 758

These ten causes account for 77.8% of all deaths in this age group.

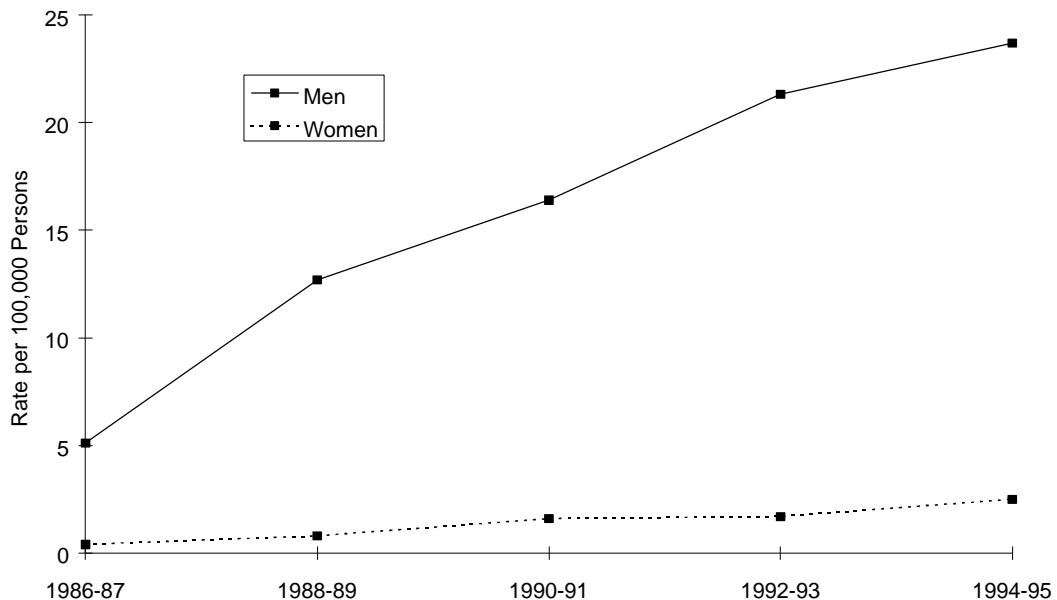
- In this age group, cancer and heart disease begin to be important, but suicide and motor vehicle crashes remain the leading causes of deaths for men.
- HIV/AIDS is the third leading cause of death for men in this age group, exceeding cancer, heart disease, and other injuries.
- The death rate for men is 4.2 times as high as that for women from suicide, 2.7 times as high from motor vehicle crashes, 2.9 times as high from heart disease, and 10.3 times as high from HIV/AIDS. The death rate from all causes is 2.1 times as high for men as for women in this age group.

Deaths from All Causes by Gender
Age 25-44, Utah, 1986-1995



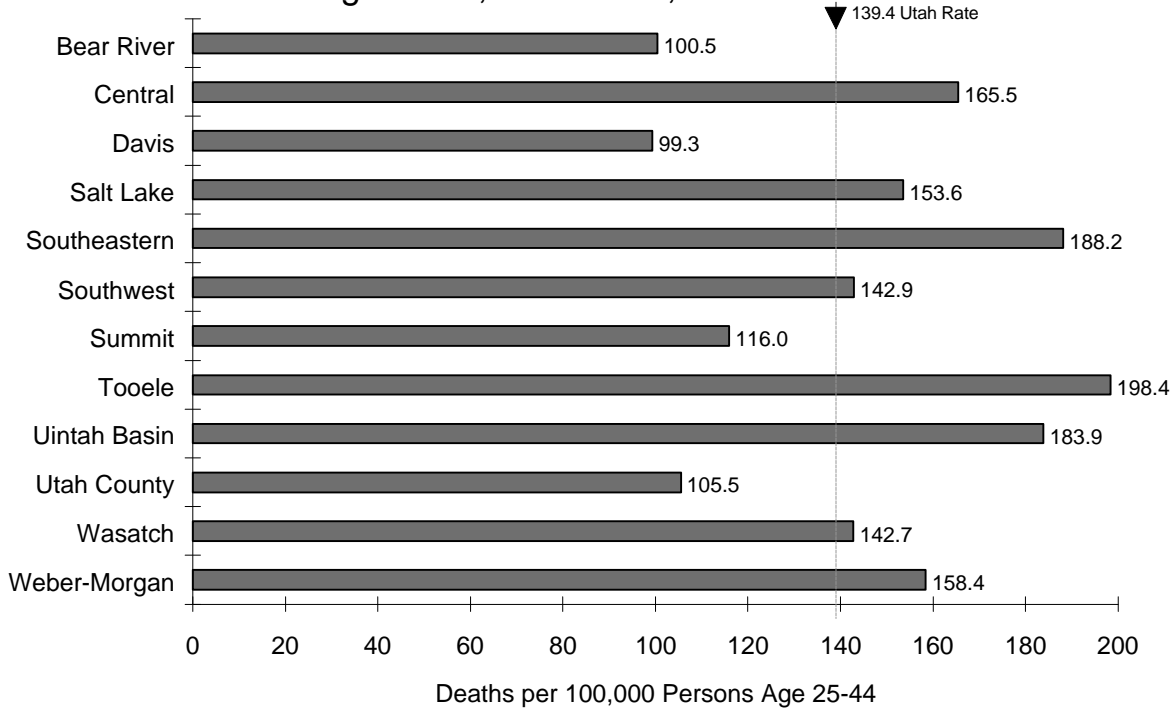
- By far, the most important trend for this age group is the dramatic increase in the death rate due to HIV/AIDS among men. The other leading causes of death remained relatively stable over these years, though the cancer death rate for women and the suicide death rate for men increased somewhat.

HIV/AIDS Death Rates by Gender
Age 25-44, Utah, 1986 to 1995



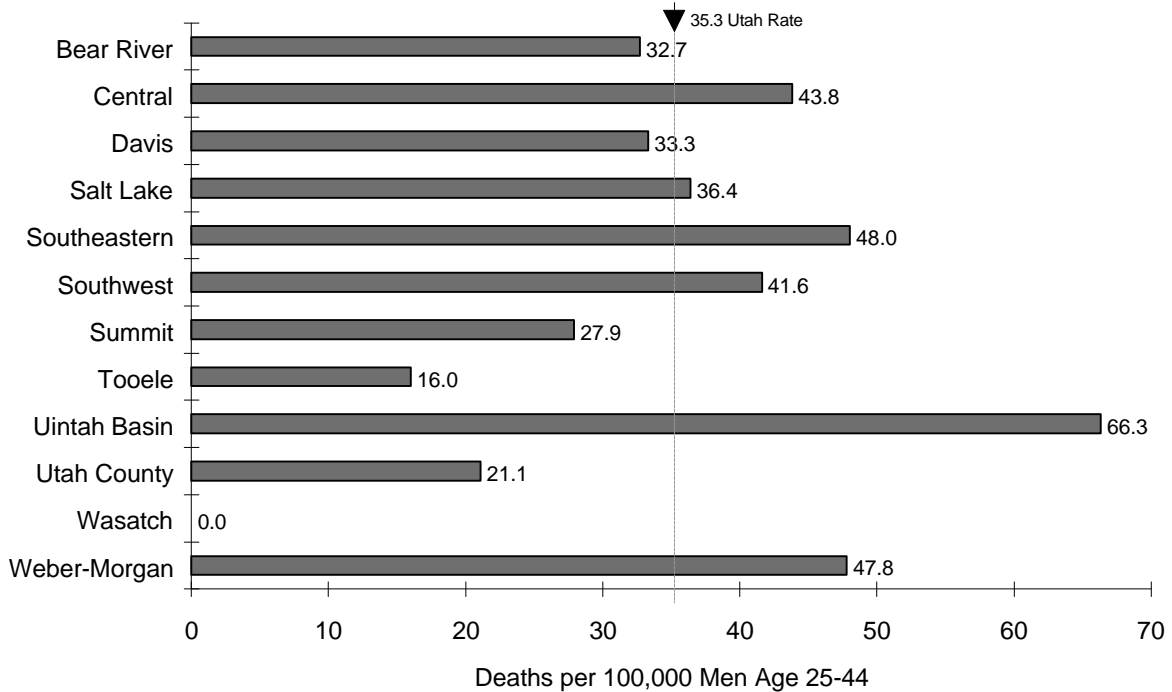
Age 25 - 44 Years

Death Rates from All Causes
Age 25-44, Utah LHDs, 1991-1995

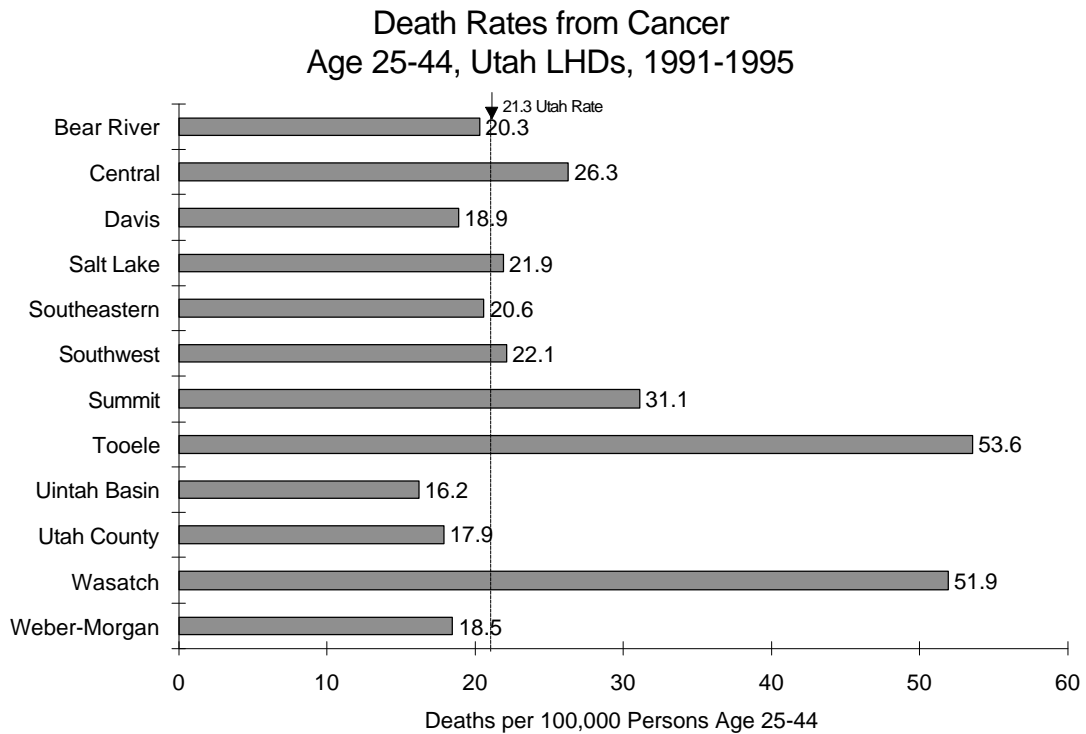


- The suicide death rate is significantly higher in Uintah Basin and Weber-Morgan Districts and lower in Utah County District.

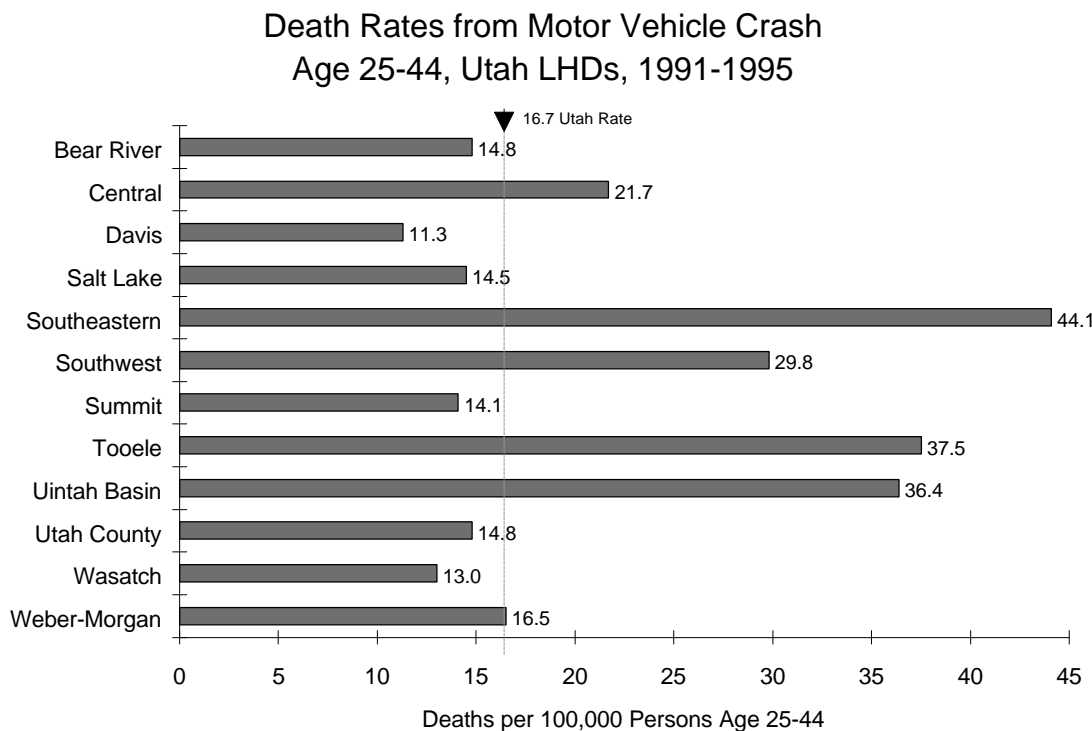
Death Rates from Suicide
Age 25-44, Men, Utah LHDs, 1991-1995



- The cancer death rate is higher in Tooele Health District.

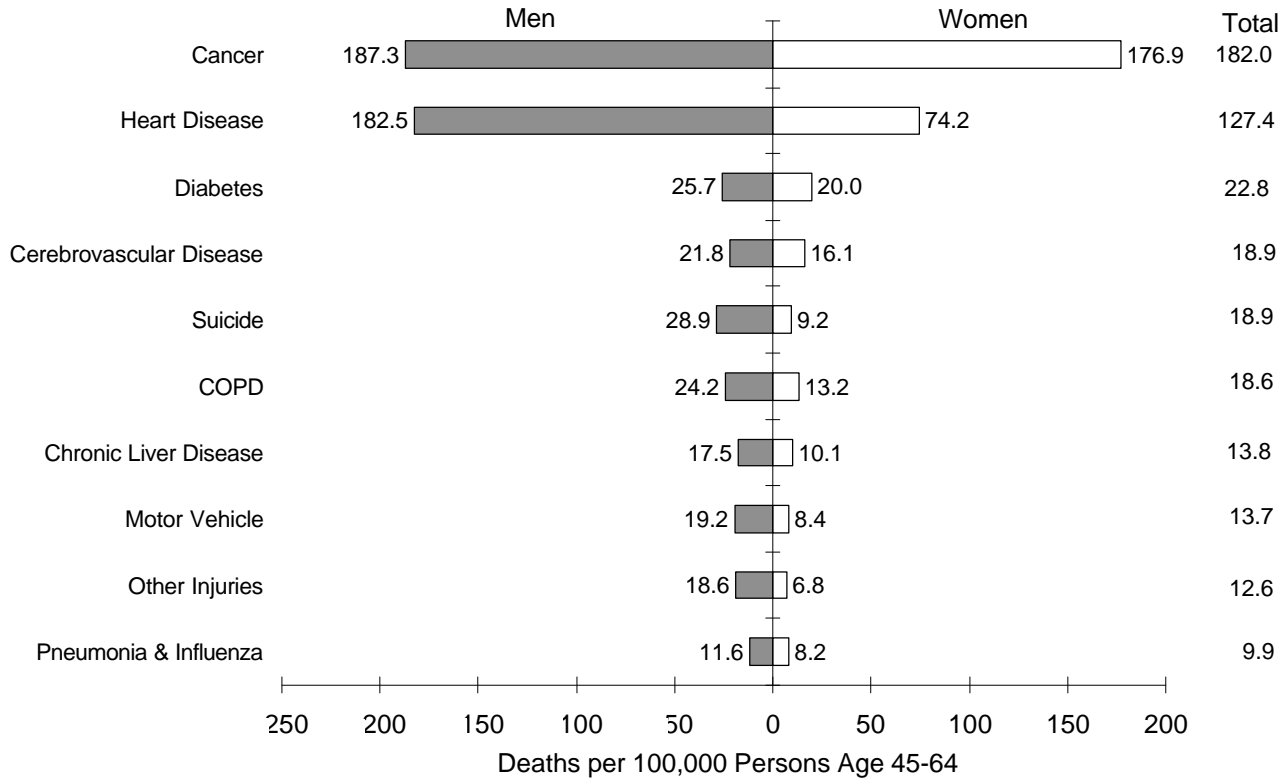


- The motor vehicle crashes death rate is significantly higher than the State rate in Southeastern, Southwest, Tooele, and Uintah Basin Districts and lower in Davis County District.



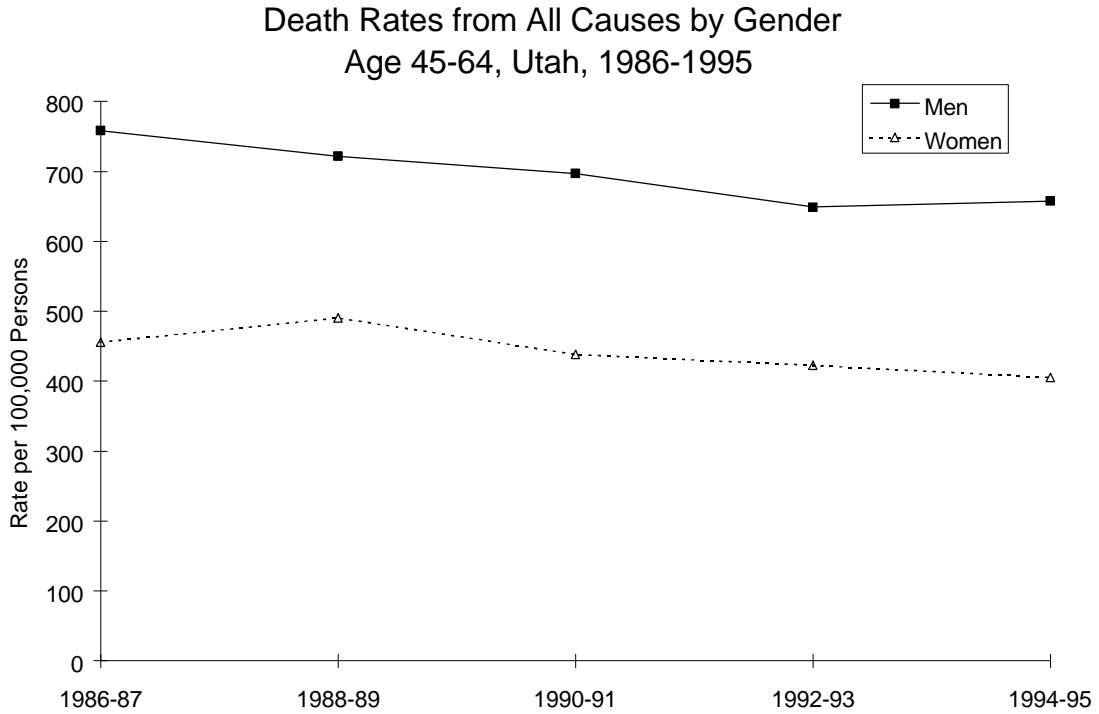
Age 45 - 64 Years

Death Rates from the Leading Causes of Death
Age 45 - 64, Utah, 1991-1995

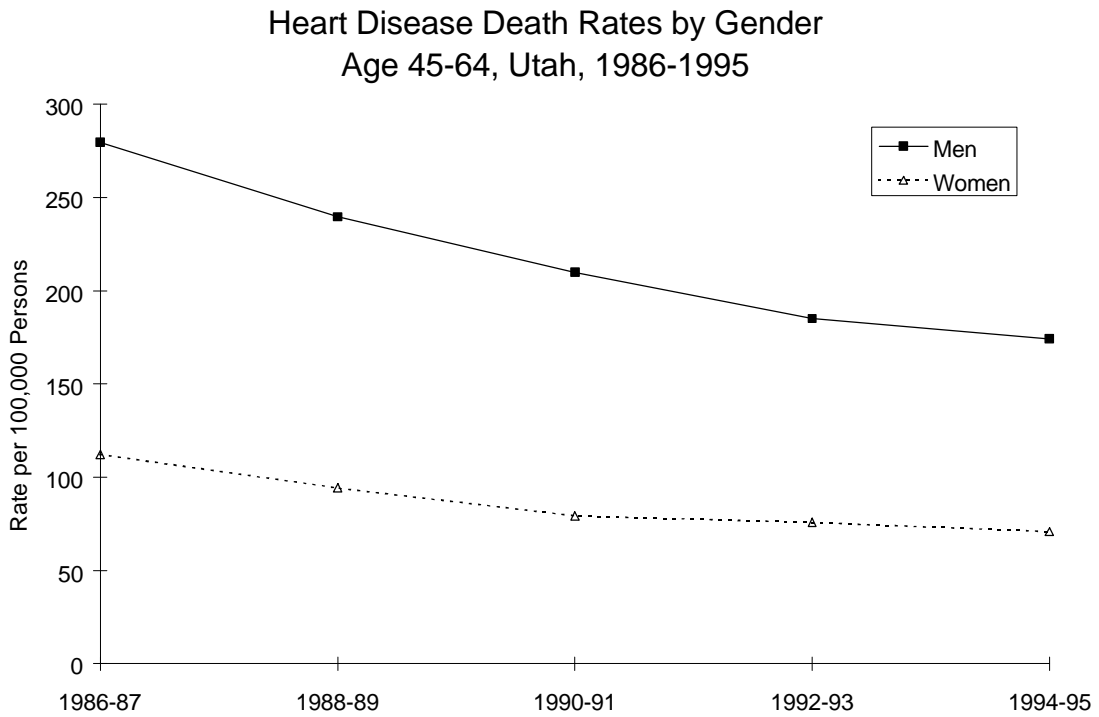


All cause death rates (per 100,000 persons) for age 45-64	
Total	538.7
Men	659.4
Women	422.4
Average annual number of deaths: 1,489	
These ten causes account for 81.4% of all deaths in this age group.	

- Cancer and heart disease are by far the most important causes of death for Utahns age 45-64 years and are responsible for 57 percent of all deaths in this age group. The heart disease death rate among men is 2.5 times as high as that among women.

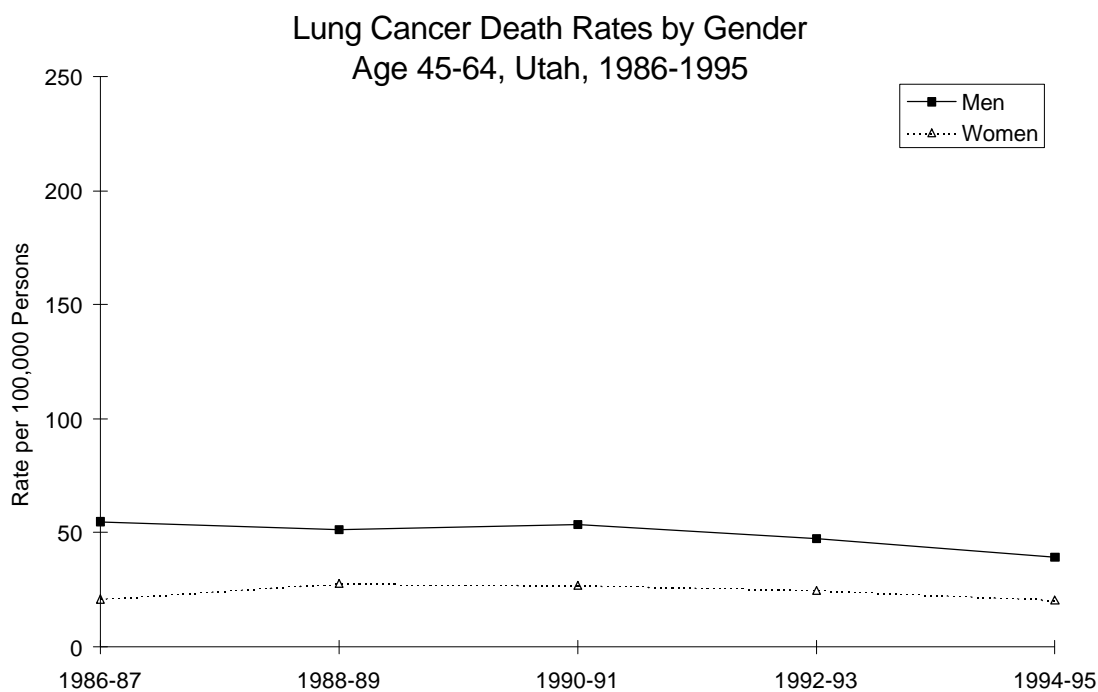
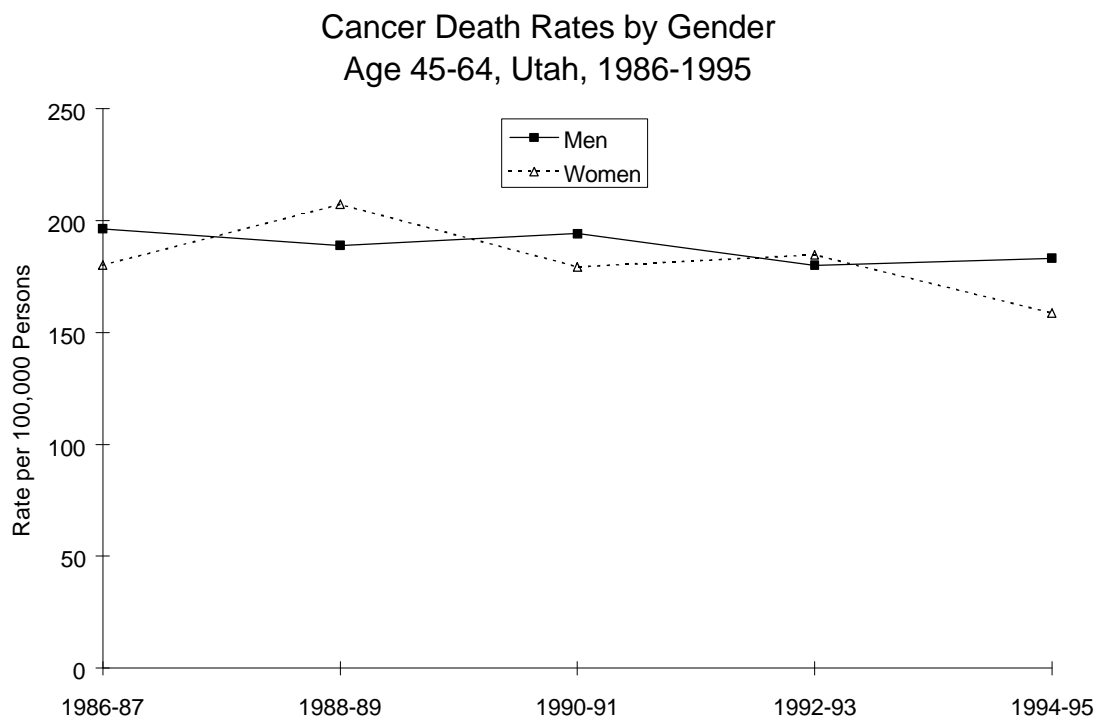


- The heart disease death rate decreased over the ten-year period, 1986-1995, especially among men.

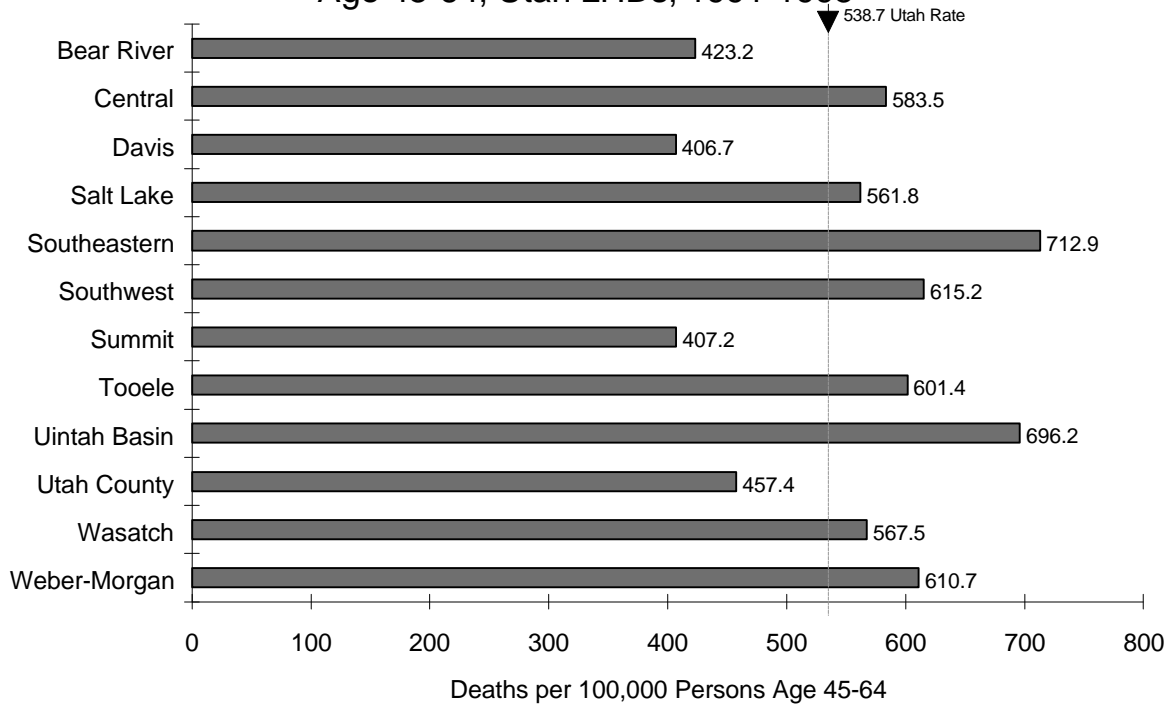


Age 45 - 64 Years

- The cancer death rate remained relatively stable among both men and women for most of the examined time period.

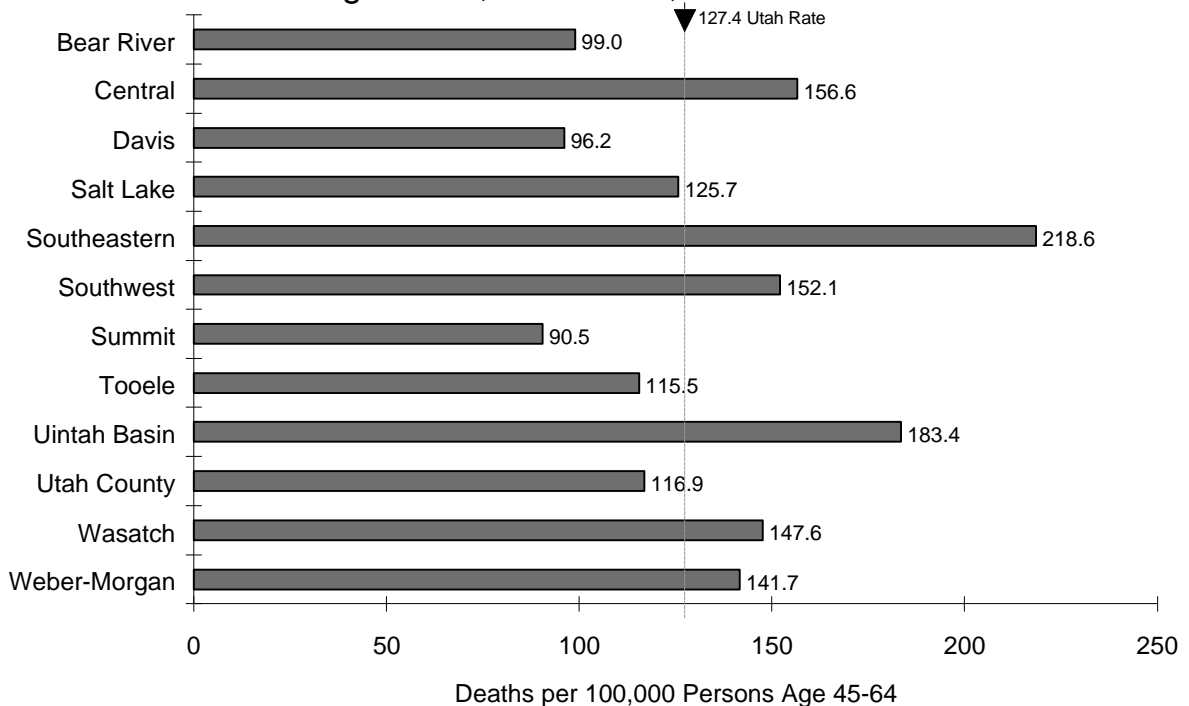


Death Rates from All Causes
Age 45-64, Utah LHDs, 1991-1995



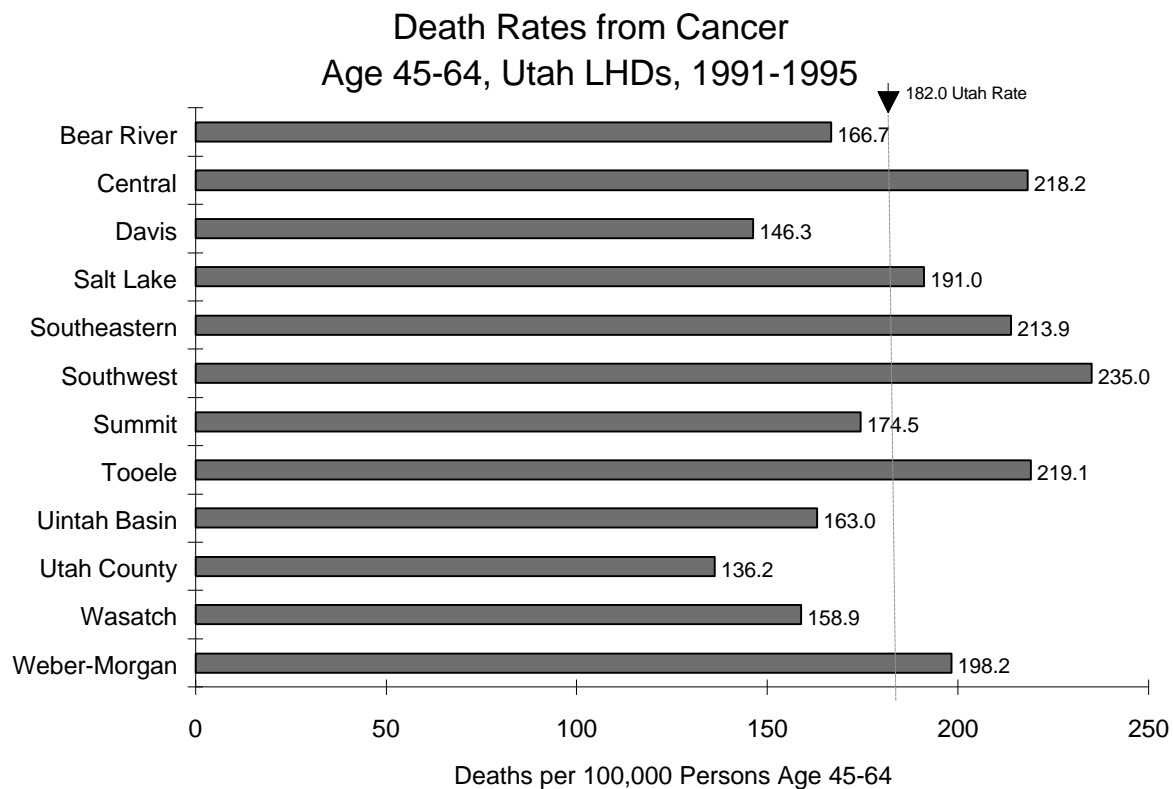
- Heart disease death rates are significantly higher than the State rate in Southeastern and Uintah Basin District, and lower in Bear River and Davis Health Districts.

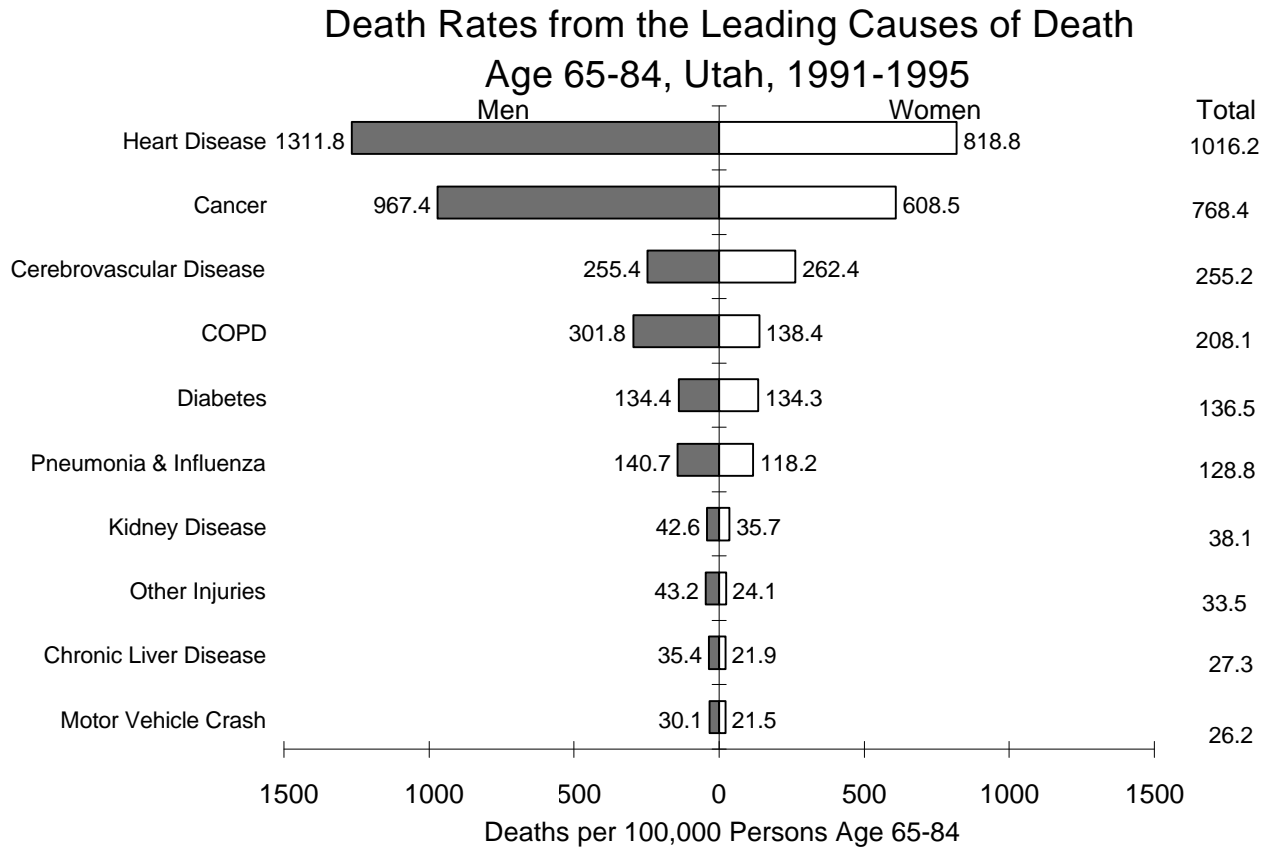
Death Rates from Heart Disease
Age 45-64, Utah LHDs, 1991-1995



Age 45 - 64 Years

- The cancer death rate is higher in Southwest District and lower in Davis and Utah County Districts.





All cause death rates (per 100,000 persons) for age 65-84

Total	3,283.8
Men	3,967.3
Women	2,742.8

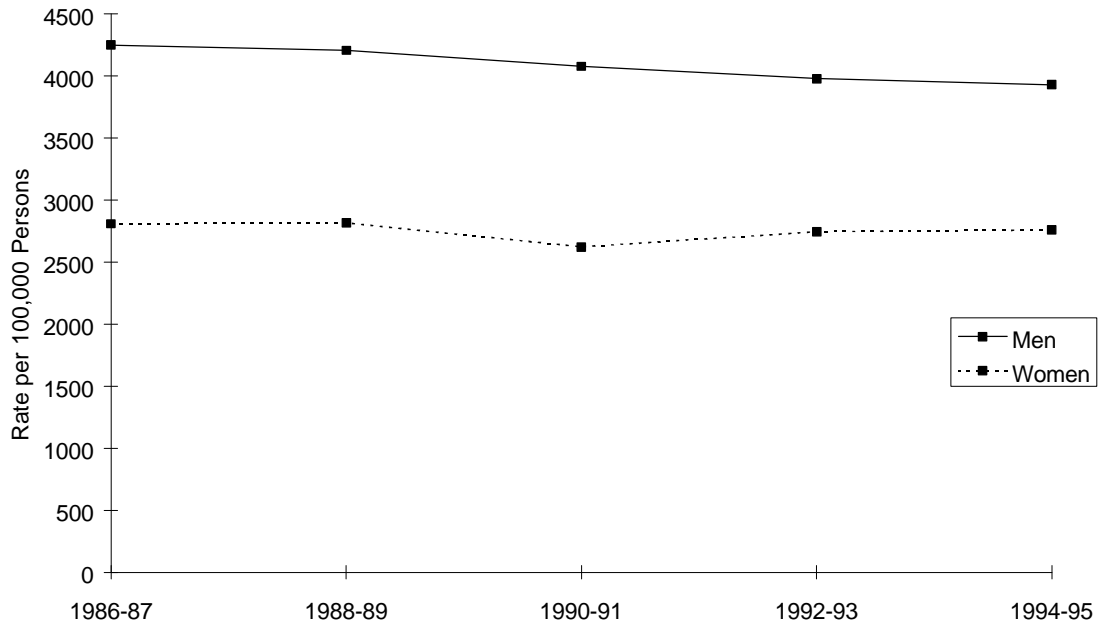
Average annual number of deaths: 4,879

These ten causes account for 80.3% of all deaths in this age group.

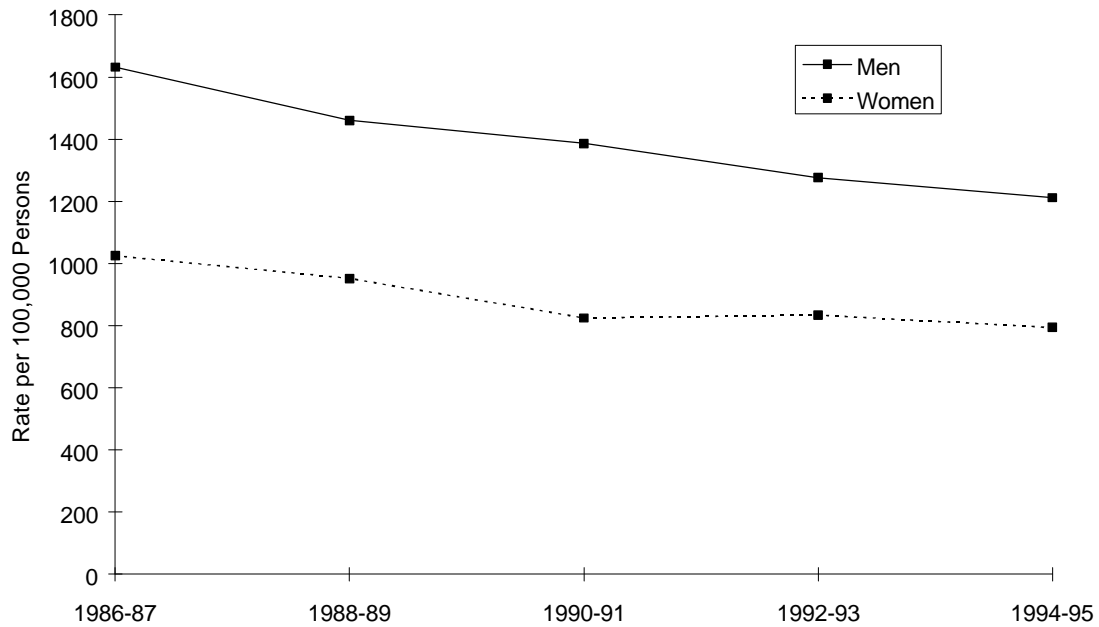
- Heart disease and cancer are the most important causes of death for Utahns age 65 to 84. Together, they account for over half of the deaths of persons in this age group. Men in this age group have 1.4 times the risk of death as do women.

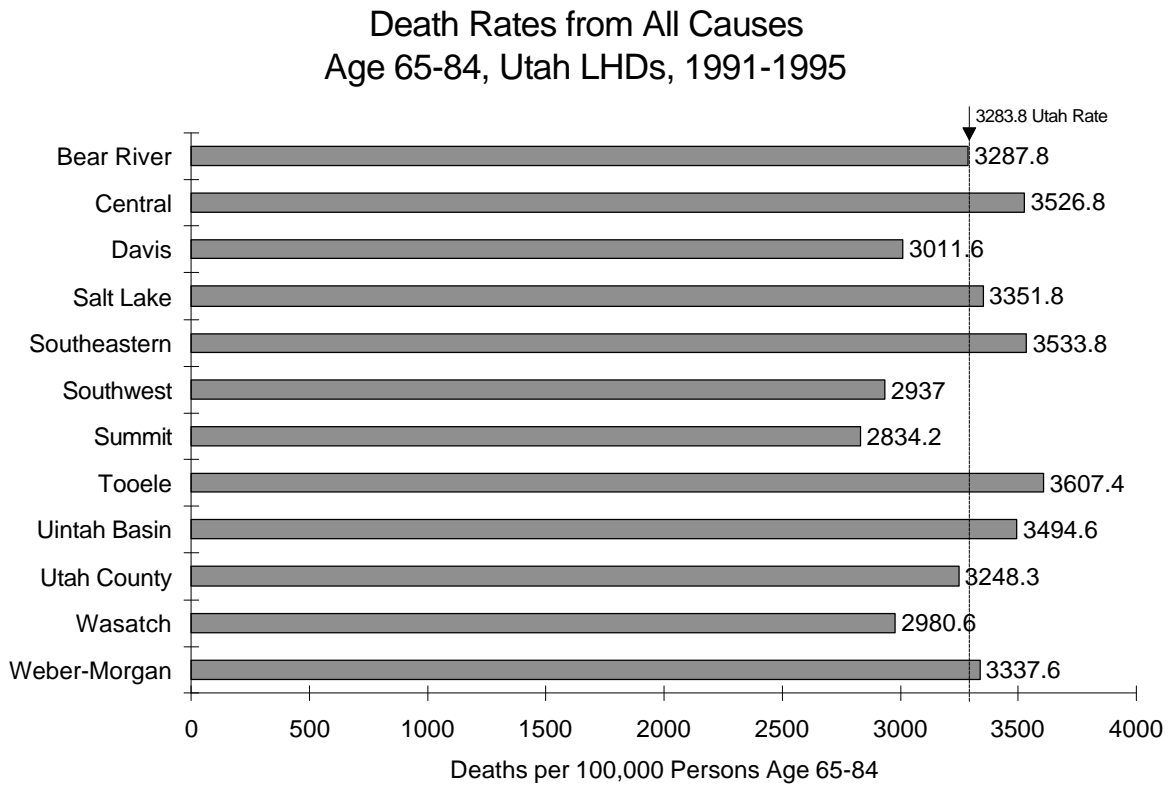
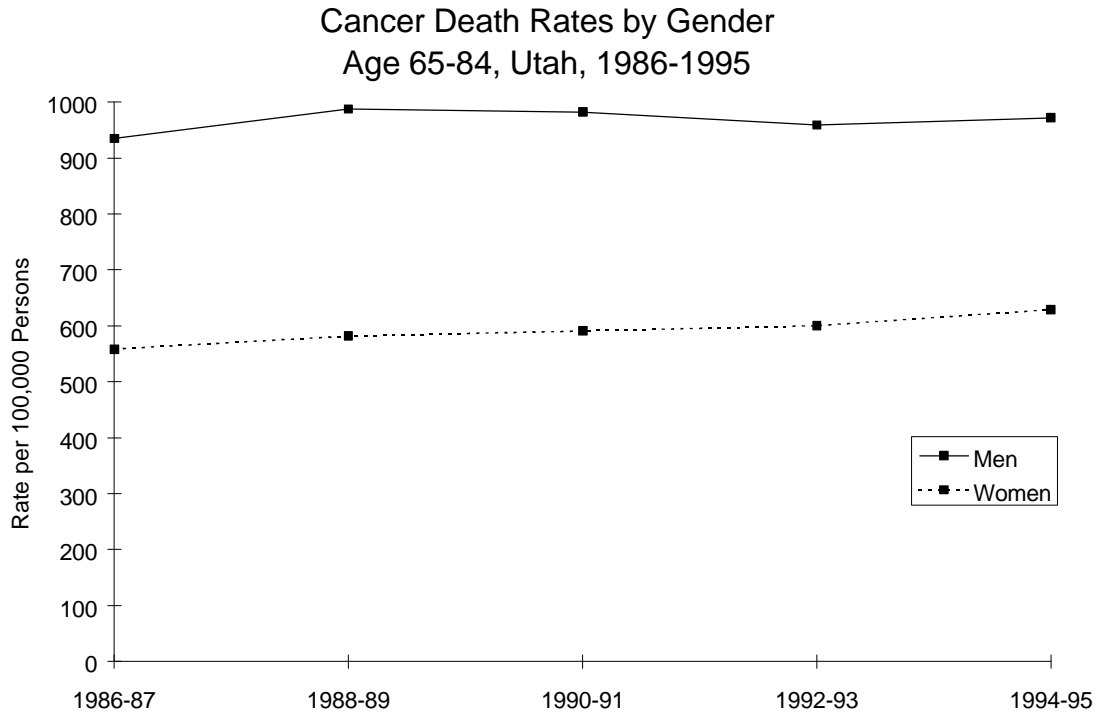
Age 65 - 84 Years

All Causes Death Rates by Gender Age 65-84, Utah, 1986-1995



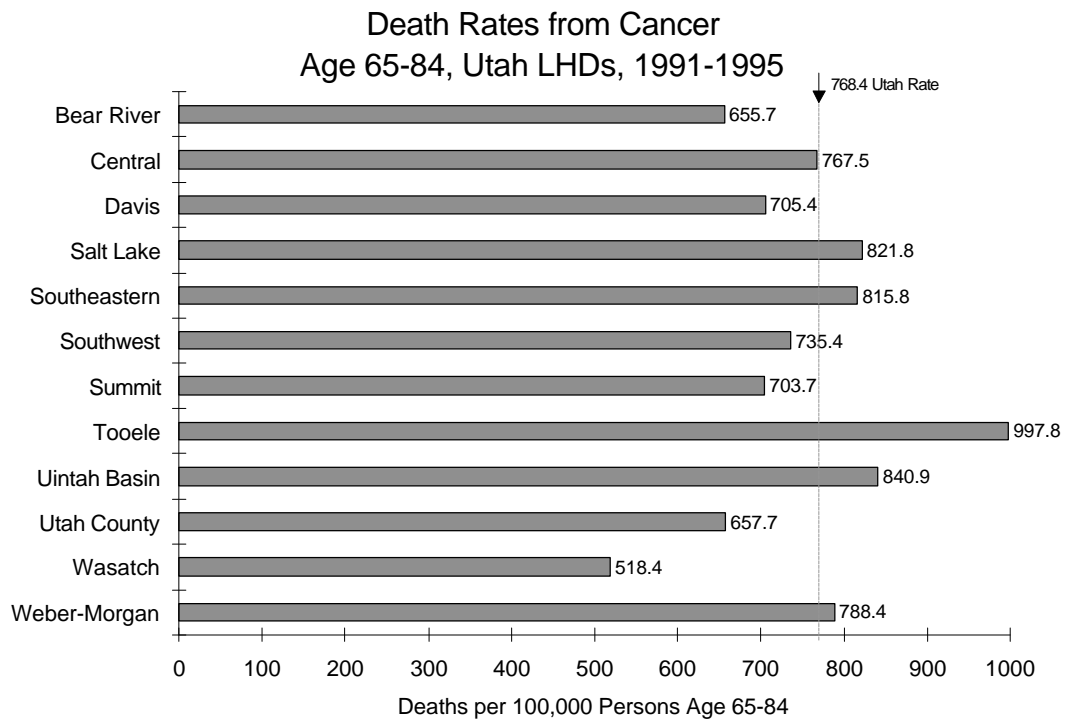
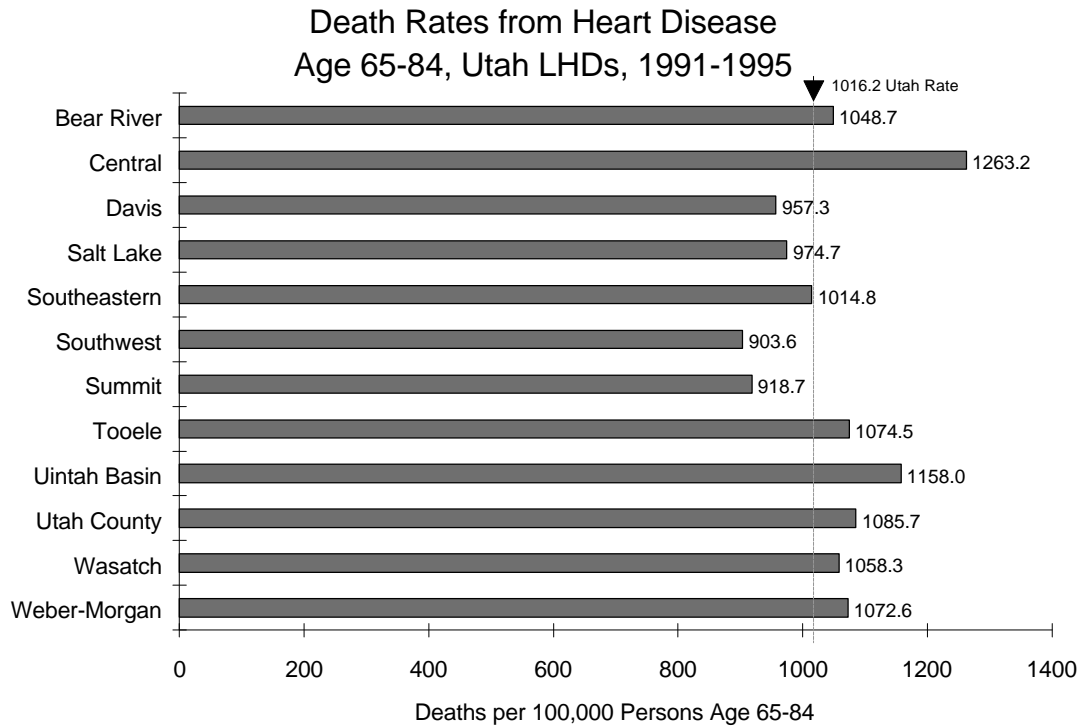
Heart Disease Death Rates by Gender Age 65-84, Utah, 1986-1995

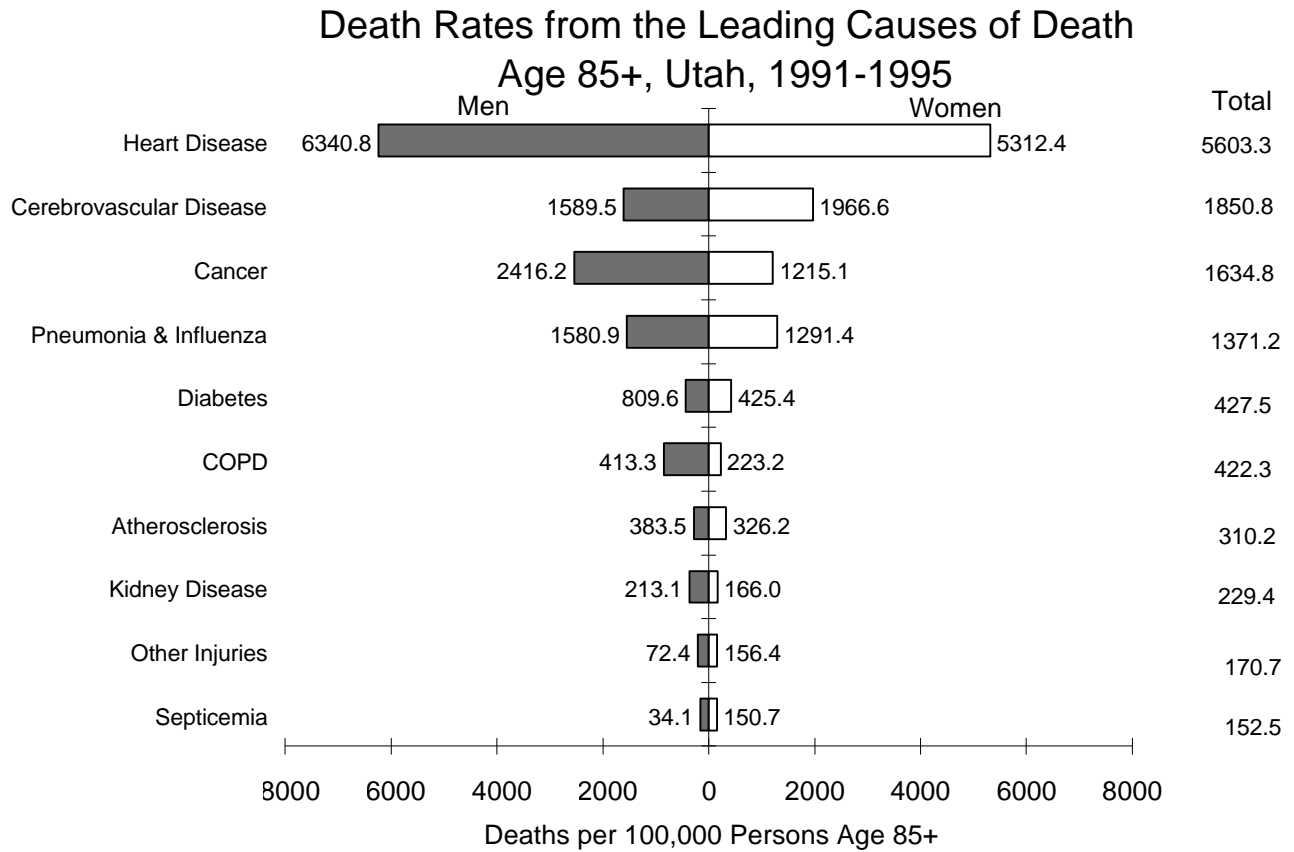




Age 65 - 84 Years

- The heart disease death rate is significantly higher than the State rate in Central and Utah County Districts and lower in Salt Lake and Southwest Districts. Cancer death rates are significantly higher than the State rate in Tooele and Salt Lake Health Districts and lower in Bear River, Utah County, and Wasatch Health Districts.





All cause death rates (per 100,000 persons) for age 85+

Total	15,802.5
Men	17,952.8
Women	14,805.9

Average annual number of deaths: 2,425

These ten causes account for 77.0% of all deaths in this age group.

- Heart disease, cerebrovascular disease, cancer, and pneumonia and influenza are the leading causes of deaths in this age group. Many deaths in this age group are not premature, and the leading causes of death for this age group will play a much less important role in setting health and health care priorities .

Keys to Figure Labels for Causes of Death		
<u>Figure Label</u>	<u>ICD-9* Category Title</u>	<u>ICD-9 Codes</u>
Heart Disease	Diseases of the heart	390-398, 402, 404-429
Cancer	Malignant neoplasms including neoplasms of lymphatic and hematopoietic tissues	140-208
Cerebrovascular	Cerebrovascular diseases	430-438
COPD	Chronic obstructive pulmonary diseases and allied conditions	490-498
Motor Vehicle	Motor vehicle accidents	E810-E825
Suicide	Suicide	E950-E959
Diabetes	Diabetes mellitus	250
Pneumonia and Influenza	Pneumonia and influenza	480-487
Other Injuries	All other injuries and adverse effects	E800-E807, E826-E949
Chronic Liver Disease	Chronic liver disease and cirrhosis	571
Birth Defects	Congenital anomalies	740-759
HIV/AIDS	Human Immunodeficiency Virus infection	042-044
Kidney Disease	Nephritis, nephrotic syndrome and nephrosis	580-589
Homicide	Homicide and legal intervention	E960-E978
Cond. Perinatal	Certain conditions arising in the perinatal period	760-779
SIDS	Sudden Infant Death Syndrome	798

* International classification of Diseases, Ninth Revision

Appendix

Utah population estimates for 1990 - 1994 period, presented as the average total number of persons over that time period:

<u>Age Group</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
Live Births	19,340	18,283	37,623
< 1	19,423	18,407	37,830
1 to 14	268,167	254,467	522,634
15 to 24	158,225	165,003	323,228
25 to 44	273,078	270,357	543,435
45 to 64	135,638	140,675	276,313
65 to 84	65,646	82,930	148,576
85 +	4,859	10,485	15,344
<u>Total</u>	925,036	942,324	1,867,360

Population Estimates from the Governor's Office of Planning and Budget

Methods:

Death rates were calculated using Utah's death certificate database provided by the Bureau of Vital Records. The underlying cause of death was used for all rate calculations. Rates for local health districts were compared to the overall state rate using 95% confidence limits. District rates were considered statistically different from the state rate if the 95% confidence limit for the district rate did not include the state rate. District rates that differ from the state rate but were not statistically significant by this test may still be importantly different, but those differences may also be due to random year-to-year variation of small numbers of deaths. Additional tables containing the numbers and rates of death due to the causes examined here are available for each local health district upon request.