

Washington State  
**Vital Statistics**  
**2002**

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## Washington State Vital Statistics Highlights for 2002

<http://www.doh.wa.gov/EHSPHL/CHS/CHS-Data/main.htm>

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- **Fewer babies were born in 2002**  
Washington women had 79,003 babies in 2002, a decrease of 539 births compared to 2001. The birth rate decreased to 13.1 births per 1,000 population, the lowest birth rate since 1933.
- **Most of the births were to women in their 20's and early 30's**  
Women aged 20-34 had more than three-quarters (76.2%) of the births in 2002.
- **The percent low birth weight was unchanged in 2002**  
Low birth weight (<2500 grams) has been steady at 5.6-5.9% of births for the past seven years (1996-2002). In both 2001 and 2002, the percent low birth weight was 5.8.
- **Births to unmarried mothers increased over the decade but did not change much in 2002**  
The percent of births to unmarried mothers increased from 26.3% in 1993 to 28.7% in 2001. There was only a slight increase in 2002, to 28.8%.
- **Over 45,000 residents died in 2002**  
There were 45,244 deaths of Washington State residents in 2002. Although the number of deaths has increased fairly steadily over the past decade, there has been a decline in the age-adjusted death rate since the state's population has also grown during this period.
- **Heart disease and cancer continued as the leading causes of death**  
Alzheimer's disease is now the 5<sup>th</sup> leading cause of death, moving accidents to 6<sup>th</sup> place. However, the percent distribution of deaths among the leading causes has changed very little.
- **The infant death rate remains low**  
The infant death rate was 5.7 per 1,000 live births in 2002. For comparison, the infant death rate in 1993 was 6.3 per 1,000 live births.
- **The marriage and divorce rates showed little or no change**  
The marriage rate was 6.5 per 1,000 population in 2002. The divorce rate was 4.5 per 1,000 population in 2002.
- **Emily continued as the most popular name for girl babies, but Ethan overtook Jacob for boys in 2002**  
The next most popular names are Emma and Hannah for girls and Jacob and Joshua for boys.

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### **On an average day, these events occurred among Washington State Residents**

- 216 births including:
  - 6 to teens <18
  - 6 to women aged 40+
  - 62 to unmarried women
  - 12 with low birth weight
  - 52 by Cesarean section
  - 25 to maternal smokers
- 108 marriages
- 124 deaths including:
  - 30 due to heart disease
  - 30 due to cancer
  - 6 due to unintentional injuries (accidents)
  - 2 due to suicide
- 75 divorces

### **Washington State outperformed the nation<sup>1</sup> by experiencing a...**

- lower percentage of low weight births
- lower proportion of Cesarean deliveries
- lower percentage of births to unmarried women
- lower infant mortality rate
- lower crude and age-adjusted death rate for heart disease and cancer, the two leading causes of death
- higher life expectancy

### **Washington State fell below the nation<sup>1</sup> by experiencing a...**

- slightly higher percentage of women getting prenatal care after the first trimester
- higher crude and age-adjusted death rate from cerebrovascular disease (strokes)
- higher crude and age-adjusted death rate from suicide
- much higher crude and age-adjusted death rate from Alzheimer's Disease

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<sup>1</sup>National data reported in "Births: Final Data for 2002" *National Vital Statistics Reports*, Vol 51 No 11 (June 25, 2003), available on the internet at [http://www.cdc.gov/nchs/data/nvsr/nvsr51/nvs51\\_115.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr51/nvs51_115.pdf) and "Deaths: Final Data for 2001" *National Vital Statistics Reports*, Vol 52 No 3 (September 18, 2003), available on the internet at [http://www.cdc.gov/nchs/data/nvsr/nvsr52/nvsr52\\_03.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr52/nvsr52_03.pdf).

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# Introduction



# Washington Counties and County Seats



## Introduction

*Washington State Vital Statistics, 2002*, published by the Center for Health Statistics of the Washington State Department of Health, contains tables on births, deaths, marriages and dissolutions of marriage (i.e., divorces, annulments) that occurred during calendar year 2002.

Publication of vital statistics supports the mission of the Department of Health to protect and improve the health of people in Washington State. Timely and wide-ranging health information, such as that presented in *Washington State Vital Statistics*, is crucial to accomplishing this mission. Vital statistics data are used by policy makers, health professionals, community-based organizations, researchers, and citizens to understand trends in vital statistics, identify high risk populations (and geographic areas), set prevention priorities, and plan targeted health promotion strategies. This report is often the first resource used to identify problems related to prenatal care, maternal and infant health, family planning, and mortality due to various causes.

### Source of Vital Statistics

Data used to prepare this report come from Certificates of Live Birth, Certificates of Fetal Death, Certificates of Death, Certificates of Marriage, and Certificates of Dissolution. The forms for these certificates are provided by the Washington State Department of Health. The following table describes who completes the forms and where they are filed:

#### Filing of Washington State Vital Statistics

<b>Certificate</b>	<b>Completed by</b>	<b>Initially Filed with</b>
Live Birth	Hospital or Birth Attendant	State Dept. of Health
Fetal Death	Hospital or Birth Attendant	Local Health Jurisdiction
Death	Funeral Director and Physician, Coroner or Medical Examiner	Local Health Jurisdiction
Marriage	Person Performing the Marriage	County Auditor
Dissolution	Clerk of Court, Petitioner's Attorney	County Clerk

RCW 70.58 which governs the registration and reporting of vital statistics requires births, fetal deaths, deaths, marriages, and dissolutions of marriage to be reported within a timely fashion. Birth and death certificates are designed to gather information in a manner consistent with federal reporting requirements of the National Center for Health Statistics.

On October 1, 2002, the Department of Health adopted amendments to Washington Administrative Code (WAC) 246-491, sections 029,039 and 149. These changes assured that the state's birth, death and fetal death certificates will be consistent with the US Standard Certificates.

New Birth and Fetal Death Certificates have been in place since January 1, 2003. However, this change does not affect the data in this annual report which reports 2002 data. The 2003 version of the Vital Statistics Report (published mid-year 2004) will report out the first year's data collected under the new Birth and Fetal Death Certificates.

The new Death Certificate will be in place as of January 1, 2004. Death data in the Vital Statistics Report will not reflect this change until the 2004 data are published in 2005.

A formal interstate exchange agreement governs the mutual exchange of information on births, deaths and fetal deaths between states and other countries so that events occurring to Washington residents elsewhere are also reported to this state. Such an interstate exchange agreement does not exist, however, for marriages and divorces. Therefore, the Center for Health Statistics does not have the marriage and divorce records for all of the state's residents since some may have gone elsewhere to be married or divorced.

Since 1992, hospitals or birth attendants have used the Electronic Birth Certificate (EBC) system to send birth records directly to the Department of Health instead of to registrars of local health jurisdictions. However, on January, 1, 2003, hospitals and birth attendants began using the *Birth Record Realtime Registration (BR3)* system, a web-based reporting system that allows almost instantaneous registration of births directly to the Center for Health Statistics at the Department of Health. Data collected under the *BR3* for calendar year 2003, will be reported in the next Annual Summary.

See Appendix A, Section I for information on how to best use and interpret Vital Statistics.

## How to Access Annual Statistical and other CHS Information

This annual report provides an overview of the vital statistics data collected from certificates, which is available through the Washington State Center for Health Statistics. Birth, death, and fetal death data are also available as raw data files on the Center's CD-ROM "*Vital Registration System Annual Statistical Files, Washington State.*" The CD-ROM contains data in ASCII format, detailed technical documentation, and annual summary tables for 1980-2002 in Excel format. To order a copy of the CD-ROM, call (360) 236-4327.

All of the information in this report is available on the Internet. To access this information, go to the DOH web page at: <http://www.doh.wa.gov/EHSPHL/CHS/CHS-Data/main.htm>. At that point a list of subject topics appears (e.g., "births," "deaths"). Click on any of these topics to locate a table or tables of particular interest. Tables are available not only for the current year but for previous years as well. Click on "publications" to download a PDF copy of this report.

The Center also works with data users on a variety of levels: 1) to help users formulate requests so they get the data they need; 2) to provide technical consultation about how to use or interpret data; 3) to perform special analyses to address a specific problem or need; and 4) to help users access data files. For more information, call the Manager of Research of the Center for Health Statistics at (360) 236-4321.

The Center also houses data from the Behavioral Risk Factor Surveillance Survey (BRFSS) which is the largest, continuously conducted, telephone health survey in the world. It enables the state and local health departments, the Centers for Disease Control and Prevention (CDC), and other health agencies to monitor modifiable risk factors for chronic diseases and other leading causes of death.

The Center also captures and publishes several types of hospital data, including the Comprehensive Hospital Abstract Reporting System (CHARS) which has all admissions and discharges to all hospitals in Washington State by year, as well as various financial reports on Washington State hospitals, including the *Charity Care in Washington Hospitals* report.

## Annual Trends

Overview Table 1 provides a historical context for interpreting 2002 vital statistics in Washington State. The crude birth rate declined for the second year in a row. In contrast, the crude death rate increased. Overall, crude rates have changed little because the population has aged. Thus, declining rates by age group are balanced by the increasing number of people in the older age groups, which have higher death rates. Age-adjusted death rates would show a large decrease over time.

Trends in vital statistics since the early part of the century have been dramatic. The state population increased more than five-fold from 1910-2002, while the number of fetal deaths is about half what it was and the number of infant deaths is about one-quarter what it was early in the century. The difference in rates is even more dramatic. The fetal death ratio had a more than six-fold decrease while the infant death rate decreased more than 16-fold.

Notes on maternal death reporting: Maternal death rates are based on very small numbers (even the relatively large 2001 rate is only based on 9 deaths). These small numbers mean that the confidence intervals for the rates most likely overlap for the last several years at least. One reason for the large number of deaths in 2001 could be better reporting. Maternal deaths are known to be underreported on death certificates, so this higher number could actually represent improved reporting rather than a real increase in the death rate.

**Overview Table 1. Live Births, Deaths, Infant Deaths, Maternal Deaths, and Fetal Deaths Washington Residents, 1910-2002**

Year	Population <sup>1</sup>	Live Births		Deaths		Infant Deaths		Maternal Deaths		Fetal Deaths	
		Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>	Number	Rate <sup>3</sup>	Number <sup>4</sup>	Rate <sup>5</sup>	Number	Ratio <sup>3</sup>
1910	1,142,000	19,916	17.4	11,502	10.1	1,862	93.5	194	974.1	705	35.4
1911	1,168,800	20,728	17.7	10,845	9.3	1,531	73.9	177	853.9	699	33.7
1912	1,190,600	20,683	17.4	10,187	8.6	1,365	66.0	179	865.4	724	35.0
1913	1,212,400	21,200	17.5	11,397	9.4	1,566	73.9	178	839.6	688	32.5
1914	1,234,000	23,008	18.6	11,448	9.3	1,540	66.9	152	660.6	783	34.0
1915	1,256,000	24,046	19.1	11,895	9.5	1,461	60.8	156	648.8	779	32.4
1916	1,277,800	23,831	18.7	11,805	9.2	1,531	64.2	175	734.3	705	29.6
1917	1,299,600	23,464	18.1	12,137	9.3	1,625	69.3	173	737.3	691	29.4
1918	1,321,400	25,682	19.4	16,837	12.7	1,769	68.9	253	985.1	730	28.4
1919	1,343,200	25,112	18.7	14,370	10.7	1,584	63.1	216	860.1	730	29.1
1920	1,356,600	27,072	20.0	15,164	11.2	1,797	66.4	249	919.8	888	32.8
1921	1,385,700	27,267	19.7	13,254	9.6	1,512	55.5	192	704.1	852	31.2
1922	1,407,100	25,378	18.0	14,249	10.1	1,566	61.7	190	748.7	731	28.8
1923	1,427,300	25,259	17.7	13,856	9.7	1,428	56.5	159	629.5	680	26.9
1924	1,447,200	25,378	17.5	14,580	10.1	1,426	56.2	167	658.1	711	28.0
1925	1,467,600	24,741	16.9	15,280	10.4	1,395	56.4	140	565.9	667	27.0
1926	1,487,600	23,989	16.1	15,670	10.5	1,352	56.4	174	725.3	719	30.0
1927	1,507,800	23,315	15.5	15,950	10.6	1,162	49.8	151	647.7	650	27.9
1928	1,528,200	23,161	15.2	16,723	10.9	1,115	48.1	175	755.6	641	27.7
1929	1,548,400	22,685	14.7	16,413	10.6	1,110	48.9	150	661.2	572	25.2
1930	1,563,400	23,019	14.7	16,678	10.7	1,122	48.7	148	642.9	601	26.1
1931	1,585,000	22,028	13.9	16,524	10.4	1,064	48.3	141	640.1	591	26.8
1932	1,602,500	21,379	13.3	16,581	10.3	967	45.2	139	650.2	530	24.8
1933	1,619,700	20,882	12.9	16,705	10.3	811	38.8	140	670.4	446	21.4
1934	1,636,900	22,484	13.7	17,456	10.7	968	43.1	105	467.0	520	23.1
1935	1,654,000	22,378	13.5	18,046	10.9	998	44.6	120	536.2	469	21.0
1936	1,671,400	23,354	14.0	19,057	11.4	1,064	45.6	115	492.4	468	20.0
1937	1,689,100	24,882	14.7	18,771	11.1	978	39.3	118	474.2	495	19.9
1938	1,706,000	26,702	15.7	18,514	10.9	1,035	38.8	94	352.0	440	16.5
1939	1,723,400	26,471	15.4	18,528	10.8	977	36.9	97	366.4	450	17.0
1940	1,736,200	27,952	16.1	19,837	11.4	969	34.7	89	318.4	459	16.4
1941	1,816,700	30,916	17.0	19,359	10.7	1,065	34.4	66	213.5	445	14.4
1942	1,880,700	38,744	20.6	20,190	10.7	1,278	33.0	78	201.3	606	15.6
1943	1,945,000	44,258	22.8	22,017	11.3	1,534	34.7	72	162.7	575	13.0
1944	2,009,600	44,246	22.0	21,144	10.5	1,493	33.7	72	162.7	607	13.7
1945	2,073,600	44,296	21.4	21,292	10.3	1,523	34.4	79	178.3	672	15.2
1946	2,137,600	51,941	24.3	21,620	10.1	1,723	33.2	65	125.1	869	16.7
1947	2,202,400	58,230	26.4	21,763	9.9	1,630	28.0	59	101.3	907	15.6
1948	2,266,400	55,460	24.5	21,925	9.7	1,525	27.5	36	64.9	776	14.0
1949	2,331,000	56,433	24.2	22,420	9.6	1,526	27.0	36	63.8	850	15.1

**Overview Table 1. Live Births, Deaths, Infant Deaths, Maternal Deaths, and Fetal Deaths Washington Residents, 1910-2002**

Year	Population <sup>1</sup>	Live Births		Deaths		Infant Deaths		Maternal Deaths		Fetal Deaths	
		Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>	Number	Rate <sup>3</sup>	Number <sup>4</sup>	Rate <sup>5</sup>	Number	Ratio <sup>3</sup>
1950	2,379,000	55,755	23.4	22,450	9.4	1,526	27.4	28	50.2	799	14.3
1951	2,424,000	57,994	23.9	23,300	9.6	1,412	24.3	23	39.7	852	14.7
1952	2,448,000	61,436	25.1	22,874	9.3	1,522	24.8	15	24.4	857	13.9
1953	2,466,000	61,571	25.0	23,279	9.4	1,556	25.3	18	29.2	834	13.5
1954	2,516,000	62,703	24.9	23,238	9.2	1,514	24.1	29	46.2	829	13.2
1955	2,604,000	62,290	23.9	24,410	9.4	1,520	24.4	16	25.7	806	12.9
1956	2,668,000	64,999	24.4	24,207	9.1	1,524	23.4	13	20.0	777	12.0
1957	2,724,000	65,982	24.2	25,140	9.2	1,596	24.2	20	30.3	793	12.0
1958	2,773,000	65,574	23.6	25,429	9.2	1,707	26.0	11	16.8	764	11.7
1959	2,821,000	65,729	23.3	26,229	9.3	1,570	23.9	9	13.7	749	11.4
1960	2,853,200	65,251	22.9	26,505	9.3	1,528	23.4	17	26.1	738	11.3
1961	2,897,000	65,013	22.4	26,353	9.1	1,467	22.6	19	29.2	756	11.6
1962	2,948,000	64,812	22.0	27,343	9.3	1,476	22.8	6	9.3	704	10.9
1963	2,972,000	61,013	20.5	27,550	9.3	1,339	21.9	10	16.4	657	10.8
1964	3,008,000	57,148	19.0	28,106	9.3	1,277	22.3	7	12.2	637	11.1
1965	3,065,000	52,806	17.2	27,379	8.9	1,130	21.4	15	28.4	639	12.1
1966	3,125,000	51,777	16.6	29,035	9.3	1,084	20.9	13	25.1	554	10.7
1967	3,229,000	54,875	17.0	29,302	9.1	1,050	19.1	12	21.9	573	10.4
1968	3,336,000	57,206	17.1	30,360	9.1	1,120	19.6	8	14.0	620	10.8
1969	3,397,000	59,354	17.5	30,504	9.0	1,118	18.8	12	20.2	651	11.0
1970	3,413,300	60,499	17.7	29,901	8.8	1,135	18.8	9	14.9	640	10.6
1971	3,436,300	55,304	16.1	30,318	8.8	1,008	18.2	5	9.0	574	10.4
1972	3,430,300	48,250	14.1	29,747	8.7	805	16.7	6	12.4	428	8.9
1973	3,444,300	47,636	13.8	30,751	8.9	781	16.4	3	6.3	430	9.0
1974	3,508,700	50,096	14.3	29,773	8.5	763	15.2	4	8.0	450	9.0
1975	3,567,900	50,821	14.2	29,778	8.3	798	15.7	5	9.8	421	8.3
1976	3,634,900	53,004	14.6	30,275	8.3	765	14.4	3	5.7	439	8.3
1977	3,715,400	57,256	15.4	29,789	8.0	696	12.2	5	8.7	426	7.4
1978	3,836,200	58,725	15.3	30,469	7.9	737	12.6	4	6.8	465	7.9
1979	3,979,200	64,377	16.2	30,418	7.6	737	11.4	5 (8)	12.4	466	7.2
1980	4,132,400	67,989	16.5	32,049	7.8	802	11.8	1 (10)	14.7	533	7.8
1981	4,229,300	69,987	16.5	32,035	7.6	735	10.5	4 (7)	10.0	487	7.0
1982	4,276,500	69,681	16.3	32,316	7.6	755	10.8	4 (8)	11.5	499	7.2
1983	4,307,200	68,794	16.0	32,653	7.6	656	9.5	6	8.7	473	6.9
1984	4,354,100	69,059	15.9	33,809	7.8	702	10.2	7	10.1	444	6.4
1985	4,415,800	70,357	15.9	34,478	7.8	749	10.6	5	7.1	403	5.7
1986	4,462,200	69,572	15.6	34,176	7.7	676	9.7	2	2.9	445	6.4
1987	4,527,100	70,409	15.6	34,983	7.7	683	9.7	1	1.4	411	5.8
1988	4,616,900	72,660	15.7	36,341	7.9	656	9.0	1	1.4	381	5.2
1989	4,728,100	75,595	16.0	36,130	7.6	694	9.2	2	2.6	388	5.1

**Overview Table 1. Live Births, Deaths, Infant Deaths, Maternal Deaths, and Fetal Deaths Washington Residents, 1910-2002**

Year	Population <sup>1</sup>	Live Births		Deaths		Infant Deaths		Maternal Deaths		Fetal Deaths	
		Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>	Number	Rate <sup>3</sup>	Number <sup>4</sup>	Rate <sup>5</sup>	Number	Ratio <sup>3</sup>
1990	4,866,700	79,468	16.3	37,047	7.6	622	7.8	4 (5)	5.0	462	5.8
1991	5,021,335	79,962	15.9	37,028	7.4	603	7.5	3 (8)	3.8	426	5.3
1992	5,141,177	79,897	15.5	38,095	7.4	540	6.8	3 (6)	3.8	448	5.6
1993	5,265,688	78,771	15.0	40,380	7.7	495	6.3	6 (8)	7.6	396	5.0
1994	5,364,338	77,368	14.4	39,906	7.4	478	6.2	3 (4)	3.9	443	5.7
1995	5,470,104	77,240	14.1	40,729	7.4	449	5.8	0 (3)	0.0	419	5.4
1996	5,567,764	77,874	14.0	42,248	7.6	467	6.0	3 (6)	3.9	462	5.9
1997	5,663,763	78,141	13.8	41,429	7.3	440	5.6	2	2.6	457	5.8
1998	5,750,033	79,640	13.9	42,585	7.4	452	5.7	3	3.8	471	5.9
1999	5,830,835	79,577	13.6	43,793	7.5	401	5.0	6	7.5	468	5.9
2000	5,894,121	81,004	13.7	43,904	7.4	423	5.2	3	3.7	437	5.4
2001	5,974,900	79,542	13.3	44,563	7.5	461	5.8	9	11.3	418	5.3
2002	6,041,710	79,003	13.1	45,244	8.0	452	5.7	7	8.9	434	5.5

<sup>1</sup>Population figures for 1910-1950 ten year intervals and for 1950-2000 single years are from the Office of Financial Management, Forecasting Division, State of Washington 2000 Population Trends, October 2001.

<sup>2</sup>Rate per 1,000 population.

<sup>3</sup>Ratio per 1,000 live births.

<sup>4</sup>Numbers in parentheses include maternal deaths that are based on 1979-1998 studies using links from birth and death certificates and 1990-1996 links of deaths and hospitalizations with birth and fetal deaths; Maternal deaths in other years are based only on the death certificate and may undercount deaths due to complications of pregnancy.

<sup>5</sup>Rate per 100,000 live births (change from previous reports).

Note: Rates based on fewer than 20 events are likely to be unstable and imprecise.



# Natality



## Nativity

### A. Demographics

Demographics (such as education, marital status and race) provide basic data about the women who are having babies. Lack of money or cultural/language barriers may prevent women from getting the care and services they need so that they can have a safe pregnancy and a healthy baby. Demographic birth data help health programs understand and address these disparities.

**Nativity Table A1. Demographic Summary Indicators for Residents, 1993 - 2002**

	Percent of Births <sup>1</sup> where Mother is...			
	A Teenager (<20)	Unmarried	Not a High School Graduate	A Woman of Color <sup>2</sup>
1993	11.1	26.3	18.3	22.3
1994	11.1	26.0	18.5	23.3
1995	11.5	26.7	18.7	24.1
1996	11.2	27.2	18.3	24.8
1997	11.0	27.2	18.1	25.5
1998	10.9	27.9	18.1	26.1
1999	10.8	28.0	17.8	27.7
2000	10.2	28.3	17.4	29.5
2001	9.6	28.7	17.3	30.6
2002	9.0	28.8	17.0	31.8

<sup>1</sup> Unknowns have been subtracted from total births in calculating percentages

<sup>2</sup> Includes all but White Non-Hispanic births.

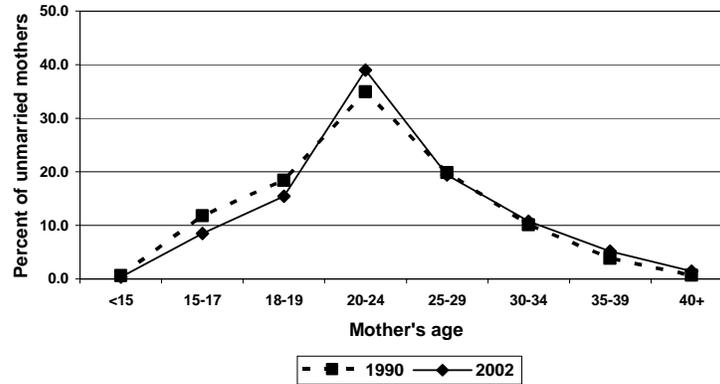
#### *Special feature: Data on unmarried mothers*

‘Marital status’ on the birth certificate indicates whether or not the mother was married to anyone at any time during the pregnancy. This information is important because there are substantial differences in demographics, fertility patterns, and birth outcomes for married and unmarried mothers. This is a concern because the percent of mothers who are unmarried has increased almost ten-fold since 1960.

Common perceptions of unmarried mothers are that they are either teenage school dropouts or well educated professionals delaying childbirth until their later years. The Natality section of this report will tell the story of unmarried mothers in Washington State – who they are and what their pregnancy and birth experiences are. The story begins with Demographics and then continues into Behavioral and Health Characteristics, Health Services Utilization, and Infant Health.

*How old are they?*

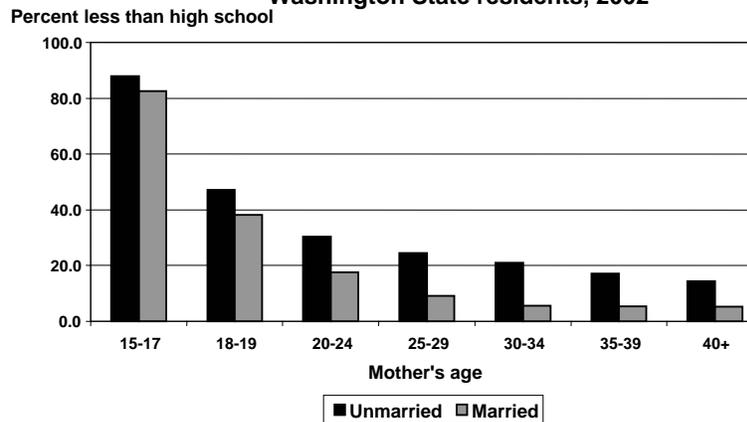
**Age Distribution of Unmarried Mothers,  
Washington State residents, 1990 and 2002**



The most common age for unmarried mothers is 20-24. The age distribution of unmarried mothers has changed since 1990, so that today relatively fewer are teens and relatively more are older mothers.

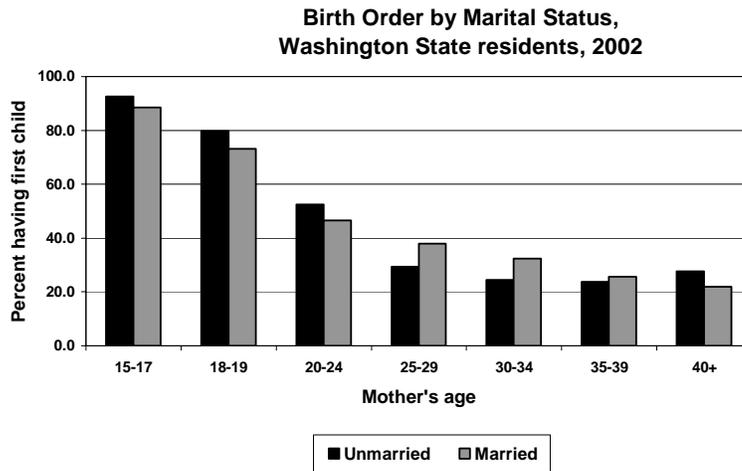
*How much education do they have?*

**Mother's Education by Marital Status,  
Washington State residents, 2002**



For each age group, unmarried mothers more often have less than a high school education. The difference in education between an unmarried mother and her married counterpart is greatest for mothers aged 30 and older. At that age, unmarried mothers are three times as likely to have less than a high school education.

*Do they have other children?*

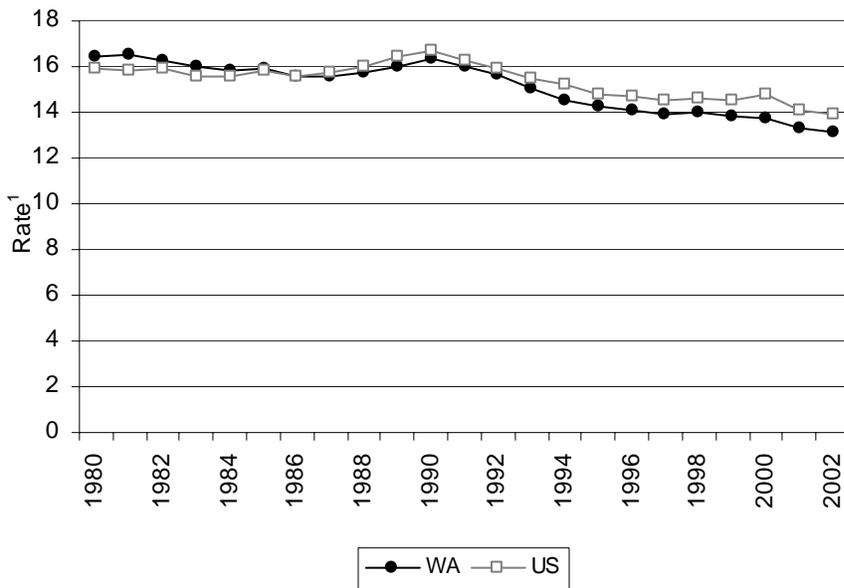


Compared to married mothers, younger (<25) and older (40+) unmarried mothers are having their first child more often, but unmarried mothers aged 25-39 more often have other children in the family.

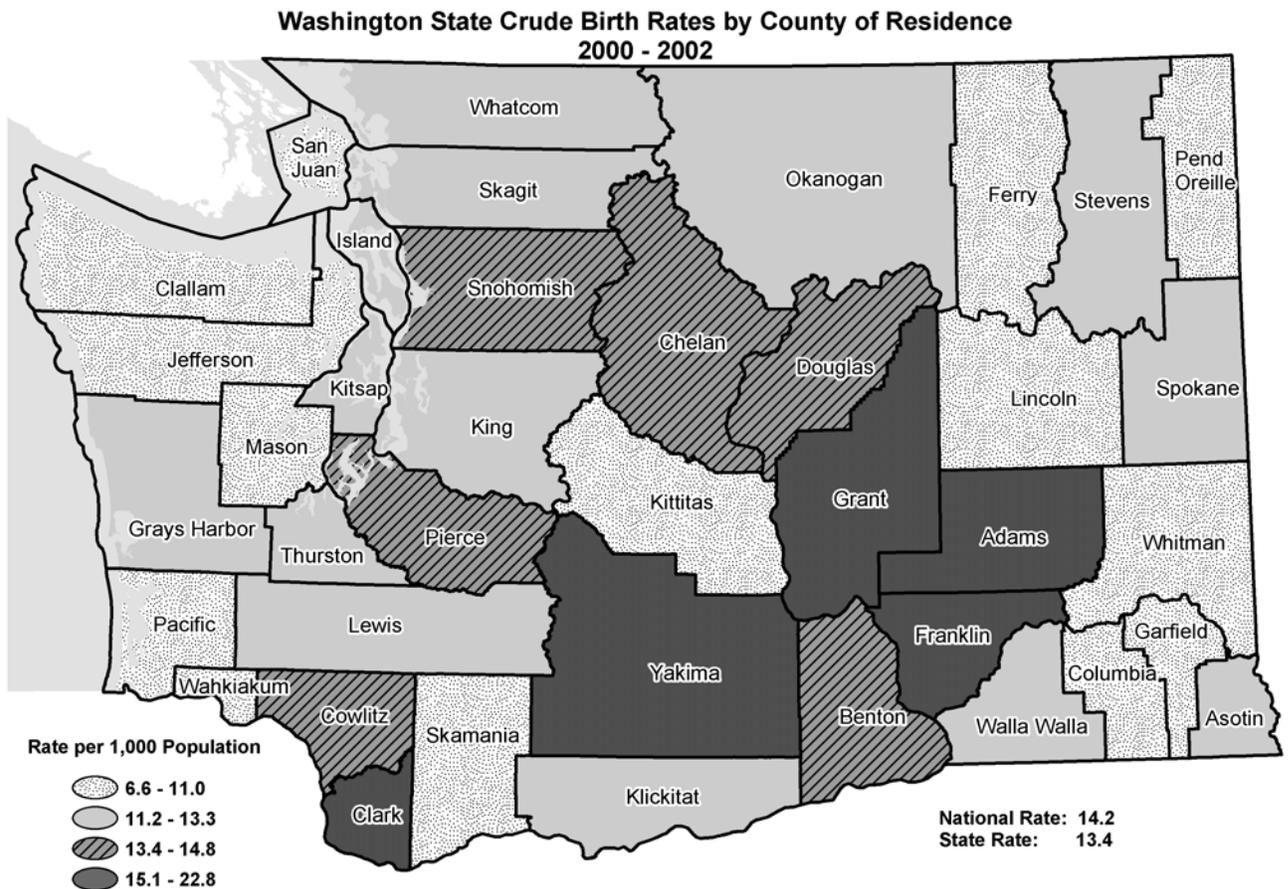
What do the data tell us? Unlike the common perceptions, unmarried mothers are not predominantly teens, nor are they older educated mothers delaying childbearing. At each age group, the unmarried mother has less education and for many ages she also has more children. These findings suggest possible economic problems for unmarried mothers of all ages. However, the data are limited because there is no way to tell how many of these unmarried mothers have stable (and financially secure) partners.

**Natality Figures 1 & 2.**

Crude Birth Rates<sup>1</sup>, Washington State Residents Compared to National, 1980-2002



<sup>1</sup> Rate per 1,000 population



**Nativity Table A2. Mother's Race/Ethnicity by Child's Sex<sup>1</sup> for Residents, 2002**

Race/Ethnicity	Total		Male	Female
	Number	Percent <sup>2</sup>		
<b>State Total</b>	<b>79,003</b>	<b>100.0</b>	<b>40,455</b>	<b>38,547</b>
White	64,159	81.2	32,894	31,264
African American	3,245	4.1	1,657	1,588
Native American	1,853	2.3	931	922
Japanese	379	0.5	182	197
Chinese	490	0.6	261	229
Filipino	1,177	1.5	602	575
Other Asian	4,853	6.1	2,485	2,368
Other	96	0.1	48	48
Unknown	2,751	3.5	1,395	1,356
Hispanic <sup>3</sup>	12,393	15.7	6,353	6,040

<sup>1</sup> Total includes 1 birth for which sex is unknown.

<sup>2</sup> Percents may not add to 100% due to rounding.

<sup>3</sup> Persons of Hispanic Origin may be of any race. See Appendix A, "Hispanic Origin."

**Nativity Table A3. Mother's Age Group by Child's Sex<sup>1</sup> for Residents, 2002**

Age	Total		Male	Female
	Number	Percent <sup>2</sup>		
<b>State Total</b>	<b>79,003</b>	<b>100.0</b>	<b>40,455</b>	<b>38,547</b>
Under 15	78	0.1	44	34
15 - 17	2,151	2.7	1,126	1,025
18 - 19	4,878	6.2	2,477	2,401
20 - 24	19,513	24.7	10,032	9,480
25 - 29	21,148	26.8	10,792	10,356
30 - 34	19,569	24.8	10,059	9,510
35 - 39	9,383	11.9	4,786	4,597
40 - 44	2,150	2.7	1,064	1,086
45 and Over	108	0.1	60	48
Unknown	25	0.0	15	10

<sup>1</sup> Total includes 1 birth for which sex is unknown.

<sup>2</sup> Percents may not add to 100% due to rounding.

**Nativity Table A4. Child's Birth Order by Mother's Age Group for Residents, 2002**

Order at Birth	All		Under								45 and Over	Age Unk
	Ages	15	15-17	18-19	20-24	25-29	30-34	35-39	40-44			
<b>State Total</b>	<b>79,003</b>	<b>78</b>	<b>2,151</b>	<b>4,878</b>	<b>19,513</b>	<b>21,148</b>	<b>19,569</b>	<b>9,383</b>	<b>2,150</b>	<b>108</b>	<b>25</b>	
1st Child	31,649	71	1,949	3,740	9,462	7,532	6,039	2,344	476	24	12	
2nd Child	25,580	3	159	906	6,742	7,150	6,961	3,012	611	29	7	
3rd Child	12,228	1	7	138	2,314	3,931	3,525	1,908	391	11	2	
4th Child	4,994	0	0	17	573	1,594	1,625	939	232	14	0	
5th Child	1,809	0	0	1	113	451	616	492	128	7	1	
6th Child	777	0	0	0	37	134	271	241	88	6	0	
7th Child	373	0	0	0	3	52	135	122	58	3	0	
8th Child	174	0	0	0	0	10	48	70	42	4	0	
9th Child	93	0	0	0	0	6	21	39	27	0	0	
10th or more	125	0	1	0	1	4	18	46	51	4	0	
Unknown	1,201	3	35	76	268	284	310	170	46	6	3	

**Nativity Table A5. Mother's Education by Mother's Age Group for Residents, 2002**

Education	All		Under								45 and Over	Age Unk
	Ages	15	15-17	18-19	20-24	25-29	30-34	35-39	40-44			
<b>State Total</b>	<b>79,003</b>	<b>78</b>	<b>2,151</b>	<b>4,878</b>	<b>19,513</b>	<b>21,148</b>	<b>19,569</b>	<b>9,383</b>	<b>2,150</b>	<b>108</b>	<b>25</b>	
No Education	113	0	1	9	33	23	21	18	6	1	1	
8th Grade or Less	3,397	48	242	290	954	912	593	282	68	6	2	
Some High School	9,189	14	1,479	1,731	3,293	1,532	769	311	58	0	2	
High School Graduate	22,504	3	235	2,168	8,428	6,108	3,552	1,605	380	20	5	
Some College	18,647	0	12	354	4,663	6,072	4,852	2,159	508	22	5	
College Graduate	12,117	0	0	4	774	3,483	4,970	2,360	499	25	2	
Postgraduate Educ	8,735	1	1	2	217	1,913	3,888	2,180	502	28	3	
Unknown	4,301	12	181	320	1,151	1,105	924	468	129	6	5	

**Nativity Table A6a. Top 100 Baby Names of Girls for Residents, 2002**

Rank	First Name	N	%	Cumulative		Rank	First Name	N	%	Cumulative	
				N	%					N	%
1	EMILY	489	1.3	489	1.3	51	AMANDA	107	0.3	10,283	26.7
2	EMMA	433	1.1	922	2.4	52	SIERRA	107	0.3	10,390	27.0
3	HANNAH	423	1.1	1,345	3.5	53	MAKAYLA	100	0.3	10,490	27.2
4	MADISON	392	1.0	1,737	4.5	54	AUDREY	99	0.3	10,589	27.5
5	OLIVIA	334	0.9	2,071	5.4	55	JORDAN	98	0.3	10,687	27.7
6	GRACE	329	0.9	2,400	6.2	56	KYLIE	95	0.2	10,782	28.0
7	ELIZABETH	307	0.8	2,707	7.0	57	ISABELLE	94	0.2	10,876	28.2
8	ABIGAIL	276	0.7	2,983	7.7	58	VANESSA	94	0.2	10,970	28.5
9	SAMANTHA	269	0.7	3,252	8.4	59	BAILEY	93	0.2	11,063	28.7
10	ALEXIS	266	0.7	3,518	9.1	60	CLAIRE	93	0.2	11,156	28.9
11	ISABELLA	259	0.7	3,777	9.8	61	JENNA	93	0.2	11,249	29.2
12	SARAH	259	0.7	4,036	10.5	62	LILLIAN	91	0.2	11,340	29.4
13	ALYSSA	258	0.7	4,294	11.1	63	SARA	91	0.2	11,431	29.7
14	ASHLEY	258	0.7	4,552	11.8	64	KATELYN	90	0.2	11,521	29.9
15	JESSICA	240	0.6	4,792	12.4	65	STEPHANIE	90	0.2	11,611	30.1
16	LAUREN	231	0.6	5,023	13.0	66	AVA	89	0.2	11,700	30.4
17	ANNA	224	0.6	5,247	13.6	67	ANGELA	88	0.2	11,788	30.6
18	HAILEY	223	0.6	5,470	14.2	68	MAYA	85	0.2	11,873	30.8
19	TAYLOR	222	0.6	5,692	14.8	69	BROOKE	84	0.2	11,957	31.0
20	SOPHIA	219	0.6	5,911	15.3	70	ALEXA	83	0.2	12,040	31.2
21	NATALIE	216	0.6	6,127	15.9	71	ANGELINA	83	0.2	12,123	31.4
22	CHLOE	210	0.5	6,337	16.4	72	REBECCA	82	0.2	12,205	31.7
23	MEGAN	198	0.5	6,535	17.0	73	SOFIA	82	0.2	12,287	31.9
24	VICTORIA	185	0.5	6,720	17.4	74	ANDREA	80	0.2	12,367	32.1
25	KAYLA	182	0.5	6,902	17.9	75	ISABEL	78	0.2	12,445	32.3
26	JULIA	179	0.5	7,081	18.4	76	MARY	78	0.2	12,523	32.5
27	SYDNEY	177	0.5	7,258	18.8	77	AMY	76	0.2	12,599	32.7
28	JASMINE	164	0.4	7,422	19.3	78	MOLLY	76	0.2	12,675	32.9
29	JENNIFER	156	0.4	7,578	19.7	79	RILEY	76	0.2	12,751	33.1
30	RACHEL	146	0.4	7,724	20.0	80	ARIANA	75	0.2	12,826	33.3
31	MACKENZIE	138	0.4	7,862	20.4	81	KIMBERLY	75	0.2	12,901	33.5
32	MADELINE	138	0.4	8,000	20.8	82	AMELIA	74	0.2	12,975	33.7
33	MARIA	133	0.3	8,133	21.1	83	EVELYN	73	0.2	13,048	33.8
34	PAIGE	129	0.3	8,262	21.4	84	SHELBY	73	0.2	13,121	34.0
35	HALEY	128	0.3	8,390	21.8	85	AMBER	72	0.2	13,193	34.2
36	KAITLYN	128	0.3	8,518	22.1	86	MICHELLE	72	0.2	13,265	34.4
37	KAYLEE	125	0.3	8,643	22.4	87	DIANA	70	0.2	13,335	34.6
38	BRIANNA	123	0.3	8,766	22.7	88	MCKENNA	68	0.2	13,403	34.8
39	LILY	123	0.3	8,889	23.1	89	DESTINY	67	0.2	13,470	34.9
40	NICOLE	123	0.3	9,012	23.4	90	LEAH	67	0.2	13,537	35.1
41	ELLA	122	0.3	9,134	23.7	91	AALIYAH	66	0.2	13,603	35.3
42	FAITH	121	0.3	9,255	24.0	92	MADLYN	66	0.2	13,669	35.5
43	KATHERINE	121	0.3	9,376	24.3	93	SOPHIE	66	0.2	13,735	35.6
44	SAVANNAH	120	0.3	9,496	24.6	94	GABRIELLE	65	0.2	13,800	35.8
45	MIA	118	0.3	9,614	24.9	95	MARISSA	65	0.2	13,865	36.0
46	ZOE	117	0.3	9,731	25.2	96	ALEXIA	63	0.2	13,928	36.1
47	MORGAN	114	0.3	9,845	25.5	97	DANIELLE	63	0.2	13,991	36.3
48	ALLISON	112	0.3	9,957	25.8	98	MELISSA	63	0.2	14,054	36.5
49	ALEXANDRA	110	0.3	10,067	26.1	99	CASSANDRA	62	0.2	14,116	36.6
50	TRINITY	109	0.3	10,176	26.4	100	ERIN	62	0.2	14,178	36.8

**Nativity Table A6b. Top 100 Baby Names of Boys for Residents, 2002**

Rank	First Name	N	%	Cumulative		Rank	First Name	N	%	Cumulative	
				N	%					N	%
1	ETHAN	568	1.4	568	1.4	51	EVAN	171	0.4	14,698	36.3
2	JACOB	534	1.3	1,102	2.7	52	CODY	169	0.4	14,867	36.7
3	JOSHUA	433	1.1	1,535	3.8	53	NATHANIEL	169	0.4	15,036	37.2
4	MICHAEL	429	1.1	1,964	4.9	54	ALEX	166	0.4	15,202	37.6
5	ALEXANDER	424	1.0	2,388	5.9	55	LUKE	166	0.4	15,368	38.0
6	DANIEL	404	1.0	2,792	6.9	56	AARON	165	0.4	15,533	38.4
7	ANDREW	390	1.0	3,182	7.9	57	ROBERT	162	0.4	15,695	38.8
8	TYLER	382	0.9	3,564	8.8	58	BRIAN	149	0.4	15,844	39.2
9	MATTHEW	371	0.9	3,935	9.7	59	RILEY	149	0.4	15,993	39.5
10	BENJAMIN	369	0.9	4,304	10.6	60	BLAKE	142	0.4	16,135	39.9
11	JOSEPH	366	0.9	4,670	11.5	61	ADAM	139	0.3	16,274	40.2
12	SAMUEL	363	0.9	5,033	12.4	62	JUAN	135	0.3	16,409	40.6
13	RYAN	353	0.9	5,386	13.3	63	ERIC	132	0.3	16,541	40.9
14	DAVID	340	0.8	5,726	14.2	64	JARED	130	0.3	16,671	41.2
15	NICHOLAS	327	0.8	6,053	15.0	65	JASON	129	0.3	16,800	41.5
16	WILLIAM	326	0.8	6,379	15.8	66	OWEN	127	0.3	16,927	41.8
17	NATHAN	324	0.8	6,703	16.6	67	LUCAS	126	0.3	17,053	42.2
18	ANTHONY	317	0.8	7,020	17.4	68	ANGEL	125	0.3	17,178	42.5
19	DYLAN	309	0.8	7,329	18.1	69	WYATT	122	0.3	17,300	42.8
20	ZACHARY	302	0.7	7,631	18.9	70	LUIS	119	0.3	17,419	43.1
21	AUSTIN	299	0.7	7,930	19.6	71	CHASE	118	0.3	17,537	43.3
22	GABRIEL	298	0.7	8,228	20.3	72	SEAN	118	0.3	17,655	43.6
23	CAMERON	273	0.7	8,501	21.0	73	TRISTAN	118	0.3	17,773	43.9
24	HUNTER	273	0.7	8,774	21.7	74	SETH	117	0.3	17,890	44.2
25	LOGAN	264	0.7	9,038	22.3	75	SPENCER	117	0.3	18,007	44.5
26	CHRISTOPHER	261	0.6	9,299	23.0	76	JADEN	114	0.3	18,121	44.8
27	ELIJAH	257	0.6	9,556	23.6	77	CARLOS	113	0.3	18,234	45.1
28	CALEB	256	0.6	9,812	24.3	78	CARSON	112	0.3	18,346	45.3
29	ISAAC	252	0.6	10,064	24.9	79	HAYDEN	111	0.3	18,457	45.6
30	JAMES	251	0.6	10,315	25.5	80	JESUS	111	0.3	18,568	45.9
31	JOHN	245	0.6	10,560	26.1	81	CHARLES	108	0.3	18,676	46.2
32	JONATHAN	244	0.6	10,804	26.7	82	JULIAN	108	0.3	18,784	46.4
33	BRANDON	241	0.6	11,045	27.3	83	TREVOR	104	0.3	18,888	46.7
34	JOSE	236	0.6	11,281	27.9	84	LIAM	103	0.3	18,991	46.9
35	JUSTIN	229	0.6	11,510	28.5	85	JESSE	102	0.3	19,093	47.2
36	KYLE	226	0.6	11,736	29.0	86	BRYCE	100	0.2	19,193	47.4
37	CONNOR	223	0.6	11,959	29.6	87	COLTON	99	0.2	19,292	47.7
38	ISAIAH	220	0.5	12,179	30.1	88	JAYDEN	98	0.2	19,390	47.9
39	MASON	219	0.5	12,398	30.6	89	DEVIN	97	0.2	19,487	48.2
40	NOAH	218	0.5	12,616	31.2	90	HENRY	97	0.2	19,584	48.4
41	JACKSON	216	0.5	12,832	31.7	91	DOMINIC	96	0.2	19,680	48.6
42	CHRISTIAN	211	0.5	13,043	32.2	92	STEVEN	95	0.2	19,775	48.9
43	JACK	206	0.5	13,249	32.7	93	TANNER	95	0.2	19,870	49.1
44	THOMAS	205	0.5	13,454	33.3	94	ADRIAN	94	0.2	19,964	49.3
45	JORDAN	188	0.5	13,642	33.7	95	COLBY	94	0.2	20,058	49.6
46	GAVIN	187	0.5	13,829	34.2	96	MIGUEL	94	0.2	20,152	49.8
47	IAN	177	0.4	14,006	34.6	97	MARK	92	0.2	20,244	50.0
48	COLE	175	0.4	14,181	35.1	98	MARCUS	91	0.2	20,335	50.3
49	KEVIN	175	0.4	14,356	35.5	99	PARKER	91	0.2	20,426	50.5
50	AIDAN	171	0.4	14,527	35.9	100	TIMOTHY	90	0.2	20,516	50.7

**Nativity Table A7. County/City of Residence, Sex<sup>1</sup>, and County/City of Occurrence, 2002**

County and City	Total	Residence		Occurrence	
		Rate <sup>2</sup>	Male	Female	Total
<b>State Total</b>	<b>79,003</b>	<b>13.1</b>	<b>40,455</b>	<b>38,547</b>	<b>78,590</b>
Adams	347	20.9	171	176	485
Asotin	236	11.4	114	122	1
Benton	2,160	14.6	1,115	1,045	2,999
Kennewick	1,106	19.7	578	528	1,344
Richland	498	12.4	258	240	1,339
Chelan	919	13.6	478	441	1,373
Wenatchee	499	17.7	259	240	1,309
Clallam	591	9.1	288	303	554
Port Angeles	191	10.4	72	119	453
Clark	5,246	14.4	2,688	2,558	4,649
Vancouver	3,490	23.5	1,794	1,696	4,631
Columbia	40	9.8	22	18	1
Cowlitz	1,244	13.2	612	632	1,233
Longview	574	16.3	274	300	1,227
Douglas	434	13.1	230	204	1
Ferry	70	9.6	34	36	8
Franklin	1,193	23.3	619	574	650
Pasco	940	27.1	492	448	644
Garfield	14	5.8	4	10	0
Grant	1,394	18.2	696	698	1,027
Moses Lake	405	26.3	208	197	919
Grays Harbor	803	11.7	398	405	507
Aberdeen	252	15.5	129	123	493
Island	925	12.7	478	447	630
Oak Harbor	475	23.9	239	236	407
Jefferson	188	7.1	96	92	124
King	21,863	12.3	11,121	10,742	26,032
Auburn	890	20.2	453	437	784
Bellevue	1,329	11.4	717	612	3,487
Bothell part	288	17.7	143	145	2
Burien	282	8.9	145	137	1,306
Des Moines	328	11.1	181	147	1
Federal Way	1,216	14.5	636	580	1,518
Kenmore	194	10.1	85	109	1
Kent	1,508	17.9	767	741	4
Kirkland	786	17.2	403	383	4,036
Maple Valley	279	18.6	129	150	0
Mercer Island	150	6.8	67	83	0
Redmond	772	16.8	381	391	419
Renton	1,313	24.4	642	671	2,556
Sammamish	549	15.8	276	273	1
SeaTac	285	11.3	149	136	1
Seattle	7,305	12.8	3,692	3,613	11,649
Shoreline	409	7.7	202	207	1
Tukwila	221	12.8	117	104	0
Kitsap	2,942	12.5	1,477	1,465	2,587
Bainbridge Island	149	7.1	86	63	3

**Nativity Table A7. (Continued) County/City of Residence, Sex<sup>1</sup>, and County/City of Occurrence, 2002**

County and City	Total	Residence		Occurrence	
		Rate <sup>2</sup>	Male	Female	Total
Bremerton	939	25.0	476	463	746
Kittitas	343	9.9	173	170	310
Ellensburg	187	11.8	98	89	309
Klickitat	227	11.8	117	110	147
Lewis	896	12.8	446	450	657
Centralia	295	19.6	147	148	589
Lincoln	91	8.9	49	42	6
Mason	541	10.9	273	268	284
Okanogan	480	12.1	258	222	479
Pacific	171	8.1	98	73	49
Pend Oreille	124	10.5	71	53	112
Pierce	10,031	13.8	5,176	4,855	10,107
Lakewood	986	16.8	501	485	670
Puyallup	971	27.8	513	458	1,654
Tacoma	3,701	19.0	1,924	1,777	7,631
University Place	212	7.0	103	109	1
San Juan	87	6.0	42	45	11
Skagit	1,373	13.1	725	648	1,518
Mount Vernon	518	19.4	290	228	1,229
Skamania	98	9.9	51	47	2
Snohomish	8,344	13.3	4,288	4,056	5,511
Edmonds	396	10.0	196	200	1,390
Everett	2,102	21.9	1,067	1,035	3,347
Lynnwood	861	25.3	455	406	13
Marysville	644	23.4	328	316	8
Mountlake Terrace	220	10.7	122	98	1
Mukilteo	181	9.8	92	89	1
Spokane	5,543	13.0	2,905	2,638	6,400
Spokane (city)	3,215	16.4	1,684	1,531	6,399
Stevens	460	11.4	215	245	266
Thurston	2,445	11.5	1,233	1,211	2,725
Lacey	524	16.4	267	257	7
Olympia	902	21.1	461	441	2,700
Wahkiakum	22	5.8	11	11	0
Walla Walla	692	12.5	346	346	894
Walla Walla (city)	450	15.2	232	218	894
Whatcom	1,972	11.5	1,000	972	1,935
Bellingham	863	12.5	434	429	1,919
Whitman	415	10.2	206	209	378
Pullman	274	11.0	134	140	332
Yakima	4,039	18.0	2,131	1,908	3,938
Yakima (city)	1,619	20.5	844	775	2,809

<sup>1</sup> Total includes 1 birth for which sex is unknown.

<sup>2</sup> Rate per 1,000 population.

Note: Occurrence represents all births which occur in Washington State regardless of the mother's residence.

Residence represents all births to residents of Washington State regardless of where the birth occurred.

**Nativity Table A8. Month of Birth by County of Residence, 2002**

<b>County</b>	<b>Total</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>
<b>State Total</b>	<b>79,003</b>	<b>6,449</b>	<b>5,886</b>	<b>6,834</b>	<b>6,611</b>	<b>6,934</b>	<b>6,641</b>	<b>6,875</b>	<b>6,992</b>	<b>6,729</b>	<b>6,574</b>	<b>6,134</b>	<b>6,344</b>
Adams	347	28	22	29	27	26	29	42	26	32	37	26	23
Asotin	236	14	17	20	21	16	18	21	26	27	23	19	14
Benton	2,160	179	166	205	162	180	186	176	190	166	187	171	192
Chelan	919	70	60	93	76	71	72	65	99	95	68	77	73
Clallam	591	52	47	48	51	42	49	64	48	57	52	38	43
Clark	5,246	416	372	426	468	470	437	442	508	438	404	424	441
Columbia	40	2	5	2	3	4	3	3	6	5	1	2	4
Cowlitz	1,244	120	94	102	117	105	100	104	100	108	94	101	99
Douglas	434	35	28	39	32	40	32	45	42	40	32	33	36
Ferry	70	8	3	4	1	7	5	4	9	11	6	7	5
Franklin	1,193	107	101	74	87	93	114	110	85	109	94	105	114
Garfield	14	2	0	1	1	0	1	0	1	0	0	5	3
Grant	1,394	122	105	102	133	126	109	136	117	122	117	98	107
Grays Harbor	803	64	55	70	68	69	49	74	76	77	70	67	64
Island	925	73	76	69	74	88	75	81	79	77	83	70	80
Jefferson	188	18	14	17	14	15	19	15	23	8	17	16	12
King	21,863	1,822	1,641	1,896	1,767	2,019	1,835	1,957	1,867	1,919	1,769	1,616	1,755
Kitsap	2,942	246	226	259	236	245	232	239	257	238	266	263	235
Kittitas	343	30	22	27	21	23	33	27	26	33	35	33	33
Klickitat	227	22	9	13	11	24	19	27	20	25	19	20	18
Lewis	896	80	63	71	75	87	71	77	69	80	83	64	76
Lincoln	91	11	6	6	6	10	9	8	9	5	7	10	4
Mason	541	39	45	55	34	56	42	46	57	37	43	48	39
Okanogan	480	40	34	51	29	49	40	49	45	30	37	40	36
Pacific	171	17	14	11	20	14	14	20	12	15	13	8	13
Pend Oreille	124	7	11	16	10	13	12	11	9	8	7	6	14
Pierce	10,031	826	780	892	889	838	875	846	902	814	831	793	745
San Juan	87	10	9	8	4	3	4	11	9	13	5	2	9
Skagit	1,373	112	130	111	141	105	117	124	114	94	105	117	103
Skamania	98	9	4	11	3	9	7	11	12	12	7	6	7
Snohomish	8,344	655	581	731	718	709	749	696	774	729	727	632	643
Spokane	5,543	451	429	491	448	505	454	468	467	470	464	427	469
Stevens	460	52	43	37	47	42	35	49	37	28	27	28	35
Thurston	2,445	176	153	207	207	236	201	202	220	224	222	193	204
Wahkiakum	22	2	3	3	3	0	4	1	1	2	1	2	0
Walla Walla	692	57	61	53	63	50	54	54	68	49	66	54	63
Whatcom	1,972	151	139	160	160	171	157	180	188	163	174	179	150
Whitman	415	27	21	44	38	31	31	34	36	45	41	41	26
Yakima	4,039	297	297	380	346	343	348	356	358	324	340	293	357

**Nativity Table A9. Mother's Age Group by County of Residence, 2002**

County	All Ages	Under 15	15-19	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45 and Over	Age Unk
<b>State Total</b>	<b>79,003</b>	<b>78</b>	<b>7,029</b>	<b>2,151</b>	<b>4,878</b>	<b>19,513</b>	<b>21,148</b>	<b>19,569</b>	<b>9,383</b>	<b>2,150</b>	<b>108</b>	<b>25</b>
Adams	347	0	60	23	37	114	84	60	21	8	0	0
Asotin	236	0	37	11	26	87	54	42	13	3	0	0
Benton	2,160	4	244	75	169	642	635	418	180	36	1	0
Chelan	919	1	104	43	61	264	247	185	92	24	1	1
Clallam	591	0	74	20	54	176	164	110	47	17	3	0
Clark	5,246	2	386	110	276	1,357	1,592	1,222	573	110	3	1
Columbia	40	0	2	0	2	14	15	5	3	1	0	0
Cowlitz	1,244	5	170	49	121	425	325	219	83	17	0	0
Douglas	434	1	56	25	31	129	113	83	40	11	1	0
Ferry	70	0	11	6	5	23	19	12	2	3	0	0
Franklin	1,193	3	186	66	120	368	326	182	100	27	0	1
Garfield	14	0	1	0	1	2	5	4	2	0	0	0
Grant	1,394	3	239	99	140	426	370	237	94	25	0	0
Grays Harbor	803	0	123	50	73	260	201	140	67	11	1	0
Island	925	1	85	17	68	270	262	186	95	25	1	0
Jefferson	188	1	20	7	13	53	46	40	25	3	0	0
King	21,863	15	1,069	337	732	3,590	5,323	7,117	3,797	889	47	16
Kitsap	2,942	0	257	67	190	934	717	618	334	77	5	0
Kittitas	343	0	43	12	31	102	88	72	34	4	0	0
Klickitat	227	1	31	6	25	57	62	37	30	8	1	0
Lewis	896	1	122	34	88	314	234	154	55	16	0	0
Lincoln	91	0	6	1	5	24	34	18	4	5	0	0
Mason	541	1	72	28	44	180	146	100	33	8	1	0
Okanogan	480	0	70	17	53	145	128	82	43	11	1	0
Pacific	171	0	20	5	15	60	47	30	12	2	0	0
Pend Oreille	124	0	22	4	18	35	33	23	6	4	1	0
Pierce	10,031	12	1,084	274	810	2,798	2,748	2,216	982	182	9	0
San Juan	87	0	5	1	4	22	20	18	17	5	0	0
Skagit	1,373	1	164	63	101	364	367	326	114	34	3	0
Skamania	98	0	8	2	6	32	32	13	12	1	0	0
Snohomish	8,344	2	590	164	426	1,802	2,398	2,264	1,046	228	10	4
Spokane	5,543	5	524	129	395	1,628	1,568	1,182	485	144	6	1
Stevens	460	0	51	18	33	138	131	85	39	14	2	0
Thurston	2,445	1	201	56	145	641	688	587	267	59	0	1
Wahkiakum	22	0	2	1	1	4	8	7	1	0	0	0
Walla Walla	692	0	82	33	49	213	173	135	80	9	0	0
Whatcom	1,972	3	157	52	105	472	543	524	213	56	4	0
Whitman	415	0	18	5	13	85	138	123	45	6	0	0
Yakima	4,039	15	633	241	392	1,263	1,064	693	297	67	7	0

**Nativity Table A10. Age Specific Live Birth Rates<sup>1</sup> by County of Residence, 2002**

County	All								
	Ages	15-19	15-17	18-19	20-24	25-29	30-34	35-39	40-44
<b>State Total</b>	<b>60.8</b>	<b>33.0</b>	<b>16.8</b>	<b>57.7</b>	<b>96.3</b>	<b>111.1</b>	<b>89.7</b>	<b>41.1</b>	<b>8.7</b>
Adams	106.1	85.8	51.1	148.6	211.9	169.4	115.8	43.1	15.0
Asotin	57.6	46.7	21.7	91.2	145.7	97.8	66.4	18.1	*
Benton	70.3	41.7	19.8	81.5	145.8	153.0	86.0	33.3	6.0
Chelan	70.0	42.4	27.5	68.3	142.0	134.7	91.0	39.8	9.1
Clallam	56.8	36.0	15.1	74.4	133.7	131.5	76.2	24.2	7.1
Clark	67.3	30.5	13.8	59.2	120.9	139.1	90.4	40.4	7.4
Columbia	58.5	*	*	*	144.3	189.9	51.5	*	*
Cowlitz	67.2	51.3	23.4	99.3	156.7	123.6	72.6	25.7	4.7
Douglas	65.6	43.4	29.7	68.9	141.6	128.8	83.2	33.3	8.2
Ferry	54.2	37.9	30.0	55.6	142.9	121.8	65.2	*	*
Franklin	113.5	86.3	48.5	151.1	203.0	191.5	111.4	61.4	17.1
Garfield	35.7	*	*	*	*	131.6	*	*	*
Grant	92.1	77.1	49.8	125.6	177.1	162.9	99.7	39.1	9.7
Grays Harbor	62.5	48.8	31.1	80.1	147.2	119.1	71.3	29.8	4.1
Island	66.2	37.5	11.7	83.5	129.9	134.1	79.8	36.5	9.1
Jefferson	47.5	27.4	14.0	56.8	133.8	112.5	68.0	33.7	*
King	53.9	19.8	10.6	32.9	58.2	80.1	95.3	52.4	11.6
Kitsap	61.8	31.5	12.7	66.4	135.9	114.7	79.5	38.3	7.8
Kittitas	40.0	25.3	19.0	29.0	36.1	93.2	79.8	33.5	*
Klickitat	65.3	46.5	12.8	125.6	139.7	138.1	72.3	46.7	10.0
Lewis	68.6	46.8	20.2	95.4	164.1	139.9	80.3	23.9	6.0
Lincoln	53.8	16.7	*	50.5	142.0	192.1	69.8	*	12.2
Mason	63.0	43.3	25.2	79.9	167.3	138.1	79.1	20.4	4.2
Okanogan	65.2	46.0	16.8	103.3	159.9	133.2	74.2	34.3	6.8
Pacific	54.1	32.2	12.0	73.5	161.7	130.9	63.4	21.2	*
Pend Oreille	60.6	49.5	*	144.0	193.4	154.2	77.7	14.3	*
Pierce	62.7	40.7	17.0	77.0	113.2	119.7	81.6	34.6	6.1
San Juan	40.4	14.2	*	*	106.3	89.3	60.6	39.1	7.8
Skagit	66.8	42.7	26.1	70.5	121.2	130.0	99.8	32.3	8.3
Skamania	50.5	21.4	*	48.4	156.9	137.3	44.5	31.2	*
Snohomish	60.2	27.0	11.9	53.0	97.9	121.3	93.1	39.6	8.2
Spokane	60.8	31.7	13.8	55.3	101.8	124.7	85.5	31.7	8.5
Stevens	62.2	31.7	15.6	72.2	172.5	162.9	76.5	30.1	7.9
Thurston	53.8	25.7	11.6	48.5	90.2	110.6	82.5	33.5	6.4
Wahkiakum	37.2	*	*	*	*	117.6	76.1	*	*
Walla Walla	62.2	33.8	27.2	40.4	95.0	133.2	84.9	48.7	4.7
Whatcom	50.5	21.2	14.7	27.1	52.3	109.1	97.2	36.5	8.7
Whitman	35.2	6.7	7.6	6.5	18.6	108.2	109.3	44.3	5.4
Yakima	88.1	70.7	42.5	119.1	167.1	151.0	96.3	40.6	8.6

<sup>1</sup> The general fertility rate shown under "All Ages" equals total live births per 1,000 women of childbearing age (15-44). Age-Specific rate equal the number of live births to women in a specific age group per 1,000 women in the age group.

\* Rate not calculated because number of events was less than 5.

Population Data: See Appendix A: Technical Appendix.

**Nativity Table A11. Single Mothers, Mother's Age Group by County of Residence, 2002**

County	All Ages	Under 15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45 and Over	Age Unk
<b>State Total</b>	<b>22,754</b>	<b>75</b>	<b>1,929</b>	<b>3,502</b>	<b>8,881</b>	<b>4,420</b>	<b>2,452</b>	<b>1,176</b>	<b>298</b>	<b>13</b>	<b>8</b>
Adams	98	0	15	16	39	20	3	3	2	0	0
Asotin	101	0	10	18	47	13	9	4	0	0	0
Benton	645	3	69	115	252	127	48	27	4	0	0
Chelan	311	1	38	39	120	58	38	15	2	0	0
Clallam	225	0	17	41	81	49	17	14	5	1	0
Clark	1,237	2	94	190	517	243	117	65	8	0	1
Columbia	15	0	0	1	5	7	0	2	0	0	0
Cowlitz	497	5	45	90	220	87	36	13	1	0	0
Douglas	146	1	22	23	59	25	9	6	1	0	0
Ferry	39	0	4	4	16	8	4	1	2	0	0
Franklin	473	3	60	87	159	93	46	19	5	0	1
Garfield	1	0	0	0	0	0	0	1	0	0	0
Grant	538	3	87	94	190	94	46	20	4	0	0
Grays Harbor	367	0	47	57	145	58	42	15	2	1	0
Island	178	1	16	38	78	20	11	6	8	0	0
Jefferson	74	1	6	10	29	12	9	7	0	0	0
King	4,890	14	306	560	1,745	1,051	716	388	105	2	3
Kitsap	790	0	64	123	360	127	69	35	11	1	0
Kittitas	94	0	9	21	35	16	9	3	1	0	0
Klickitat	71	1	4	16	26	12	5	5	1	1	0
Lewis	332	1	32	57	144	55	25	9	9	0	0
Lincoln	20	0	1	2	10	5	2	0	0	0	0
Mason	238	1	24	35	106	45	19	6	2	0	0
Okanogan	201	0	13	37	77	39	19	13	2	1	0
Pacific	64	0	5	9	28	11	7	3	1	0	0
Pend Oreille	53	0	4	15	17	11	3	1	2	0	0
Pierce	3,251	12	250	573	1,233	606	374	161	39	3	0
San Juan	23	0	1	3	7	7	2	0	3	0	0
Skagit	479	1	53	74	175	115	43	11	6	1	0
Skamania	27	0	2	5	15	3	1	1	0	0	0
Snohomish	2,095	2	154	315	818	424	239	117	24	0	2
Spokane	1,757	5	116	298	774	343	143	57	19	2	0
Stevens	157	0	15	25	61	37	15	3	1	0	0
Thurston	706	1	52	101	285	135	87	37	7	0	1
Wahkiakum	6	0	1	1	1	2	1	0	0	0	0
Walla Walla	247	0	30	39	99	41	24	14	0	0	0
Whatcom	501	3	45	76	208	92	50	25	2	0	0
Whitman	60	0	5	9	23	9	10	3	1	0	0
Yakima	1,747	14	213	285	677	320	154	66	18	0	0

**Nativity Table A12. Father's Age Group by County of Residence, 2002**

County	All Ages	Under 15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45 and Over	Age Unk
<b>State Total</b>	<b>79,003</b>	<b>11</b>	<b>378</b>	<b>1,674</b>	<b>12,251</b>	<b>18,114</b>	<b>19,816</b>	<b>12,012</b>	<b>4,986</b>	<b>2,111</b>	<b>7,650</b>
Adams	347	0	5	5	69	102	71	30	17	7	41
Asotin	236	0	4	15	54	46	53	18	9	0	37
Benton	2,160	0	7	58	376	566	488	250	110	44	261
Chelan	919	0	7	33	180	240	187	128	50	31	63
Clallam	591	0	6	22	122	148	116	68	30	29	50
Clark	5,246	1	13	65	702	1,308	1,288	744	308	105	712
Columbia	40	0	0	0	13	9	7	2	0	2	7
Cowlitz	1,244	0	4	36	265	286	255	133	55	16	194
Douglas	434	0	6	15	80	135	76	50	36	10	26
Ferry	70	0	0	6	14	19	15	5	4	1	6
Franklin	1,193	2	18	42	246	306	237	122	63	28	129
Garfield	14	0	0	0	0	3	5	1	1	1	3
Grant	1,394	0	13	58	303	371	286	129	61	24	149
Grays Harbor	803	0	16	36	189	212	170	72	41	18	49
Island	925	0	2	25	190	253	192	128	50	22	63
Jefferson	188	0	4	3	32	36	44	25	6	13	25
King	21,863	3	48	231	1,967	4,088	6,670	4,605	1,885	801	1,565
Kitsap	2,942	0	6	63	634	705	598	403	155	54	324
Kittitas	343	0	2	19	60	89	82	40	15	8	28
Klickitat	227	0	3	9	38	46	45	31	19	12	24
Lewis	896	0	6	21	187	229	165	89	37	19	143
Lincoln	91	0	1	3	16	20	24	12	5	3	7
Mason	541	0	3	18	125	119	108	58	33	16	61
Okanogan	480	0	2	17	107	114	92	55	37	17	39
Pacific	171	0	0	7	33	49	28	22	5	2	25
Pend Oreille	124	0	0	2	35	30	26	6	6	4	15
Pierce	10,031	2	47	263	1,951	2,445	2,283	1,251	511	213	1,065
San Juan	87	0	0	2	13	16	24	14	9	4	5
Skagit	1,373	0	10	44	240	310	277	195	74	38	185
Skamania	98	0	0	0	18	28	23	14	5	2	8
Snohomish	8,344	0	33	124	1,089	1,934	2,245	1,403	545	220	751
Spokane	5,543	1	41	162	1,115	1,466	1,345	703	284	103	323
Stevens	460	0	6	20	94	122	91	52	26	17	32
Thurston	2,445	0	11	48	440	600	620	337	132	58	199
Wahkiakum	22	0	0	1	1	5	8	2	2	2	1
Walla Walla	692	1	7	23	129	152	152	79	37	13	99
Whatcom	1,972	0	8	40	313	466	552	281	127	56	129
Whitman	415	0	1	7	50	119	131	61	21	16	9
Yakima	4,039	1	38	131	761	922	737	394	175	82	798

**Nativity Table A13. Mother's Race/Ethnicity by County of Residence, 2002**

County	Total	White	African American	Native American	Japa- nese	Chinese	Filipino	Other Asian	Other	Unk	Hispanic Origin <sup>1</sup>
<b>State Total</b>	<b>79,003</b>	<b>64,159</b>	<b>3,245</b>	<b>1,853</b>	<b>379</b>	<b>490</b>	<b>1,177</b>	<b>4,853</b>	<b>96</b>	<b>2,751</b>	<b>12,393</b>
Adams	347	343	0	2	0	0	0	0	0	2	229
Asotin	236	231	1	2	0	0	1	1	0	0	8
Benton	2,160	1,990	27	26	4	6	8	46	4	49	508
Chelan	919	897	1	9	0	0	1	4	0	7	352
Clallam	591	496	3	72	0	1	1	10	2	6	45
Clark	5,246	4,745	123	51	20	24	37	220	0	26	507
Columbia	40	39	0	0	0	0	0	1	0	0	5
Cowlitz	1,244	1,200	2	19	0	0	6	16	0	1	87
Douglas	434	426	0	3	0	0	1	2	0	2	172
Ferry	70	45	0	20	0	0	1	0	0	4	3
Franklin	1,193	1,138	13	9	1	1	4	16	0	11	785
Garfield	14	14	0	0	0	0	0	0	0	0	0
Grant	1,394	1,352	15	11	0	0	1	4	1	10	699
Grays Harbor	803	695	3	70	0	1	3	5	0	26	81
Island	925	800	39	6	7	3	40	19	1	10	61
Jefferson	188	170	3	6	2	0	0	1	1	5	12
King	21,863	15,060	1,606	244	226	346	560	2,701	30	1,090	2,568
Kitsap	2,942	2,425	124	89	17	9	104	118	3	53	210
Kittitas	343	328	3	5	0	0	2	2	0	3	54
Klickitat	227	215	0	7	0	0	0	1	0	4	43
Lewis	896	839	2	13	0	0	2	10	0	30	100
Lincoln	91	86	0	3	0	0	0	2	0	0	1
Mason	541	465	3	39	1	2	1	9	1	20	89
Okanogan	480	387	1	74	0	0	0	2	0	16	137
Pacific	171	154	0	7	0	0	0	8	0	2	32
Pend Oreille	124	120	0	3	1	0	0	0	0	0	2
Pierce	10,031	7,603	871	258	31	17	157	693	32	369	1,015
San Juan	87	83	0	2	0	0	0	2	0	0	8
Skagit	1,373	1,267	6	40	1	0	10	22	1	26	369
Skamania	98	92	0	2	0	0	0	0	0	4	10
Snohomish	8,344	6,798	193	175	42	49	168	528	14	377	878
Spokane	5,543	4,984	98	146	12	10	22	123	4	144	256
Stevens	460	402	1	45	1	0	0	5	0	6	18
Thurston	2,445	1,965	56	43	8	7	34	136	1	195	195
Wahkiakum	22	21	0	0	0	0	0	0	1	0	1
Walla Walla	692	664	5	4	0	2	2	13	0	2	239
Whatcom	1,972	1,742	15	92	5	2	3	78	0	35	212
Whitman	415	350	11	5	0	8	1	36	0	4	19
Yakima	4,039	3,528	20	251	0	2	7	19	0	212	2,383

<sup>1</sup>Persons of Hispanic Origin may of any race. See Appendix A, "Hispanic Origin."

**Nativity Table A14. Mother's Education by County of Residence, 2002**

County	Total	No Education	8th Grade or less	Some High School	High School Grad	Some College	College Grad	Postgrad Educ	Unknown
<b>State Total</b>	<b>79,003</b>	<b>113</b>	<b>3,397</b>	<b>9,189</b>	<b>22,504</b>	<b>18,647</b>	<b>12,117</b>	<b>8,735</b>	<b>4,301</b>
Adams	347	8	69	79	94	55	19	17	6
Asotin	236	0	7	43	91	56	28	11	0
Benton	2,160	4	146	250	690	408	345	158	159
Chelan	919	4	137	168	260	170	78	86	16
Clallam	591	1	18	89	207	168	56	43	9
Clark	5,246	3	157	656	1,864	1,282	791	403	90
Columbia	40	0	0	5	18	12	1	3	1
Cowlitz	1,244	0	52	221	510	321	68	55	17
Douglas	434	1	62	81	136	81	32	30	11
Ferry	70	0	3	8	31	25	1	0	2
Franklin	1,193	4	271	251	331	134	74	46	82
Garfield	14	0	0	1	5	4	3	1	0
Grant	1,394	2	236	342	408	249	64	68	25
Grays Harbor	803	1	45	153	282	231	35	36	20
Island	925	1	6	53	341	265	145	76	38
Jefferson	188	0	3	21	64	51	28	17	4
King	21,863	20	541	1,393	4,161	4,532	5,219	4,092	1,905
Kitsap	2,942	2	29	275	1,055	854	390	274	63
Kittitas	343	0	25	40	92	84	64	35	3
Klickitat	227	0	16	44	61	59	18	23	6
Lewis	896	0	40	164	399	162	42	39	50
Lincoln	91	0	0	8	36	27	11	3	6
Mason	541	8	34	90	198	142	34	19	16
Okanogan	480	1	54	105	157	88	36	30	9
Pacific	171	1	18	29	62	35	13	8	5
Pend Oreille	124	0	1	20	52	19	12	11	9
Pierce	10,031	8	273	1,244	3,547	2,609	1,127	656	567
San Juan	87	0	2	8	19	9	21	6	22
Skagit	1,373	7	88	203	404	241	142	63	225
Skamania	98	0	4	15	35	25	11	6	2
Snohomish	8,344	3	197	809	2,402	2,245	1,425	916	347
Spokane	5,543	0	66	630	1,638	1,706	780	601	122
Stevens	460	0	2	65	199	123	33	27	11
Thurston	2,445	2	38	231	815	670	332	266	91
Wahkiakum	22	0	1	2	6	8	1	4	0
Walla Walla	692	2	55	123	170	176	66	55	45
Whatcom	1,972	18	73	214	506	571	288	263	39
Whitman	415	0	2	8	72	106	106	116	5
Yakima	4,039	12	626	1,048	1,086	644	178	172	273

## B. Behavioral and Health Characteristics

Behaviors such as smoking during pregnancy and medical risk factors such as diabetes and hypertension may affect the health of both the mother and her infant. Birth data on these characteristics can identify problem areas and track changes over time, especially if new prevention programs have been started.

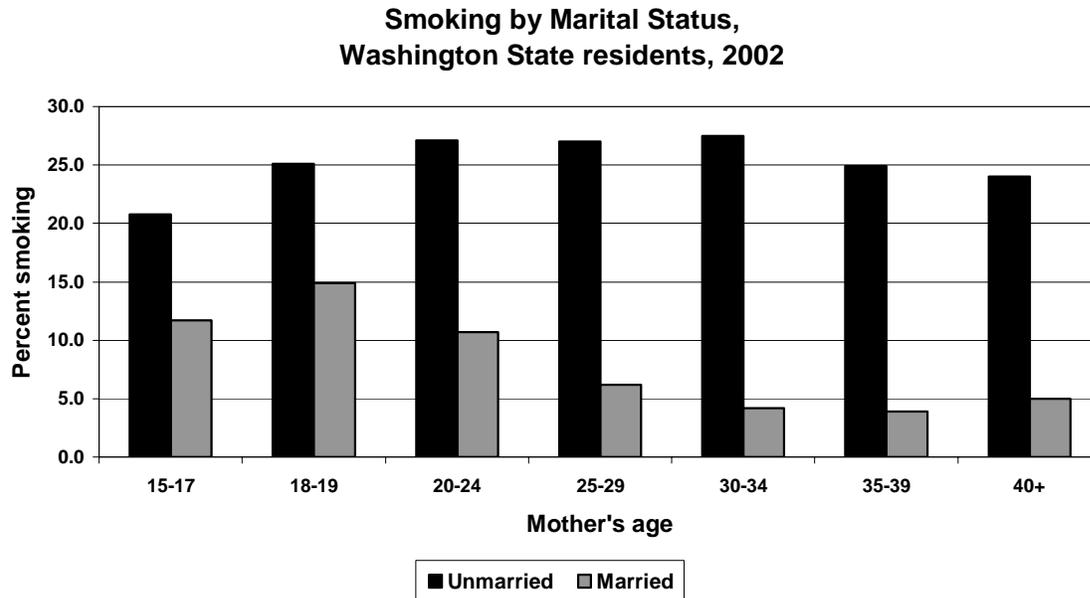
**Nativity Table B1. Behavioral and Health Summary Indicators for Residents, 1993 - 2002**

	Percent of Births where Mother...		
	Smokes <sup>1</sup>	Has Gestational Diabetes	Has Pregnancy-Associated Hypertension
1993	17.9	2.5	4.0
1994	17.0	2.4	4.3
1995	16.1	2.4	4.1
1996	16.0	2.6	4.2
1997	14.6	2.5	4.5
1998	14.6	2.6	4.5
1999	14.2	2.7	4.7
2000	13.5	3.1	5.1
2001	12.6	3.5	5.1
2002	12.0	3.6	4.8

<sup>1</sup>Unknowns have been subtracted from total births in calculating percentages.

*Special feature: Data on unmarried mothers*

***How often do they smoke?***



About 25% of unmarried mothers smoke during pregnancy, regardless of their age. In contrast, smoking during pregnancy tends to decrease with age for married mothers. Thus the discrepancy between married and unmarried mothers widens with age; unmarried mothers aged 30-39 are about six times more likely to smoke than their married counterparts. This is a concern because infants born to mothers who smoke during pregnancy are more likely to have low birth weight and to die of Sudden Infant Death Syndrome (SIDS).

**Nativity Table B2. Mother's Age Group by Maternal Smoking for Residents, 2002**

Age	Total	Maternal Smoking	No Maternal Smoking	Unknown
<b>State Total</b>	<b>79,003</b>	<b>9,202</b>	<b>67,727</b>	<b>2,074</b>
Under 15	78	9	62	7
15 - 17	2,151	408	1,653	90
18 - 19	4,878	1,050	3,683	145
20 - 24	19,513	3,439	15,522	552
25 - 29	21,148	2,175	18,454	519
30 - 34	19,569	1,359	17,779	431
35 - 39	9,383	593	8,528	262
40 - 44	2,150	161	1,927	62
45 and Over	108	6	99	3
Unknown	25	2	20	3

**Nativity Table B3. Mother's Education by Maternal Smoking for Residents, 2002**

Education	Total	Maternal Smoking	No Maternal Smoking	Unknown
<b>State Total</b>	<b>79,003</b>	<b>9,202</b>	<b>67,727</b>	<b>2,074</b>
No Education	113	6	104	3
8th Grade or Less	3,397	300	2,976	121
Some High School	9,189	2,556	6,362	271
High School Graduate	22,504	3,909	18,113	482
Some College	18,647	1,647	16,658	342
College Graduate	12,117	211	11,737	169
Postgraduate Educ	8,735	115	8,492	128
Unknown	4,301	458	3,285	558

**Nativity Table B4. Maternal Smoking During Pregnancy by County of Residence, 2002**

County	Total Births	Maternal Smoking		No Maternal Smoking		Unknown	
		Number	Percent <sup>1</sup>	Number	Percent <sup>1</sup>	Number	Percent <sup>1</sup>
<b>State Total</b>	<b>79,003</b>	<b>9,202</b>	<b>11.6</b>	<b>67,727</b>	<b>85.7</b>	<b>2,074</b>	<b>2.6</b>
Adams	347	29	8.4	317	91.4	1	0.3
Asotin	236	58	24.6	178	75.4	0	0.0
Benton	2,160	272	12.6	1,857	86.0	31	1.4
Chelan	919	67	7.3	655	71.3	197	21.4
Clallam	591	126	21.3	462	78.2	3	0.5
Clark	5,246	805	15.3	4,438	84.6	3	0.1
Columbia	40	8	20.0	30	75.0	2	5.0
Cowlitz	1,244	359	28.9	880	70.7	5	0.4
Douglas	434	20	4.6	327	75.3	87	20.0
Ferry	70	24	34.3	43	61.4	3	4.3
Franklin	1,193	71	6.0	1,095	91.8	27	2.3
Garfield	14	6	42.9	8	57.1	0	0.0
Grant	1,394	133	9.5	1,219	87.4	42	3.0
Grays Harbor	803	220	27.4	567	70.6	16	2.0
Island	925	103	11.1	808	87.4	14	1.5
Jefferson	188	39	20.7	148	78.7	1	0.5
King	21,863	1,405	6.4	19,712	90.2	746	3.4
Kitsap	2,942	402	13.7	2,503	85.1	37	1.3
Kittitas	343	58	16.9	283	82.5	2	0.6
Klickitat	227	30	13.2	196	86.3	1	0.4
Lewis	896	221	24.7	649	72.4	26	2.9
Lincoln	91	10	11.0	81	89.0	0	0.0
Mason	541	120	22.2	406	75.0	15	2.8
Okanogan	480	85	17.7	391	81.5	4	0.8
Pacific	171	43	25.1	125	73.1	3	1.8
Pend Oreille	124	38	30.6	84	67.7	2	1.6
Pierce	10,031	1,303	13.0	8,557	85.3	171	1.7
San Juan	87	4	4.6	79	90.8	4	4.6
Skagit	1,373	180	13.1	1,126	82.0	67	4.9
Skamania	98	20	20.4	76	77.6	2	2.0
Snohomish	8,344	825	9.9	7,357	88.2	162	1.9
Spokane	5,543	1,054	19.0	4,454	80.4	35	0.6
Stevens	460	100	21.7	351	76.3	9	2.0
Thurston	2,445	333	13.6	1,988	81.3	124	5.1
Wahkiakum	22	4	18.2	18	81.8	0	0.0
Walla Walla	692	62	9.0	623	90.0	7	1.0
Whatcom	1,972	193	9.8	1,697	86.1	82	4.2
Whitman	415	23	5.5	390	94.0	2	0.5
Yakima	4,039	349	8.6	3,549	87.9	141	3.5

<sup>1</sup>Percents may not add to 100% due to rounding.

**Nativity Table B5. Selected Medical Risk Factors<sup>1</sup> by County of Residence, 2002**

County	Total Births	Diabetes		Hypertension		
		Gestational	Established	Chronic	Pregnancy - Associated	Eclampsia
<b>State Total</b>	<b>79,003</b>	<b>2,835</b>	<b>419</b>	<b>816</b>	<b>3,828</b>	<b>330</b>
Adams	347	21	5	2	14	5
Asotin	236	6	6	2	11	0
Benton	2,160	88	19	36	136	30
Chelan	919	15	4	3	10	2
Clallam	591	22	6	7	27	0
Clark	5,246	201	29	66	407	7
Columbia	40	3	0	0	9	0
Cowlitz	1,244	24	9	19	51	0
Douglas	434	12	0	2	4	2
Ferry	70	2	0	0	3	0
Franklin	1,193	61	15	2	54	7
Garfield	14	0	0	0	2	0
Grant	1,394	61	7	8	55	2
Grays Harbor	803	27	4	13	51	6
Island	925	31	5	15	67	2
Jefferson	188	8	1	2	7	0
King	21,863	705	97	184	781	38
Kitsap	2,942	102	21	28	134	20
Kittitas	343	6	1	6	43	0
Klickitat	227	7	0	4	9	1
Lewis	896	24	9	3	26	4
Lincoln	91	1	0	1	6	0
Mason	541	24	7	7	35	18
Okanogan	480	25	4	5	32	0
Pacific	171	1	0	2	7	0
Pend Oreille	124	5	0	1	7	1
Pierce	10,031	271	25	152	315	85
San Juan	87	0	0	2	6	0
Skagit	1,373	65	9	19	89	1
Skamania	98	3	0	0	11	0
Snohomish	8,344	343	59	124	575	12
Spokane	5,543	248	13	26	357	21
Stevens	460	17	2	5	36	1
Thurston	2,445	94	12	26	105	19
Wahkiakum	22	0	0	0	0	0
Walla Walla	692	21	2	7	43	2
Whatcom	1,972	39	16	5	115	1
Whitman	415	17	2	3	17	1
Yakima	4,039	235	30	29	171	42

<sup>1</sup>Numbers may be underestimated by about 15% because of missing medical risk factor data.

## C. Health Service Utilization

The health service utilization data in this section describe the prenatal care and delivery services the mother received. Prenatal care data are used to assess whether women are receiving timely prenatal care. Data on the birth attendant, birth facility, and method of delivery help to assure that appropriate delivery services are available, including both 'low tech' and 'high tech' services.

**Nativity Table C1. Health Service Utilization Summary Indicators for Residents, 1993 - 2002**

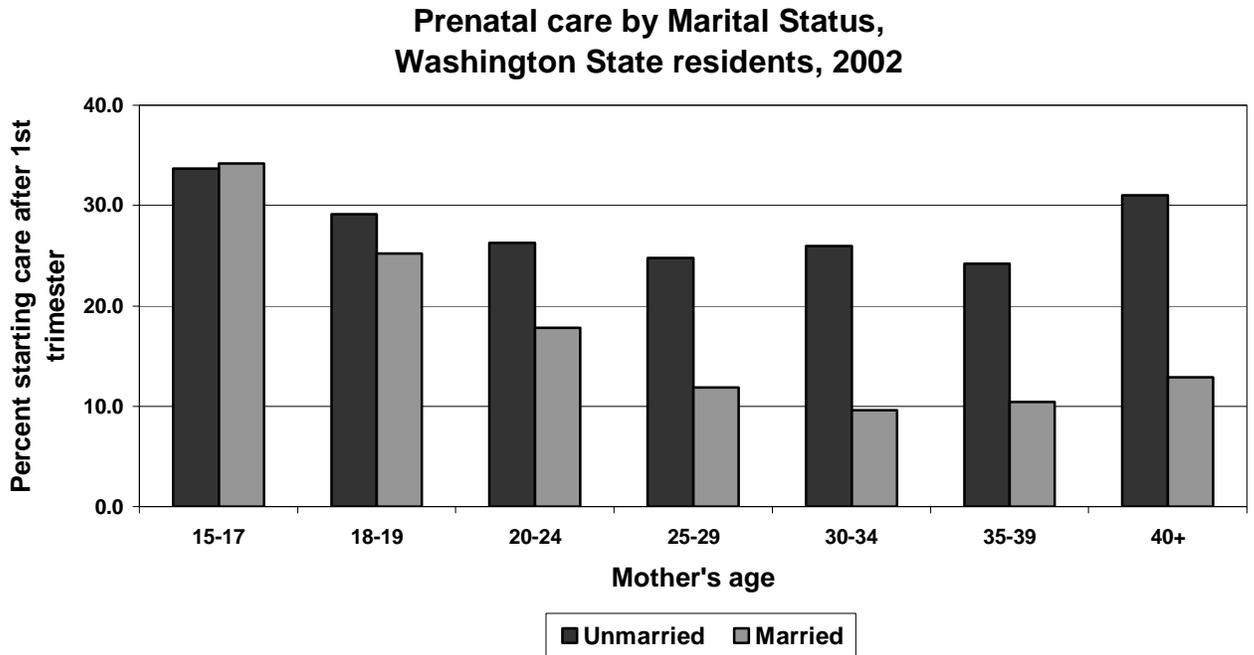
	Percent of Births <sup>1</sup> where Mother has...		
	1st Trimester Prenatal Care	Late/No Prenatal Care <sup>2</sup>	Primary C-Section Delivery
1993	80.7	3.7	11.2
1994	82.5	3.4	11.1
1995	82.6	3.5	11.2
1996	83.3	3.6	11.2
1997	83.3	3.4	11.3
1998	83.0	3.2	12.2
1999	82.8	3.1	12.3
2000	82.6	3.3	13.1
2001	83.2	3.0	14.0
2002	83.4	3.1	14.8

<sup>1</sup>Unknowns have been subtracted from total births in calculating percentages.

<sup>2</sup>Includes no care or care beginning in third trimester.

*Special feature: Data on unmarried mothers*

*When do they begin prenatal care?*



Except for the youngest group, unmarried mothers more often begin prenatal care after the first trimester of their pregnancy, compared to married mothers of the same age group. In particular, unmarried mothers aged 25+ are 2-3 times more likely to begin care after the first trimester. They are also about five times more likely to have late or no care. As the last section showed, unmarried mothers more often smoke during pregnancy. If they had timely prenatal care, their providers could discuss possible problems related to smoking and help them quit or reduce their smoking.

**Nativity Table C2. Month Prenatal Care Began by Mother's Age Group for Residents, 2002**

Month Care Began	All		Under							45 and		Unk
	Ages	15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	Over		
<b>State Total</b>	<b>79,003</b>	<b>78</b>	<b>2,151</b>	<b>4,878</b>	<b>19,513</b>	<b>21,148</b>	<b>19,569</b>	<b>9,383</b>	<b>2,150</b>	<b>108</b>	<b>25</b>	
First	12,611	3	177	464	2,434	3,488	3,826	1,805	398	14	2	
Second	32,039	14	620	1,627	7,380	9,041	8,468	3,998	846	38	7	
Third	15,426	14	471	1,067	4,067	4,075	3,592	1,700	408	26	6	
Fourth	5,689	8	258	519	1,764	1,378	1,068	538	151	2	3	
Fifth	2,654	10	153	308	895	614	430	183	58	3	0	
Sixth	1,422	4	95	167	460	317	228	115	32	4	0	
Seventh	956	6	71	106	311	219	136	81	24	0	2	
Eighth	665	2	43	65	199	167	105	69	14	1	0	
Ninth +	273	1	13	27	77	62	55	29	9	0	0	
No Care	320	2	14	33	111	69	53	20	15	1	2	
Unknown	6,948	14	236	495	1,815	1,718	1,608	845	195	19	3	

**Nativity Table C3. Number of Prenatal Visits by Month Prenatal Care Began for Residents, 2002**

Number of Prenatal Visits	Number of					
	Total	1 - 3	4 - 6	7 - 9+	No Care	Unk
<b>State Total</b>	<b>79,003</b>	<b>60,076</b>	<b>9,765</b>	<b>1,894</b>	<b>320</b>	<b>6,948</b>
9 or More	55,671	49,583	4,911	246	0	931
5 - 8	11,673	6,972	3,736	714	0	251
1 - 4	2,278	599	759	814	0	106
No Visits	322	0	0	0	320	2
Unknown	9,059	2,922	359	120	0	5,658

**Nativity Table C4. Month Prenatal Care Began by County of Residence, 2002**

County	Total	1st	2nd	3rd	4th	5th	6th	7th	8th	9th+	No Care	Unk
<b>State Total</b>	<b>79,003</b>	<b>12,611</b>	<b>32,039</b>	<b>15,426</b>	<b>5,689</b>	<b>2,654</b>	<b>1,422</b>	<b>956</b>	<b>665</b>	<b>273</b>	<b>320</b>	<b>6,948</b>
Adams	347	17	170	89	28	15	10	7	7	0	2	2
Asotin	236	19	110	69	24	6	4	2	0	0	2	0
Benton	2,160	303	670	497	280	140	77	52	34	8	5	94
Chelan	919	29	376	291	93	34	18	20	13	2	2	41
Clallam	591	35	290	153	57	21	8	9	1	3	2	12
Clark	5,246	773	2,519	1,068	424	207	118	69	30	5	26	7
Columbia	40	2	17	13	2	1	1	3	0	0	0	1
Cowlitz	1,244	155	553	243	126	65	31	20	12	6	18	15
Douglas	434	20	196	105	37	17	10	10	2	1	2	34
Ferry	70	13	29	10	4	3	2	1	1	1	2	4
Franklin	1,193	91	281	285	168	129	71	66	45	15	5	37
Garfield	14	2	5	3	2	1	0	0	1	0	0	0
Grant	1,394	73	573	365	166	81	50	23	18	3	6	36
Grays Harbor	803	114	327	155	46	26	21	11	14	3	11	75
Island	925	95	464	177	59	21	8	2	6	2	4	87
Jefferson	188	13	84	59	12	5	1	2	4	2	1	5
King	21,863	4,422	8,806	3,637	1,138	477	226	179	114	70	73	2,721
Kitsap	2,942	369	1,183	766	262	118	54	43	36	9	13	89
Kittitas	343	26	236	44	16	6	3	5	1	1	1	4
Klickitat	227	26	81	68	18	11	8	2	0	2	0	11
Lewis	896	252	341	125	44	22	13	10	5	0	3	81
Lincoln	91	25	38	17	3	3	2	0	0	1	0	2
Mason	541	71	227	95	45	21	16	5	5	1	4	51
Okanogan	480	41	251	109	32	16	7	8	3	2	2	9
Pacific	171	20	71	36	19	6	7	3	1	1	0	7
Pend Oreille	124	29	37	24	11	9	3	1	0	1	4	5
Pierce	10,031	941	3,773	2,293	833	433	264	181	148	65	48	1,052
San Juan	87	6	25	34	5	4	2	2	2	0	0	7
Skagit	1,373	73	585	318	128	67	42	34	22	8	3	93
Skamania	98	11	48	21	9	3	1	1	2	0	0	2
Snohomish	8,344	1,729	3,448	1,490	444	209	94	65	38	12	32	783
Spokane	5,543	1,787	2,454	668	215	127	59	36	28	19	23	127
Stevens	460	93	181	96	43	11	7	4	6	1	3	15
Thurston	2,445	451	727	313	139	64	26	15	9	8	5	688
Wahkiakum	22	3	17	1	0	0	1	0	0	0	0	0
Walla Walla	692	62	265	203	73	31	20	6	7	7	1	17
Whatcom	1,972	11	630	657	367	86	48	16	21	3	3	130
Whitman	415	58	178	115	33	10	6	1	2	1	0	11
Yakima	4,039	351	1,773	714	284	148	83	42	27	10	14	593

**Nativity Table C5. Birth Facility by County of Occurrence, 2002**

County	Total	Hospital	Birth Center	Federal Facility	Home	Born On Arrival	Other	Unknown
<b>State Total</b>	<b>78,590</b>	<b>73,993</b>	<b>525</b>	<b>2,907</b>	<b>1,063</b>	<b>60</b>	<b>42</b>	<b>0</b>
Adams	485	483	0	0	2	0	0	0
Asotin	1	0	0	0	1	0	0	0
Benton	2,999	2,957	26	0	15	1	0	0
Chelan	1,373	1,351	16	0	6	0	0	0
Clallam	554	533	0	0	18	3	0	0
Clark	4,649	4,608	0	0	38	2	1	0
Columbia	1	1	0	0	0	0	0	0
Cowlitz	1,233	1,222	0	0	10	0	1	0
Douglas	1	0	0	0	1	0	0	0
Ferry	8	8	0	0	0	0	0	0
Franklin	650	632	0	0	17	1	0	0
Garfield	0	0	0	0	0	0	0	0
Grant	1,027	1,017	0	0	7	3	0	0
Grays Harbor	507	487	0	0	18	2	0	0
Island	630	182	17	407	24	0	0	0
Jefferson	124	107	0	0	17	0	0	0
King	26,032	25,470	189	0	351	20	2	0
Kitsap	2,587	1,784	15	730	53	4	1	0
Kittitas	310	301	0	0	9	0	0	0
Klickitat	147	144	0	0	2	1	0	0
Lewis	657	611	1	0	19	0	26	0
Lincoln	6	6	0	0	0	0	0	0
Mason	284	274	0	0	9	0	1	0
Okanogan	479	471	0	0	7	1	0	0
Pacific	49	45	0	0	4	0	0	0
Pend Oreille	112	111	0	0	1	0	0	0
Pierce	10,107	8,048	184	1,770	99	6	0	0
San Juan	11	0	0	0	9	0	2	0
Skagit	1,518	1,494	0	0	21	2	1	0
Skamania	2	0	0	0	2	0	0	0
Snohomish	5,511	5,352	76	0	73	9	1	0
Spokane	6,400	6,325	0	0	74	1	0	0
Stevens	266	256	0	0	10	0	0	0
Thurston	2,725	2,656	0	0	67	1	1	0
Wahkiakum	0	0	0	0	0	0	0	0
Walla Walla	894	879	1	0	9	0	5	0
Whatcom	1,935	1,878	0	0	56	1	0	0
Whitman	378	377	0	0	1	0	0	0
Yakima	3,938	3,923	0	0	13	2	0	0

**Nativity Table C6. Method of Delivery<sup>1</sup> by County of Occurrence, 2002**

County	Total	Vaginal Deliveries				Primary	Repeat C-Section		Unk
		Sponta- neous	Forceps	Vacuum	VBAC	C-Section	With Labor	No Labor	
<b>State Total</b>	<b>78,590</b>	<b>52,829</b>	<b>876</b>	<b>4,607</b>	<b>1,135</b>	<b>11,652</b>	<b>1,173</b>	<b>6,311</b>	<b>7</b>
Adams	485	308	4	54	3	50	15	51	0
Asotin	1	1	0	0	0	0	0	0	0
Benton	2,999	1,919	23	240	70	404	57	286	0
Chelan	1,373	1,019	2	13	12	201	32	92	2
Clallam	554	424	0	13	6	66	5	40	0
Clark	4,649	3,382	28	173	115	566	74	311	0
Columbia	1	1	0	0	0	0	0	0	0
Cowlitz	1,233	819	6	67	20	179	24	118	0
Douglas	1	1	0	0	0	0	0	0	0
Ferry	8	8	0	0	0	0	0	0	0
Franklin	650	430	11	40	24	91	12	42	0
Garfield	0	0	0	0	0	0	0	0	0
Grant	1,027	658	7	92	3	120	31	116	0
Grays Harbor	507	346	2	14	7	74	13	51	0
Island	630	380	10	40	7	119	24	50	0
Jefferson	124	87	0	4	2	22	2	7	0
King	26,032	16,586	358	2,003	281	4,334	299	2,169	2
Kitsap	2,587	1,777	40	126	18	370	50	205	1
Kittitas	310	218	0	8	7	42	11	24	0
Klickitat	147	92	0	9	1	24	4	17	0
Lewis	657	483	5	28	3	76	11	51	0
Lincoln	6	4	0	0	0	1	0	1	0
Mason	284	194	1	27	4	26	14	18	0
Okanogan	479	320	0	21	5	74	23	36	0
Pacific	49	38	0	1	2	4	3	1	0
Pend Oreille	112	76	0	1	3	16	5	11	0
Pierce	10,107	6,943	182	385	87	1,525	117	868	0
San Juan	11	11	0	0	0	0	0	0	0
Skagit	1,518	1,035	3	77	21	223	30	128	1
Skamania	2	2	0	0	0	0	0	0	0
Snohomish	5,511	3,823	29	251	96	775	60	477	0
Spokane	6,400	4,283	79	248	92	1,066	127	505	0
Stevens	266	202	1	5	3	34	2	19	0
Thurston	2,725	1,872	31	154	35	407	33	192	1
Wahkiakum	0	0	0	0	0	0	0	0	0
Walla Walla	894	639	7	64	19	114	3	48	0
Whatcom	1,935	1,360	16	67	39	261	30	162	0
Whitman	378	234	1	33	4	66	6	34	0
Yakima	3,938	2,854	30	349	146	322	56	181	0

<sup>1</sup>Based on first or second methods given. See Appendix A for details.

**Nativity Table C7. Birth Attendant by County of Occurrence, 2002**

County	Total	MD	DO	Cert Midwife	Lic Midwife	Other Midwife	Nurse	Hosp Admin	Father	Other	Unk
<b>State Total</b>	<b>78,590</b>	<b>66,872</b>	<b>1,992</b>	<b>6,757</b>	<b>1,743</b>	<b>118</b>	<b>400</b>	<b>287</b>	<b>62</b>	<b>282</b>	<b>77</b>
Adams	485	443	0	0	0	0	0	0	0	42	0
Asotin	1	0	0	0	1	0	0	0	0	0	0
Benton	2,999	2,390	44	549	0	4	3	1	3	5	0
Chelan	1,373	439	857	25	20	0	30	0	0	0	2
Clallam	554	360	0	87	5	0	2	0	8	92	0
Clark	4,649	3,082	12	1,510	8	0	5	0	9	19	4
Columbia	1	1	0	0	0	0	0	0	0	0	0
Cowlitz	1,233	1,225	0	0	4	0	0	0	2	2	0
Douglas	1	0	0	0	0	0	0	0	0	1	0
Ferry	8	8	0	0	0	0	0	0	0	0	0
Franklin	650	593	0	16	28	7	0	0	0	6	0
Garfield	0	0	0	0	0	0	0	0	0	0	0
Grant	1,027	894	6	120	0	0	0	0	2	4	1
Grays Harbor	507	359	0	9	133	2	0	0	2	2	0
Island	630	579	9	0	39	1	2	0	0	0	0
Jefferson	124	78	29	0	15	0	0	0	0	2	0
King	26,032	23,324	162	1,548	809	35	19	48	9	42	36
Kitsap	2,587	2,405	41	27	38	0	66	0	5	2	3
Kittitas	310	296	0	5	3	1	0	0	4	1	0
Klickitat	147	137	4	0	1	1	0	0	0	4	0
Lewis	657	394	174	6	43	0	38	0	1	1	0
Lincoln	6	1	5	0	0	0	0	0	0	0	0
Mason	284	239	0	2	39	0	4	0	0	0	0
Okanogan	479	396	0	77	3	0	0	0	0	3	0
Pacific	49	1	42	2	0	1	0	0	0	3	0
Pend Oreille	112	107	3	0	0	0	1	0	0	1	0
Pierce	10,107	8,553	330	915	174	2	45	72	1	7	8
San Juan	11	1	0	3	7	0	0	0	0	0	0
Skagit	1,518	1,374	0	25	33	1	79	0	1	2	3
Skamania	2	0	0	0	0	0	0	0	2	0	0
Snohomish	5,511	4,823	132	258	152	36	75	21	2	10	2
Spokane	6,400	5,740	4	555	70	4	12	0	1	14	0
Stevens	266	237	14	3	0	1	0	0	2	9	0
Thurston	2,725	2,383	0	254	57	1	1	11	2	1	15
Wahkiakum	0	0	0	0	0	0	0	0	0	0	0
Walla Walla	894	827	0	54	11	0	0	0	0	1	1
Whatcom	1,935	1,630	0	114	48	0	3	134	2	2	2
Whitman	378	362	0	0	0	0	15	0	1	0	0
Yakima	3,938	3,191	124	593	2	21	0	0	3	4	0



Nativity Table C8 County of Residence by County of Occurrence, 2002

County of Residence	County of Occurrence																			
	Adams	Asotin	Benton	Chelan	Clallam	Clark	Columbia	Cowlitz	Douglas	Ferry	Franklin	Garfield	Grant	Grays Harbor	Island	Jefferson	King	Kitsap	Kittitas	
Adams	236		19								1		46							
Asotin		1																		
Benton			1,963	1		2					120						4	1		
Chelan			1	872							1		1				27			1
Clallam					544									2		3	24	8		
Clark						4,401		16									4	1		
Columbia											1									
Cowlitz							114	1,058										3		
Douglas			1	366					1				1				10			
Ferry										8			4							
Franklin	47		627							508		2					2			
Garfield																				
Grant	201		12	125							3	929					5		7	
Grays Harbor													462				12	2		
Island														594	1	68	1			
Jefferson					5								1		117	12	48			
King			2	1		2	1									1	21,146	3		
Kitsap			1		2												239	2,389	1	
Kittitas			1									3					20		295	
Klickitat			9																	
Lewis						2	38										5	1	1	
Lincoln												3								
Mason					1		1										16	88		
Okanogan			1	6								31					4			
Pacific								2					38				3			
Pend Oreille																				
Pierce			1			1	1									1	1,131	38		
San Juan															4		5			
Skagit															24		41			
Skamania						31														
Snohomish					1							1		4			3,059	2		
Spokane			1									1					4		1	
Stevens			1									1					1		1	
Thurston						2	1						2				38	1		
Wahkiakum						1	15													
Walla Walla			60								9						1			
Whatcom															2	1	42			
Whitman												1					1			
Yakima	1		221			1						1					22		3	
Out of State Occurrence			78	2	1	92	1	100			7	2	2	2	2		83	4		
Total	485	1	2,999	1,373	554	4,649	1	1,233	1	8	650	0	1,027	507	630	124	26,032	2,587	310	

Note: Diagonal numbers are shaded where county of occurrence and county of residence are the same.

Nativity Table C8 (Continued) County of Residence by County of Occurrence, 2002

County of Occurrence																							
Klickitat	Lewis	Lincoln	Mason	Okanogan	Pacific	Pend Oreille	Pierce	San Juan	Skagit	Skamania	Snohomish	Spokane	Stevens	Thurston	Wahkiakum	Walla Walla	Whatcom	Whitman	Yakima	Out-of-State	Residence Total		
												39						2	1	3	347		
												5						2		228	236		
							1					6				3		1	57	1	2,160		
				11							1	4									919		
			1				5				1			1							2	591	
2							4				1	1					1				815	5,246	
																39						40	
	10				2		4							1							52	1,244	
				50			1					3							1			434	
				4								17	37									70	
												4				1				1	1	1,193	
																		2			12	14	
				2					1		2	45						1	57	4		1,394	
	10		2	1	9		19		1					283							2	803	
							33		124		98							2			4	925	
	1		1				1				1										1	188	
							495		1		149			9		1	1		3	48		21,863	
							290				6			4							10	2,942	
							2		1		1	1								18	1	343	
102																				12	104	227	
	582		1				37							227							2	896	
		4					1					83										91	
			271				23		1					136							4	541	
				410			1					25					1				1	480	
	1				37		4								17							69	171
						71						43	9								1	124	
	5						8,740				7	1		81						2	22	10,031	
								11	61		3							3				87	
							3		1,228		41	1					28		2	5		1,373	
29										2												36	98
							9		65		5,184	4		1			3	1	2	8		8,344	
				1		3	3					5,493	4					1	3	28		5,543	
		2										236	216								2	460	
	45		6				384				1			1,958							7	2,445	
							1															5	22
												6				611					5	692	
							1		32		6						1,885				3	1,972	
							1					38						333			41	415	
1							2					6				3				3,773	5	4,039	
13	3		2		1	38	42		3		9	339		7		236	11	35	6			1,119	
147	657	6	284	479	49	112	10,107	11	1,518	2	5,511	6,400	266	2,725	0	894	1,935	378	3,938	1,532		80,122	

## D. Infant Health

The items in this section are used to assess the health of infants born in Washington State and their chances for survival. The data are also used to track progress towards reducing infant health problems and to identify areas where more work is still needed.

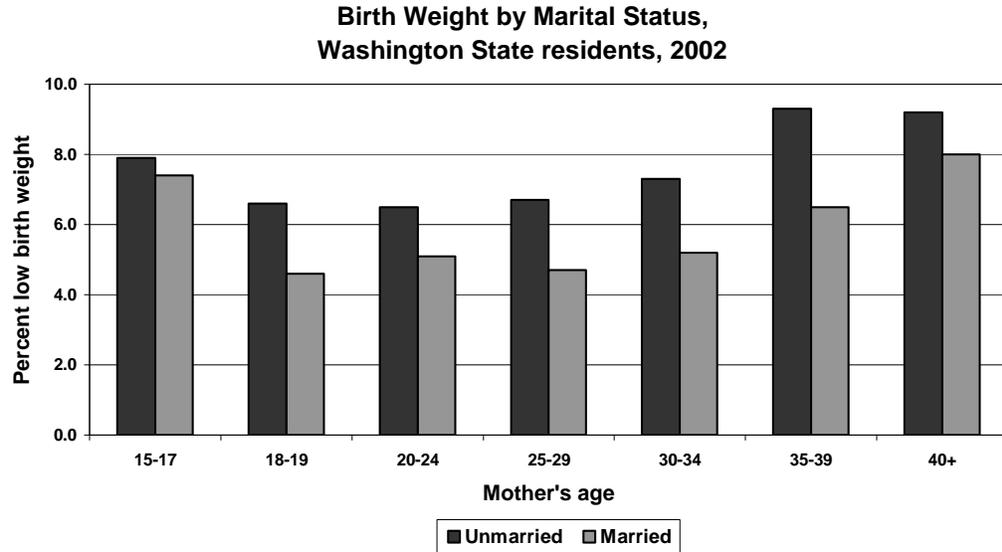
**Nativity Table D1. Infant Health Summary Indicators for Residents, 1993 - 2002**

	Percent of Births <sup>1</sup> that are...			
	Low Birth Weight	Low Birth Weight - Singletons	Plural (Twins+)	Preterm (<37 weeks)
1993	5.2	4.2	2.2	10.6
1994	5.3	4.3	2.2	10.8
1995	5.5	4.4	2.3	11.1
1996	5.6	4.4	2.5	11.1
1997	5.6	4.5	2.5	11.7
1998	5.7	4.5	2.6	12.3
1999	5.9	4.5	2.8	12.8
2000	5.6	4.3	2.8	12.6
2001	5.8	4.5	2.9	12.9
2002	5.8	4.4	3.0	12.7

<sup>1</sup>Unknowns have been subtracted from total births in calculating percentages.

*Special feature: Data on unmarried mothers*

***How much do their babies weigh?***

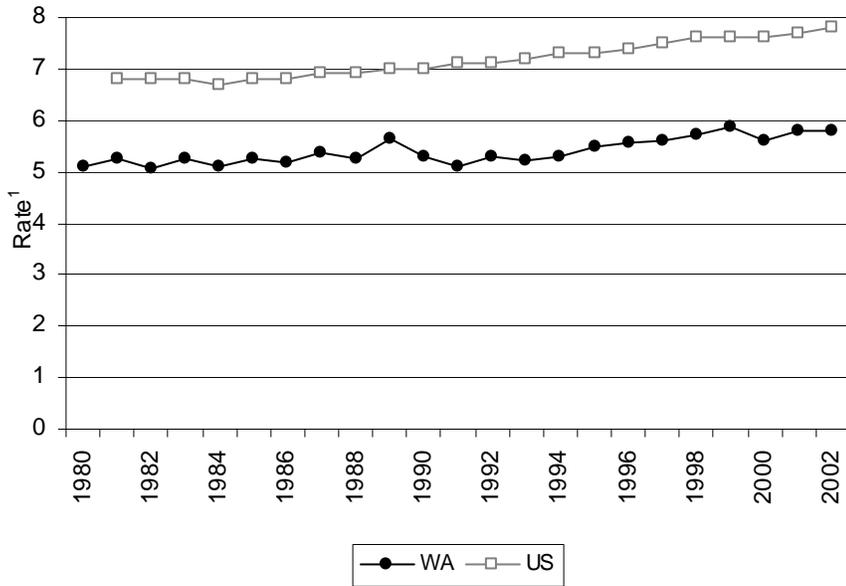


Given their later prenatal care and more frequent smoking, it isn't surprising that unmarried mothers are more likely to have low birth weight infants. The difference between married and unmarried mothers is fairly constant for mothers aged 18-39. For these groups, unmarried mothers are 40% more likely to have a low birth weight infant.

All of the information presented here about unmarried mothers - education, birth order, smoking, prenatal care and birth weight - is interrelated and it all tells pretty much the same story. In the absence of any information on their partners, the data suggest that, regardless of their age, unmarried mothers are a group in need of support so that they can have safe pregnancies and healthy babies.

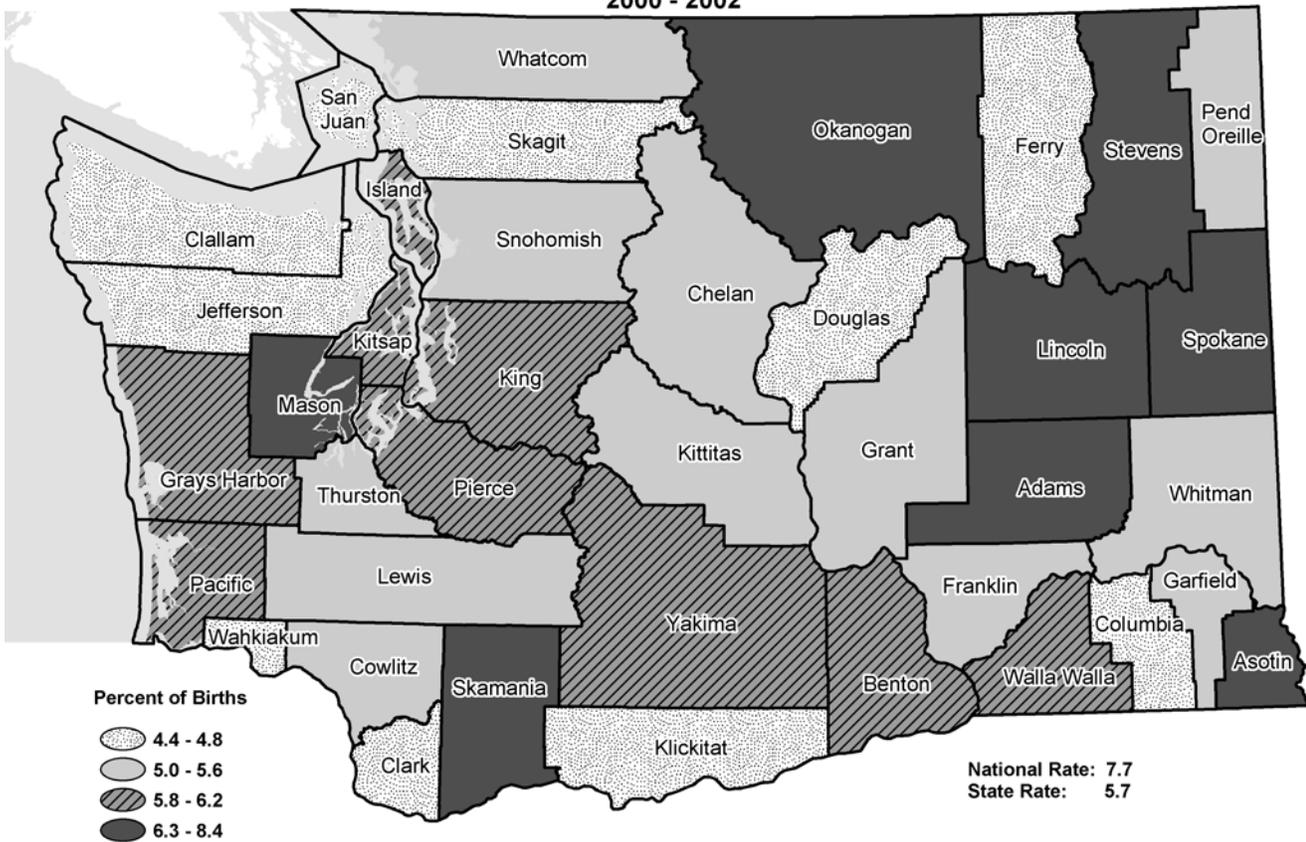
**Nativity Figures 3 & 4**

Percent Low Birth Weight<sup>1</sup>, Washington State Residents compared to National, 1980-2002



<sup>1</sup> Number of births per 100 births for which birth weight status is known.

**Washington State Percent Low Birth Weight by County of Residence  
2000 - 2002**



**Nativity Table D2. Birth Weight in Grams by Mother's Race/Ethnicity for Residents, 2002**

Birth Weight in Grams	Total	African		Native		Other				Unk	Hispanic Origin <sup>1</sup>
		White	Amer.	Amer.	Japanese	Chinese	Filipino	Asian	Other		
<b>State Total</b>	<b>79,003</b>	<b>64,159</b>	<b>3,245</b>	<b>1,853</b>	<b>379</b>	<b>490</b>	<b>1,177</b>	<b>4,853</b>	<b>96</b>	<b>2,751</b>	<b>12,393</b>
Under 1,000	385	263	45	19	2	3	8	25	0	20	59
1,000 - 1,499	389	299	27	11	0	0	9	26	0	17	60
1,500 - 1,999	821	643	60	21	8	3	12	43	1	30	94
2,000 - 2,499	2,929	2,218	193	67	21	19	70	217	7	117	434
2,500 - 2,999	10,786	8,243	604	217	72	72	227	955	15	381	1,864
3,000 - 3,499	28,083	22,409	1,209	664	154	207	494	1,980	30	936	4,768
3,500 - 3,999	24,839	20,856	798	592	91	140	255	1,209	33	865	3,798
4,000 - 4,499	8,194	7,060	221	211	27	35	68	280	8	284	1,027
4,500 and Over	1,544	1,321	44	36	2	3	13	59	2	64	187
Unknown	1,033	847	44	15	2	8	21	59	0	37	102

<sup>1</sup>Persons of Hispanic Origin may be of any race. See Appendix A, "Hispanic Origin."

**Nativity Table D3. Birth Weight in Grams by Mother's Age Group for Residents, 2002**

Birth Weight in Grams	Total	Under									45 and Over	Age Unk
		15	15-17	18-19	20-24	25-29	30-34	35-39	40-44			
<b>State Total</b>	<b>79,003</b>	<b>78</b>	<b>2,151</b>	<b>4,878</b>	<b>19,513</b>	<b>21,148</b>	<b>19,569</b>	<b>9,383</b>	<b>2,150</b>	<b>108</b>	<b>25</b>	
Under 1,000	385	0	14	26	125	84	77	46	13	0	0	
1,000 - 1,499	389	0	13	16	82	95	95	67	17	4	0	
1,500 - 1,999	821	1	35	51	185	206	190	119	31	3	0	
2,000 - 2,499	2,929	7	105	199	723	690	691	400	108	5	1	
2,500 - 2,999	10,786	10	390	787	2,912	2,721	2,421	1,241	286	16	2	
3,000 - 3,499	28,083	41	826	1,905	7,399	7,503	6,597	3,062	703	36	11	
3,500 - 3,999	24,839	14	594	1,414	5,887	6,894	6,414	2,938	648	28	8	
4,000 - 4,499	8,194	3	127	367	1,722	2,275	2,337	1,115	233	14	1	
4,500 and Over	1,544	0	15	61	265	415	468	248	72	0	0	
Unknown	1,033	2	32	52	213	265	279	147	39	2	2	

**Nativity Table D4. Birth Weight in Grams by Calculated Gestational Age<sup>1</sup> for Residents, 2002**

Birth Weight in Grams	Total	Preterm (<37 wks)	Term (37-41 wks)	Postterm (42+ wks)	Unknown
<b>State Total</b>	<b>79,003</b>	<b>10,025</b>	<b>63,001</b>	<b>5,724</b>	<b>253</b>
Under 1,000	385	312	31	1	41
1,000 - 1,499	389	363	25	1	0
1,500 - 1,999	821	717	97	7	0
2,000 - 2,499	2,929	1,847	1,027	55	0
2,500 - 2,999	10,786	3,749	6,510	527	0
3,000 - 3,499	28,083	1,952	24,135	1,996	0
3,500 - 3,999	24,839	718	22,016	2,105	0
4,000 - 4,499	8,194	161	7,236	797	0
4,500 and over	1,544	38	1,335	171	0
Unknown	1,033	168	589	64	212

<sup>1</sup>See Appendix A for method used to calculate gestational age.

**Nativity Table D5. Birth Weight in Grams by Plurality for Residents, 2002**

Birth Weight in Grams	Total	Single	Twin	Triplet	Quadruplet+	Unknown
<b>State Total</b>	<b>79,003</b>	<b>76,661</b>	<b>2,228</b>	<b>104</b>	<b>6</b>	<b>4</b>
Under 1,000	385	306	66	13	0	0
1,000 - 1,499	389	281	96	12	0	0
1,500 - 1,999	821	531	238	48	4	0
2,000 - 2,499	2,929	2,248	662	19	0	0
2,500 - 2,999	10,786	10,007	772	6	0	1
3,000 - 3,499	28,083	27,790	291	0	1	1
3,500 - 3,999	24,839	24,791	46	0	1	1
4,000 - 4,499	8,194	8,189	4	1	0	0
4,500 and over	1,544	1,543	1	0	0	0
Unknown	1,033	975	52	5	0	1

**Nativity Table D6. Mother's Age Group by Plurality for Residents, 2002**

<b>Age</b>	<b>Total</b>	<b>Single</b>	<b>Twin</b>	<b>Triplet</b>	<b>Quadruplet+</b>	<b>Unknown</b>
<b>State Total</b>	<b>79,003</b>	<b>76,661</b>	<b>2,228</b>	<b>104</b>	<b>6</b>	<b>4</b>
Under 15	78	78	0	0	0	0
15 - 17	2,151	2,128	23	0	0	0
18 - 19	4,878	4,813	65	0	0	0
20 - 24	19,513	19,075	429	6	1	2
25 - 29	21,148	20,600	519	24	5	0
30 - 34	19,569	18,879	652	38	0	0
35 - 39	9,383	8,944	414	24	0	1
40 - 44	2,150	2,030	108	12	0	0
45 and Over	108	92	16	0	0	0
Unknown	25	22	2	0	0	1

**Nativity Table D7. Birth Weight in Grams by County of Residence, 2002**

County	Total	Under 1000	1000-1499	1500-1999	2000-2499	2500-2999	3000-3499	3500-3999	4000-4499	4500+	Unk
<b>State Total</b>	<b>79,003</b>	<b>385</b>	<b>389</b>	<b>821</b>	<b>2,929</b>	<b>10,786</b>	<b>28,083</b>	<b>24,839</b>	<b>8,194</b>	<b>1,544</b>	<b>1,033</b>
Adams	347	4	1	7	10	54	134	97	30	7	3
Asotin	236	2	0	4	14	21	60	42	14	2	77
Benton	2,160	13	10	28	76	311	808	679	202	30	3
Chelan	919	5	6	10	29	115	317	296	114	16	11
Clallam	591	2	1	5	20	60	207	194	81	18	3
Clark	5,246	9	10	39	147	589	1,738	1,626	556	102	430
Columbia	40	0	0	0	0	5	17	15	3	0	0
Cowlitz	1,244	4	3	12	41	161	455	390	125	20	33
Douglas	434	1	1	3	13	50	153	156	44	8	5
Ferry	70	0	1	0	4	9	31	19	5	0	1
Franklin	1,193	10	5	11	39	191	421	383	106	23	4
Garfield	14	0	0	0	0	2	6	2	0	0	4
Grant	1,394	8	10	13	47	212	517	436	124	23	4
Grays Harbor	803	2	4	4	42	120	273	270	77	10	1
Island	925	6	4	16	42	97	322	315	100	21	2
Jefferson	188	0	0	2	6	23	49	59	24	4	21
King	21,863	103	103	243	862	3,118	7,728	6,850	2,237	413	206
Kitsap	2,942	12	20	32	118	351	1,023	939	356	74	17
Kittitas	343	0	2	1	13	45	116	121	35	10	0
Klickitat	227	0	0	4	9	29	69	66	19	5	26
Lewis	896	4	3	7	29	119	339	278	93	23	1
Lincoln	91	0	0	2	6	14	33	28	7	1	0
Mason	541	2	4	6	26	100	192	149	51	9	2
Okanogan	480	2	4	3	15	67	194	141	49	4	1
Pacific	171	1	2	0	5	12	45	45	11	2	48
Pend Oreille	124	2	0	1	3	20	43	37	16	2	0
Pierce	10,031	63	64	122	361	1,357	3,525	3,175	1,121	213	30
San Juan	87	0	0	1	2	12	24	33	14	1	0
Skagit	1,373	1	5	11	30	195	494	433	150	48	6
Skamania	98	2	0	2	4	14	29	26	5	0	16
Snohomish	8,344	41	35	92	292	1,131	2,952	2,628	956	181	36
Spokane	5,543	39	34	52	229	805	2,071	1,689	511	103	10
Stevens	460	1	2	9	11	60	174	144	47	12	0
Thurston	2,445	12	17	22	98	314	878	789	269	44	2
Wahkiakum	22	0	1	0	0	1	3	10	4	0	3
Walla Walla	692	2	4	0	29	107	245	220	65	17	3
Whatcom	1,972	8	7	13	77	243	670	684	214	52	4
Whitman	415	1	3	3	12	57	145	134	42	4	14
Yakima	4,039	23	23	41	168	595	1,583	1,241	317	42	6

**Nativity Table D8. Calculated Gestational Age<sup>1</sup> by County of Residence, 2002**

<b>County</b>	<b>Total</b>	<b>Preterm (&lt;37 wks)</b>	<b>Term (37-41 wks)</b>	<b>Postterm (42+ wks)</b>	<b>Unknown</b>
<b>State Total</b>	<b>79,003</b>	<b>10,025</b>	<b>63,001</b>	<b>5,724</b>	<b>253</b>
Adams	347	39	276	30	2
Asotin	236	30	175	26	5
Benton	2,160	280	1,741	134	5
Chelan	919	102	724	86	7
Clallam	591	62	478	51	0
Clark	5,246	549	4,307	375	15
Columbia	40	8	30	2	0
Cowlitz	1,244	138	998	107	1
Douglas	434	47	350	36	1
Ferry	70	8	51	10	1
Franklin	1,193	150	947	94	2
Garfield	14	2	10	2	0
Grant	1,394	156	1,149	87	2
Grays Harbor	803	101	639	62	1
Island	925	103	745	74	3
Jefferson	188	16	153	15	4
King	21,863	2,784	17,216	1,744	119
Kitsap	2,942	306	2,490	136	10
Kittitas	343	30	293	20	0
Klickitat	227	33	176	16	2
Lewis	896	115	707	73	1
Lincoln	91	12	74	5	0
Mason	541	77	420	42	2
Okanogan	480	70	375	35	0
Pacific	171	23	125	13	10
Pend Oreille	124	19	98	7	0
Pierce	10,031	1,408	7,990	616	17
San Juan	87	12	68	7	0
Skagit	1,373	174	1,100	96	3
Skamania	98	12	75	9	2
Snohomish	8,344	955	6,669	704	16
Spokane	5,543	808	4,335	398	2
Stevens	460	61	355	44	0
Thurston	2,445	342	1,944	151	8
Wahkiakum	22	3	17	2	0
Walla Walla	692	87	540	65	0
Whatcom	1,972	366	1,580	21	5
Whitman	415	41	355	18	1
Yakima	4,039	496	3,226	311	6

<sup>1</sup>See Appendix A for method used to calculate gestational age.

**Nativity Table D9. Plurality by County of Residence, 2002**

<b>County</b>	<b>Total</b>	<b>Single</b>	<b>Twin</b>	<b>Triplet</b>	<b>Quadruplet+</b>	<b>Unknown</b>
<b>State Total</b>	<b>79,003</b>	<b>76,661</b>	<b>2,228</b>	<b>104</b>	<b>6</b>	<b>4</b>
Adams	347	339	8	0	0	0
Asotin	236	227	9	0	0	0
Benton	2,160	2,102	52	6	0	0
Chelan	919	902	14	3	0	0
Clallam	591	575	16	0	0	0
Clark	5,246	5,093	148	5	0	0
Columbia	40	40	0	0	0	0
Cowlitz	1,244	1,213	28	3	0	0
Douglas	434	428	6	0	0	0
Ferry	70	69	1	0	0	0
Franklin	1,193	1,166	27	0	0	0
Garfield	14	12	2	0	0	0
Grant	1,394	1,363	31	0	0	0
Grays Harbor	803	784	19	0	0	0
Island	925	896	26	3	0	0
Jefferson	188	186	2	0	0	0
King	21,863	21,105	731	23	1	3
Kitsap	2,942	2,869	69	3	0	1
Kittitas	343	337	6	0	0	0
Klickitat	227	214	13	0	0	0
Lewis	896	866	30	0	0	0
Lincoln	91	81	10	0	0	0
Mason	541	523	15	3	0	0
Okanogan	480	474	6	0	0	0
Pacific	171	170	1	0	0	0
Pend Oreille	124	120	4	0	0	0
Pierce	10,031	9,744	278	9	0	0
San Juan	87	83	4	0	0	0
Skagit	1,373	1,344	28	1	0	0
Skamania	98	94	4	0	0	0
Snohomish	8,344	8,100	226	18	0	0
Spokane	5,543	5,360	171	12	0	0
Stevens	460	449	8	3	0	0
Thurston	2,445	2,389	53	3	0	0
Wahkiakum	22	20	2	0	0	0
Walla Walla	692	682	10	0	0	0
Whatcom	1,972	1,894	68	6	4	0
Whitman	415	401	14	0	0	0
Yakima	4,039	3,947	88	3	1	0

# Mortality



## Mortality

### A. Demographics

Demographics provide basic data (such as gender and age) about people who have died. Information about patterns of mortality by demographic characteristics is important for understanding the health of the citizens of Washington State. As such, they help health programs assess risks or needs in certain areas. For example, age at death is used to compute life expectancy. Life expectancy combines rates of mortality at different age groups and determines how long a person of a specified age is expected to live.

In addition, demographic death data are used in conjunction with birth and migration data to provide population estimates used in resource allocation and planning as well as denominators of population-based rates.

**Mortality Table A1. Age-Adjusted Mortality Rates and Life Expectancy by Sex for Residents, 1993-2002.**

Year	Age-Adjusted Rate <sup>1</sup>						Infant Life Expectancy <sup>2</sup>					
	Washington State			United States <sup>3</sup>			Washington State			United States <sup>3</sup>		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
1993	879.5	1,094.8	718.4	931.5	1,181.8	751.0	77.0	74.0	80.0	75.5	72.2	78.8
1994	845.3	1,044.6	694.1	920.2	1,160.9	745.0	77.4	74.5	80.4	75.7	72.4	79.0
1995	842.0	1,030.4	699.8	918.5	1,150.3	748.2	77.6	74.7	80.3	75.8	72.5	78.9
1996	850.0	1,043.3	704.6	902.4	1,117.5	742.8	77.5	74.8	80.3	76.1	73.1	79.1
1997	813.7	992.5	681.1	887.3	1,090.5	736.3	78.1	75.5	80.6	76.5	73.6	79.4
1998	815.0	990.4	684.7	875.8	1,064.6	732.7	78.2	75.6	80.6	76.7	73.8	79.5
1999	818.4	988.7	692.1	881.9	1,061.8	743.6	78.2	75.6	80.6	76.7	73.9	79.4
2000	803.6	960.5	683.2	872.4	1,042.7	739.8	78.4	76.0	80.7	76.9	74.1	79.5
2001	797.7	943.2	684.7	854.5	1,029.1	721.8	78.5	76.2	80.7	77.2	74.4	79.8
2002	790.3	946.3	671.2				78.6	76.1	80.9			

<sup>1</sup>Rate per 100,000 age-adjusted to U.S. 2000 population.

<sup>2</sup>Life expectancy is the average number of years an infant is expected to live.

<sup>3</sup>Sources for United States mortality are:

Anderson RN. United States Life Tables, 1998: National Vital Statistics Reports; Vol 48 No. 18. Hyattsville, Maryland: National Center for Health Statistics, 2001

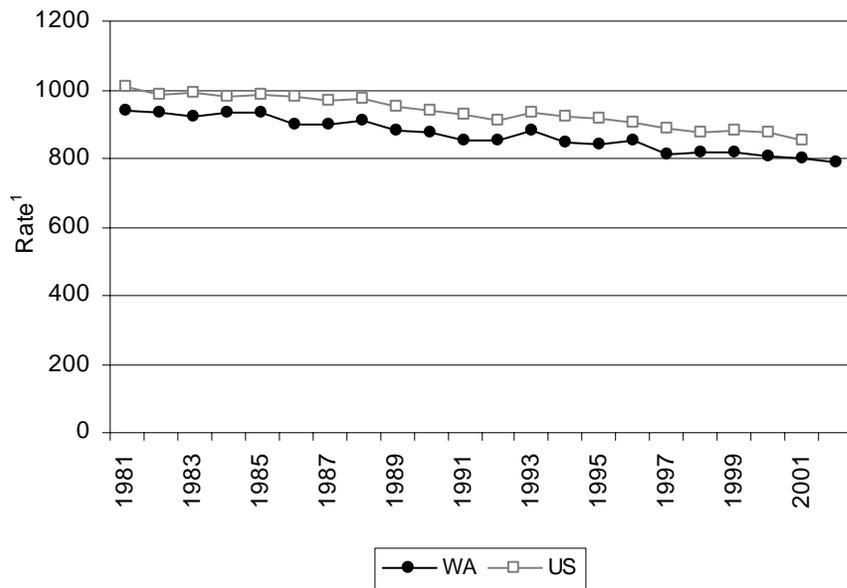
Hoyert DL, Anderson RN. Age-Adjusted Death Rates: Trend Data Based on the Year 2000 Standard Population: National Vital Statistics Reports; Vol 49 No 9. Hyattsville, Maryland: National Center for Health Statistics. 2001.

Minino AM, Smith BL. Deaths: Preliminary Data for 2000. National Vital Statistics Reports; Vol 49 No 12. Hyattsville, Maryland: National Center for Health Statistics. 2001.

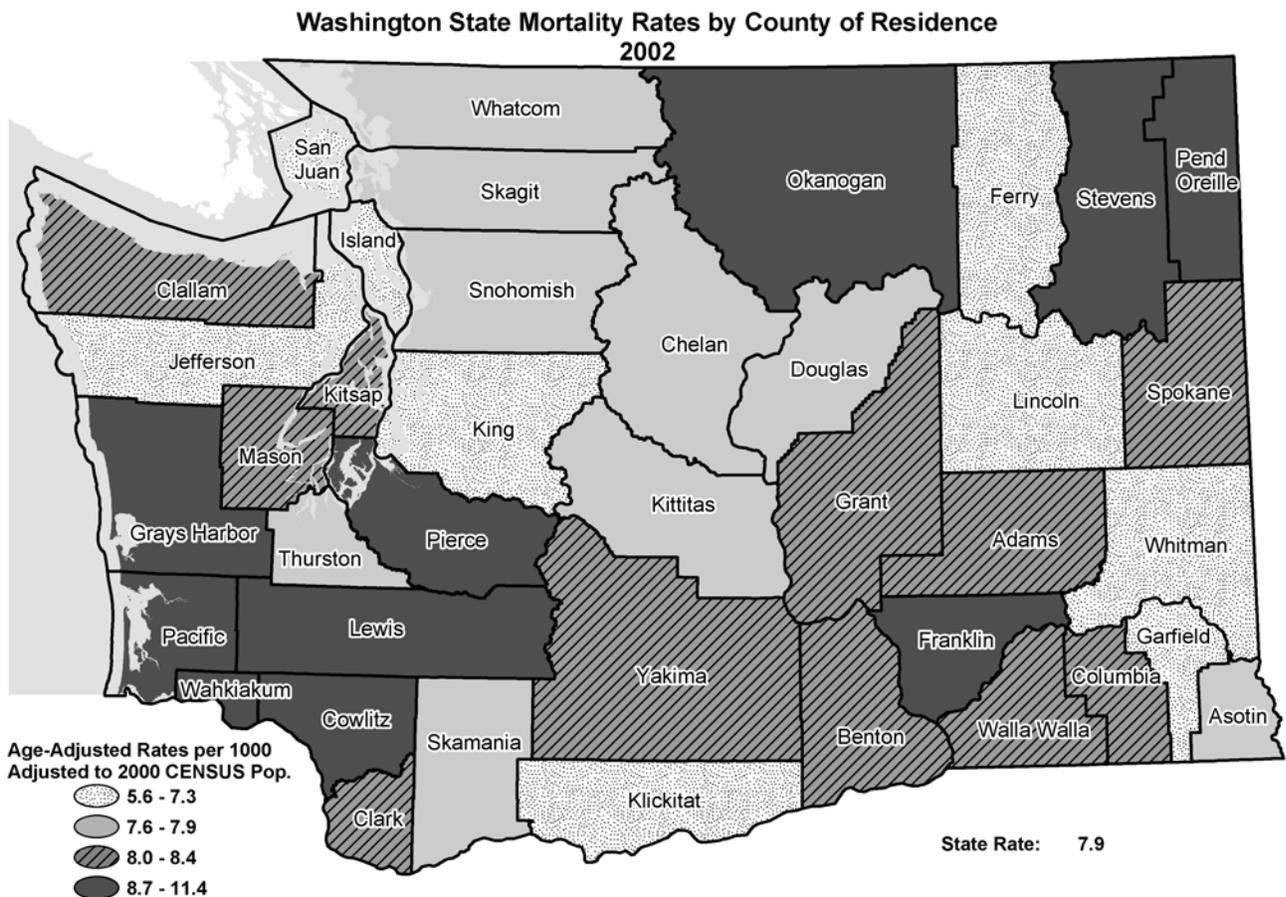
The mortality rate of 790.3 in 2002 is the lowest mortality rate ever reported in Washington State and continues an almost steady decline in mortality over time. Mortality rates for males are much higher than females. This results in life expectancies of 76.1 years for males and 80.9 for females. The differences between male and female life expectancies are decreasing over time, however. Mortality rates in Washington State are considerably lower than the U.S. as a whole.

**Mortality Figures 1 & 2**

Mortality Rates<sup>1</sup>, Washington State Residents Compared to United States 1980-2002



<sup>1</sup> Rate per 100,000 age-adjusted to U.S. 2000 Population



**Mortality Table A2. Age by Race/Ethnicity for Residents, 2002**

Age Group	Total	Race/Ethnicity									
		White	African American	Native American	Japanese	Chinese	Filipino	Other Asian	Other	Unknown	Hispanic <sup>1</sup>
<b>State Total</b>	<b>45,244</b>	<b>42,188</b>	<b>1,126</b>	<b>572</b>	<b>256</b>	<b>147</b>	<b>277</b>	<b>642</b>	<b>5</b>	<b>31</b>	<b>867</b>
Under 1	452	358	39	23	0	1	2	21	1	7	79
1-4	81	64	6	7	0	0	1	3	0	0	12
5-14	137	116	7	5	0	0	1	8	0	0	16
15-19	255	211	13	17	2	0	1	11	0	0	36
20-24	288	237	22	10	0	0	2	17	0	0	37
25-34	718	596	61	27	2	3	6	22	1	0	69
35-44	1,563	1,367	69	63	5	1	6	47	0	5	79
45-54	3,225	2,840	174	82	16	10	25	72	0	6	101
55-64	4,617	4,196	170	88	17	17	36	91	0	2	93
65-74	7,396	6,817	191	111	69	32	53	121	0	2	131
75-84	13,070	12,409	230	89	93	39	60	145	2	3	112
85-94	11,441	11,061	115	44	42	35	65	75	1	3	91
95 and over	1,999	1,916	29	6	10	9	19	9	0	1	11
Unknown	2	0	0	0	0	0	0	0	0	2	0

<sup>1</sup> Persons of Hispanic Origin may be of any race. See Appendix A, "Hispanic Origin."

**Mortality Table A3. Age by Sex for Residents, 2002**

Age Group	Total		Male	Female
	Number	Percent <sup>1</sup>		
<b>State Total</b>	<b>45,244</b>	<b>100.0</b>	<b>22,567</b>	<b>22,676</b>
Under 1	452	1.0	265	187
1 - 4	81	0.2	42	39
5 - 14	137	0.3	99	38
15 - 19	255	0.6	185	70
20 - 24	288	0.6	232	56
25 - 34	718	1.6	515	203
35 - 44	1,563	3.5	965	598
45 - 54	3,225	7.1	1,959	1,266
55 - 64	4,617	10.2	2,724	1,893
65 - 74	7,396	16.3	4,169	3,227
75 - 84	13,070	28.9	6,508	6,562
85 - 94	11,441	25.3	4,413	7,027
95 and Over	1,999	4.4	489	1,510
Unknown	2	0.0	2	0

<sup>1</sup> Percents may not add to 100% due to rounding.

**Mortality Table A4. Life Expectancy<sup>1</sup> by Age and Sex for Residents, 2002**

<b>Age Group</b>	<b>Total</b>	<b>Male</b>	<b>Female</b>
Under 1	78.6	76.1	80.9
1-5	78.0	75.6	80.3
5-10	74.1	71.7	76.4
10-15	69.1	66.8	71.4
15-20	64.2	61.8	66.5
20-25	59.4	57.1	61.6
25-30	54.6	52.4	56.7
30-35	49.8	47.7	51.8
35-40	45.0	42.9	46.9
40-45	40.3	38.3	42.1
45-50	35.6	33.7	37.4
50-55	31.1	29.3	32.8
55-60	26.7	25.0	28.3
60-65	22.6	20.9	24.0
65-70	18.7	17.1	20.0
70-75	15.1	13.7	16.2
75-80	11.9	10.6	12.8
80-85	9.1	8.0	9.8
85 and Over	6.8	5.9	7.3

<sup>1</sup> Persons of Hispanic Origin may be of any race. See Appendix A, "Hispanic Origin."

**Mortality Table A5. Marital Status by Sex for Residents, 2002**

Marital Status	Total		Male	Female
	Number	Percent <sup>1</sup>		
<b>State Total</b>	<b>45,244</b>	<b>100.0</b>	<b>22,567</b>	<b>22,676</b>
Single	4,225	9.3	2,812	1,413
Married	17,962	39.7	12,051	5,911
Divorced	6,357	14.1	3,326	3,031
Widowed	16,539	36.6	4,263	12,276
Unknown	161	0.4	115	45

<sup>1</sup> Percents may not add to 100% due to rounding.

**Mortality Table A6. Education by Age for Residents, 2002**

Age	Total	No 8th Grade or Education	Less	Some High School	High School Grad	Some College	College Grad	Postgrad Education	Unknown
<b>State Total</b>	<b>45,244</b>	<b>859</b>	<b>5,030</b>	<b>4,746</b>	<b>18,274</b>	<b>8,748</b>	<b>4,189</b>	<b>2,719</b>	<b>679</b>
Under 1	452	452	0	0	0	0	0	0	0
1-4	81	81	0	0	0	0	0	0	0
5-14	137	23	101	5	0	1	0	0	7
15-19	255	2	17	140	78	17	0	0	1
20-24	288	0	12	68	144	50	10	1	3
25-34	718	9	34	106	323	150	55	32	9
35-44	1,563	15	40	237	676	352	127	76	40
45-54	3,225	37	103	301	1,251	901	369	197	66
55-64	4,617	47	221	465	1,850	1,088	505	347	94
65-74	7,396	60	666	861	3,119	1,369	712	503	106
75-84	13,070	67	1,460	1,304	5,569	2,478	1,228	805	159
85-94	11,441	55	1,898	1,080	4,622	2,003	968	668	147
95 and over	1,999	11	478	179	642	339	215	90	45
Unknown	2	0	0	0	0	0	0	0	2



**Mortality Table A7-a. Residence and Occurrence by County and City, 2002**

County and City	Residence			Occurrence
	Total	Crude Rate <sup>1</sup>	Age-Adj Rate <sup>2</sup>	Total
<b>State Total</b>	<b>45244</b>	<b>7.5</b>	<b>7.9</b>	<b>45435</b>
Adams	118	7.1	8.4	89
Asotin	215	10.4	7.8	196
Benton	1028	7	8.2	997
Kennewick	456	8.1	.	563
Richland	308	7.7	.	326
Chelan	588	8.7	7.6	699
Wenatchee	305	10.8	.	523
Clallam	835	12.9	8.3	753
Port Angeles	241	13.1	.	441
Clark	2490	6.9	8.4	2352
Vancouver	1426	9.6	.	1969
Columbia	45	11	8	43
Cowlitz	982	10.4	9.6	1063
Longview	487	13.8	.	906
Douglas	260	7.9	7.9	180
Ferry	47	6.4	7.1	34
Franklin	316	6.2	8.9	303
Pasco	249	7.2	.	280
Garfield	23	9.6	6.3	17
Grant	561	7.3	8.2	459
Moses Lake	150	9.7	.	222
Grays Harbor	796	11.6	9.9	633
Aberdeen	191	11.8	.	339
Island	560	7.7	7.3	421
Oak Harbor	123	6.2	.	124
Jefferson	268	10.1	6.8	183
King	11571	6.5	7.1	12995
Auburn	425	9.7	.	583
Bellevue	701	6	.	1121
Bothell part	145	8.9	.	115
Burien	159	5	.	378
Des Moines	323	10.9	.	338
Federal Way	526	6.3	.	549
Kenmore	90	4.7	.	46
Kent	435	5.2	.	238
Kirkland	362	7.9	.	838
Maple Valley	49	3.3	.	49
Mercer Island	165	7.5	.	107
Redmond	257	5.6	.	268
Renton	430	8	.	678
Sammamish	82	2.4	.	41
SeaTac	124	4.9	.	74
Seattle	4751	8.3	.	6464
Shoreline	426	8	.	364
Tukwila	61	3.5	.	104
Kitsap	1766	7.5	8.3	1685
Bainbridge Island	163	7.8	.	116

**Mortality Table A7-a. Residence and Occurrence by County and City, 2002**

County and City	Residence			Occurrence
	Total	Crude Rate <sup>1</sup>	Age-Adj Rate <sup>2</sup>	Total
Bremerton	497	13.2	.	968
Kittitas	264	7.6	7.7	243
Ellensburg	114	7.2	.	195
Klickitat	154	8	7.1	103
Lewis	775	11	9	691
Centralia	290	19.3	.	488
Lincoln	109	10.7	7.3	79
Mason	470	9.4	8	379
Okanogan	410	10.3	9.5	360
Pacific	307	14.6	9.6	233
Pend Oreille	122	10.3	10	108
Pierce	5430	7.5	8.7	5442
Lakewood	476	8.1	.	476
Puyallup	367	10.5	.	898
Tacoma	1924	9.9	.	3037
University Place	210	6.9	.	149
San Juan	116	7.9	5.6	86
Skagit	948	9	7.7	959
Mount Vernon	229	8.6	.	401
Skamania	68	6.9	7.6	48
Snohomish	3992	6.4	7.9	3549
Edmonds	378	9.6	.	494
Everett	871	9.1	.	1361
Lynnwood	358	10.5	.	301
Marysville	302	10.9	.	284
Mountlake Terrace	102	5	.	32
Mukilteo	76	4.1	.	26
Spokane	3700	8.7	8.2	4254
Spokane (city)	2096	10.7	.	3872
Stevens	398	9.9	9.5	298
Thurston	1617	7.6	7.9	1675
Lacey	295	9.3	.	302
Olympia	467	10.9	.	1187
Wahkiakum	56	14.7	11.4	33
Walla Walla	561	10.1	8	598
Walla Walla (city)	331	11.2	.	462
Whatcom	1302	7.6	7.8	1318
Bellingham	714	10.3	.	1035
Whitman	221	5.4	6.9	166
Pullman	68	2.7	.	59
Yakima	1755	7.8	8.2	1711
Yakima (city)	837	10.6	.	1186

<sup>1</sup> Rate per 1,000 population.<sup>2</sup> Rate per 1,000 age-adjusted to U.S. 2000 population. Does not include deaths where age is unknown.<sup>\*</sup> Age by city population not available.

Note: Occurrence represents all deaths which occur in Washington State regardless of the decedent's residence.

Residence represents all deaths to residents of Washington State regardless of where the death occurred.

**Mortality Table A7-b. Residence and Occurrence by County Listed by Age-Adjusted Rates for 2000-2002.**

County	2000 - 2002			2002		
	Total	Crude Rate <sup>1</sup>	Age-Adj <sup>2</sup>	Total	Crude Rate <sup>1</sup>	Age-Adj <sup>2</sup>
San Juan	362	8.4	5.8	116	7.9	5.6
Jefferson	792	10.0	6.8	268	10.1	6.8
Ferry	143	6.5	7.0	47	6.4	7.1
Garfield	84	11.7	7.1	23	9.6	6.3
Whitman	687	5.6	7.2	221	5.4	6.9
King	34,655	6.6	7.2	11,571	6.5	7.1
Island	1,662	7.7	7.3	560	7.7	7.3
Chelan	1,697	8.4	7.4	588	8.7	7.6
Douglas	724	7.4	7.5	260	7.9	7.9
Asotin	612	9.9	7.6	215	10.4	7.8
Kittitas	754	7.4	7.6	264	7.6	7.7
Whatcom	3,758	7.4	7.6	1,302	7.6	7.8
Walla Walla	1,579	9.5	7.7	561	10.1	8.0
Lincoln	349	11.4	7.7	109	10.7	7.3
Skamania	203	6.8	7.7	68	6.9	7.6
Skagit	2,865	9.2	7.9	948	9.0	7.7
Clallam	2,358	12.2	7.9	835	12.9	8.3
Grant	1,607	7.1	7.9	561	7.3	8.2
<b>State Total</b>	<b>(133,711)</b>	<b>(7.5)</b>	<b>(8.0)</b>	<b>(45,244)</b>	<b>(7.5)</b>	<b>(7.9)</b>
Adams	334	6.7	8.0	118	7.1	8.4
Thurston	4,812	7.6	8.0	1,617	7.6	7.9
Snohomish	11,783	6.4	8.0	3,992	6.4	7.9
Klickitat	511	8.8	8.1	154	8.0	7.1
Benton	2,960	6.8	8.1	1,028	7.0	8.2
Yakima	5,218	7.8	8.2	1,755	7.8	8.2
Clark	7,123	6.7	8.3	2,490	6.9	8.4
Spokane	11,058	8.7	8.4	3,700	8.7	8.2
Columbia	142	11.6	8.4	45	11.0	8.0
Okanogan	1,094	9.2	8.5	410	10.3	9.5
Kitsap	5,328	7.6	8.5	1,766	7.5	8.3
Mason	1,506	10.1	8.6	470	9.4	8.0
Stevens	1,095	9.1	8.7	398	9.9	9.5
Pierce	15,990	7.5	8.8	5,430	7.5	8.7
Franklin	922	6.1	8.9	316	6.2	8.9
Lewis	2,267	10.9	9.0	775	11.0	9.0
Pend Oreille	342	9.7	9.2	122	10.3	10.0
Cowlitz	2,800	10.0	9.2	982	10.4	9.6
Pacific Grays Harbor	933	14.8	9.6	307	14.6	9.6
Wahkiakum	2,447	12.0	10.2	796	11.6	9.9
Wahkiakum	155	13.6	10.3	56	14.7	11.4

<sup>1</sup>Rate per 1,000 population.

<sup>2</sup>Rate per 1,000 age-adjusted to U.S. 2000 population. Does not include deaths where age is unknown.

Note: Mean 2000-2002 age-adjusted rate is 8.0; Median 2000-2002 age-adjusted rate is 8.0. State Total is not included in calculation of mean and median.



**Mortality Table A8. Sex and Race/Ethnicity by County/City of Residence, 2002**

County & City	Total	Male	Female	White	African Amer.	Native Amer.	Japa- nese	Chi- nese	Fili- pino	Other Asian	Other	Unk	His- panic <sup>1</sup>
<b>State Total</b>	<b>45,244</b>	<b>22,567</b>	<b>22,676</b>	<b>42,188</b>	<b>1,126</b>	<b>572</b>	<b>256</b>	<b>147</b>	<b>277</b>	<b>642</b>	<b>5</b>	<b>31</b>	<b>867</b>
Adams	118	64	54	115	1	1	1	0	0	0	0	0	25
Asotin	215	92	123	214	0	1	0	0	0	0	0	0	1
Benton	1,028	525	503	1,012	6	2	0	0	1	7	0	0	31
Kennewick	456	215	241	449	3	1	0	0	0	3	0	0	8
Richland	308	150	158	301	2	1	0	0	1	3	0	0	3
Chelan	588	296	292	583	2	2	0	0	0	0	0	1	11
Wenatchee	305	150	155	304	0	1	0	0	0	0	0	0	6
Clallam	835	427	408	800	3	23	1	0	3	5	0	0	7
Port Angeles	241	123	118	233	2	4	0	0	0	2	0	0	3
Clark	2,490	1,225	1,265	2,409	30	13	5	2	3	26	1	1	26
Vancouver	1,426	680	746	1,365	21	9	4	2	2	21	1	1	17
Columbia	45	22	23	44	0	1	0	0	0	0	0	0	2
Cowlitz	982	481	501	970	3	7	1	0	0	1	0	0	6
Longview	487	227	260	478	3	5	0	0	0	1	0	0	4
Douglas	260	126	134	258	0	1	0	0	0	1	0	0	13
Ferry	47	25	22	42	0	5	0	0	0	0	0	0	0
Franklin	316	155	161	293	17	1	0	0	0	5	0	0	35
Pasco	249	118	131	226	17	1	0	0	0	5	0	0	33
Garfield	23	9	14	23	0	0	0	0	0	0	0	0	0
Grant	561	306	255	540	13	3	5	0	0	0	0	0	34
Moses Lake	150	79	71	138	10	0	2	0	0	0	0	0	10
Grays Harbor	796	433	363	758	2	27	1	0	3	4	0	1	9
Aberdeen	191	96	95	182	0	4	0	0	1	3	0	1	3
Island	560	298	262	540	5	4	2	0	3	5	0	1	5
Oak Harbor	123	67	56	113	3	2	1	0	2	2	0	0	1
Jefferson	268	154	114	261	0	5	0	0	0	0	0	2	3
King	11,571	5,632	5,938	10,016	639	109	152	122	170	345	3	15	205
Auburn	425	191	234	398	8	10	2	1	2	4	0	0	3
Bellevue	701	319	382	634	8	4	14	11	5	25	0	0	6
Bothell part	145	73	72	139	2	0	1	0	1	0	1	1	1
Burien	159	68	91	146	6	0	0	1	4	2	0	0	3
Des Moines	323	135	188	300	14	2	0	0	2	5	0	0	5
Federal Way	526	278	248	428	52	5	4	2	5	29	1	0	12
Kenmore	90	52	38	86	1	0	0	1	1	1	0	0	2
Kent	435	238	197	382	23	4	2	3	4	16	0	1	11
Kirkland	362	160	202	342	4	0	3	1	4	8	0	0	1
Maple Valley	49	31	18	49	0	0	0	0	0	0	0	0	0
Mercer Island	165	80	85	155	3	0	2	5	0	0	0	0	1
Redmond	257	119	138	239	7	0	3	2	2	4	0	0	4
Renton	430	205	225	364	27	2	6	5	10	15	0	1	7
Sammamish	82	31	51	76	1	0	1	2	0	2	0	0	3
SeaTac	124	57	67	113	1	3	1	1	1	4	0	0	7
Seattle	4,751	2,322	2,428	3,781	447	61	97	72	105	175	1	12	102
Shoreline	426	212	214	394	2	1	3	1	12	13	0	0	4
Tukwila	61	46	15	51	4	0	2	1	0	3	0	0	3
Kitsap	1,766	864	902	1,687	21	11	10	2	13	21	0	1	21
Bainbridge Island	163	77	86	157	1	1	4	0	0	0	0	0	0

**Mortality Table A8. (Continued) Sex and Race/Ethnicity by County/City of Residence, 2002**

County & City	Total	Male	Female	White	Other								Hispanic <sup>1</sup>
					African Amer.	Native Amer.	Japa-nese	Chi-nese	Fili-pino	Asian	Other	Unk	
Bremerton	497	235	262	464	14	0	1	2	4	12	0	0	6
Kittitas	264	138	126	258	1	4	1	0	0	0	0	0	1
Ellensburg	114	57	57	111	1	2	0	0	0	0	0	0	0
Klickitat	154	91	63	144	1	8	0	0	1	0	0	0	2
Lewis	775	392	383	767	1	6	0	1	0	0	0	0	5
Centralia	290	126	164	287	0	2	0	1	0	0	0	0	1
Lincoln	109	66	43	108	0	1	0	0	0	0	0	0	0
Mason	470	242	228	455	3	8	1	1	1	1	0	0	4
Okanogan	410	230	180	367	1	42	0	0	0	0	0	0	8
Pacific	307	159	148	303	0	3	0	0	1	0	0	0	3
Pend Oreille	122	63	59	118	0	3	0	1	0	0	0	0	1
Pierce	5,430	2,746	2,684	4,916	254	49	42	3	47	117	0	2	71
Lakewood	476	246	230	393	34	8	9	0	13	19	0	0	11
Puyallup	367	173	194	358	4	1	0	0	2	2	0	0	9
Tacoma	1,924	930	994	1,659	152	24	13	1	14	60	0	1	29
University Place	210	96	114	195	8	2	1	0	2	2	0	0	2
San Juan	116	58	58	116	0	0	0	0	0	0	0	0	1
Skagit	948	464	484	932	2	9	2	0	1	2	0	0	24
Mount Vernon	229	112	117	228	1	0	0	0	0	0	0	0	12
Skamania	68	33	35	67	0	0	0	0	0	1	0	0	1
Snohomish	3,992	1,973	2,019	3,819	31	44	13	8	19	53	0	5	41
Edmonds	378	179	199	368	1	0	1	2	4	2	0	0	3
Everett	871	389	482	831	11	6	2	1	3	15	0	2	16
Lynnwood	358	166	192	320	5	5	2	1	7	18	0	0	3
Marysville	302	148	154	288	3	5	3	0	0	2	0	1	3
Mountlake Terrace	102	50	52	93	3	1	0	1	1	3	0	0	2
Mukilteo	76	41	35	70	1	0	0	1	0	3	0	1	1
Spokane	3,700	1,800	1,900	3,588	42	42	9	3	3	12	1	0	18
Spokane (city)	2,096	1,001	1,095	2,026	30	23	8	2	1	6	0	0	12
Stevens	398	201	197	372	2	24	0	0	0	0	0	0	3
Thurston	1,617	795	822	1,553	17	16	2	0	4	24	0	1	25
Lacey	295	142	153	284	5	0	1	0	0	5	0	0	6
Olympia	467	229	238	446	8	4	1	0	1	7	0	0	7
Wahkiakum	56	33	23	55	0	1	0	0	0	0	0	0	0
Walla Walla	561	263	298	554	4	0	1	0	0	2	0	0	18
Walla Walla (city)	331	157	174	325	3	0	1	0	0	2	0	0	15
Whatcom	1,302	671	631	1,249	7	31	2	3	1	8	0	1	14
Bellingham	714	338	376	697	6	5	0	1	0	5	0	0	8
Whitman	221	113	108	219	0	1	0	1	0	0	0	0	0
Pullman	68	31	37	67	0	0	0	1	0	0	0	0	0
Yakima	1,755	902	853	1,663	18	64	5	0	3	2	0	0	193
Yakima (city)	837	400	437	815	12	8	1	0	0	1	0	0	59

<sup>1</sup> Persons of Hispanic Origin may be of any race. See Appendix A, "Hispanic Origin."

**Mortality Table A9. Age Group by County of Residence, 2002**

County	Total	< 1	1-4	5-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85 and Over	Age Unk
<b>State Total</b>	<b>45,244</b>	<b>452</b>	<b>81</b>	<b>137</b>	<b>255</b>	<b>288</b>	<b>718</b>	<b>1,563</b>	<b>3,225</b>	<b>4,617</b>	<b>7,396</b>	<b>13,070</b>	<b>13,440</b>	<b>2</b>
Adams	118	3	0	1	3	1	0	3	9	8	18	40	32	0
Asotin	215	1	0	0	1	0	2	6	10	18	42	66	69	0
Benton	1,028	13	5	1	3	6	11	45	61	103	222	316	242	0
Chelan	588	3	1	2	2	3	9	20	24	53	104	160	206	1
Clallam	835	3	0	1	5	3	6	17	53	74	135	254	284	0
Clark	2,490	24	2	5	14	15	43	102	191	301	387	721	685	0
Columbia	45	0	0	0	0	1	1	1	2	4	8	16	12	0
Cowlitz	982	9	0	4	4	4	12	32	69	95	172	311	270	0
Douglas	260	2	0	0	4	2	8	4	20	19	51	71	79	0
Ferry	47	0	0	0	0	0	0	2	5	8	6	13	13	0
Franklin	316	6	2	4	3	5	12	5	23	29	52	87	88	0
Garfield	23	1	0	0	0	0	0	0	0	2	3	8	9	0
Grant	561	7	1	5	5	3	7	14	38	47	110	179	145	0
Grays Harbor	796	5	3	0	5	4	15	23	56	95	149	235	206	0
Island	560	8	2	1	3	4	8	16	20	36	103	191	168	0
Jefferson	268	1	0	0	1	0	1	8	10	25	46	93	83	0
King	11,571	99	11	31	55	62	211	433	913	1,081	1,739	3,290	3,646	0
Kitsap	1,766	20	3	8	6	9	26	53	102	173	281	523	562	0
Kittitas	264	0	2	0	1	3	4	4	13	21	41	76	99	0
Klickitat	154	2	0	0	2	0	1	1	15	20	32	38	43	0
Lewis	775	6	1	0	5	10	13	23	35	87	133	227	235	0
Lincoln	109	1	0	0	0	0	0	4	12	12	21	23	36	0
Mason	470	2	0	3	2	5	5	13	28	59	97	135	121	0
Okanogan	410	2	2	1	3	5	8	21	36	36	75	96	125	0
Pacific	307	3	0	0	4	0	4	6	20	33	63	95	79	0
Pend Oreille	122	1	0	0	0	1	3	0	15	10	34	25	33	0
Pierce	5,430	77	9	30	33	42	88	202	446	659	933	1,515	1,396	0
San Juan	116	0	0	0	0	2	1	1	4	13	21	32	42	0
Skagit	948	6	1	2	4	9	10	31	52	75	139	309	310	0
Skamania	68	1	0	1	2	1	3	4	6	10	13	12	15	0
Snohomish	3,992	45	14	14	29	30	59	166	329	444	606	1,146	1,109	1
Spokane	3,700	43	7	5	14	25	48	125	233	373	551	1,064	1,212	0
Stevens	398	3	2	2	7	4	5	10	21	44	92	113	95	0
Thurston	1,617	16	6	3	10	7	20	53	106	189	269	489	449	0
Wahkiakum	56	1	0	0	0	0	1	2	4	2	17	19	10	0
Walla Walla	561	7	1	0	0	2	7	14	31	35	79	175	210	0
Whatcom	1,302	8	3	3	7	4	24	38	77	131	207	375	425	0
Whitman	221	2	0	1	0	0	2	3	11	20	33	64	85	0
Yakima	1,755	21	3	9	18	16	40	58	125	173	312	468	512	0

**Mortality Table A10. Month of Death by County of Residence, 2002**

County	Total	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>State Total</b>	<b>45,244</b>	<b>4,042</b>	<b>3,832</b>	<b>4,228</b>	<b>3,790</b>	<b>3,772</b>	<b>3,450</b>	<b>3,555</b>	<b>3,651</b>	<b>3,508</b>	<b>3,721</b>	<b>3,775</b>	<b>3,920</b>
Adams	118	7	11	14	11	6	10	16	10	6	9	12	6
Asotin	215	16	15	28	19	13	12	23	15	21	19	12	22
Benton	1,028	84	89	117	86	82	74	77	85	79	84	86	85
Chelan	588	62	51	48	49	53	42	33	57	41	48	51	53
Clallam	835	70	66	74	66	74	67	65	71	76	66	74	66
Clark	2,490	210	205	239	204	214	177	173	227	201	217	208	215
Columbia	45	4	1	2	6	5	4	6	1	1	4	6	5
Cowlitz	982	77	94	90	80	88	66	73	82	72	88	76	96
Douglas	260	24	28	19	15	24	16	18	24	22	21	21	28
Ferry	47	6	3	3	3	7	4	3	5		7	1	5
Franklin	316	29	35	22	30	23	29	30	22	27	22	24	23
Garfield	23	2	6	2	2	3		3	3	1		1	
Grant	561	40	43	46	48	46	41	47	44	50	50	59	47
Grays Harbor	796	79	79	69	70	54	65	59	65	59	62	65	70
Island	560	43	50	55	55	47	41	50	43	31	48	42	55
Jefferson	268	21	25	23	26	16	18	22	22	23	24	25	23
King	11,571	1,092	965	1,053	1,004	916	890	949	889	923	964	949	977
Kitsap	1,766	153	148	163	149	153	137	136	125	157	150	150	145
Kittitas	264	17	24	41	15	22	18	25	14	14	31	28	15
Klickitat	154	7	12	15	14	16	15	20	14	10	13	9	9
Lewis	775	79	87	75	79	69	52	44	50	51	61	66	62
Lincoln	109	13	5	12	8	14	5	6	9	7	11	9	10
Mason	470	47	49	45	45	35	26	43	46	37	37	28	32
Okanogan	410	27	34	36	33	39	30	39	35	25	33	36	43
Pacific	307	37	24	29	18	25	25	27	23	22	23	26	28
Pend Oreille	122	13	10	10	9	10	9	4	13	10	12	15	7
Pierce	5,430	472	505	512	440	455	447	400	436	402	439	468	454
San Juan	116	12	5	13	13	9	6	7	14	7	9	9	12
Skagit	948	83	77	80	90	78	77	76	71	68	83	69	96
Skamania	68	9	5	7	8	8	5	5	4	3	5	6	3
Snohomish	3,992	360	315	376	326	345	324	299	341	279	305	366	356
Spokane	3,700	333	302	368	316	313	275	278	310	304	294	270	337
Stevens	398	42	30	37	24	30	28	35	34	35	37	32	34
Thurston	1,617	145	108	155	129	141	122	138	139	127	124	156	133
Wahkiakum	56	2	1	6	8	10	1	3	7	4	5	4	5
Walla Walla	561	49	49	60	29	54	34	50	44	37	40	53	62
Whatcom	1,302	96	106	119	99	104	102	110	108	112	105	116	125
Whitman	221	22	17	19	20	16	18	11	18	18	19	17	26
Yakima	1,755	158	153	146	144	155	138	152	131	146	152	130	150

**Mortality Table A11. Place Where Death Occurred by County of Occurrence, 2002**

County	Total	General Hospital	Nursing Home	Home	Federal Facility	Psychiatric Hospital	State Facility	Dead on Arrival	Other and Unk
<b>State Total</b>	<b>45,435</b>	<b>15,735</b>	<b>13,231</b>	<b>13,066</b>	<b>512</b>	<b>47</b>	<b>4</b>	<b>38</b>	<b>2,802</b>
Adams	89	35	28	16	0	0	0	0	10
Asotin	196	65	69	56	0	0	0	1	5
Benton	997	590	108	257	0	0	0	0	42
Chelan	699	336	183	153	0	0	0	2	25
Clallam	753	195	235	287	0	0	0	2	34
Clark	2,352	562	561	970	1	0	0	0	258
Columbia	43	13	14	15	0	0	0	0	1
Cowlitz	1,063	611	209	195	0	0	0	0	48
Douglas	180	0	84	76	0	0	0	0	20
Ferry	34	12	2	11	0	0	0	0	9
Franklin	303	117	81	87	0	0	0	1	17
Garfield	17	2	10	3	0	0	0	0	2
Grant	459	189	102	127	0	0	0	3	38
Grays Harbor	633	224	183	179	0	0	0	3	44
Island	421	79	121	174	1	0	0	2	44
Jefferson	183	41	54	71	0	0	0	0	17
King	12,995	5,037	3,737	3,205	216	0	0	11	789
Kitsap	1,685	540	583	470	16	0	0	2	74
Kittitas	243	47	69	101	0	0	0	0	26
Klickitat	103	36	0	51	0	0	0	0	16
Lewis	691	212	231	192	0	0	0	2	54
Lincoln	79	25	27	23	0	0	0	0	4
Mason	379	62	116	158	0	0	1	0	42
Okanogan	360	116	103	120	0	0	0	0	21
Pacific	233	75	54	82	0	0	0	0	22
Pend Oreille	108	31	30	36	0	0	0	0	11
Pierce	5,442	1,764	1,656	1,510	195	23	0	1	293
San Juan	86	0	28	45	0	0	0	0	13
Skagit	959	274	311	285	0	0	0	1	88
Skamania	48	0	0	29	0	0	0	0	19
Snohomish	3,549	922	1,203	1,184	0	0	0	1	239
Spokane	4,254	1,703	1,222	1,074	60	24	0	0	171
Stevens	298	90	72	113	0	0	0	1	22
Thurston	1,675	491	515	571	0	0	0	5	93
Wahkiakum	33	0	10	20	0	0	0	0	3
Walla Walla	598	198	211	135	23	0	1	0	30
Whatcom	1,318	347	457	450	0	0	0	0	64
Whitman	166	46	60	53	0	0	0	0	7
Yakima	1,711	648	492	482	0	0	2	0	87

## B. Autopsy and Disposition

Death certificates collect information on whether or not an autopsy was performed and also collect information on the type of disposition. The use of an autopsy provides information about the quality of cause-of-death information on death certificates.

**Mortality Table B1. Percent Autopsy and Cremation for Residents, 1993-2002**

<b>Year</b>	<b>Percent Autopsy</b>	<b>Percent Cremation</b>
1993	10.9	46.4
1994	11.4	49.4
1995	11.1	50.5
1996	10.7	52.0
1997	10.1	53.8
1998	10.0	55.0
1999	10.1	56.1
2000	9.9	57.6
2001	9.7	59.5
2002	9.8	60.6

The percent of deaths with an autopsy has steadily decreased since 1990. Rates of autopsy vary by age and by manner of death. Table B2 provides more detailed information on autopsies for 2002. The percent of total deaths with cremation as a disposition type has increased substantially since 1990.

**Mortality Table B2. Autopsy by Age and Manner of Death for Residents, 2002**

Age Group	Total Deaths			Natural or Disease			External Causes (e.g., Accident, Suicide, Homicide, etc.)		
	Total	Autopsy	Percent <sup>1</sup>	Total	Autopsy	Percent <sup>1</sup>	Total	Autopsy	Percent <sup>1</sup>
<b>State Total</b>	<b>45,244</b>	<b>4,437</b>	<b>9.8</b>	<b>41,902</b>	<b>2,210</b>	<b>5.3</b>	<b>3,342</b>	<b>2,227</b>	<b>66.6</b>
Under 1	452	178	39.4	428	154	36.0	24	24	100.0
1-4	81	58	71.6	33	16	48.5	48	42	87.5
5-14	137	76	55.5	74	24	32.4	63	52	82.5
15-19	255	169	66.3	61	23	37.7	194	146	75.3
20-24	288	200	69.4	63	17	27.0	225	183	81.3
25-34	718	438	61.0	293	94	32.1	425	344	80.9
35-44	1,563	790	50.5	939	280	29.8	624	510	81.7
45-54	3,225	961	29.8	2,664	528	19.8	561	433	77.2
55-64	4,617	627	13.6	4,326	430	9.9	291	197	67.7
65-74	7,396	415	5.6	7,170	291	4.1	226	124	54.9
75-84	13,070	354	2.7	12,744	236	1.9	326	118	36.2
85 and over	13,440	169	1.3	13,106	116	0.9	334	53	15.9
Unknown	0	0	0.0	0	0	0.0	0	0	0.0

<sup>1</sup> Percents may not add to 100% due to rounding.

Note: Source for manner of death is the International Classification of Diseases (Tenth Revision):  
 Natural or Disease (A00-R99); External Causes (V00-Y99).

**Mortality Table B3. Type of Disposition by County of Residence, 2002**

County	Total	Burial	Cremation	Removal	Medical Research	Body Not Recovered	Unknown
<b>State Total</b>	<b>45,244</b>	<b>16,229</b>	<b>27,425</b>	<b>1,384</b>	<b>172</b>	<b>6</b>	<b>28</b>
Adams	118	73	44	1	0	0	0
Asotin	215	69	78	68	0	0	0
Benton	1,028	413	559	54	1	0	1
Chelan	588	251	326	11	0	0	0
Clallam	835	196	625	12	1	0	1
Clark	2,490	926	1,429	123	9	0	3
Columbia	45	11	33	1	0	0	0
Cowlitz	982	366	596	20	0	0	0
Douglas	260	118	134	8	0	0	0
Ferry	47	23	23	1	0	0	0
Franklin	316	136	161	18	1	0	0
Garfield	23	14	7	2	0	0	0
Grant	561	227	324	9	1	0	0
Grays Harbor	796	256	524	14	2	0	0
Island	560	123	413	21	1	0	2
Jefferson	268	48	207	11	2	0	0
King	11,571	3,739	7,382	371	70	1	8
Kitsap	1,766	503	1,198	50	12	0	3
Kittitas	264	97	165	1	1	0	0
Klickitat	154	55	77	22	0	0	0
Lewis	775	334	422	16	2	0	1
Lincoln	109	58	51	0	0	0	0
Mason	470	122	336	8	4	0	0
Okanogan	410	180	220	10	0	0	0
Pacific	307	95	201	11	0	0	0
Pend Oreille	122	45	74	3	0	0	0
Pierce	5,430	2,127	3,113	167	18	2	3
San Juan	116	15	98	3	0	0	0
Skagit	948	326	599	15	6	0	2
Skamania	68	20	39	9	0	0	0
Snohomish	3,992	1,335	2,528	101	24	2	2
Spokane	3,700	1,429	2,167	100	4	0	0
Stevens	398	157	235	6	0	0	0
Thurston	1,617	496	1,068	43	7	1	2
Wahkiakum	56	16	35	5	0	0	0
Walla Walla	561	259	295	5	2	0	0
Whatcom	1,302	491	792	16	3	0	0
Whitman	221	95	114	12	0	0	0
Yakima	1,755	985	733	36	1	0	0

## C. Leading Causes of Death, Overview, and Selected Causes of Death

Leading causes of death are used to determine the relative ranking of specific causes of death. The rankings depend on how causes of death are categorized into groups. Leading causes of death for this report follow the guidelines established by the National Center for Health Statistics. See the first part of Appendix A for more information about how changes in the classification of diseases (from ICD-9 to ICD-10) affects trends.

**Mortality Table C1. Age-Adjusted Rates<sup>1</sup> for 10 Leading Causes of Death for Residents, 1993-2002**

Year	Heart Disease	Cancer	Strokes	COPD	Unintentional or Accident	Alzheimer's	Diabetes	Flu & Pneumonia	Intentional or Suicide	Liver Disease
1993	264.9	212.4	72.6	48.6	32.5	10.2	20.9	36.6	13.5	9.6
1994	242.1	205.2	69.1	48.2	33.0	11.3	21.4	33.1	14.5	9.6
1995	239.4	205.0	70.5	45.2	34.2	10.8	22.2	33.4	14.6	8.8
1996	241.4	202.9	73.0	45.8	34.8	11.5	23.9	34.3	14.2	9.2
1997	221.2	196.6	67.6	46.5	34.0	11.6	21.8	33.0	13.0	9.6
1998	222.0	196.0	66.3	46.5	33.9	11.9	23.2	33.5	12.3	8.5
*1998 Comparability Modified*										
	218.9	197.3	70.2	48.7	34.9	18.6	23.4	23.4	12.2	8.8
1999	216.4	198.9	70.2	51.4	33.5	30.0	24.5	23.8	14.2	9.5
2000	209.3	195.6	68.6	49.3	35.5	33.4	24.5	18.6	12.4	8.7
2001	202.1	194.0	67.8	48.2	35.1	37.0	25.3	17.2	11.9	9.8
2002	194.8	190.6	66.1	48.5	36.5	39.2	26.4	15.8	13.4	8.9

<sup>1</sup>Rate per 100,000 age-adjusted to U.S. 2000 population.

Note:

Causes of death were coded with International Classification of Diseases, Ninth Revision (ICD-9) in 1990-1998 and with the Tenth Revision (ICD-10) during 1999-2000. Rates during 1998 have been multiplied by a comparability ratio (CR).

ICD codes and comparability ratios are:

Heart Disease: ICD-9: 390-398,402,404,410-429; ICD-10: I00-I09,I11,I13,I20-I51; CR=0.9858

Cancer: ICD-9: 140-208; ICD-10: C00-C97; CR=1.0068

Strokes or Cerebrovascular Disease: ICD-9: 430-434,436-438; ICD-10: I60-I69; CR=1.0588

COPD or Chronic Lower Respiratory Disease: ICD-9: 490-494,496; ICD-10: J40-J47; CR=1.0478

Unintentional Injury or Accident: ICD-9: E800-E869,E880-E929; ICD-10: V01-X59,Y85-Y86; CR=1.0305

Alzheimer's Disease: ICD-9: 331.0; ICD-10: G30; CR=1.5536

Diabetes Mellitus: ICD-9: 250; ICD-10: E10-E14; CR=1.0082

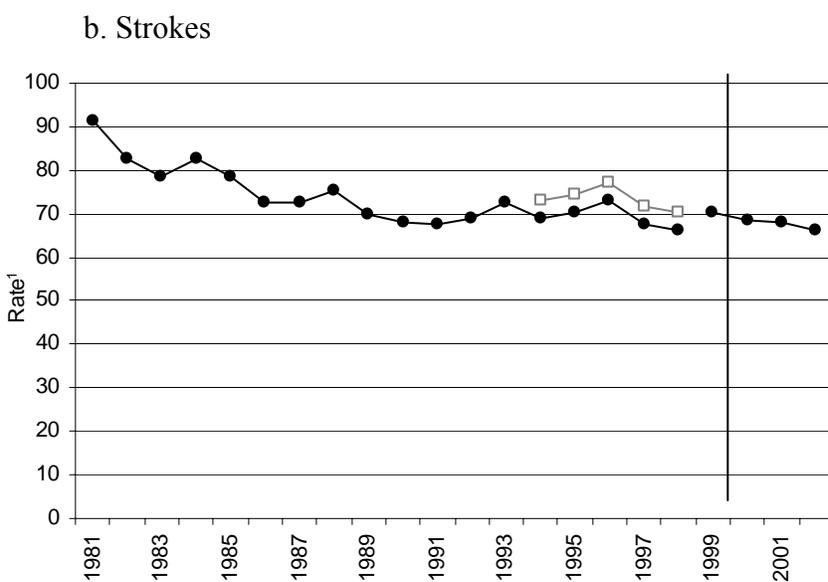
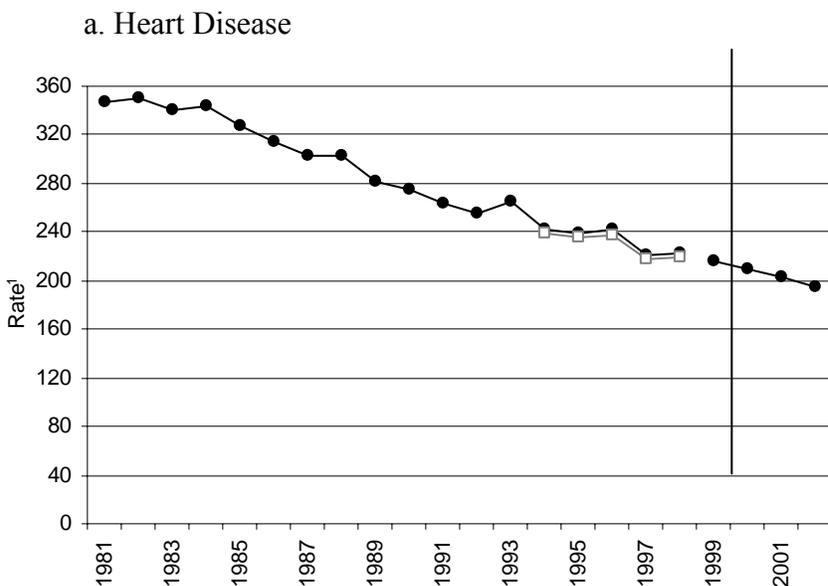
Influenza and Pneumonia: ICD-9: 480-487; ICD-10: J10-J18; CR=0.6982

Intentional or Suicide: ICD-9: E950-E959; ICD-10: X60-X84,Y87.0; CR=0.9962

Chronic Liver Disease: ICD-9: 571; ICD-10: K70,K73-K74; CR=1.0367

The ten leading causes of death accounted for 80.9% of all deaths to residents of Washington State in 2002. Heart disease and cancer alone account for 48.5% of all deaths. Alzheimer's disease and heart disease have the largest changes over time with heart disease decreasing and Alzheimer's disease increasing. There have been smaller increases in mortality due to diabetes during the last decade.

**Mortality Figure 3. Mortality Rates for Residents, 1980-2002**



<sup>1</sup> Rate per 100,000 age-adjusted to U.S. 2000 population.

- Unmodified Rates
- Comparability-Modified Rates

Note:

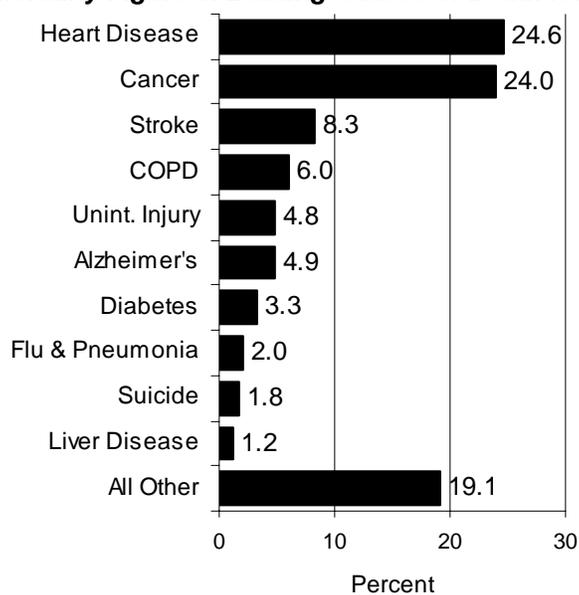
Causes of death were coded with ICD-9 in 1990-1998 and with ICD-10 in 1999-2001. Rates for years 1994-1998 have been multiplied by a comparability ratio (CR). ICD codes and comparability ratios are:  
 Heart Disease: ICD-9: 390-398,402,404,410-429; ICD-10: I00-I09,I11,I13,I20-I51; CR=0.9858  
 Strokes: ICD-9: 430-434,436-438; ICD-10: I60-I69; CR=1.0588

**Mortality Table C2. Leading Causes of Death for Residents, 2002**

Rank	Causes of Death and ICD-10 Codes	Number	Percent <sup>1</sup>	Cumulative Percent
	<b>All Causes</b>	<b>45,244</b>	<b>100.0</b>	
1	Diseases of the Heart (I00-I09,I11,I13,I20-I51)	11,117	24.6	24.6
2	Malignant Neoplasms (C00-C97)	10,846	24.0	48.5
3	Cerebrovascular Diseases (I60-I69)	3,757	8.3	56.8
4	Chronic Lower Respiratory Diseases (J40-J47)	2,720	6.0	62.9
5	Alzheimer's Disease (G30)	2,238	4.9	67.8
6	Unintentional Injury (Accident) (V01-X59,Y85-Y86)	2,182	4.8	72.6
7	Diabetes Mellitus (E10-E14)	1,501	3.3	75.9
8	Influenza and Pneumonia (J10-J18)	907	2.0	78.0
9	Intentional Self-Harm (Suicide) (X60-X84,Y87.0)	811	1.8	79.7
10	Chronic Liver Disease & Cirrhosis (K70,K73-K74)	527	1.2	80.9
	All Other Causes	8,638	19.1	100.0

<sup>1</sup> Percents may not add to 100% due to rounding.

**Mortality Figure 4. Leading Causes of Death for Residents, 2002**





**Mortality Table C3. Leading Causes by Age Group and Sex for Residents, 2002**

Age Group with Causes and ICD-10 Codes	Total			Male			Female		
	No.	Rate <sup>1</sup>	Pct <sup>2</sup>	No.	Rate <sup>1</sup>	Pct <sup>2</sup>	No.	Rate <sup>1</sup>	Pct <sup>2</sup>
<b>All Ages</b>									
All Causes	45,244	748.9	100.0	22,567	750.0	100.0	22,676	747.7	100.0
Diseases of the Heart (I00-I09,I11,I13,I20-I51)	11,117	184.0	24.6	5,793	192.5	25.7	5,324	175.5	23.5
Malignant Neoplasms (C00-C97)	10,846	179.5	24.0	5,575	185.3	24.7	5,270	173.8	23.2
Cerebrovascular Diseases (I60-I69)	3,757	62.2	8.3	1,459	48.5	6.5	2,298	75.8	10.1
Chronic Lower Respiratory Diseases (J40-J47)	2,720	45.0	6.0	1,291	42.9	5.7	1,429	47.1	6.3
Alzheimer's Disease (G30)	2,238	37.0	4.9	677	22.5	3.0	1,561	51.5	6.9
Unintentional Injury (Accident) (V01-X59,Y85-Y86)	2,182	36.1	4.8	1,445	48.0	6.4	737	24.3	3.3
Diabetes Mellitus (E10-E14)	1,501	24.8	3.3	741	24.6	3.3	760	25.1	3.4
Influenza and Pneumonia (J10-J18)	907	15.0	2.0	393	13.1	1.7	514	16.9	2.3
Intentional Self-Harm (Suicide)(X60-X84,Y87.0)	811	13.4	1.8	642	21.3	2.8	169	5.6	0.7
Chronic Liver Disease & Cirrhosis (K70,K73-K74)	527	8.7	1.2	331	11.0	1.5	196	6.5	0.9
All Other Causes	8,638	143.0	19.1	4,220	140.3	18.7	4,418	145.7	19.5
<b>Under 1</b>									
All Causes	452	572.1	100.0	265	655.0	100.0	187	485.1	100.0
Congenital Malformations (Q00-Q99)	105	132.9	23.2	59	145.8	22.3	46	119.3	24.6
Sudden Infant Death Syndrome (R95)	70	88.6	15.5	45	111.2	17.0	25	64.9	13.4
Short Gestation & Low Birth Weight (P07)	68	86.1	15.0	40	98.9	15.1	28	72.6	15.0
Maternal Complications of Pregnancy (P01)	24	30.4	5.3	11	27.2	4.2	13	33.7	7.0
Unintentional Injury (Accident) (V01-X59,Y85-Y86)	18	22.8	4.0	9	22.2	3.4	9	23.3	4.8
All Other Causes	167	211.4	36.9	101	249.7	38.1	66	171.2	35.3
<b>1-4</b>									
All Causes	81	25.3	100.0	42	25.6	100.0	39	25.0	100.0
Unintentional Injury (Accident) (V01-X59,Y85-Y86)	42	13.1	51.9	21	12.8	50.0	21	13.4	53.8
Congenital Anomalies (Q00-Q99)	7	2.2	8.6	4	.	9.5	3	.	7.7
Malignant Neoplasms (C00-C97)	7	2.2	8.6	3	.	7.1	4	.	10.3
Assault (Homicide) (X85-Y09,Y87.1)	6	1.9	7.4	3	.	7.1	3	.	7.7
Conditions Originating in Perinatal Period (P00-P96)	1	.	1.2	.	.	.	1	.	2.6
All Other Causes	18	5.6	22.2	.	.	.	7	4.5	17.9
<b>5-14</b>									
All Causes	137	15.9	100.0	99	22.4	100.0	38	9.1	100.0
Unintentional Injury (Accident) (V01-X59,Y85-Y86)	44	5.1	32.1	36	8.2	36.4	8	1.9	21.1
Malignant Neoplasms (C00-C97)	32	3.7	23.4	23	5.2	23.2	9	2.1	23.7
Assault (Homicide) (X85-Y09,Y87.1)	10	1.2	7.3	8	1.8	8.1	2	.	5.3
Congenital Anomalies (Q00-Q99)	10	1.2	7.3	7	1.6	7.1	3	.	7.9
Intentional Self-Harm (Suicide)(X60-X84,Y87.0)	8	0.9	5.8	6	1.4	6.1	2	.	5.3
All Other Causes	33	3.8	24.1	19	4.3	19.2	14	3.3	36.8
<b>15 - 19</b>									
All Causes	255	58.2	100.0	185	82.2	100.0	70	32.9	100.0
Unintentional Injury (Accident) (V01-X59,Y85-Y86)	129	29.5	50.6	95	42.2	51.4	34	16.0	48.6
Intentional Self-Harm (Suicide)(X60-X84,Y87.0)	38	8.7	14.9	30	13.3	16.2	8	3.8	11.4
Assault (Homicide) (X85-Y09,Y87.1)	20	4.6	7.8	18	8.0	9.7	2	.	2.9
Malignant Neoplasms (C00-C97)	20	4.6	7.8	12	5.3	6.5	8	3.8	11.4
Diseases of the Heart (I00-I09,I11,I13,I20-I51)	7	1.6	2.7	7	3.1	3.8	.	.	.
All Other Causes	41	9.4	16.1	23	10.2	12.4	.	.	.
<b>20 - 24</b>									
All Causes	288	69.1	100.0	232	108.4	100.0	56	27.6	100.0
Unintentional Injury (Accident) (V01-X59,Y85-Y86)	131	31.4	45.5	117	54.6	50.4	14	6.9	25.0
Intentional Self-Harm (Suicide)(X60-X84,Y87.0)	56	13.4	19.4	48	22.4	20.7	8	3.9	14.3
Assault (Homicide) (X85-Y09,Y87.1)	33	7.9	11.5	25	11.7	10.8	8	3.9	14.3
Malignant Neoplasms (C00-C97)	18	4.3	6.3	10	4.7	4.3	8	3.9	14.3
Diseases of the Heart (I00-I09,I11,I13,I20-I51)	7	1.7	2.4	4	.	1.7	3	.	5.4
All Other Causes	43	10.3	14.9	28	13.1	12.1	15	7.4	26.8
<b>25 - 34</b>									
All Causes	718	85.6	100.0	515	119.8	100.0	203	49.7	100.0
Unintentional Injury (Accident) (V01-X59,Y85-Y86)	250	29.8	34.8	201	46.8	39.0	49	12.0	24.1
Intentional Self-Harm (Suicide)(X60-X84,Y87.0)	112	13.4	15.6	97	22.6	18.8	15	3.7	7.4
Malignant Neoplasms (C00-C97)	91	10.9	12.7	36	8.4	7.0	55	13.5	27.1
Diseases of the Heart (I00-I09,I11,I13,I20-I51)	47	5.6	6.5	29	6.7	5.6	18	4.4	8.9
Assault (Homicide) (X85-Y09,Y87.1)	46	5.5	6.4	38	8.8	7.4	8	2.0	3.9
All Other Causes	172	20.5	24.0	114	26.5	22.1	58	14.2	28.6

**Mortality Table C3. Leading Causes by Age Group and Sex for Residents, 2002**

Age Group with Causes and ICD-10 Codes	Total			Male			Female		
	No.	Rate <sup>1</sup>	Pct <sup>2</sup>	No.	Rate <sup>1</sup>	Pct <sup>2</sup>	No.	Rate <sup>1</sup>	Pct <sup>2</sup>
<b>35 - 44</b>									
All Causes	1,563	162.9	100.0	965	199.6	100.0	598	125.6	100.0
Unintentional Injury (Accident) (V01-X59,Y85-Y86)	383	39.9	24.5	260	53.8	26.9	123	25.8	20.6
Malignant Neoplasms (C00-C97)	276	28.8	17.7	114	23.6	11.8	162	34.0	27.1
Diseases of the Heart (I00-I09,I11,I13,I20-I51)	198	20.6	12.7	131	27.1	13.6	67	14.1	11.2
Intentional Self-Harm (Suicide)(X60-X84,Y87.0)	177	18.4	11.3	139	28.8	14.4	38	8.0	6.4
HIV (B20-B24)	57	5.9	3.6	51	10.5	5.3	6	1.3	1.0
All Other Causes	472	49.2	30.2	270	55.8	28.0	202	42.4	33.8
<b>45 - 54</b>									
All Causes	3,225	359.7	100.0	1,959	439.7	100.0	1,266	280.7	100.0
Malignant Neoplasms (C00-C97)	1,013	113.0	31.4	503	112.9	25.7	510	113.1	40.3
Diseases of the Heart (I00-I09,I11,I13,I20-I51)	582	64.9	18.0	437	98.1	22.3	145	32.1	11.5
Unintentional Injury (Accident) (V01-X59,Y85-Y86)	313	34.9	9.7	227	51.0	11.6	86	19.1	6.8
Intentional Self-Harm (Suicide)(X60-X84,Y87.0)	182	20.3	5.6	129	29.0	6.6	53	11.8	4.2
Chronic Liver Disease & Cirrhosis (K70,K73-K74)	131	14.6	4.1	88	19.8	4.5	43	9.5	3.4
All Other Causes	1,004	112.0	31.1	575	129.1	29.4	429	95.1	33.9
<b>55 - 64</b>									
All Causes	4,617	831.3	100.0	2,724	988.9	100.0	1,893	676.2	100.0
Malignant Neoplasms (C00-C97)	1,777	320.0	38.5	950	344.9	34.9	827	295.4	43.7
Diseases of the Heart (I00-I09,I11,I13,I20-I51)	1,045	188.2	22.6	727	263.9	26.7	318	113.6	16.8
Chronic Lower Respiratory Diseases (J40-J47)	265	47.7	5.7	126	45.7	4.6	139	49.7	7.3
Diabetes Mellitus (E10-E14)	219	39.4	4.7	128	46.5	4.7	91	32.5	4.8
Unintentional Injury (Accident) (V01-X59,Y85-Y86)	183	33.0	4.0	124	45.0	4.6	59	21.1	3.1
All Other Causes	1,128	203.1	24.4	669	242.9	24.6	459	164.0	24.2
<b>65 - 74</b>									
All Causes	7,396	2,169.7	100.0	4,169	2,602.8	100.0	3,227	1,785.9	100.0
Malignant Neoplasms (C00-C97)	2,701	792.4	36.5	1,441	899.6	34.6	1,260	697.3	39.0
Diseases of the Heart (I00-I09,I11,I13,I20-I51)	1,693	496.7	22.9	1,103	688.6	26.5	590	326.5	18.3
Chronic Lower Respiratory Diseases (J40-J47)	619	181.6	8.4	333	207.9	8.0	286	158.3	8.9
Cerebrovascular Diseases (I60-I69)	419	122.9	5.7	202	126.1	4.8	217	120.1	6.7
Diabetes Mellitus (E10-E14)	344	100.9	4.7	175	109.3	4.2	169	93.5	5.2
All Other Causes	1,620	475.3	21.9	915	571.3	21.9	705	390.2	21.8
<b>75-84</b>									
All Causes	13,070	5,330.0	100.0	6,508	6,490.7	100.0	6,562	4,527.1	100.0
Diseases of the Heart (I00-I09,I11,I13,I20-I51)	3,358	1,369.4	25.7	1,806	1,801.2	27.8	1,552	1,070.7	23.7
Malignant Neoplasms (C00-C97)	3,264	1,331.1	25.0	1,719	1,714.4	26.4	1,545	1,065.9	23.5
Cerebrovascular Diseases (I60-I69)	1,251	510.2	9.6	548	546.5	8.4	703	485.0	10.7
Chronic Lower Respiratory Diseases (J40-J47)	1,058	431.5	8.1	479	477.7	7.4	579	399.4	8.8
Alzheimer's Disease (G30)	717	292.4	5.5	280	279.3	4.3	437	301.5	6.7
All Other Causes	3,422	1,395.5	26.2	1,676	1,671.5	25.8	1,746	1,204.6	26.6
<b>85 and Over</b>									
All Causes	13,440	14,731.0	100.0	4,902	16,908.0	100.0	8,537	13,715.0	100.0
Diseases of the Heart (I00-I09,I11,I13,I20-I51)	4,172	4,572.6	31.0	1,546	5,332.3	31.5	2,626	4,218.7	30.8
Cerebrovascular Diseases (I60-I69)	1,782	1,953.1	13.3	557	1,921.2	11.4	1,225	1,968.0	14.3
Malignant Neoplasms (C00-C97)	1,645	1,803.0	12.2	762	2,628.2	15.5	882	1,417.0	10.3
Alzheimer's Disease (G30)	1,393	1,526.8	10.4	345	1,189.9	7.0	1,048	1,683.6	12.3
Chronic Lower Respiratory Diseases (J40-J47)	663	726.7	4.9	301	1,038.2	6.1	362	581.6	4.2
All Other Causes	3,785	4,148.4	28.2	1,391	4,797.7	28.4	2,394	3,846.0	28.0

<sup>1</sup> Rate per 100,000 population in each age-sex group.

<sup>2</sup> Percent of total deaths in each age-sex group. Percents may not add to 100% due to rounding.

<sup>\*</sup> Rate not calculated because number of deaths was less than 5.

Total includes 1 death for which sex is unknown.

**Mortality Table C4. Crude Rates for Selected Causes by Sex for Residents, 2002**

Cause with ICD-10 Code	Total		Male		Female	
	Number	Crude Rate <sup>2</sup>	Number	Crude Rate <sup>2</sup>	Number	Crude Rate <sup>2</sup>
<b>All Causes<sup>1</sup></b>	(45,244)	(748.9)	(22,567)	(750.0)	(22,676)	(747.7)
<b>Certain Infectious &amp; Parasitic Disease (A00-B99)</b>	(827)	(13.7)	(477)	(15.9)	(350)	(11.5)
Tuberculosis (A16-A19)	11	0.2	6	0.2	5	0.2
Septicemia (A40-A41)	352	5.8	180	6.0	172	5.7
Viral Hepatitis (B15-B19)	206	3.4	116	3.9	90	3.0
HIV (B20-B24)	119	2.0	103	3.4	16	0.5
Other (A00-A15,A20-A39,A42-B14,B25-B99)	139	2.3	72	2.4	67	2.2
<b>Neoplasms (C00-D48)</b>	(11,091)	(183.6)	(5,689)	(189.1)	(5,401)	(178.1)
Malignant Neoplasms (C00-C97)	10,846	179.5	5,575	185.3	5,270	173.8
In Situ & Benign Neoplasms (D00-D48)	245	4.1	114	3.8	131	4.3
<b>Diseases of Blood &amp; Blood-Forming Organs (D50-D89)</b>	(152)	(2.5)	(60)	(2.0)	(92)	(3.0)
Anemias (D50-D64)	62	1.0	24	0.8	38	1.3
Other (D65-D89)	90	1.5	36	1.2	54	1.8
<b>Endocrine, Nutritional &amp; Metabolic Diseases (E00-E90)</b>	(2,017)	(33.4)	(965)	(32.1)	(1,052)	(34.7)
Diabetes Mellitus (E10-E14)	1,501	24.8	741	24.6	760	25.1
Nutritional Diseases (E40-E64)	61	1.0	17	0.6	44	1.5
Other (E00-E09,E15-E39,E65-E90)	455	7.5	207	6.9	248	8.2
<b>Mental &amp; Behavioral Disorders (F01-F99)</b>	(494)	(8.2)	(237)	(7.9)	(257)	(8.5)
<b>Diseases of the Nervous System (G00-G98)</b>	(3,287)	(54.4)	(1,259)	(41.8)	(2,028)	(66.9)
Meningitis (G00-G03)	12	0.2	6	0.2	6	0.2
Amyotrophic Lateral Sclerosis (G12.2)	182	3.0	102	3.4	80	2.6
Parkinson's Disease (G20-G21)	432	7.2	258	8.6	174	5.7
Alzheimer's Disease (G30)	2,238	37.0	677	22.5	1,561	51.5
Multiple Sclerosis (G35)	114	1.9	36	1.2	78	2.6
Other (G04-G12.1,G12.3-G19,G22-G29,G31-G34,G36-G98)	309	5.1	180	6.0	129	4.3
<b>Diseases of the Eye &amp; Ear (H00-H93)</b>	(3)	(*)	(2)	(*)	(1)	(*)
<b>Diseases of the Circulatory System (I00-I99)</b>	(16,135)	(267.1)	(7,833)	(260.3)	(8,302)	(273.7)
Major Cardiovascular Diseases (I00-I78)	(16,046)	(265.6)	(7,794)	(259.0)	(8,252)	(272.1)
Diseases of the Heart (I00-I09,I11,I13,I20-I51)	(11,117)	(184.0)	(5,793)	(192.5)	(5,324)	(175.5)
Acute & Chronic Rheumatic Disease (I00-I09)	114	1.9	28	0.9	86	2.8
Hypertensive Heart Disease (I11)	404	6.7	169	5.6	235	7.7
Hypertensive Heart & Renal Disease (I13)	65	1.1	23	0.8	42	1.4
Ischemic Heart Diseases (I20-I25)	(8,305)	(137.5)	(4,642)	(154.3)	(3,663)	(120.8)
Acute Myocardial Infarction (I21-I22)	2,711	44.9	1,508	50.1	1,203	39.7
Other Acute Ischemic Heart Disease (I24)	11	0.2	6	0.2	5	0.2
Other Chronic Ischemic Heart Disease (I20,I25)	(5,583)	(92.4)	(3,128)	(104.0)	(2,455)	(80.9)
Atherosclerotic Cardiovascular Disease (I25.0)	1,770	29.3	968	32.2	802	26.4
All Other Chronic Disease (I20,I25.1-I25.9)	3,813	63.1	2,160	71.8	1,653	54.5
Other Heart Diseases (I26-I51)	(2,229)	(36.9)	(931)	(30.9)	(1,298)	(42.8)
Acute & Subacute Endocarditis (I33)	21	0.3	11	0.4	10	0.3
Disease Pericardium & Acute Myocarditis (I30-I31,I40)	12	0.2	7	0.2	5	0.2
Heart Failure (I50)	454	7.5	165	5.5	289	9.5
All Other Heart disease (I26-I28,I34-I38,I42-I49,I51)	1,742	28.8	748	24.9	994	32.8
Hypertension & Hypertensive Renal Disease (I10,I12)	309	5.1	119	4.0	190	6.3
Cerebrovascular Diseases (I60-I69)	3,757	62.2	1,459	48.5	2,298	75.8
Atherosclerosis (I70)	362	6.0	149	5.0	213	7.0
Other Diseases of Circulatory System (I71-I78)	(501)	(8.3)	(274)	(9.1)	(227)	(7.5)
Aortic Aneurysm & Dissection (I71)	318	5.3	180	6.0	138	4.6
Other Disease of Arteries (I72-I78)	183	3.0	94	3.1	89	2.9
Other (I80-I99)	89	1.5	39	1.3	50	1.6

**Mortality Table C4. Crude Rates for Selected Causes by Sex for Residents, 2002**

Cause with ICD-10 Code	Total		Male		Female	
	Number	Crude Rate <sup>2</sup>	Number	Crude Rate <sup>2</sup>	Number	Crude Rate <sup>2</sup>
<b>Diseases of the Respiratory System (J00-J98)</b>	(4,542)	(75.2)	(2,156)	(71.7)	(2,386)	(78.7)
Influenza and Pneumonia (J10-J18)	(907)	(15.0)	(393)	(13.1)	(514)	(16.9)
Influenza (J10-J11)	25	0.4	8	0.3	17	0.6
Pneumonia (J12-J18)	882	14.6	385	12.8	497	16.4
Other Acute Lower Respiratory Infections (J20-J22)	4	*	3	*	1	*
Chronic Lower Respiratory Disease (J40-J47)	(2,720)	(45.0)	(1,291)	(42.9)	(1,429)	(47.1)
Bronchitis, Chronic and Unspecified (J40-J42)	17	0.3	9	0.3	8	0.3
Emphysema (J43)	275	4.6	125	4.2	150	4.9
Asthma (J45-J46)	93	1.5	25	0.8	68	2.2
Other Chronic Lower Respiratory Disease (J44,J47)	2,335	38.6	1,132	37.6	1,203	39.7
Pneumoconioses & Chemical Effects (J60-J66,J68)	35	0.6	32	1.1	3	*
Pneumonitis Due to Solids & Liquids (J69)	406	6.7	202	6.7	204	6.7
Other (J00-J06,J30-J39,J67,J70-J98)	470	7.8	235	7.8	235	7.7
<b>Diseases of the Digestive System (K00-K92)</b>	(1,683)	(27.9)	(824)	(27.4)	(859)	(28.3)
Peptic Ulcer (K25-K28)	118	2.0	59	2.0	59	1.9
Diseases of Appendix (K35-K38)	6	0.1	5	0.2	1	*
Hernia (K40-K46)	29	0.5	12	0.4	17	0.6
Chronic Liver Disease & Cirrhosis (K70,K73-K74)	(527)	(8.7)	(331)	(11.0)	(196)	(6.5)
Alcoholic Liver Disease (K70)	409	6.8	288	9.6	121	4.0
Other (K73-K74)	118	2.0	43	1.4	75	2.5
Cholelithiasis & Other Gallbladder Disease (K80-K82)	45	0.7	24	0.8	21	0.7
Other (K00-K24,K29-K34,K39,K47-K69,K71-K72,K75-K79,K83-K92)	958	15.9	393	13.1	565	18.6
<b>Diseases of Skin &amp; Subcutaneous Tissue (L00-L98)</b>	(54)	(0.9)	(26)	(0.9)	(28)	(0.9)
<b>Diseases Musculoskeletal &amp; Connective Tissue (M00-M99)</b>	(350)	(5.8)	(111)	(3.7)	(239)	(7.9)
<b>Diseases of the Genitourinary System (N00-N98)</b>	(622)	(10.3)	(267)	(8.9)	(355)	(11.7)
Nephritis (N00-N07,N17-N19,N25-N27)	(281)	(4.7)	(152)	(5.1)	(129)	(4.3)
Acute Nephrotic Syndrome (N00-N01,N04)	3	*	0	*	3	*
Chronic Nephritis & Unsp. Nephritis(N02-N03,N05-N07,N26)	19	0.3	13	0.4	6	0.2
Renal Failure (N17-N19)	258	4.3	139	4.6	119	3.9
Other Disorders of Kidney (N25,N27)	1	*	0	*	1	*
Infections of Kidney (N10-N12,N13.6,N15.1)	30	0.5	6	0.2	24	0.8
Hyperplasia of Prostate (N40)	n/a	n/a	13	0.4	n/a	n/a
Other(N13.0-N13.5,N13.7-N15.0,N15.8-N16,N20-N23,N28-N39,N41-N99)	298	4.9	96	3.2	202	6.7
<b>Pregnancy, Childbirth &amp; Puerperium (O00-O99)</b>	n/a	n/a	n/a	n/a	(7)	(0.2)
<b>Conditions Originating in Perinatal Period (P00-P96)</b>	(209)	(3.5)	(120)	(4.0)	(89)	(2.9)
<b>Congenital Anomalies (Q00-Q99)</b>	(213)	(3.5)	(116)	(3.9)	(97)	(3.2)
<b>Symptoms &amp; Signs Not Elsewhere Classified (R00-R99)</b>	(216)	(3.6)	(107)	(3.6)	(109)	(3.6)
Sudden Infant Death Syndrome (R95)	70	1.2	45	1.5	25	0.8
Other (R00-R94,R96-R99)	146	2.4	62	2.1	84	2.8
<b>External Causes of Mortality (V01-Y89)</b>	(3,342)	(55.3)	(2,318)	(77.0)	(1,024)	(33.8)
Unintentional Injury or Accident (V01-X59,Y85-Y86)	(2,182)	(36.1)	(1,445)	(48.0)	(737)	(24.3)
Transport Accidents (V01-V99,Y85)	838	13.9	634	21.1	204	6.7
Nontransport Accidents (W00-X59,Y86)	1,344	22.2	811	27.0	533	17.6
Intentional Self-Harm (Suicide) (X60-X84,Y87.0)	811	13.4	642	21.3	169	5.6
Assault (Homicide) (X85-Y09,Y87.1)	213	3.5	156	5.2	57	1.9
Legal Intervention (Y35,Y89.0)	8	0.1	8	0.3	0	*
Events of Undetermined Intent (Y10-Y34,Y87.2,Y89.9)	104	1.7	56	1.9	48	1.6
Operations of War & Sequelae (Y36,Y89.1)	1	*	1	*	0	*
Complications of Medical & Surgical Care (Y40-Y84,Y88)	23	0.4	10	0.3	13	0.4

<sup>1</sup> Group totals are shown in parentheses.

<sup>2</sup> Rates per 100,000 population.

\* Rate not calculated because number of deaths was less than 5.

Note: Rates based on fewer than 20 deaths are likely to be unstable and imprecise.

**Mortality Table C5. Age-Adjusted Rates for Selected Causes by Sex for Residents, 2002**

Cause with ICD-10 Code	Total		Male		Female	
	Number	Age-Adj <sub>2</sub> Rate <sup>2</sup>	Number	Age-Adj <sub>2</sub> Rate <sup>2</sup>	Number	Age-Adj <sub>2</sub> Rate <sup>2</sup>
<b>All Causes<sup>1</sup></b>	(45,244)	(790.3)	(22,567)	(946.3)	(22,676)	(671.2)
<b>Certain Infectious &amp; Parasitic Disease (A00-B99)</b>	(827)	(14.1)	(477)	(18.0)	(350)	(10.6)
Tuberculosis (A16-A19)	11	0.2	6	0.3	5	0.2
Septicemia (A40-A41)	352	6.2	180	7.7	172	5.1
Viral Hepatitis (B15-B19)	206	3.4	116	3.9	90	2.9
HIV (B20-B24)	119	1.9	103	3.3	16	0.5
Other (A00-A15,A20-A39,A42-B14,B25-B99)	139	2.4	72	2.8	67	2.0
<b>Neoplasms (C00-D48)</b>	(11,091)	(194.9)	(5,689)	(234.0)	(5,401)	(169.0)
Malignant Neoplasms (C00-C97)	10,846	190.6	5,575	229.0	5,270	165.2
In Situ & Benign Neoplasms (D00-D48)	245	4.3	114	5.0	131	3.8
<b>Diseases of Blood &amp; Blood-Forming Organs (D50-D89)</b>	(152)	(2.6)	(60)	(2.5)	(92)	(2.7)
Anemias (D50-D64)	62	1.1	24	1.0	38	1.1
Other (D65-D89)	90	1.6	36	1.5	54	1.7
<b>Endocrine, Nutritional &amp; Metabolic Diseases (E00-E90)</b>	(2,017)	(35.4)	(965)	(39.4)	(1,052)	(32.0)
Diabetes Mellitus (E10-E14)	1,501	26.4	741	30.3	760	23.4
Nutritional Diseases (E40-E64)	61	1.1	17	0.8	44	1.2
Other (E00-E09,E15-E39,E65-E90)	455	7.9	207	8.4	248	7.4
<b>Mental &amp; Behavioral Disorders (F01-F99)</b>	(494)	(8.4)	(237)	(9.5)	(257)	(7.3)
<b>Diseases of the Nervous System (G00-G98)</b>	(3,287)	(57.6)	(1,259)	(57.5)	(2,028)	(56.7)
Meningitis (G00-G03)	12	0.2	6	0.2	6	0.2
Amyotrophic Lateral Sclerosis (G12.2)	182	3.2	102	4.0	80	2.6
Parkinson's Disease (G20-G21)	432	7.7	258	12.1	174	5.1
Alzheimer's Disease (G30)	2,238	39.2	677	33.1	1,561	42.3
Multiple Sclerosis (G35)	114	1.9	36	1.2	78	2.5
Other (G04-G12.1,G12.3-G19,G22-G29,G31-G34,G36-G98)	309	5.3	180	6.9	129	4.0
<b>Diseases of the Eye &amp; Ear (H00-H93)</b>	(3)	(*)	(2)	(*)	(1)	(*)
<b>Diseases of the Circulatory System (I00-I99)</b>	(16,135)	(283.1)	(7,833)	(344.6)	(8,302)	(237.0)
Major Cardiovascular Diseases (I00-I78)	(16,046)	(281.5)	(7,794)	(343.0)	(8,252)	(235.6)
Diseases of the Heart (I00-I09,I11,I13,I20-I51)	(11,117)	(194.8)	(5,793)	(251.0)	(5,324)	(152.4)
Acute & Chronic Rheumatic Disease (I00-I09)	114	2.0	28	1.2	86	2.6
Hypertensive Heart Disease (I11)	404	7.0	169	7.1	235	6.6
Hypertensive Heart & Renal Disease (I13)	65	1.1	23	1.1	42	1.2
Ischemic Heart Diseases (I20-I25)	(8,305)	(145.7)	(4,642)	(200.3)	(3,663)	(104.9)
Acute Myocardial Infarction (I21-I22)	2,711	47.7	1,508	64.6	1,203	35.1
Other Acute Ischemic Heart Disease (I24)	11	0.2	6	0.3	5	0.1
Other Chronic Ischemic Heart Disease (I20,I25)	(5,583)	(97.9)	(3,128)	(135.4)	(2,455)	(69.7)
Atherosclerotic Cardiovascular Disease (I25.0)	1,770	30.6	968	39.7	802	22.7
All Other Chronic Disease (I20,I25.1-I25.9)	3,813	67.2	2,160	95.7	1,653	47.0
Other Heart Diseases (I26-I51)	(2,229)	(38.9)	(931)	(41.3)	(1,298)	(37.1)
Acute & Subacute Endocarditis (I33)	21	0.4	11	0.4	10	0.3
Disease Pericardium & Acute Myocarditis (I30-I31,I40)	12	0.2	7	0.3	5	0.2
Heart Failure (I50)	454	7.9	165	8.1	289	7.8
All Other Heart disease (I26-I28,I34-I38,I42-I49,I51)	1,742	30.4	748	32.6	994	28.8
Hypertension & Hypertensive Renal Disease (I10,I12)	309	5.4	119	5.4	190	5.4
Cerebrovascular Diseases (I60-I69)	3,757	66.1	1,459	67.4	2,298	65.0
Atherosclerosis (I70)	362	6.4	149	7.3	213	6.0
Other Diseases of Circulatory System (I71-I78)	(501)	(8.9)	(274)	(11.9)	(227)	(6.8)
Aortic Aneurysm & Dissection (I71)	318	5.7	180	7.8	138	4.2
Other Disease of Arteries (I72-I78)	183	3.2	94	4.2	89	2.7
Other (I80-I99)	89	1.5	39	1.6	50	1.5

**Mortality Table C5. Age-Adjusted Rates for Selected Causes by Sex for Residents, 2002**

Cause with ICD-10 Code	Total		Male		Female	
	Number	Age-Adj <sup>2</sup> Rate <sup>2</sup>	Number	Age-Adj <sup>2</sup> Rate <sup>2</sup>	Number	Age-Adj <sup>2</sup> Rate <sup>2</sup>
<b>Diseases of the Respiratory System (J00-J98)</b>	(4,542)	(80.5)	(2,156)	(96.5)	(2,386)	(70.8)
Influenza and Pneumonia (J10-J18)	(907)	(15.8)	(393)	(18.1)	(514)	(14.3)
Influenza (J10-J11)	25	0.4	8	0.4	17	0.4
Pneumonia (J12-J18)	882	15.4	385	17.7	497	13.8
Other Acute Lower Respiratory Infections (J20-J22)	4	*	3	*	1	*
Chronic Lower Respiratory Disease (J40-J47)	(2,720)	(48.5)	(1,291)	(56.8)	(1,429)	(43.7)
Bronchitis, Chronic and Unspecified (J40-J42)	17	0.3	9	0.4	8	0.2
Emphysema (J43)	275	4.9	125	5.4	150	4.6
Asthma (J45-J46)	93	1.6	25	1.0	68	2.1
Other Chronic Lower Respiratory Disease (J44,J47)	2,335	41.8	1,132	50.0	1,203	36.8
Pneumoconioses & Chemical Effects (J60-J66,J68)	35	0.6	32	1.5	3	*
Pneumonitis Due to Solids & Liquids (J69)	406	7.1	202	9.7	204	5.7
Other (J00-J06,J30-J39,J67,J70-J98)	470	8.4	235	10.2	235	7.1
<b>Diseases of the Digestive System (K00-K92)</b>	(1,683)	(29.0)	(824)	(33.1)	(859)	(25.2)
Peptic Ulcer (K25-K28)	118	2.0	59	2.6	59	1.7
Diseases of Appendix (K35-K38)	6	0.1	5	0.2	1	*
Hernia (K40-K46)	29	0.5	12	0.5	17	0.5
Chronic Liver Disease & Cirrhosis (K70,K73-K74)	(527)	(8.9)	(331)	(11.8)	(196)	(6.2)
Alcoholic Liver Disease (K70)	409	6.8	288	10.0	121	3.8
Other (K73-K74)	118	2.1	43	1.8	75	2.4
Cholelithiasis & Other Gallbladder Disease (K80-K82)	45	0.8	24	1.0	21	0.6
Other (K00-K24,K29-K34,K39,K47-K69,K71-K72,K75-K79,K83-K92)	958	16.7	393	17.0	565	16.1
<b>Diseases of Skin &amp; Subcutaneous Tissue (L00-L98)</b>	(54)	(0.9)	(26)	(1.1)	(28)	(0.8)
<b>Diseases Musculoskeletal &amp; Connective Tissue (M00-M99)</b>	(350)	(6.1)	(111)	(4.8)	(239)	(6.9)
<b>Diseases of the Genitourinary System (N00-N98)</b>	(622)	(10.9)	(267)	(12.2)	(355)	(10.0)
Nephritis (N00-N07,N17-N19,N25-N27)	(281)	(4.9)	(152)	(6.9)	(129)	(3.7)
Acute Nephrotic Syndrome (N00-N01,N04)	3	*	0	*	3	*
Chronic Nephritis & Unsp. Nephritis(N02-N03,N05-N07,N26)	19	0.3	13	0.5	6	0.2
Renal Failure (N17-N19)	258	4.5	139	6.4	119	3.4
Other Disorders of Kidney (N25,N27)	1	*	0	*	1	*
Infections of Kidney (N10-N12,N13.6,N15.1)	30	0.5	6	0.3	24	0.7
Hyperplasia of Prostate (N40)	n/a	n/a	13	0.6	n/a	n/a
Other(N13.0-N13.5,N13.7-N15.0,N15.8-N16,N20-N23,N28-N39,N41-N99)	298	5.2	96	4.4	202	5.6
<b>Pregnancy, Childbirth &amp; Puerperium (O00-O99)</b>	n/a	n/a	n/a	n/a	(7)	(0.2)
<b>Conditions Originating in Perinatal Period (P00-P96)</b>	(209)	(3.7)	(120)	(4.1)	(89)	(3.2)
<b>Congenital Anomalies (Q00-Q99)</b>	(213)	(3.6)	(116)	(4.0)	(97)	(3.3)
<b>Symptoms &amp; Signs Not Elsewhere Classified (R00-R99)</b>	(216)	(3.7)	(107)	(3.9)	(109)	(3.3)
Sudden Infant Death Syndrome (R95)	70	1.2	45	1.5	25	0.9
Other (R00-R94,R96-R99)	146	2.5	62	2.4	84	2.4
<b>External Causes of Mortality (V01-Y89)</b>	(3,342)	(55.6)	(2,318)	(81.1)	(1,024)	(32.1)
Unintentional Injury or Accident (V01-X59,Y85-Y86)	(2,182)	(36.5)	(1,445)	(51.5)	(737)	(22.8)
Transport Accidents (V01-V99,Y85)	838	13.9	634	21.3	204	6.7
Nontransport Accidents (W00-X59,Y86)	1,344	22.6	811	30.1	533	16.1
Intentional Self-Harm (Suicide) (X60-X84,Y87.0)	811	13.4	642	22.0	169	5.4
Assault (Homicide) (X85-Y09,Y87.1)	213	3.5	156	5.1	57	1.9
Legal Intervention (Y35,Y89.0)	8	0.1	8	0.3	0	*
Events of Undetermined Intent (Y10-Y34,Y87.2,Y89.9)	104	1.7	56	1.9	48	1.5
Operations of War & Sequelae (Y36,Y89.1)	1	*	1	*	0	*
Complications of Medical & Surgical Care (Y40-Y84,Y88)	23	0.4	10	0.4	13	0.4

<sup>1</sup> Group totals are shown in parentheses.

<sup>2</sup> Rates per 100,000 age-adjusted to U.S. 2000 population. Does not include deaths where age is unknown

\* Rate not calculated because number of deaths was less than 5.

Note: Rates based on fewer than 20 deaths are likely to be unstable and imprecise.

**Mortality Table C6. Diabetes, Alzheimer's Disease, and Major Cardiovascular Disease by County of Residence, 2002**

County	Diabetes (E10-E14)			Alzheimer's Disease (G30)			Major Cardiovascular Disease (I00-I78)		
	Number	Crude Rate <sup>1</sup>	Age-Adj <sup>2</sup> Rate <sup>2</sup>	Number	Crude Rate <sup>1</sup>	Age-Adj <sup>2</sup> Rate <sup>2</sup>	Number	Crude Rate <sup>1</sup>	Age-Adj <sup>2</sup> Rate <sup>2</sup>
<b>State Total</b>	<b>1,501</b>	<b>24.8</b>	<b>26.4</b>	<b>2,238</b>	<b>37.0</b>	<b>39.2</b>	<b>16,046</b>	<b>265.6</b>	<b>281.5</b>
Adams	7	42.2	51.5	3	*	*	38	228.9	279.3
Asotin	6	29.0	22.9	10	48.3	33.0	77	372.0	266.4
Benton	40	27.1	31.1	37	25.1	32.3	376	254.7	309.7
Chelan	13	19.2	16.4	35	51.8	42.6	227	335.8	286.4
Clallam	18	27.7	18.4	41	63.2	37.3	329	506.9	312.1
Clark	90	24.8	30.4	123	33.8	44.2	885	243.5	307.7
Columbia	2	*	*	0	*	*	18	439.1	306.1
Cowlitz	38	40.3	37.4	44	46.6	41.1	356	377.1	340.0
Douglas	7	21.1	21.3	14	42.3	43.1	91	274.9	276.9
Ferry	1	*	*	2	*	*	23	315.1	339.6
Franklin	8	15.6	23.0	17	33.1	54.9	104	202.7	313.7
Garfield	1	*	*	4	*	*	5	208.4	125.0
Grant	20	26.2	28.9	11	14.4	16.7	215	281.4	318.1
Grays Harbor	25	36.6	30.1	27	39.5	32.6	282	412.3	341.5
Island	17	23.3	21.4	42	57.5	57.6	190	259.9	252.5
Jefferson	7	26.3	19.0	8	30.1	20.2	103	387.2	253.1
King	376	21.2	23.7	596	33.6	36.2	4,007	225.8	245.7
Kitsap	56	23.9	26.8	108	46.0	52.0	624	265.9	298.4
Kittitas	4	*	*	10	28.7	27.6	106	304.6	308.5
Klickitat	6	31.1	28.1	6	31.1	28.0	50	259.1	227.6
Lewis	39	55.6	44.6	37	52.7	40.3	289	411.7	322.4
Lincoln	1	*	*	1	*	*	42	411.7	256.5
Mason	12	24.1	19.0	19	38.2	34.0	150	301.2	258.6
Okanogan	10	25.1	21.9	16	40.2	36.2	136	341.7	306.6
Pacific	9	42.9	26.7	18	85.7	53.2	112	533.4	324.9
Pend Oreille	2	*	*	6	50.8	64.4	35	296.6	288.6
Pierce	193	26.6	30.9	257	35.4	44.1	2,042	281.7	337.1
San Juan	2	*	*	4	*	*	39	267.1	184.0
Skagit	34	32.3	27.7	64	60.9	48.4	305	290.2	240.1
Skamania	3	*	*	6	60.6	78.9	19	191.9	216.1
Snohomish	136	21.7	26.6	215	34.2	45.3	1,355	215.8	277.3
Spokane	109	25.6	24.8	157	36.9	32.8	1,350	317.2	294.6
Stevens	13	32.2	30.7	16	39.6	37.6	137	339.1	324.7
Thurston	61	28.7	29.4	99	46.6	49.2	526	247.8	259.9
Wahkiakum	3	*	*	3	*	*	19	499.6	354.9
Walla Walla	17	30.7	27.2	39	70.4	49.5	214	386.3	287.6
Whatcom	43	25.0	25.9	80	46.5	46.4	450	261.3	265.9
Whitman	5	12.3	15.4	8	19.7	24.0	97	238.9	295.6
Yakima	67	29.8	32.5	55	24.4	24.3	623	276.9	288.5

<sup>1</sup> Rate per 100,000 population.

<sup>2</sup> Rate per 100,000 age-adjusted to U.S. 2000 population. Does not include deaths where age is unknown.

\* Rate not calculated because number of deaths was less than 5.

Note: Codes for International Classification of Diseases, Tenth Revision (ICD-10) are in parentheses after each group heading.

Rates based on fewer than 20 deaths are likely to be unstable and imprecise.

**Mortality Table C7. Diseases of the Heart, Ischemic Heart Diseases, and Cerebrovascular Diseases by County of Residence, 2002**

County	Diseases of the Heart (I00-I09,I11,I13,I20-I51)			Ischemic Heart Disease (I20-I25)			Cerebrovascular Disease (I60-I69)		
	Number	Crude Rate <sup>1</sup>	Age-Adj Rate <sup>2</sup>	Number	Crude Rate <sup>1</sup>	Age-Adj Rate <sup>2</sup>	Number	Crude Rate <sup>1</sup>	Age-Adj Rate <sup>2</sup>
<b>State Total</b>	<b>11,117</b>	<b>184.0</b>	<b>194.8</b>	<b>8,305</b>	<b>137.5</b>	<b>145.7</b>	<b>3,757</b>	<b>62.2</b>	<b>66.1</b>
Adams	30	180.7	220.5	23	138.6	168.8	8	48.2	58.8
Asotin	55	265.7	193.4	41	198.1	146.3	21	101.4	69.2
Benton	264	178.9	217.1	191	129.4	157.1	82	55.6	67.4
Chelan	159	235.2	203.1	121	179.0	154.6	55	81.4	67.1
Clallam	213	328.2	204.7	150	231.1	140.4	92	141.8	84.8
Clark	608	167.3	209.6	428	117.8	147.1	219	60.3	77.4
Columbia	16	390.3	273.0	14	341.5	240.0	0	*	*
Cowlitz	252	266.9	240.7	182	192.8	174.5	82	86.9	77.8
Douglas	57	172.2	173.3	46	139.0	139.0	27	81.6	82.5
Ferry	16	219.2	216.6	14	191.8	194.3	6	82.2	107.2
Franklin	81	157.9	241.8	60	117.0	178.5	16	31.2	50.8
Garfield	5	208.4	125.0	4	*	*	0	*	*
Grant	157	205.5	231.4	134	175.4	197.4	44	57.6	66.5
Grays Harbor	200	292.4	242.7	153	223.7	184.9	64	93.6	77.0
Island	146	199.7	193.4	107	146.4	141.3	33	45.1	44.0
Jefferson	66	248.1	161.2	47	176.7	114.4	34	127.8	84.5
King	2,745	154.7	168.2	2,016	113.6	124.0	988	55.7	60.5
Kitsap	432	184.1	206.3	328	139.8	157.0	144	61.4	68.9
Kittitas	68	195.4	198.4	47	135.1	138.0	27	77.6	75.2
Klickitat	40	207.3	182.1	31	160.6	140.9	8	41.5	36.6
Lewis	201	286.3	225.0	154	219.4	173.2	77	109.7	85.3
Lincoln	26	254.9	164.1	18	176.5	109.6	8	78.4	47.9
Mason	108	216.9	184.6	75	150.6	124.8	35	70.3	61.2
Okanogan	97	243.7	220.0	71	178.4	162.4	28	70.4	62.2
Pacific	75	357.2	220.7	62	295.3	180.4	28	133.3	79.0
Pend Oreille	31	262.7	260.1	21	177.9	162.4	2	*	*
Pierce	1,416	195.3	231.9	1,123	154.9	183.9	452	62.3	76.1
San Juan	19	130.1	89.3	13	89.0	60.0	15	102.7	70.7
Skagit	196	186.5	154.6	138	131.3	108.8	80	76.1	62.8
Skamania	9	90.9	86.7	5	50.5	47.3	7	70.7	89.9
Snohomish	951	151.4	192.8	718	114.3	145.7	322	51.3	67.5
Spokane	935	219.7	205.5	713	167.5	157.2	271	63.7	58.6
Stevens	99	245.0	231.6	80	198.0	189.1	32	79.2	78.6
Thurston	358	168.6	176.8	258	121.5	127.1	127	59.8	62.7
Wahkiakum	12	315.5	223.7	11	289.2	202.5	4	*	*
Walla Walla	135	243.7	185.8	84	151.6	117.8	66	119.1	84.6
Whatcom	309	179.4	183.5	213	123.7	126.8	104	60.4	60.0
Whitman	65	160.1	195.5	52	128.1	157.4	24	59.1	74.3
Yakima	465	206.7	215.9	359	159.6	167.0	125	55.6	57.3

<sup>1</sup> Rate per 100,000 population.

<sup>2</sup> Rate per 100,000 age-adjusted to U.S. 2000 population. Does not include deaths where age is unknown.

\* Rate not calculated because number of deaths was less than 5.

Note: Codes for International Classification of Diseases, Tenth Revision (ICD-10) are in parentheses after each group heading.

Rates based on fewer than 20 deaths are likely to be unstable and imprecise.

**Mortality Table C8. Influenza & Pneumonia, Chronic Lower Respiratory Disease, and Chronic Liver Disease & Cirrhosis by County of Residence, 2002**

County	Pneumonia and Influenza (J10-J18)			Chronic Lower Resp. Dis. (J40-J47)			Chronic Liver Disease & Cirrhosis (K70,K73-K74)		
	Number	Crude Rate <sup>1</sup>	Age-Adj Rate <sup>2</sup>	Number	Crude Rate <sup>1</sup>	Age-Adj Rate <sup>2</sup>	Number	Crude Rate <sup>1</sup>	Age-Adj Rate <sup>2</sup>
<b>State Total</b>	<b>907</b>	<b>15.0</b>	<b>15.8</b>	<b>2,720</b>	<b>45.0</b>	<b>48.5</b>	<b>527</b>	<b>8.7</b>	<b>8.9</b>
Adams	4	*	*	5	30.1	37.0	3	*	*
Asotin	6	29.0	20.2	11	53.1	42.9	1	*	*
Benton	15	10.2	12.8	72	48.8	59.9	10	6.8	7.2
Chelan	19	28.1	22.6	41	60.6	54.4	5	7.4	7.2
Clallam	18	27.7	17.3	50	77.0	46.9	5	7.7	5.2
Clark	33	9.1	11.5	166	45.7	57.9	20	5.5	5.8
Columbia	1	*	*	7	170.8	111.6	0	*	*
Cowlitz	21	22.2	19.9	71	75.2	69.5	14	14.8	14.0
Douglas	4	*	*	18	54.4	54.6	3	*	*
Ferry	0	*	*	4	*	*	0	*	*
Franklin	9	17.5	28.6	21	40.9	60.0	4	*	*
Garfield	2	*	*	1	*	*	0	*	*
Grant	23	30.1	35.2	40	52.4	58.4	7	9.2	10.1
Grays Harbor	14	20.5	16.9	55	80.4	66.2	10	14.6	12.4
Island	7	9.6	9.3	26	35.6	32.4	3	*	*
Jefferson	3	*	*	14	52.6	33.6	3	*	*
King	247	13.9	15.0	629	35.5	39.6	138	7.8	8.0
Kitsap	29	12.4	13.6	94	40.1	45.9	26	11.1	11.3
Kittitas	9	25.9	25.8	17	48.8	49.0	4	*	*
Klickitat	3	*	*	11	57.0	50.4	2	*	*
Lewis	14	19.9	15.4	48	68.4	54.5	11	15.7	13.5
Lincoln	0	*	*	6	58.8	37.2	1	*	*
Mason	10	20.1	17.6	29	58.2	47.1	7	14.1	11.2
Okanogan	13	32.7	29.4	25	62.8	57.8	10	25.1	24.2
Pacific	9	42.9	25.9	19	90.5	53.4	6	28.6	15.9
Pend Oreille	4	*	*	10	84.7	84.4	2	*	*
Pierce	79	10.9	13.0	332	45.8	54.6	47	6.5	6.8
San Juan	2	*	*	8	54.8	37.7	1	*	*
Skagit	15	14.3	11.8	52	49.5	41.1	8	7.6	7.2
Skamania	0	*	*	4	*	*	0	*	*
Snohomish	78	12.4	15.8	237	37.7	49.4	51	8.1	9.2
Spokane	88	20.7	18.8	249	58.5	56.6	51	12.0	12.0
Stevens	11	27.2	26.4	33	81.7	79.4	6	14.9	13.0
Thurston	20	9.4	9.7	98	46.2	48.4	17	8.0	8.3
Wahkiakum	0	*	*	4	*	*	2	*	*
Walla Walla	21	37.9	25.6	23	41.5	36.5	6	10.8	10.5
Whatcom	29	16.8	16.6	73	42.4	44.3	14	8.1	8.5
Whitman	6	14.8	18.4	6	14.8	19.4	3	*	*
Yakima	41	18.2	18.5	111	49.3	53.4	26	11.6	12.9

<sup>1</sup> Rate per 100,000 population.

<sup>2</sup> Rate per 100,000 age-adjusted to U.S. 2000 population. Does not include deaths where age is unknown.

\* Rate not calculated because number of deaths was less than 5.

Note: Codes for International Classification of Diseases, Tenth Revision (ICD-10) are in parentheses after each group heading.

Rates based on fewer than 20 deaths are likely to be unstable and imprecise.

## D. Cancer

Cancer is the second leading cause of death for residents of Washington State and comprised 24% of all deaths in 2002. Cancer may occur in many different sites and has many different risk factors, some of which include smoking, diet, exercise, and sun exposure.

**Mortality Table D1. Age-Adjusted Rates<sup>1</sup> for Leading Causes of Cancer for Residents, 1993-2002**

Year	All Sites	Lung <sup>2</sup>	Colo-Rectal <sup>2</sup>	Female Breast	Prostate	Pancreas
1993	212.4	62.3	21.0	31.4	40.0	10.8
1994	205.2	58.7	21.4	28.1	37.2	10.6
1995	205.0	59.2	20.9	30.2	34.2	10.5
1996	202.9	58.6	20.7	28.3	33.8	11.3
1997	196.6	56.1	18.8	27.9	30.9	10.6
1998	196.0	58.1	18.6	25.8	29.1	11.1
***1998 Comparability Modified***						
	197.3	57.2	18.6	26.0	29.5	11.1
1999	198.9	57.4	18.6	24.0	29.8	10.5
2000	195.6	57.4	18.3	24.4	27.5	10.9
2001	194.0	55.4	18.5	24.2	27.9	11.6
2002	190.6	54.8	16.9	23.8	28.7	10.7

<sup>1</sup>Rate per 100,000 age-adjusted to U.S. 2000 population.

<sup>2</sup>The ICD-10 codes selected for these groups differ slightly from Cancer Registry groups. See

<http://www3.doh.wa.gov/WSCR/> to obtain reports of the Washington State Cancer Registry or to obtain information about other cancer sites.

Note:

Causes of death were coded with ICD-9 in 1990-1998 and with ICD-10 during 1999-2000. Rates during 1998 have been multiplied by a comparability ratio (CR). ICD codes and comparability ratios are:

All Sites: ICD-9: 140-208; ICD-10: C00-C97; CR=1.0068

Lung: ICD-9: 162; ICD-10: C33-C34; CR=0.9837

Colorectal: ICD-9: 153-154; ICD-10: C18-C21; CR=0.9993

Female Breast: ICD-9: 174; ICD-10: C50; CR=1.0056

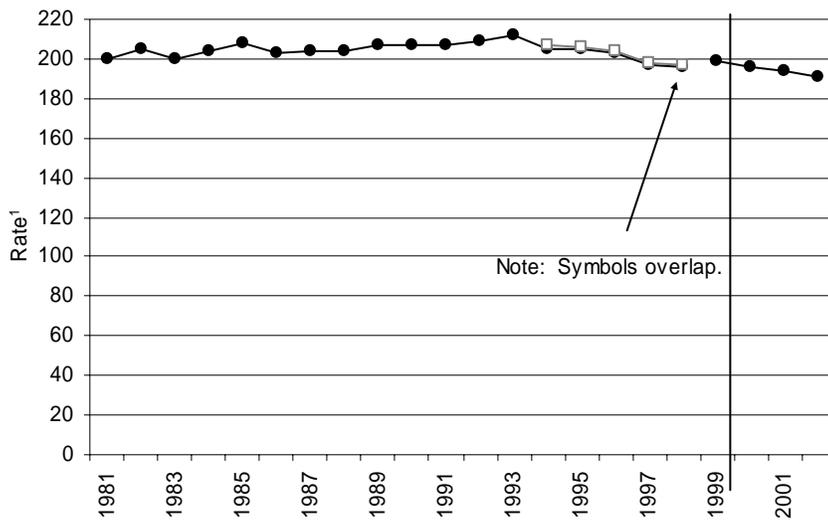
Prostate: ICD-9: 185; ICD-10: C61; CR=1.0134

Pancreas: ICD-9: 157; ICD-10: C25; CR=0.9980

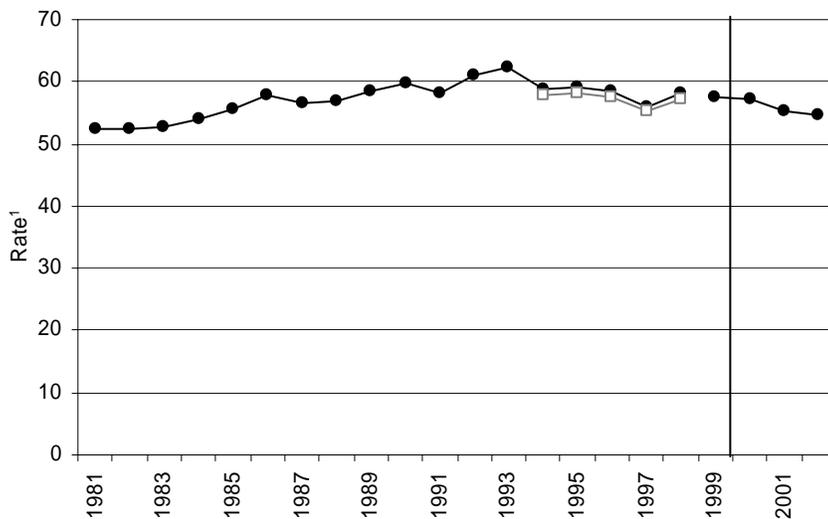
Mortality rates for all sites observed in Mortality Table D1 were lower in 2002 than 1993. Deaths due to female breast cancer and prostate cancer have had the largest decreases over time.

**Mortality Figure 6. Malignant Neoplasm (Cancer) Mortality Rates for Residents, 1980-2002**

a. Cancer, All Sites Combined



b. Lung Cancer



<sup>1</sup>Rate per 100,000 age-adjusted to U.S. 2000 population.

- Unmodified Rates
- Comparability-Modified Rates

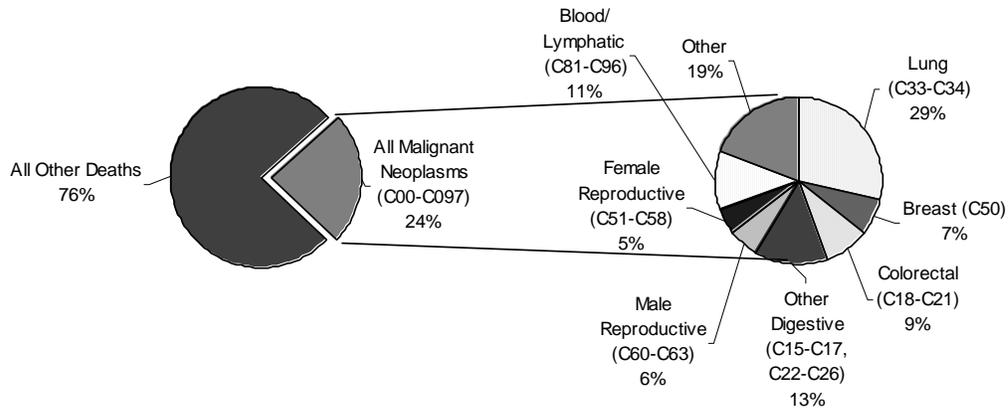
Note:

Causes of death were coded with ICD-9 in 1990-1998 and with ICD-10 in 1999-2000. Rates for 1994-1998 have been multiplied by a comparability ration (CR). ICD codes and comparability rations are:

All Sites: ICD-9: 140-208; ICD-10: C00-C97; CR=1.0068

Lung: ICD-9: 162; ICD-10: C33-C34; CR=0.9837

**Mortality Figure 7. Percent of Deaths Due to Malignant Neoplasms (Cancer) for Washington State Residents, 2002**



Note:  
 Percents may not add to 100% due to rounding.  
 International Classification of Diseases, Tenth Revision (ICD-10) codes are provided in parentheses.

**Mortality Table D2. Cancer by Primary Site by Sex for Residents, 2002**

Cause with ICD-10 Codes	Total			Male			Female		
	No.	Crude Rate <sup>1</sup>	Age-Adj. Rate <sup>2</sup>	No.	Crude Rate <sup>1</sup>	Age-Adj. Rate <sup>2</sup>	No.	Crude Rate <sup>1</sup>	Age-Adj. Rate <sup>2</sup>
<b>All Sites Combined (C00-C97)</b>	<b>10,846</b>	<b>179.5</b>	<b>190.6</b>	<b>5,575</b>	<b>185.3</b>	<b>229.0</b>	<b>5,270</b>	<b>173.8</b>	<b>165.2</b>
Bladder (C67)	228	3.8	4.0	161	5.4	6.9	67	2.2	2.0
Brain, Meninges, & CNS (C70-C72) <sup>3</sup>	324	5.4	5.6	179	5.9	6.5	145	4.8	4.6
Brain (C71)	318	5.3	5.5	175	5.8	6.4	143	4.7	4.6
Breast (C50)	766	12.7	13.2	6	0.2	0.2	760	25.1	23.8
Cervix (C53)	n/a	n/a	n/a	n/a	n/a	n/a	45	1.5	1.4
Colorectal (C18-C21) <sup>3</sup>	963	15.9	16.9	475	15.8	19.5	488	16.1	14.9
Colorectal (C18-C20,C26.0)	963	15.9	16.9	475	15.8	19.5	488	16.1	14.9
Endometrium & Uterus (C54-C55) <sup>3</sup>	n/a	n/a	n/a	n/a	n/a	n/a	127	4.2	3.9
Endometrium (C54)	n/a	n/a	n/a	n/a	n/a	n/a	66	2.2	2.0
Esophagus (C15)	274	4.5	4.8	209	6.9	8.4	65	2.1	2.0
Hodgkin's Disease (C81)	17	0.3	0.3	9	0.3	0.3	8	0.3	0.3
Kidney & Renal Pelvis (C64-C65)	258	4.3	4.5	162	5.4	6.2	96	3.2	3.0
Larynx (C32)	67	1.1	1.2	51	1.7	1.9	16	0.5	0.5
Leukemia (C91-C95) <sup>3</sup>	455	7.5	8.1	270	9.0	11.2	185	6.1	5.8
Leukemia (C90.1,C91-C95)	457	7.6	8.1	272	9.0	11.2	185	6.1	5.8
Liver (C22) <sup>3</sup>	318	5.3	5.5	194	6.4	7.4	124	4.1	3.9
Liver (C22.0,C22.2-C22.4,C22.7,C22.9)	222	3.7	3.8	153	5.1	5.7	69	2.3	2.2
Lung, Bronchus & Trachea (C33-C34) <sup>3</sup>	3,093	51.2	54.8	1,671	55.5	67.7	1,421	46.9	45.5
Lung & Bronchus (C34)	3,093	51.2	54.8	1,671	55.5	67.7	1,421	46.9	45.5
Melanoma of Skin (C43)	155	2.6	2.7	92	3.1	3.5	63	2.1	2.0
Multiple Myeloma & Immunoproliferative (C88,C90) <sup>3</sup>	266	4.4	4.7	142	4.7	6.0	124	4.1	3.9
Multiple Myeloma (C90.0,C90.2)	256	4.2	4.6	134	4.5	5.7	122	4.0	3.8
Non-Hodgkin's Lymphoma (C82-C85)	497	8.2	8.7	289	9.6	12.2	208	6.9	6.3
Oral Cavity & Pharynx (C00-C14)	176	2.9	3.1	113	3.8	4.3	63	2.1	2.0
Ovary (C56)	n/a	n/a	n/a	n/a	n/a	n/a	342	11.3	10.8
Pancreas (C25)	608	10.1	10.7	297	9.9	12.0	311	10.3	9.8
Prostate (C61)	n/a	n/a	n/a	619	20.6	28.7	n/a	n/a	n/a
Stomach (C16)	214	3.5	3.8	133	4.4	5.5	81	2.7	2.5
Testis (C62)	n/a	n/a	n/a	5	0.2	0.2	n/a	n/a	n/a
Thyroid & Endocrine Glands (C73-C75) <sup>3</sup>	39	0.6	0.7	15	0.5	0.6	24	0.8	0.8
Thyroid (C73)	25	0.4	0.4	7	0.2	0.3	18	0.6	0.6
Site Unspecified (C80)	410	6.8	7.2	178	5.9	7.4	232	7.6	7.1
All Other Sites <sup>4</sup>	566	9.4	9.9	298	9.9	12.2	268	8.8	8.2

<sup>1</sup> Rate per 100,000 population.

<sup>2</sup> Rate per 100,000 age-adjusted to U.S. 2000 population. Does not include deaths where age is unknown.

<sup>3</sup> The ICD-10 codes selected for these groups differ slightly from Cancer Registry groups. See <http://www3.doh.wa.gov/WSCR/> to obtain reports of the Washington State Cancer Registry or to obtain information about other cancer sites.

<sup>4</sup> ICD-10 Codes:C17,C23-C24,C26.1-C31,C37-C42,C44-C49,C51-C52,C57-C60,C63,C66,C68-C69,C76-C79,C88,C96-C97.

Note: Rates based on fewer than 20 deaths are likely to be unstable and imprecise.

**Mortality Table D3. Cancer for Total All Sites, Lung, and Colo-Rectal by County of Residence, 2002**

County	Malignant Neoplasms Total All Sites (C00-C97)			Lung <sup>1</sup> (C33-C34)			Colo-Rectal <sup>1</sup> (C18-C21)		
	Number	Crude Rate <sup>2</sup>	Age-Adj <sup>3</sup> Rate <sup>3</sup>	Number	Crude Rate <sup>2</sup>	Age-Adj <sup>3</sup> Rate <sup>3</sup>	Number	Crude Rate <sup>2</sup>	Age-Adj <sup>3</sup> Rate <sup>3</sup>
<b>State Total</b>	<b>10,846</b>	<b>179.5</b>	<b>190.6</b>	<b>3,093</b>	<b>51.2</b>	<b>54.8</b>	<b>963</b>	<b>15.9</b>	<b>16.9</b>
Adams	24	144.6	167.9	4	*	*	4	*	*
Asotin	45	217.4	165.3	15	72.5	57.8	5	24.2	19.3
Benton	248	168.0	194.1	72	48.8	56.4	29	19.6	23.9
Chelan	125	184.9	166.8	32	47.3	42.9	13	19.2	18.1
Clallam	211	325.1	209.6	56	86.3	54.2	15	23.1	14.8
Clark	627	172.5	204.5	153	42.1	50.0	54	14.9	17.4
Columbia	11	268.4	188.7	3	*	*	1	*	*
Cowlitz	235	248.9	232.8	79	83.7	78.7	16	16.9	15.8
Douglas	56	169.2	167.2	18	54.4	53.7	3	*	*
Ferry	5	68.5	72.2	2	*	*	0	*	*
Franklin	79	154.0	222.4	19	37.0	52.8	9	17.5	25.4
Garfield	3	*	*	3	*	*	0	*	*
Grant	134	175.4	193.2	50	65.4	72.2	8	10.5	11.7
Grays Harbor	178	260.2	216.0	63	92.1	76.4	16	23.4	18.9
Island	145	198.4	178.7	32	43.8	38.8	13	17.8	15.8
Jefferson	71	266.9	171.3	16	60.2	36.6	7	26.3	16.9
King	2,890	162.9	179.7	752	42.4	47.4	258	14.5	16.0
Kitsap	421	179.4	198.6	127	54.1	60.7	47	20.0	21.8
Kittitas	57	163.8	174.0	17	48.8	48.8	10	28.7	31.1
Klickitat	44	228.0	198.8	15	77.7	67.6	2	*	*
Lewis	177	252.1	208.2	59	84.0	68.5	15	21.4	17.4
Lincoln	34	333.3	232.6	8	78.4	53.8	1	*	*
Mason	123	247.0	195.7	49	98.4	75.8	11	22.1	17.4
Okanogan	91	228.6	202.7	24	60.3	52.4	9	22.6	20.3
Pacific	74	352.4	205.7	25	119.1	67.3	11	52.4	30.8
Pend Oreille	40	338.9	289.1	11	93.2	76.3	3	*	*
Pierce	1,256	173.2	199.3	409	56.4	64.9	92	12.7	14.7
San Juan	38	260.3	177.3	10	68.5	44.1	2	*	*
Skagit	227	216.0	185.3	68	64.7	55.9	23	21.9	18.8
Skamania	18	181.8	195.2	5	50.5	57.9	0	*	*
Snohomish	953	151.8	189.2	270	43.0	54.2	88	14.0	18.2
Spokane	811	190.6	184.9	229	53.8	52.9	73	17.2	16.9
Stevens	89	220.3	207.5	29	71.8	68.3	5	12.4	11.8
Thurston	462	217.6	224.9	132	62.2	64.8	43	20.3	20.5
Wahkiakum	12	315.5	216.9	3	*	*	0	*	*
Walla Walla	97	175.1	150.0	24	43.3	37.8	12	21.7	17.0
Whatcom	319	185.2	193.5	84	48.8	51.6	28	16.3	16.8
Whitman	41	101.0	133.0	13	32.0	43.5	3	*	*
Yakima	375	166.7	181.5	113	50.2	55.9	34	15.1	16.4

<sup>1</sup> The ICD-10 codes selected for these groups differ slightly from Cancer Registry groups. See <http://www3.doh.wa.gov/WSCR/> to obtain reports of the Washington State Cancer Registry or to obtain information about other cancer sites.

<sup>2</sup> Rate per 100,000 population.

<sup>3</sup> Rate per 100,000 age-adjusted to U.S. 2000 population. Does not include deaths where age is unknown.

<sup>\*</sup> Rate not calculated because number of deaths was less than 5.

Note: Codes for International Classification of Diseases, Tenth Revision (ICD-10) are in parentheses after each group heading.

Rates based on fewer than 20 deaths are likely to be unstable and imprecise.

**Mortality Table D4. Cancer for Female Breast, Prostate, and Pancreas by County of Residence, 2002**

County	Female Breast (C50)			Prostate (C61)			Pancreas (C25)		
	Number	Crude Rate <sup>2</sup>	Age-Adj Rate <sup>3</sup>	Number	Crude Rate <sup>2</sup>	Age-Adj Rate <sup>3</sup>	Number	Crude Rate <sup>2</sup>	Age-Adj Rate <sup>3</sup>
<b>State Total</b>	<b>760</b>	<b>25.1</b>	<b>23.8</b>	<b>619</b>	<b>20.6</b>	<b>28.7</b>	<b>608</b>	<b>10.1</b>	<b>10.7</b>
Adams	1	*	*	2	*	*	1	*	*
Asotin	1	*	*	5	50.7	55.4	1	*	*
Benton	16	21.6	22.5	10	13.6	20.5	14	9.5	10.8
Chelan	9	26.5	21.3	11	32.7	35.8	8	11.8	10.7
Clallam	16	48.8	28.4	15	46.8	36.5	16	24.7	16.4
Clark	43	23.5	24.1	42	23.3	38.5	35	9.6	10.8
Columbia	0	*	*	0	*	*	1	*	*
Cowlitz	15	31.5	29.0	7	15.0	18.8	15	15.9	14.7
Douglas	5	30.0	27.8	4	*	*	2	*	*
Ferry	1	*	*	0	*	*	0	*	*
Franklin	5	20.4	26.0	3	*	*	3	*	*
Garfield	0	*	*	0	*	*	0	*	*
Grant	10	26.8	26.9	5	12.8	17.6	12	15.7	16.8
Grays Harbor	13	37.8	30.0	11	32.3	31.9	6	8.8	7.1
Island	8	21.9	17.9	13	35.5	39.0	8	10.9	9.8
Jefferson	3	*	*	3	*	*	6	22.6	16.2
King	226	25.4	24.4	170	19.2	28.5	186	10.5	11.8
Kitsap	22	19.0	19.3	30	25.2	38.4	29	12.4	13.7
Kittitas	4	*	*	1	*	*	2	*	*
Klickitat	2	*	*	2	*	*	4	*	*
Lewis	13	36.7	27.4	8	23.0	23.0	9	12.8	10.7
Lincoln	3	*	*	3	*	*	4	*	*
Mason	7	29.1	20.6	1	*	*	4	*	*
Okanogan	9	45.1	37.7	11	55.4	60.8	6	15.1	13.1
Pacific	6	56.7	37.6	2	*	*	3	*	*
Pend Oreille	1	*	*	6	101.2	103.0	1	*	*
Pierce	73	20.0	20.7	62	17.2	28.2	57	7.9	9.2
San Juan	4	*	*	1	*	*	2	*	*
Skagit	21	39.6	33.5	14	26.9	26.9	12	11.4	9.5
Skamania	2	*	*	0	*	*	1	*	*
Snohomish	72	23.0	25.1	52	16.5	28.1	45	7.2	9.0
Spokane	53	24.5	21.5	45	21.5	27.2	38	8.9	8.7
Stevens	6	29.6	27.0	4	*	*	7	17.3	15.8
Thurston	38	35.1	31.8	30	28.8	37.4	20	9.4	9.8
Wahkiakum	1	*	*	1	*	*	0	*	*
Walla Walla	4	*	*	9	31.9	32.6	3	*	*
Whatcom	15	17.2	16.2	12	14.1	18.6	21	12.2	12.9
Whitman	2	*	*	4	*	*	5	12.3	17.2
Yakima	30	26.6	26.0	20	17.8	23.7	21	9.3	10.3

<sup>1</sup> Rate per 100,000 population.

<sup>2</sup> Rate per 100,000 age-adjusted to U.S. 2000 population. Does not include deaths where age is unknown.

<sup>3</sup> Rate not calculated because number of deaths was less than 5.

Note: Codes for International Classification of Diseases, Tenth Revision (ICD-10) are in parentheses after each group heading.

Rates based on fewer than 20 deaths are likely to be unstable and imprecise.

## E. External Causes or Injuries

A single event that causes a large number of deaths, such as the Alaska Airlines plane crash in 2000 or the 1980 eruption of Mt. Saint Helens may generate large annual variations in mortality due to unintentional injury.

Injuries do not “just happen” because of bad luck - many can be prevented. Information about the distribution of deaths due to injuries can be used to plan prevention strategies. External causes of death can be categorized by the intent (e.g., unintentional, suicide, homicide, undetermined) and by the mechanism (e.g., drowning, poisoning, cut/pierce, etc.).

### The Injury Prevention Program

(<http://www.doh.wa.gov/cfh/Injury/Default.htm>) develops and maintains programs designed to reduce injuries. There are three program units: Unintentional Injury, Intentional Injury, and Data Analysis. The focus areas in unintentional injury are injuries among children, fire injury prevention, and falls among older adults. Intentional injury focuses on youth suicide prevention, sexual assault, and safe storage of firearms. The data analysis section provides injury data by age group, county, year (for the past 10 years), and emergency medical service region for all mechanisms and intent of injury.

**Mortality Table E1. Age-Adjusted Rates<sup>1</sup> for External Causes for Residents, 1993-2003**

Year	Unintentional Injury (Accident)	Intentional Self-Harm (Suicide)	Assault (Homicide)	Undetermined	Drug-Induced <sup>2</sup>	Alcohol-Induced <sup>2</sup>	Motor Vehicle Traffic Accidents	Falls	Drowning, Accidental
1993	32.5	13.5	5.1	2.1	6.0	9.9	13.3	6.2	1.8
1994	33.0	14.5	5.8	1.9	6.9	11.0	12.9	6.3	1.9
1995	34.2	14.6	5.3	1.8	8.2	10.4	13.1	6.6	2.1
1996	34.8	14.2	4.5	1.9	8.8	11.0	13.7	7.2	1.8
1997	34.0	13.0	4.6	1.7	7.8	10.8	13.0	5.9	2.1
1998	33.9	12.3	4.0	1.7	8.1	10.0	12.8	6.4	1.9
***1998 Comparability Modified***									
1998	34.9	12.2	4.0	na	9.7	9.7	na	na	na
1999	33.5	14.2	3.2	1.7	10.0	9.9	12.2	6.2	2.0
2000	35.5	12.4	3.4	2.2	9.9	9.0	11.8	8.4	1.6
2001	35.1	11.9	3.2	1.8	9.0	10.3	12.0	8.4	1.8
2002	36.5	13.4	3.5	1.7	11.1	9.6	12.0	8.4	2.0

<sup>1</sup>Rate per 100,000 age-adjusted to U.S. 2000 population.

<sup>2</sup>These categories include some causes that are classified as "natural" deaths (e.g., alcoholic cirrhosis of the liver).

na: Comparability ratio not available.

Note:

Causes of death were coded with ICD-9 in 1990-1998 and with ICD-10 during 1999-2000. Rates during 1998

have been multiplied by a comparability ratio (CR). ICD codes and comparability ratios are:

Unintentional Injury (Accident): ICD-9: E800-E869,E880-E929; ICD-10: V01-X59,Y85-Y86; CR=1.0305

Intentional Self-Harm (Suicide): ICD-9: E950-E959; ICD-10: X60-X84,Y87.0; CR=0.9962

Assault (Homicide): ICD-9: E960-E969; ICD-10: X85-Y09,Y87.1; CR=0.9983

Undetermined: ICD-9: E980-E989; ICD-10: Y10-Y34,Y87.2,Y89.9; CR is not available.

Drug-Induced: ICD-9: 292,304,305.2-305.9,E850-E858,E950.0-E950.5,E962.0,E980.0-E980; ICD-10: F11.0-11.5, F11.7-F11.9,F12.0-F12.5,F12.7-F12.9,F13.0-F13.5,F13.7-F13.9,F14.0-F14.5,F14.7-F14.9,F15.0-F15.5,F15.7-F15.9, F16.0-F16.5,F16.7-F16.9,F17.0,F17.3-F17.5,F17.7-F17.9,F18.0-F18.5,F18.7-F18.9,F19.0-F19.5,F19.7-F19.9, X40-X44,X60-X64,X85,Y10-Y14; CR=1.1950

Alcohol-Induced: ICD-9: 291,303,305.0,357.5,425.5,535.3,571.0-571.3,790.3,E860; ICD-10: F10,G31.2,G62.1, I42.6,K29.2,K70,R78.0,X45,X65,Y15; CR=0.9682

Motor Vehicle Traffic Accidents: ICD-9: E810-E819; ICD-10: V02-V04(.1-.9),V09.2,V12-V14(.3-.9), V19(.4-.6),

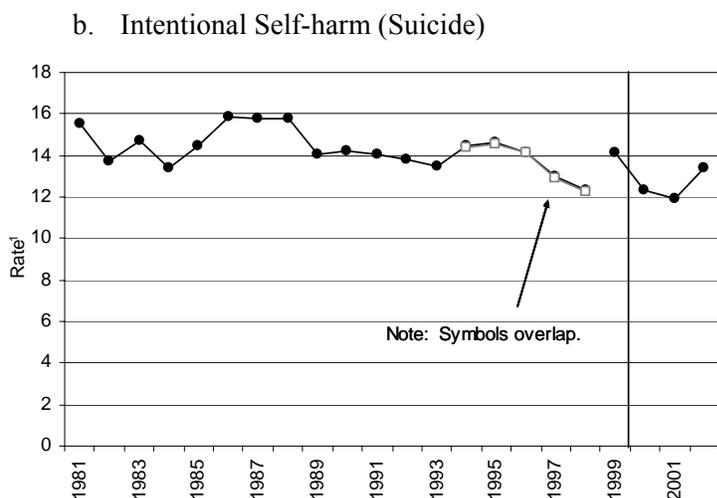
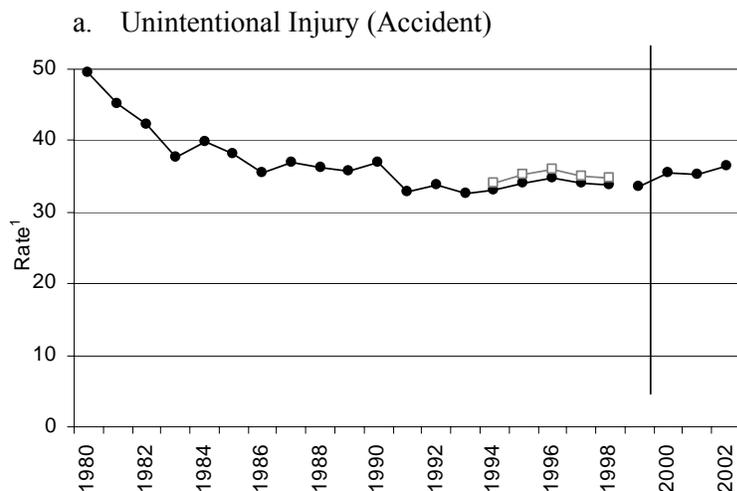
V20-V28(.3-.9),V29-V79(.4-.9),V80(.3-.5),V81.1,V82.1,V83-V86(.0-.3),V87(.0-.8),V89.2; CR is not available.

Falls: ICD-9 E880-E886,E888; ICD-10 W00-W19; CR is not available.

Drowning, Accidental: ICD-9 E830,E832,E910; ICD-10 V90,V92,W65-W74; CR is not available.

Mortality from both drug- and alcohol-induced causes has both increased during the past decade while assaults and motor vehicle traffic accidents have declined during this time period.

**Mortality Figure 8. Mortality Rates for Residents, 1980-2002**



<sup>1</sup>Rate per 100,000 age-adjusted to U.S. 2000 population.

- Unmodified Rates
- Comparability-Modified Rates

Note:

Causes of death were coded with ICD-9 in 1990-1998 and with ICD-10 in 1999-2000. Rates for 1994-1998 have been multiplied by a comparability ratio (CR). ICD codes and comparability ratios are:

Unintentional Injury (Accident): ICD-9: I800-E869,E880-929; ICD-10: V01-X59,Y85-Y86; CR=1.0305

Intentional Self-Harm (Suicide): ICD-9: E950-E959; ICD-10: X60-X84,Y87.0; CR=0.9962

**Mortality Table E2-a. External Causes of Injury With Crude Rates for Residents, 2002**

Cause	Total		Unintentional or Accident		Suicide		Homicide		Undetermined		Legal Intervention & War <sup>1</sup>	
	No.	Rate <sup>2</sup>	No.	Rate <sup>2</sup>	No.	Rate <sup>2</sup>	No.	Rate <sup>2</sup>	No.	Rate <sup>2</sup>	No.	Rate <sup>2</sup>
<b>All Injuries<sup>3</sup></b>	<b>(3,319)</b>	<b>(54.9)</b>	<b>(2,182)</b>	<b>(36.1)</b>	<b>(811)</b>	<b>(13.4)</b>	<b>(213)</b>	<b>(3.5)</b>	<b>(104)</b>	<b>(1.7)</b>	<b>(9)</b>	<b>(0.1)</b>
Cut/Pierce	57	0.9	1	*	18	0.3	37	0.6	1	*	0	*
Drowning	(139)	(2.3)	(119)	(2.0)	(7)	(0.1)	(0)	(*)	(13)	(0.2)	--	--
Boating-Related	19	0.3	19	0.3	--	--	--	--	--	--	--	--
Other	120	2.0	100	1.7	7	0.1	0	*	13	0.2	--	--
Fall/Jump/Push	512	8.5	485	8.0	24	0.4	0	*	3	*	--	--
Fire/Hot Object or Substance	(66)	(1.1)	(58)	(1.0)	(1)	(*)	(4)	(*)	(3)	(*)	(0)	(*)
Fire/Flame	65	1.1	57	0.9	1	*	4	*	3	*	--	--
Hot Object/Substance	1	*	1	*	0	*	0	*	0	*	--	--
Firearm	567	9.4	8	0.1	437	7.2	110	1.8	4	*	8	0.1
Machinery	13	0.2	13	0.2	--	--	--	--	--	--	--	--
All Transport	(804)	(13.3)	(797)	(13.2)	(6)	(0.1)	(0)	(*)	(1)	(*)	(0)	(*)
Motor Vehicle Traffic	(724)	(12.0)	(724)	(12.0)	--	--	--	--	--	--	--	--
Occupant	555	9.2	555	9.2	--	--	--	--	--	--	--	--
Motorcyclist	67	1.1	67	1.1	--	--	--	--	--	--	--	--
Pedal Cyclist	8	0.1	8	0.1	--	--	--	--	--	--	--	--
Pedestrian	75	1.2	75	1.2	--	--	--	--	--	--	--	--
Other	0	*	0	*	--	--	--	--	--	--	--	--
Unspecified	19	0.3	19	0.3	--	--	--	--	--	--	--	--
Pedal Cyclist, Other	6	0.1	6	0.1	--	--	--	--	--	--	--	--
Pedestrian, Other	14	0.2	14	0.2	--	--	--	--	--	--	--	--
Other Land Transport	34	0.6	27	0.4	6	0.1	0	*	1	*	--	--
Watercraft/Air/Space	26	0.4	26	0.4	--	--	--	--	--	--	0	*
Natural/Environmental	(23)	(0.4)	(23)	(0.4)	--	--	--	--	--	--	--	--
Bites/Stings	3	*	3	*	--	--	--	--	--	--	--	--
Other	20	0.3	20	0.3	--	--	--	--	--	--	--	--
Overexertion	0	*	0	*	--	--	--	--	--	--	--	--
Poisoning	732	12.1	494	8.2	171	2.8	2	*	65	1.1	0	*
Struck By or Against	31	0.5	22	0.4	0	*	9	0.1	0	*	0	*
Suffocation	225	3.7	73	1.2	137	2.3	11	0.2	4	*	--	--
Other Specified, Classifiable	(47)	(0.8)	(38)	(0.6)	(5)	(0.1)	(3)	(*)	(1)	(*)	(0)	(*)
Sequelae (Late Effects)	22	0.4	22	0.4	--	--	--	--	--	--	--	--
Other	25	0.4	16	0.3	5	0.1	3	*	1	*	0	*
Other Specified, NEC <sup>4</sup>	(33)	(0.5)	(21)	(0.3)	(2)	(*)	(7)	(0.1)	(2)	(*)	(1)	(*)
Sequelae (Late Effects)	27	0.4	21	0.3	0	*	5	0.1	1	*	--	--
Other	6	0.1	0	*	2	*	2	*	1	*	1	*
Unspecified	70	1.2	30	0.5	3	*	30	0.5	7	0.1	0	*
Adverse Effects <sup>3</sup>	(23)	(0.4)	--	--	--	--	--	--	--	--	--	--
Drugs	0	*	--	--	--	--	--	--	--	--	--	--
Medical Care	23	0.4	--	--	--	--	--	--	--	--	--	--

<sup>1</sup> The war-related categories include deaths due to late effects of injuries from war. Deaths occurring overseas during military activities are registered with the U.S. Department of State and are not reported to the Center for Health Statistics.

<sup>2</sup> Rate per 100,000 population.

<sup>3</sup> Group totals are shown in parentheses. Adverse Effects are not included in the total of All Injuries.

<sup>4</sup> NEC: Not elsewhere classified.

\* Rate not calculated because number of deaths was less than 5.

-- No ICD-10 codes available for this category.

Note: Rates based on fewer than 20 deaths are likely to be unstable and imprecise.

With the exception of drowning, bites/stings, all transport, and sequelae, cause-of-death categories for this table follow the guidelines of National Center for Health Statistics (NCHS) International Collaborative Effort (ICE) on Injury Statistics. These groupings differ from previously published Vital Statistics reports and from other NCHS groupings.

More injury tables can be obtained from Injury Prevention Program, Washington State Department of Health web site: <http://www.doh.wa.gov/cfh/Injury/Default.htm>.

**Mortality Table E2-b. External Causes of Injury With Age-Adjusted Rates for Residents, 2002**

Cause	Total		Unintentional or		Suicide		Homicide		Undeter- mined		Legal Intervention & War <sup>1</sup>	
	No.	Rate <sup>2</sup>	No.	Rate <sup>2</sup>	No.	Rate <sup>2</sup>	No.	Rate <sup>2</sup>	No.	Rate <sup>2</sup>	No.	Rate <sup>2</sup>
<b>All Injuries<sup>3</sup></b>	<b>(3,319)</b>	<b>(55.2)</b>	<b>(2,182)</b>	<b>(36.5)</b>	<b>(811)</b>	<b>(13.4)</b>	<b>(213)</b>	<b>(3.5)</b>	<b>(104)</b>	<b>(1.7)</b>	<b>(9)</b>	<b>(0.1)</b>
Cut/Pierce	57	0.9	1	*	18	0.3	37	0.6	1	*	0	*
Drowning	(139)	(2.3)	(119)	(2.0)	(7)	(0.1)	(0)	(*)	(13)	(0.2)	--	--
Boating-Related	19	0.3	19	0.3	--	--	--	--	--	--	--	--
Other	120	2.0	100	1.7	7	0.1	0	*	13	0.2	--	--
Fall/Jump/Push	512	8.9	485	8.4	24	0.4	0	*	3	*	--	--
Fire/Hot Object or Substance	(66)	(1.1)	(58)	(1.0)	(1)	(*)	(4)	(*)	(3)	(*)	(0)	(*)
Fire/Flame	65	1.1	57	1.0	1	*	4	*	3	*	--	--
Hot Object/Substance	1	*	1	*	0	*	0	*	0	*	--	--
Firearm	567	9.4	8	0.1	437	7.3	110	1.8	4	*	8	0.1
Machinery	13	0.2	13	0.2	--	--	--	--	--	--	--	--
All Transport	(804)	(13.3)	(797)	(13.2)	(6)	(0.1)	(0)	(*)	(1)	(*)	(0)	(*)
Motor Vehicle Traffic	(724)	(12.0)	(724)	(12.0)	--	--	--	--	--	--	--	--
Occupant	555	9.2	555	9.2	--	--	--	--	--	--	--	--
Motorcyclist	67	1.1	67	1.1	--	--	--	--	--	--	--	--
Pedal Cyclist	8	0.1	8	0.1	--	--	--	--	--	--	--	--
Other	75	1.2	75	1.2	--	--	--	--	--	--	--	--
Pedestrian	0	*	0	*	--	--	--	--	--	--	--	--
Unspecified	19	0.3	19	0.3	--	--	--	--	--	--	--	--
Pedal Cyclist, Other	6	0.1	6	0.1	--	--	--	--	--	--	--	--
Pedestrian, Other	14	0.2	14	0.2	--	--	--	--	--	--	--	--
Other Land Transport	34	0.6	27	0.5	6	0.1	0	*	1	*	--	--
Watercraft/Air/Space	26	0.4	26	0.4	--	--	--	--	--	--	0	*
Natural/Environmental	(23)	(0.4)	(23)	(0.4)	--	--	--	--	--	--	--	--
Bites/Stings	3	*	3	*	--	--	--	--	--	--	--	--
Other	20	0.3	20	0.3	--	--	--	--	--	--	--	--
Overexertion	0	*	0	*	--	--	--	--	--	--	--	--
Poisoning	732	11.9	494	8.0	171	2.8	2	*	65	1.0	0	*
Struck By or Against	31	0.5	22	0.4	0	*	9	0.1	0	*	0	*
Suffocation	225	3.7	73	1.3	137	2.2	11	0.2	4	*	--	--
Other Specified, Classifiable	(47)	(0.8)	(38)	(0.6)	(5)	(0.1)	(3)	(*)	(1)	(*)	(0)	(*)
Sequelae (Late Effects)	22	0.4	22	0.4	--	--	--	--	--	--	--	--
Other	25	0.4	16	0.3	5	0.1	3	*	1	*	0	*
Other Specified, NEC <sup>4</sup>	(33)	(0.6)	(21)	(0.4)	(2)	(*)	(7)	(0.1)	(2)	(*)	(1)	(*)
Sequelae (Late Effects)	27	0.5	21	0.4	0	*	5	0.1	1	*	--	--
Other	6	0.1	0	*	2	*	2	*	1	*	1	*
Unspecified	70	1.2	30	0.5	3	*	30	0.5	7	0.1	0	*
<b>Adverse Effects<sup>3</sup></b>	<b>(23)</b>	<b>(0.4)</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
Drugs	0	*	--	--	--	--	--	--	--	--	--	--
Medical Care	23	0.4	--	--	--	--	--	--	--	--	--	--

<sup>1</sup> The war-related categories include deaths due to late effects of injuries from war. Deaths occurring overseas during military activities are registered with the U.S. Department of State and are not reported to the Center for Health Statistics.

<sup>2</sup> Rate per 100,000 population age-adjusted to U.S. 2000 population.

<sup>3</sup> Group totals are shown in parentheses. Adverse Effects are not included in the total of All Injuries.

<sup>4</sup> NEC: Not elsewhere classified.

\* Rate not calculated because number of deaths was less than 5.

-- No ICD-10 codes available for this category.

Note: Rates based on fewer than 20 deaths are likely to be unstable and imprecise.

With the exception of drowning, bites/stings, all transport, and sequelae, cause-of-death categories for this table follow the guidelines of National Center for Health Statistics (NCHS) International Collaborative Effort (ICE) on Injury Statistics. These groupings differ from previously published Vital Statistics reports and from other NCHS groupings. More injury tables can be obtained from Injury Prevention Program, Washington State Department of Health web site: <http://www.doh.wa.gov/cfh/Injury/Default.htm>.

**Mortality Table E2-c. ICD-10 Codes for External Causes**

Cause	Unintentional or Accident	Suicide	Homicide	Undetermined	Legal Intervention & War
<b>All Injuries</b>	V01-X59,Y85-Y86	X60-X84,Y87.0	X85-Y09, Y87.1	Y10-Y34, Y87.2,Y89.9	Y35-Y36, Y89(.0,.1)
Cut/Pierce	W25-W29,W45	X78	X99	Y28	Y35.4
Drowning	W65-W74,V90,V92	X71	X92	Y21	
Boating-Related	V90,V92				
Other	W65-W74	X71	X92	Y21	
Fall/Jump/Push	W00-W19	X80	Y01	Y30	
Fire/Hot Object or Substance	X00-X19	X76-X77	X97-X98	Y26-Y27	Y36.3
Fire/Flame	X00-X09	X76	X97	Y26	
Hot Object/Substance	X10-X19	X77	X98	Y27	
Firearm	W32-W34	X72-X74	X93-X95	Y22-Y24	Y35.0
Machinery	W24,W30-W31				
All Transport	V01-V89,V91,V93-V99	X82	Y03	Y32	Y36.1
Motor Vehicle Traffic	Codes from 5 groups below				
Occupant	V30-V39(.4-.9),V40-V49(.4-.9), V50-V59(.4-.9),V60-V69(.4-.9), V70-V79(.4-.9), V81.1,V82.1, V83-V86(.0-.3)				
Motorcyclist	V20-V28(.3-.9), V29(.4-.9)				
Pedal Cyclist	V12-V14(.3-.9), V19(.4-.6)				
Pedestrian	V02-V04(.1,.9), V09.2				
Other	V80(.3-.5)				
Unspecified	V87(.0-.8), V89.2				
Pedal Cyclist, Other	V10-V11,V12-V14(.0-.2), V15-V18,V19(.0-.3,.8,.9)				
Pedestrian, Other	V01,V02-V04(.0),V05,V06, V09(.0,.1,.3,.9)				
Other Land Transport	V20-V28(.0-.2), V29(.0-.3), V30-V39(.0-.3), V40-V49(.0-.3), V50-V59(.0-.3), V60-V69(.0-.3), V70-V79(.0-.3), V80(.0-.2,.6-.9), V81-V82(.0,.2-.9),V83-V86(.4-.9) V83-V86(.4-.9),V87.9,V88(.0-.9), V89(.0,.1,.3,.9)	X82	Y03	Y32	Y36.1
Water/Air/Space	V91,V93-V99				
Natural/Environmental	W42,W43,W53-W64, W92-W99,X20-X39,X51-X57				
Bites/Stings	W53-W59, X20-X29				
Other	Residual, Natural/Environmental				
Overexertion	X50				
Poisoning	X40-X49	X60-X69	X85-X90	Y10-Y19	Y35.2
Struck By or Against	W20-W22,W50-W52	X79	Y00,Y04	Y29	Y35.3
Suffocation	W75-W84	X70	X91	Y20	
Other Specified, Classifiable	W23,W35-W41,W44, W49,W85-W91,Y85	X75,X81	X96,Y02, Y05-Y07	Y25,Y31	Y35(.1,.5), Y36(.0,.2,.4-.8)
Sequelae (Late Effects)	Y85				
Other	W49,W85-W91	X75,X81	X86,Y02 Y05-Y07	Y25,Y31	Y35(.1,.5), Y36(.0,.2,.4-.8)
Other Specified, NEC	X58,Y86	X83,Y87.0	Y08,Y87.1	Y33,Y87.2	Y35.6, Y89(.0,.1)
Sequelae (Late Effects)	Y86	Y87.0	Y87.1	Y87.2	
Other	X58	X83	Y08	Y33	Y35.6,Y89(.0,.1)
Unspecified	X59	X84	Y09	Y34,Y89.9	Y35.7,Y36.9
<b>Adverse Effects: Y40-Y59,Y60-Y84,Y88</b>					
<b>Drugs: Y40-Y59,Y88.0</b>					
<b>Medical Care: Y60-Y84,Y88(.1-.3)</b>					

**Mortality Table E3. External Causes by Place of Injury for Residents, 2002**

Place of Injury <sup>1</sup>	Total	Uninten-tional Injury (Accident), Non-Transport	Uninten-tional Injury (Accident), Transport	Intentional Self-Harm (Suicide)	Assault (Homicide)	Undetermined	Other
<b>State Total</b>	<b>3,342</b>	<b>1,344</b>	<b>838</b>	<b>811</b>	<b>213</b>	<b>104</b>	<b>32</b>
Home	1,585	786	4	599	120	72	4
Nursing Home	136	132	0	1	1	2	0
Agriculture	19	9	6	4	0	0	0
Industry	116	59	5	38	12	2	0
Prison	12	4	0	6	0	0	2
Public	1,299	233	812	158	70	20	6
Unknown	175	121	11	5	10	8	20

<sup>1</sup> National Safety Council place of injury category definitions.

Note:

Source for groups is the International Classification of Diseases, Tenth Revision (ICD-10): Unintentional Injury (Accident), Non-Transport (ICD-10: W00-X59,Y86); Unintentional Injury (Accident), Transport (ICD-10: V01-V99,Y85); Intentional Self-Harm (Suicide) (ICD-10: X60-X84,Y87.0); Assault (Homicide) (ICD-10: X85-Y09,Y87.1); Undetermined (ICD-10: Y10-Y34,Y87.2,Y89.9); Other (ICD-10: Y35,Y36,Y40-Y84,Y88, Y89.0,Y89.1)..

**Mortality Table E4. Type of Firearm by Intent for Residents, 2002**

Intent	Total			Handgun			Rifle or Shotgun			Other & Unspecified		
	No.	Crude Rate <sup>1</sup>	Age-Adj Rate <sup>2</sup>	No.	Crude Rate <sup>1</sup>	Age-Adj Rate <sup>2</sup>	No.	Crude Rate <sup>1</sup>	Age-Adj Rate <sup>2</sup>	No.	Crude Rate <sup>1</sup>	Age-Adj Rate <sup>2</sup>
<b>Total</b>	<b>567</b>	<b>9.4</b>	<b>9.4</b>	<b>308</b>	<b>5.1</b>	<b>5.1</b>	<b>113</b>	<b>1.9</b>	<b>1.9</b>	<b>146</b>	<b>2.4</b>	<b>2.4</b>
Unintentional Injury (Accident) Self-Harm (Suicide)	8	0.1	0.1	7	0.1	0.1	0	*	*	1	*	*
Assault (Homicide)	437	7.2	7.3	282	4.7	4.7	104	1.7	1.7	51	0.8	0.8
Undetermined	110	1.8	1.8	17	0.3	0.3	8	0.1	0.1	85	1.4	1.4
Legal Intervention	4	*	*	2	*	*	1	*	*	1	*	*
	8	0.1	0.1	0	*	*	0	*	*	8	0.1	0.1

<sup>1</sup> Rate per 100,000 population.

<sup>2</sup> Rate per 100,000 age-adjusted to U.S. 2000 population. Does not include deaths where age is unknown.

\* Rate not calculated because number of deaths was less than 5.

Note:

Source for groups is the International Classification of Diseases, Tenth Revision (ICD-10): Unintentional Injury (Accident), (Accident) (ICD-10: W32-W34); Self-Harm (Suicide) (ICD-10: X72-X74); Assault (Homicide) (ICD-10: X93-X95); Undetermined (ICD-10: Y22-Y24); Legal Intervention (ICD-10: Y35.0).

Rates based on fewer than 20 deaths are likely to be unstable and imprecise.

**Mortality Table E5. Poisoning by Intent and Substance for Residents, 2002**

Substance and ICD-10 Code	Total			Unintentional Injury (Accident)			Self-Harm (Suicide)			Undetermined		
	No.	Crude Rate <sup>1</sup>	Age-Adj Rate <sup>2</sup>	No.	Crude Rate <sup>1</sup>	Age-Adj Rate <sup>2</sup>	No.	Crude Rate <sup>1</sup>	Age-Adj Rate <sup>2</sup>	No.	Crude Rate <sup>1</sup>	Age-Adj Rate <sup>2</sup>
<b>Total</b>	<b>730</b>	<b>12.1</b>	<b>11.8</b>	<b>494</b>	<b>8.2</b>	<b>8.0</b>	<b>171</b>	<b>2.8</b>	<b>2.8</b>	<b>65</b>	<b>1.1</b>	<b>1.0</b>
Drugs (X40-X44,X60-X64,Y10-Y14) <sup>3</sup>	(637)	(10.5)	(10.3)	(471)	(7.8)	(7.6)	(102)	(1.7)	(1.7)	(64)	(1.1)	(1.0)
Non-Opioid Analgesics, Anti-Pyretics & Anti-Rheumatics (e.g., nonsteroidal anti-inflammatory drugs, salicylates, etc.) (X40, X60, Y10)	11	0.2	0.2	2	*	*	5	0.1	0.1	4	*	*
Anti-Epileptic, Sedative-Hypnotic, Anti-Parkinson & Psychotropic (e.g., antidepressants, barbiturates, psychostimulants, etc.) (X41, X61, Y11)	79	1.3	1.3	40	0.7	0.6	29	0.5	0.5	10	0.2	0.2
Narcotics & Psychodysleptics (e.g., cannabis, cocaine, heroin, etc.) (X42, X62, Y12)	261	4.3	4.2	226	3.7	3.7	17	0.3	0.3	18	0.3	0.3
Other Drugs Acting on Autonomic Nervous System (e.g., anticholinergics, cholinergics, antiadrenergics, etc.) (X43, X63, Y13)	0	*	*	0	*	*	0	*	*	0	*	*
Other, Unspecified, or Mixtures of Any of the Above (e.g., anaesthetics, hormones, antibiotics, etc.) (X44, X64, Y14)	286	4.7	4.6	203	3.4	3.3	51	0.8	0.9	32	0.5	0.5
Alcohol (X45, X65, Y15)	9	0.1	0.1	9	0.1	0.1	0	*	*	0	*	*
Organic Solvents, Halogenated												
Hydrocarbons, Vapors (e.g., benzene, petroleum, etc.) (X46, X66, Y16)	5	0.1	0.1	4	*	*	1	*	*	0	*	*
Other Gases & Vapors(e.g., carbon monoxide, nitrogen oxides, etc.) (X47, X67, Y17)	73	1.2	1.2	8	0.1	0.1	64	1.1	1.0	1	*	*
Pesticides (e.g., fumigants,												
herbicides, insecticides, wood preservatives, etc.) (X48, X68, Y18)	1	*	*	0	*	*	1	*	*	0	*	*
Other & Unspecified Chemicals &												
Noxious Substances (e.g., acids, glues, paints, soaps, etc.) (X49, X69, Y19)	5	0.1	0.1	2	*	*	3	*	*	0	*	*

<sup>1</sup> Rate per 100,000 population.

<sup>2</sup> Rate per 100,000 age-adjusted to U.S. 2000 population. Does not include deaths where age is unknown.

<sup>3</sup> Group totals are shown in parentheses.

\* Rate not calculated because number of deaths was less than 5.

Note: Rates based on fewer than 20 deaths are likely to be unstable and imprecise.

Poisoning due to homicides are not included in this table.

**Mortality Table E6. Suicide, Homicide, and Undetermined by County of Residence, 2002**

County	Intentional Self-Harm (Suicide) (X60-X84, Y87.0)			Assault (Homicide) (X85- Y09, Y87.1)			Undetermined (Y10- Y34, Y87.2, Y89.9)		
	Number	Crude Rate <sup>1</sup>	Age-Adj Rate <sup>2</sup>	Number	Crude Rate <sup>1</sup>	Age-Adj Rate <sup>2</sup>	Number	Crude Rate <sup>1</sup>	Age-Adj Rate <sup>2</sup>
<b>State Total</b>	<b>811</b>	<b>13.4</b>	<b>13.4</b>	<b>213</b>	<b>3.5</b>	<b>3.5</b>	<b>104</b>	<b>1.7</b>	<b>1.7</b>
Adams	2	*	*	0	*	*	0	*	*
Asotin	4	*	*	1	*	*	0	*	*
Benton	15	10.2	10.8	3	*	*	0	*	*
Chelan	3	*	*	0	*	*	2	*	*
Clallam	11	16.9	13.7	0	*	*	0	*	*
Clark	55	15.1	15.7	4	*	*	6	1.7	1.8
Columbia	1	*	*	1	*	*	0	*	*
Cowlitz	11	11.7	11.5	3	*	*	6	6.4	6.2
Douglas	4	*	*	1	*	*	0	*	*
Ferry	0	*	*	1	*	*	0	*	*
Franklin	5	9.7	10.4	3	*	*	1	*	*
Garfield	0	*	*	0	*	*	0	*	*
Grant	8	10.5	11.6	3	*	*	1	*	*
Grays Harbor	16	23.4	22.7	6	8.8	8.7	1	*	*
Island	14	19.2	19.6	2	*	*	1	*	*
Jefferson	2	*	*	1	*	*	1	*	*
King	186	10.5	10.1	77	4.3	4.1	32	1.8	1.7
Kitsap	28	11.9	12.2	1	*	*	4	*	*
Kittitas	7	20.1	20.4	2	*	*	0	*	*
Klickitat	5	25.9	23.6	0	*	*	0	*	*
Lewis	17	24.2	24.9	1	*	*	1	*	*
Lincoln	2	*	*	0	*	*	0	*	*
Mason	9	18.1	16.0	2	*	*	3	*	*
Okanogan	7	17.6	18.3	1	*	*	1	*	*
Pacific	7	33.3	34.8	1	*	*	6	28.6	31.7
Pend Oreille	3	*	*	0	*	*	2	*	*
Pierce	94	13.0	13.4	35	4.8	4.8	12	1.7	1.6
San Juan	2	*	*	1	*	*	1	*	*
Skagit	29	27.6	27.3	3	*	*	0	*	*
Skamania	6	60.6	58.4	1	*	*	0	*	*
Snohomish	80	12.7	13.2	11	1.8	1.7	10	1.6	1.5
Spokane	64	15.0	14.8	24	5.6	5.5	6	1.4	1.5
Stevens	8	19.8	19.3	4	*	*	0	*	*
Thurston	28	13.2	13.1	2	*	*	2	*	*
Wahkiakum	2	*	*	0	*	*	0	*	*
Walla Walla	8	14.4	15.8	0	*	*	0	*	*
Whatcom	28	16.3	16.6	6	3.5	3.4	3	*	*
Whitman	5	12.3	17.2	0	*	*	0	*	*
Yakima	35	15.6	16.5	12	5.3	5.5	2	*	*

<sup>1</sup> Rate per 100,000 population.

<sup>2</sup> Rate per 100,000 age-adjusted to U.S. 2000 population. Does not include deaths where age is unknown.

<sup>3</sup> Rate not calculated because number of deaths was less than 5.

Note: Codes for International Classification of Diseases, Tenth Revision (ICD-10) are in parentheses after each group heading..

Rates based on fewer than 20 deaths are likely to be unstable and imprecise.

**Mortality Table E7. Drug and Alcohol-Induced Causes for Residents, 2002**

County	Drug-Induced			Alcohol-Induced		
	Number	Crude Rate <sup>1</sup>	Age-Adj Rate <sup>2</sup>	Number	Crude Rate <sup>1</sup>	Age-Adj Rate <sup>2</sup>
<b>State Total</b>	<b>688</b>	<b>11.4</b>	<b>11.1</b>	<b>581</b>	<b>9.6</b>	<b>9.6</b>
Adams	0	*	*	3	*	*
Asotin	4	*	*	2	*	*
Benton	8	5.4	5.8	8	5.4	5.5
Chelan	7	10.4	10.7	4	*	*
Clallam	10	15.4	15.3	6	9.2	7.0
Clark	43	11.8	11.7	26	7.2	7.5
Columbia	1	*	*	0	*	*
Cowlitz	19	20.1	20.6	11	11.7	10.8
Douglas	4	*	*	4	*	*
Ferry	0	*	*	0	*	*
Franklin	3	*	*	4	*	*
Garfield	0	*	*	1	*	*
Grant	9	11.8	13.4	7	9.2	9.7
Grays Harbor	4	*	*	14	20.5	17.4
Island	5	6.8	7.1	3	*	*
Jefferson	2	*	*	4	*	*
King	204	11.5	10.6	143	8.1	8.2
Kitsap	26	11.1	10.7	25	10.7	10.8
Kittitas	3	*	*	3	*	*
Klickitat	1	*	*	4	*	*
Lewis	9	12.8	13.2	7	10.0	8.9
Lincoln	2	*	*	2	*	*
Mason	10	20.1	19.0	11	22.1	19.1
Okanogan	11	27.6	30.5	12	30.2	28.9
Pacific	8	38.1	43.6	7	33.3	20.1
Pend Oreille	3	*	*	2	*	*
Pierce	70	9.7	9.7	59	8.1	8.3
San Juan	1	*	*	1	*	*
Skagit	10	9.5	10.0	9	8.6	7.8
Skamania	2	*	*	0	*	*
Snohomish	74	11.8	11.1	72	11.5	12.2
Spokane	53	12.5	12.8	54	12.7	12.7
Stevens	4	*	*	5	12.4	10.8
Thurston	26	12.2	11.5	17	8.0	8.0
Wahkiakum	0	*	*	2	*	*
Walla Walla	6	10.8	11.3	5	9.0	9.1
Whatcom	23	13.4	14.0	16	9.3	9.5
Whitman	1	*	*	2	*	*
Yakima	22	9.8	10.8	26	11.6	12.9

<sup>1</sup> Rate per 100,000 population.

<sup>2</sup> Rate per 100,000 age-adjusted to U.S. 2000 population. Does not include deaths where age is unknown.

\* Rate not calculated because number of deaths was less than 5.

Note: Source for Selected Disease Conditions is International Classification of Diseases, Tenth Revision, (ICD-10): Drug-Induced: F11.0-11.5, F11.7-F11.9, F12.0-F12.5, F12.7-F12.9, F13.0-F13.5, F13.7-F13.9, F14.0-F14.5, F14.7-F14.9, F15.0-F15.5, F15.7-F15.9, F16.0-F16.5, F16.7-F16.9,

F17.0, F17.3, F16.9, F17.0, F17.3-F17.5, F17.7-F17.9, F18.0-F18.5, F18.7-F18.9, F19.0-F19.5, F19.7-F19.9, X40-X44, X60-X64, X85, Y10-Y14;

Alcohol-Induced: F10, G31.2, G62.1, I42.6, K29.2, K70, R78.0, X45, X65, Y15.

Rates based on fewer than 20 deaths are likely to be unstable and imprecise.

**Mortality Table E8. Unintentional Injury (Accident), Motor Vehicle Traffic, and Falls by County of Residence, 2002**

County	Unintentional Injury (Accident)(V01-X59,Y85-Y86)			Motor Vehicle Traffic <sup>1</sup>			Falls (W00-W19)		
	Number	Crude Rate <sup>2</sup>	Age-Adj Rate <sup>3</sup>	Number	Crude Rate <sup>2</sup>	Age-Adj Rate <sup>3</sup>	Number	Crude Rate <sup>2</sup>	Age-Adj Rate <sup>3</sup>
<b>State Total</b>	<b>2,182</b>	<b>36.1</b>	<b>36.5</b>	<b>724</b>	<b>12.0</b>	<b>12.0</b>	<b>485</b>	<b>8.0</b>	<b>8.4</b>
Adams	11	66.3	73.1	8	48.2	50.3	3	*	*
Asotin	12	58.0	49.7	0	*	*	2	*	*
Benton	52	35.2	38.7	18	12.2	13.1	11	7.5	9.5
Chelan	29	42.9	41.4	8	11.8	12.7	7	10.4	9.5
Clallam	40	61.6	53.2	12	18.5	17.2	12	18.5	11.1
Clark	126	34.7	37.7	47	12.9	13.7	29	8.0	10.0
Columbia	1	*	*	0	*	*	0	*	*
Cowlitz	35	37.1	35.9	10	10.6	10.4	8	8.5	7.2
Douglas	24	72.5	76.1	12	36.3	39.0	3	*	*
Ferry	4	*	*	1	*	*	1	*	*
Franklin	18	35.1	38.3	12	23.4	22.8	1	*	*
Garfield	0	*	*	0	*	*	0	*	*
Grant	30	39.3	40.3	16	20.9	21.0	3	*	*
Grays Harbor	41	59.9	58.8	15	21.9	23.8	11	16.1	13.9
Island	22	30.1	30.3	7	9.6	9.5	7	9.6	9.5
Jefferson	13	48.9	45.4	5	18.8	19.8	2	*	*
King	493	27.8	27.3	126	7.1	6.9	106	6.0	6.4
Kitsap	69	29.4	31.1	21	8.9	9.4	19	8.1	9.1
Kittitas	8	23.0	23.0	4	*	*	0	*	*
Klickitat	4	*	*	1	*	*	1	*	*
Lewis	42	59.8	57.4	23	32.8	33.0	6	8.5	6.6
Lincoln	6	58.8	56.6	3	*	*	1	*	*
Mason	25	50.2	45.3	11	22.1	22.0	6	12.0	9.1
Okanogan	40	100.5	106.3	16	40.2	43.5	5	12.6	11.0
Pacific	15	71.4	71.0	8	38.1	38.6	2	*	*
Pend Oreille	5	42.4	46.5	1	*	*	2	*	*
Pierce	242	33.4	35.2	78	10.8	10.8	48	6.6	7.9
San Juan	1	*	*	1	*	*	0	*	*
Skagit	40	38.1	36.9	12	11.4	11.3	8	7.6	6.2
Skamania	7	70.7	67.7	3	*	*	0	*	*
Snohomish	223	35.5	37.4	82	13.1	13.4	41	6.5	8.4
Spokane	194	45.6	43.9	45	10.6	10.6	76	17.9	16.0
Stevens	23	56.9	60.6	11	27.2	31.4	4	*	*
Thurston	75	35.3	35.7	24	11.3	11.7	18	8.5	8.6
Wahkiakum	4	*	*	2	*	*	0	*	*
Walla Walla	19	34.3	31.2	7	12.6	13.5	6	10.8	7.9
Whatcom	67	38.9	39.9	20	11.6	11.9	15	8.7	8.7
Whitman	12	29.6	38.0	5	12.3	15.3	4	*	*
Yakima	110	48.9	50.4	49	21.8	21.9	17	7.6	7.7

<sup>1</sup> ICD-10 codes are V02-V04(.1,.9),V09.2,V12-V14(.3-.9), V19(.4-.6),V20-V28(.3-.9),V29-V79(.4-.9),V80(.3-.5),V81.1,V82.1, V83-V86(.0-.3),V87(.0-.8),V89.2

<sup>2</sup> Rate per 100,000 population.

<sup>3</sup> Rate per 100,000 age-adjusted to U.S. 2000 population. Does not include deaths where age is unknown.

\* Rate not calculated because number of deaths was less than 5.

Note: Codes for International Classification of Diseases, Tenth Revision (ICD-10) are in parentheses after each group heading unless otherwise noted.

Rates based on fewer than 20 deaths are likely to be unstable and imprecise.

**Mortality Table E9. Drowning, Fires, and Other Unintentional Injury (Accident) by County of Residence, 2002**

County	Drownings (V90,V92,W65-W74)			Fires (X00-X09)			Other Unintentional Injury (Accident) (remainder)		
	Number	Crude Rate <sup>1</sup>	Age-Adj Rate <sup>2</sup>	Number	Crude Rate <sup>1</sup>	Age-Adj Rate <sup>2</sup>	Number	Crude Rate <sup>1</sup>	Age-Adj Rate <sup>2</sup>
<b>State Total</b>	<b>119</b>	<b>2.0</b>	<b>2.0</b>	<b>57</b>	<b>0.9</b>	<b>1.0</b>	<b>797</b>	<b>13.2</b>	<b>13.1</b>
Adams	0	*	*	0	*	*	0	*	*
Asotin	0	*	*	2	*	*	8	38.6	35.9
Benton	4	*	*	0	*	*	19	12.9	13.3
Chelan	1	*	*	2	*	*	11	16.3	16.4
Clallam	2	*	*	0	*	*	14	21.6	21.9
Clark	6	1.7	1.6	3	*	*	41	11.3	11.6
Columbia	0	*	*	0	*	*	1	*	*
Cowlitz	1	*	*	1	*	*	15	15.9	16.4
Douglas	2	*	*	0	*	*	7	21.1	21.4
Ferry	0	*	*	0	*	*	2	*	*
Franklin	0	*	*	0	*	*	5	9.7	12.0
Garfield	0	*	*	0	*	*	0	*	*
Grant	1	*	*	0	*	*	10	13.1	14.0
Grays Harbor	5	7.3	7.9	2	*	*	8	11.7	10.9
Island	1	*	*	0	*	*	7	9.6	10.1
Jefferson	1	*	*	0	*	*	5	18.8	16.1
King	28	1.6	1.6	8	0.5	0.4	225	12.7	12.0
Kitsap	4	*	*	4	*	*	21	8.9	8.9
Kittitas	1	*	*	0	*	*	3	*	*
Klickitat	0	*	*	0	*	*	2	*	*
Lewis	2	*	*	0	*	*	11	15.7	15.0
Lincoln	0	*	*	0	*	*	2	*	*
Mason	1	*	*	1	*	*	6	12.0	11.1
Okanogan	2	*	*	3	*	*	14	35.2	38.1
Pacific	1	*	*	0	*	*	4	*	*
Pend									
Oreille	1	*	*	0	*	*	1	*	*
Pierce	15	2.1	2.1	10	1.4	1.6	91	12.6	12.8
San Juan	0	*	*	0	*	*	0	*	*
Skagit	3	*	*	1	*	*	16	15.2	15.5
Skamania	0	*	*	1	*	*	3	*	*
Snohomish	10	1.6	1.5	5	0.8	1.0	85	13.5	13.1
Spokane	6	1.4	1.5	4	*	*	63	14.8	14.9
Stevens	4	*	*	0	*	*	4	*	*
Thurston	2	*	*	4	*	*	27	12.7	12.4
Wahkiakum	1	*	*	0	*	*	1	*	*
Walla Walla	0	*	*	1	*	*	5	9.0	8.3
Whatcom	7	4.1	4.4	0	*	*	25	14.5	15.0
Whitman	1	*	*	1	*	*	1	*	*
Yakima	6	2.7	2.7	4	*	*	34	15.1	16.3

<sup>1</sup> Rate per 100,000 population.

<sup>2</sup> Rate per 100,000 age-adjusted to U.S. 2000 population. Does not include deaths where age is unknown.

\* Rate not calculated because number of deaths was less than 5.

Note: Codes for International Classification of Diseases, Tenth Revision (ICD-10) are in parentheses after each group heading. Rates based on fewer than 20 deaths are likely to be unstable and imprecise.

**Mortality Table E10. Suicide, Homicide, and Undetermined to Residents by County of Injury, 2002**

<b>County of Injury</b>	<b>Intentional Self-Harm (Suicide) (X60-X84, Y87.0)</b>	<b>Assault (Homicide) (X85- Y09, Y87.1)</b>	<b>Undetermined (Y10-Y34, Y87.2, Y89.9)</b>
<b>State Total</b>	<b>811</b>	<b>213</b>	<b>104</b>
Adams	2	0	0
Asotin	3	0	0
Benton	16	3	0
Chelan	1	0	2
Clallam	12	0	0
Clark	53	3	4
Columbia	1	1	0
Cowlitz	10	2	5
Douglas	6	1	0
Ferry	1	0	0
Franklin	4	3	0
Garfield	0	0	0
Grant	9	4	1
Grays Harbor	14	5	1
Island	14	2	1
Jefferson	3	1	0
King	181	71	29
Kitsap	22	1	4
Kittitas	9	2	0
Klickitat	4	0	0
Lewis	20	2	1
Lincoln	2	0	0
Mason	14	3	2
Okanogan	8	2	1
Pacific	8	1	5
Pend Oreille	1	0	2
Pierce	94	32	11
San Juan	1	1	1
Skagit	29	2	0
Skamania	3	1	0
Snohomish	71	12	10
Spokane	59	22	6
Stevens	9	3	0
Thurston	26	2	2
Wahkiakum	2	0	0
Walla Walla	7	0	0
Whatcom	30	5	4
Whitman	4	0	0
Yakima	34	11	2
Unknown	20	8	1
Out of State	4	7	9

Note: Codes for International Classification of Diseases, Tenth Revision (ICD-10) are in parentheses after each group heading.

**Mortality Table E11. Unintentional Injury (Accident) to Residents by County of Injury, 2002**

County of Injury	All Unintentional	Motor Vehicle			Other	
	Injury (Accident)	Traffic	Falls	Drownings	Fires	Accidents
<b>State Total</b>	<b>2,182</b>	<b>724</b>	<b>485</b>	<b>119</b>	<b>57</b>	<b>797</b>
Adams	12	10	1	0	0	1
Asotin	6	0	1	0	2	3
Benton	40	16	12	2	0	10
Chelan	34	10	10	1	2	11
Clallam	41	14	10	4	0	13
Clark	92	35	21	2	3	31
Columbia	1	1	0	0	0	0
Cowlitz	25	2	7	1	1	14
Douglas	18	11	1	1	0	5
Ferry	6	3	1	0	0	2
Franklin	18	10	1	1	0	6
Garfield	1	1	0	0	0	0
Grant	34	19	4	2	1	8
Grays Harbor	35	13	7	8	2	5
Island	17	7	3	1	0	6
Jefferson	13	7	1	0	0	5
King	445	112	108	22	8	195
Kitsap	54	15	18	1	3	17
Kittitas	13	6	0	1	0	6
Klickitat	3	2	0	0	0	1
Lewis	41	28	4	2	0	7
Lincoln	2	1	1	0	0	0
Mason	25	8	6	2	1	8
Okanogan	35	15	5	1	2	12
Pacific	13	5	1	4	0	3
Pend Oreille	5	3	2	0	0	0
Pierce	202	73	38	8	10	73
San Juan	2	1	0	1	0	0
Skagit	42	14	9	3	2	14
Skamania	8	4	0	2	1	1
Snohomish	189	61	41	9	4	74
Spokane	180	31	77	8	4	60
Stevens	25	15	3	3	0	4
Thurston	63	21	17	2	4	19
Wahkiakum	1	0	0	1	0	0
Walla Walla	26	13	6	2	1	4
Whatcom	55	17	12	5	0	21
Whitman	5	2	2	0	0	1
Yakima	85	37	15	4	3	26
Unknown	112	62	11	11	1	27
Out of State	158	19	29	4	2	104

Note: Source for Selected Accidents is International Classification of Diseases (Tenth): All Unintentional Injury (Accident) (ICD-10: V01-X59,Y85-Y86); Motor Vehicle Traffic (ICD-10: V02-V04(.1,.9),V09.2,V12-V14(.3-.9), V19(.4-.6),V20-V28(.3-.9),V29-V79(.4-.9),V80(.3-.5),V81.1,V82.1,V83-V86(.0-.3),V87(.0-.8),V89.2; Falls (ICD-10: W00-W19); Drownings (ICD-10: V90,V92,W65-W74); Fires (ICD-10: X00-X09); Other Accidents (remainder).

## F. Infant Mortality

Infant mortality data include all infants who died at less than one year of age. Information on the causes of infant death helps identify areas where special care or preventive measures may be needed.

To provide more information about infant death, the death data are linked to data about the infant's birth. This linkage provides demographic data such as the mother's age and race/ethnicity, behavioral data such as smoking during pregnancy, health service data such as prenatal care, and outcome data such as birth weight. Using this linked file, analysts can compare birth characteristics of infants who died to those of infants who survived to identify risk factors for infant mortality. Health care providers use this knowledge to help their patients have a healthy baby.

**Mortality Table F1. Selected Causes for Infants (< 1 Year) Residents, 1993-2002**

Year	Total All Causes		Perinatal Conditions		Congenital Malformations		SIDS		External Causes	
	Number	Rate <sup>1</sup>	Number	Rate <sup>1</sup>	Number	Rate <sup>1</sup>	Number	Rate <sup>1</sup>	Number	Rate <sup>1</sup>
1993	495	6.3	150	1.9	117	1.5	140	1.8	24	0.3
1994	478	6.2	161	2.1	130	1.7	115	1.5	18	0.2
1995	449	5.8	173	2.2	118	1.5	101	1.3	19	0.2
1996	467	6.0	175	2.2	144	1.8	80	1.0	9	0.1
1997	440	5.6	156	2.0	117	1.5	84	1.1	18	0.2
1998	452	5.7	175	2.2	120	1.5	91	1.1	13	0.2
*1998 Comparability Modified*	452	5.7	185	2.3	109	1.4	94	1.1	13	0.2
1999	401	5.0	172	2.2	102	1.3	69	0.9	13	0.2
2000	423	5.2	172	2.1	92	1.1	76	0.9	27	0.3
2001	461	5.8	200	2.5	119	1.5	60	0.8	32	0.4
2002	452	5.7	200	2.5	105	1.3	70	0.9	24	0.3

<sup>1</sup>Rate per 1,000 live births.

Note:

Causes of death were coded with ICD-9 in 1990-1998 and with ICD-10 during 1999-2000. Rates during 1998 have been multiplied by a comparability ratio (CR). ICD codes and comparability ratios are:

Perinatal Conditions: ICD-9: 760-771.2,771.4-779; ICD-10: P00-P96; CR=1.0581

Congenital Malformations: ICD-9: 740-759; ICD-10: Q00-Q99; CR=0.9064

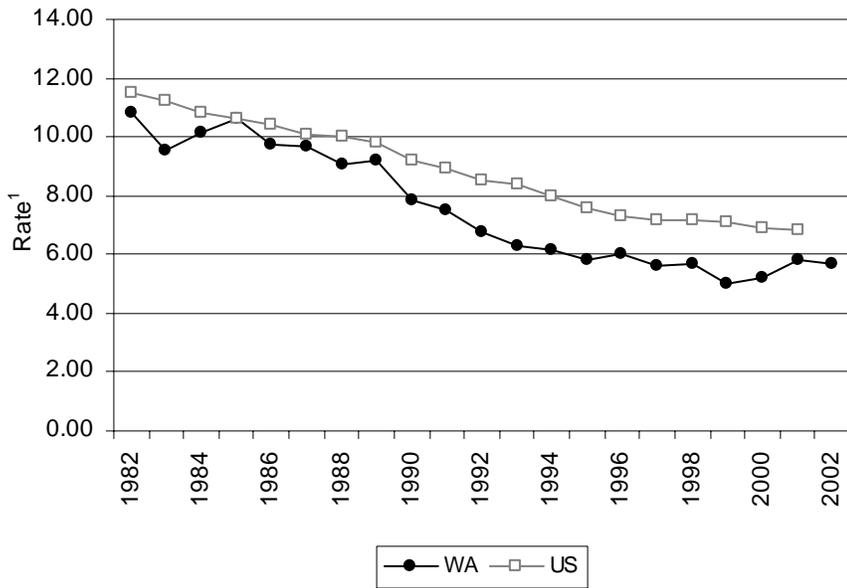
SIDS: ICD-9: 798.0; ICD-10: R95; CR=1.0362

External Causes: ICD-9: E800-E999; ICD-10: V01-Y89; CR=0.9932

Total infant mortality has dramatically decreased since 1990. During this time period, SIDS deaths have declined by 59% and deaths from other causes have also decreased. Possible reasons for the change include emphasis on preventive measures such as proper sleep position (the 'Back to Sleep' campaign), use of folic acid before and during pregnancy to prevent neural tube defects, and smoking cessation.

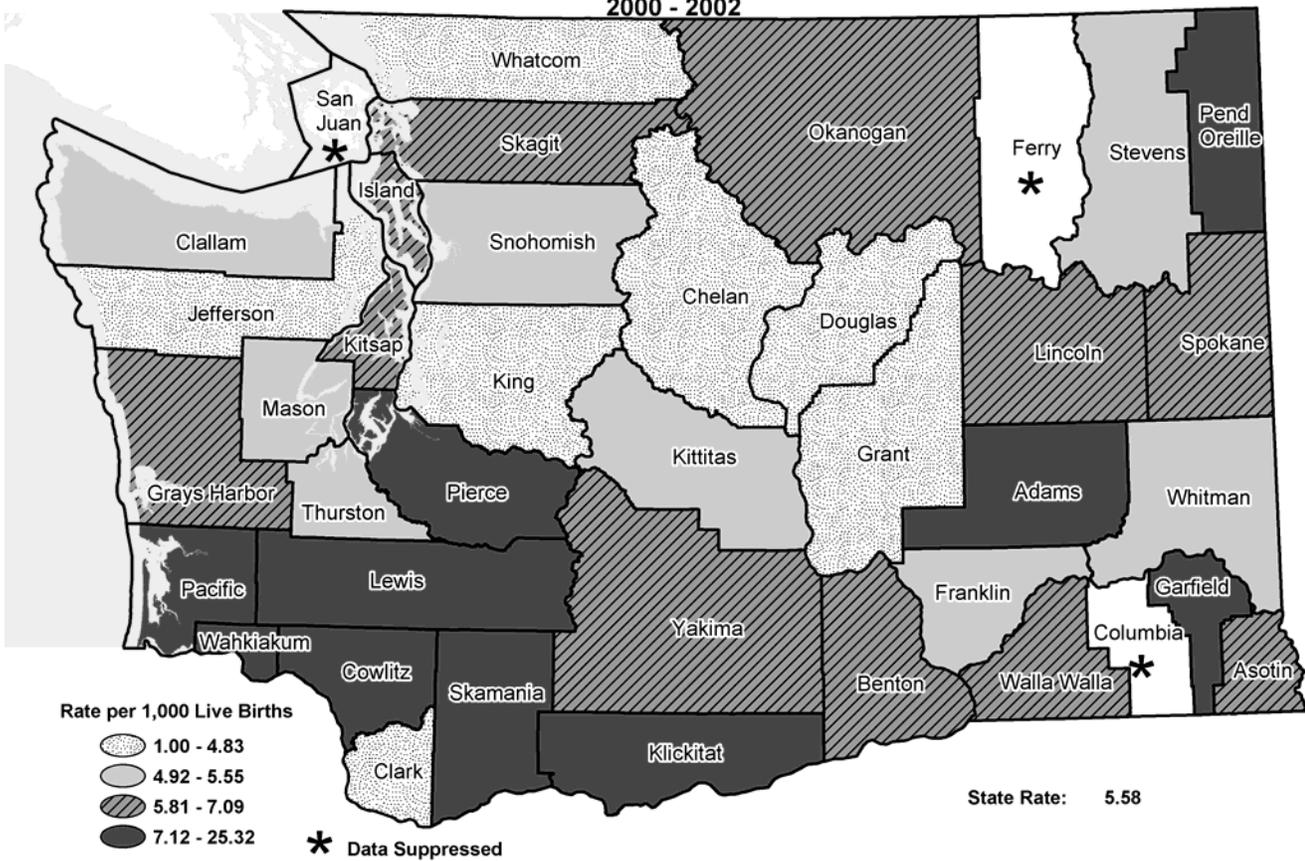
**Mortality Figure 9 & 10**

Infant Mortality Rates<sup>1</sup>, Washington State Residents Compared to National, 1980-2002



<sup>1</sup> Rate per 1,000 live births

**Washington State Infant Mortality Rates by County of Residence  
2000 - 2002**

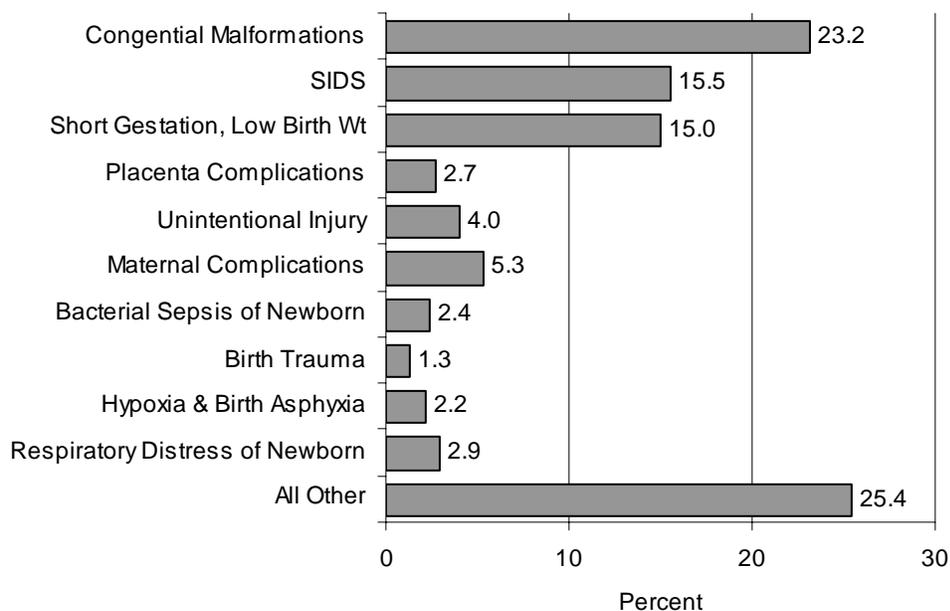


**Mortality Table F2. Leading Causes of Infant (Age < 1 Year) Death for Residents, 2002**

Rank	Causes of Death and ICD-10 Codes	Number	Percent <sup>1</sup>	Cumulative Percent
	<b>State Total</b>	<b>452</b>	<b>100.0</b>	.
1	Congenital Malformations (Q00-Q99)	105	23.2	23.2
2	Sudden Infant Death Syndrome (R95)	70	15.5	38.7
3	Short Gestation & Low Birth Weight (P07)	68	15.0	53.8
4	Maternal Complications of Pregnancy (P01)	24	5.3	59.1
5	Unintentional Injury (Accident) (V01-X59,Y85-Y86)	18	4.0	63.1
6	Respiratory Distress of Newborn (P22)	13	2.9	65.9
7	Complic. of Placenta, Cord & Membranes (P02)	12	2.7	68.6
8	Bacterial Sepsis of Newborn (P36)	11	2.4	71.0
9	Intrauterine Hypoxia & Birth Asphyxia (P20-P21)	10	2.2	73.2
10	Birth Trauma (P10-P15)	6	1.3	74.6
	All Other Causes	115	25.4	100.0

<sup>1</sup> Percents may not add to 100% due to rounding.

**Mortality Figure 11. Leading Causes of Infant (Age <1 Year) Death for Residents, 2002**



**Mortality Table F3. Birth Weight and Age for Infant (Age < 1 Year) Residents, 2002**

Birth Weight in Grams	Total		1 Day to	7 Days to	28 Days to	6 Months to	
	Number	Rate <sup>1</sup>	< 1 Day	< 7 Days	<28 Days	< 6 Months	< 12 Months
<b>State Totals</b>	<b>452</b>	<b>5.7</b>	<b>165</b>	<b>58</b>	<b>64</b>	<b>125</b>	<b>40</b>
Under 500	66	634.6	58	3	2	2	1
500 - 749	67	478.6	42	15	6	3	1
750 - 999	32	227.0	9	7	12	2	2
1,000 - 1,499	20	51.4	9	3	4	3	1
1,500 - 1,999	20	24.4	10	1	1	7	1
2,000 - 2,499	35	11.9	6	4	4	14	7
2,500 - 2,999	54	5.0	6	5	6	29	8
3,000 - 3,499	68	2.4	7	7	16	27	11
3,500 - 3,999	52	2.1	3	6	7	28	8
4,000 - 4,499	10	1.2	1	1	2	6	0
4,500 and over	2	*	1	1	0	0	0
Unknown	26	25.2	13	5	4	4	0

<sup>1</sup> Rate per 1,000 live births.

\* Rate not calculated because number of deaths was less than 5.



**Mortality Table F4-a. Selected Causes by Age and Sex for Infant (Age < 1 Year) Residents, 2002**

Cause and ICD-10 Code	Total			Under 1 Day			1 Day to Under 7 Days		
	Total	Male	Fem.	Total	Male	Fem.	Total	Male	Fem.
<b>Total All Causes<sup>1</sup></b>	<b>(452)</b>	<b>(265)</b>	<b>(187)</b>	<b>(165)</b>	<b>(94)</b>	<b>(71)</b>	<b>(58)</b>	<b>(36)</b>	<b>(22)</b>
<b>Infectious &amp; Parasitic Diseases (A00-B99)</b>	8	6	2	1	1	0	0	0	0
<b>Diseases of the Nervous System (G00-G98)</b>	5	3	2	1	1	0	0	0	0
<b>Diseases of the Circulatory System (I00-I99)</b>	5	2	3	0	0	0	1	0	1
<b>Diseases of the Respiratory System (J00-J98)</b>	6	1	5	0	0	0	0	0	0
<b>Conditions Originating in Perinatal Period(P00-P96)</b>	(200)	(118)	(82)	(124)	(69)	(55)	(36)	(23)	(13)
Newborn Affected by Maternal Factors (P00-P04)	(42)	(20)	(22)	(36)	(17)	(19)	(4)	(2)	(2)
Incompetent Cervix (P01.0)	8	3	5	8	3	5	0	0	0
Premature Rupture of Membranes (P01.1)	13	5	8	12	4	8	0	0	0
Other Maternal Complic. of Pregnancy (P01.2-P01.9)	3	3	0	3	3	0	0	0	0
Complications Involving Placenta (P02.0-P02.3)	7	4	3	4	2	2	2	2	0
Complications of Cord & Membranes (P02.4-P02.9)	5	0	5	3	0	3	2	0	2
Other (P00,P03,P04)	6	5	1	6	5	1	0	0	0
Short Gestation & Low Birth Weight (P07)	68	40	28	59	36	23	7	3	4
Intrauterine Hypoxia & Birth Asphyxia (P20-P21)	10	4	6	4	1	3	3	2	1
Respiratory Distress of Newborn (P22)	13	11	2	5	4	1	5	5	0
Other Respiratory Conditions (P23-P28)	17	8	9	7	2	5	4	1	3
Infections Specific to Perinatal Period (P35-P39)	12	11	1	3	3	0	1	1	0
Neonatal Hemorrhage (P50-P52,P54)	6	3	3	0	0	0	4	3	1
Necrotizing Enterocolitis of Newborn (P77)	6	3	3	0	0	0	0	0	0
Hydrops Fetalis Not Due to Hemolytic Disease (P83.2)	6	3	3	3	2	1	2	1	1
Other (Residual)	20	15	5	7	4	3	6	5	1
<b>Congenital Malformations (Q00-Q99)</b>	(105)	(59)	(46)	(36)	(22)	(14)	(13)	(8)	(5)
Anencephaly and Similar Malformations (Q00)	7	4	3	6	4	2	1	0	1
Malformations of Heart (Q20-Q24)	34	21	13	2	1	1	4	3	1
Other Malformations of Circulatory System (Q25-Q28)	3	0	3	0	0	0	1	0	1
Malformations of Respiratory System (Q30-Q34)	8	6	2	7	6	1	1	0	1
Malformations of Genitourinary System (Q50-Q64)	9	7	2	7	5	2	1	1	0
Malform. of Musculoskeletal Sys. & Skin (Q65-Q85)	8	2	6	3	1	2	0	0	0
Down's Syndrome (Q90)	2	2	0	0	0	0	0	0	0
Edward's Syndrome (Q91.0-Q91.3)	9	3	6	4	2	2	0	0	0
Patau's Syndrome (Q91.4-Q91.7)	5	4	1	2	1	1	2	2	0
Other (Q01-Q18,Q35-Q45,Q86-Q89)	17	8	9	4	1	3	2	2	0
Other Chromosomal Abnormalities (Q92-Q99)	3	2	1	1	1	0	1	0	1
<b>Sudden Infant Death Syndrome (R95)</b>	70	45	25	0	0	0	1	1	0
<b>Other(C00-F99,H00-H99,K00-N99,R00-R94,R96-R99)</b>	29	19	10	2	1	1	7	4	3
<b>External Causes of Mortality (V01-Y89)</b>	(24)	(12)	(12)	(1)	(0)	(1)	(0)	(0)	(0)
Accidents (V01-X59, Y85-Y86)	(18)	(9)	(9)	(0)	(0)	(0)	(0)	(0)	(0)
Suffocation & Strangulation (W75-W77,W81-W84)	12	5	7	0	0	0	0	0	0
Other (V00-W74,W78-W80,W85-X59,Y85-Y86)	6	4	2	0	0	0	0	0	0
Assault (homicide) (X85-Y09, Y87.1)	5	3	2	0	0	0	0	0	0
Other (X60-X84,Y10-Y84,Y87.0,Y87.2-Y89)	1	0	1	1	0	1	0	0	0

<sup>1</sup> Group totals are shown in parentheses.

Total includes 1 death for which sex is unknown.

**Mortality Table F4-b. Selected Causes by Age and Sex for Infant (Age < 1 Year) Residents, 2002**

Cause and ICD-10 Code	7 Days to Under 28 Days			28 Days to Under 6 Months			6 Months to Under 12 Months		
	Total	Male	Fem.	Total	Male	Fem.	Total	Male	Fem.
<b>Total All Causes<sup>1</sup></b>	<b>(64)</b>	<b>(37)</b>	<b>(27)</b>	<b>(125)</b>	<b>(81)</b>	<b>(44)</b>	<b>(40)</b>	<b>(17)</b>	<b>(23)</b>
<b>Infectious &amp; Parasitic Diseases (A00-B99)</b>	0	0	0	3	3	0	4	2	2
<b>Diseases of the Nervous System (G00-G98)</b>	1	1	0	2	1	1	1	0	1
<b>Diseases of the Circulatory System (I00-I99)</b>	2	1	1	1	0	1	1	1	0
<b>Diseases of the Respiratory System (J00-J98)</b>	1	1	0	3	0	3	2	0	2
<b>Conditions Originating in Perinatal Period(P00-P96)</b>	(30)	(22)	(8)	(8)	(4)	(4)	(2)	(0)	(2)
Newborn Affected by Maternal Factors (P00-P04)	(1)	(1)	(0)	(0)	(0)	(0)	(1)	(0)	(1)
Incompetent Cervix (P01.0)	0	0	0	0	0	0	0	0	0
Premature Rupture of Membranes (P01.1)	1	1	0	0	0	0	0	0	0
Other Maternal Complic. of Pregnancy (P01.2-P01.9)	0	0	0	0	0	0	0	0	0
Complications Involving Placenta (P02.0-P02.3)	0	0	0	0	0	0	1	0	1
Complications of Cord & Membranes (P02.4-P02.9)	0	0	0	0	0	0	0	0	0
Other (P00,P03,P04)	0	0	0	0	0	0	0	0	0
Short Gestation & Low Birth Weight (P07)	2	1	1	0	0	0	0	0	0
Intrauterine Hypoxia & Birth Asphyxia (P20-P21)	2	1	1	0	0	0	1	0	1
Respiratory Distress of Newborn (P22)	3	2	1	0	0	0	0	0	0
Other Respiratory Conditions (P23-P28)	4	4	0	2	1	1	0	0	0
Infections Specific to Perinatal Period (P35-P39)	7	6	1	1	1	0	0	0	0
Neonatal Hemorrhage (P50-P52,P54)	2	0	2	0	0	0	0	0	0
Necrotizing Enterocolitis of Newborn (P77)	3	1	2	3	2	1	0	0	0
Hydrops Fetalis Not Due to Hemolytic Disease (P83.2)	0	0	0	1	0	1	0	0	0
Other (Residual)	6	6	0	1	0	1	0	0	0
<b>Congenital Malformations (Q00-Q99)</b>	(20)	(9)	(11)	(25)	(15)	(10)	(11)	(5)	(6)
Anencephaly and Similar Malformations (Q00)	0	0	0	0	0	0	0	0	0
Malformations of Heart (Q20-Q24)	9	6	3	12	8	4	7	3	4
Other Malformations of Circulatory System (Q25-Q28)	1	0	1	0	0	0	1	0	1
Malformations of Respiratory System (Q30-Q34)	0	0	0	0	0	0	0	0	0
Malformations of Genitourinary System (Q50-Q64)	0	0	0	1	1	0	0	0	0
Malform. of Musculoskeletal Sys. & Skin (Q65-Q85)	4	0	4	1	1	0	0	0	0
Down's Syndrome (Q90)	1	1	0	1	1	0	0	0	0
Edward's Syndrome (Q91.0-Q91.3)	1	0	1	4	1	3	0	0	0
Patau's Syndrome (Q91.4-Q91.7)	0	0	0	1	1	0	0	0	0
Other (Q01-Q18,Q35-Q45,Q86-Q89)	3	1	2	5	2	3	3	2	1
Other Chromosomal Abnormalities (Q92-Q99)	1	1	0	0	0	0	0	0	0
<b>Sudden Infant Death Syndrome (R95)</b>	6	1	5	58	41	17	5	2	3
<b>Other(C00-F99,H00-H99,K00-N99,R00-R94,R96-R99)</b>	1	1	0	11	8	3	8	5	3
<b>External Causes of Mortality (V01-Y89)</b>	(3)	(1)	(2)	(14)	(9)	(5)	(6)	(2)	(4)
Accidents (V01-X59, Y85-Y86)	(3)	(1)	(2)	(10)	(6)	(4)	(5)	(2)	(3)
Suffocation & Strangulation (W75-W77,W81-W84)	3	1	2	6	3	3	3	1	2
Other (V00-W74,W78-W80,W85-X59,Y85-Y86)	0	0	0	4	3	1	2	1	1
Assault (homicide) (X85-Y09, Y87.1)	0	0	0	4	3	1	1	0	1
Other (X60-X84,Y10-Y84,Y87.0,Y87.2-Y89)	0	0	0	0	0	0	0	0	0

<sup>1</sup> Group totals are shown in parentheses.

Total includes 1 death for which sex is unknown.

**Mortality Table F5. Selected Causes for Infant (Age < 1 Year) County of Residence, 2002**

County	Total All Causes	Maternal Factors	Hypoxia & Respiratory Conditions	Other Perinatal Conditions	Congenital Malformations	Sudden Infant Death	External Causes	All Other Causes
<b>State Total</b>	<b>452</b>	<b>42</b>	<b>40</b>	<b>118</b>	<b>105</b>	<b>70</b>	<b>24</b>	<b>53</b>
Adams	3	0	0	2	1	0	0	0
Asotin	1	0	0	0	0	0	0	1
Benton	13	0	1	5	1	4	0	2
Chelan	3	2	0	1	0	0	0	0
Clallam	3	0	0	1	0	0	0	2
Clark	24	1	3	4	7	2	5	2
Columbia	0	0	0	0	0	0	0	0
Cowlitz	9	1	0	2	1	2	1	2
Douglas	2	0	0	0	0	2	0	0
Ferry	0	0	0	0	0	0	0	0
Franklin	6	2	1	2	0	0	0	1
Garfield	1	0	0	0	1	0	0	0
Grant	7	0	0	1	4	0	2	0
Grays Harbor	5	1	0	1	1	1	0	1
Island	8	0	1	2	4	0	1	0
Jefferson	1	1	0	0	0	0	0	0
King	99	10	8	27	21	12	3	18
Kitsap	20	1	3	5	5	6	0	0
Kittitas	0	0	0	0	0	0	0	0
Klickitat	2	0	1	1	0	0	0	0
Lewis	6	1	1	1	3	0	0	0
Lincoln	1	0	0	0	0	1	0	0
Mason	2	0	0	0	2	0	0	0
Okanogan	2	0	0	0	0	0	2	0
Pacific	3	1	0	0	1	0	0	1
Pend Oreille	1	0	1	0	0	0	0	0
Pierce	77	4	7	21	23	13	3	6
San Juan	0	0	0	0	0	0	0	0
Skagit	6	0	1	0	3	2	0	0
Skamania	1	0	0	0	1	0	0	0
Snohomish	45	5	0	13	7	9	1	10
Spokane	43	7	4	11	8	9	2	2
Stevens	3	1	1	0	0	1	0	0
Thurston	16	0	1	7	3	2	3	0
Wahkiakum	1	0	1	0	0	0	0	0
Walla Walla	7	0	0	2	2	1	0	2
Whatcom	8	2	2	1	2	0	1	0
Whitman	2	0	0	1	1	0	0	0
Yakima	21	2	3	7	3	3	0	3

Note: Source for Selected Causes is International Classification of Diseases, Tenth Revision (ICD-10):

Maternal Factors (ICD-10: P00-P04); Hypoxia, and Respiratory Conditions (ICD-10: P20-P28);

Other Perinatal Conditions (ICD-10: P05-P15, P29-P96); Congenital Malformations (ICD-10: Q00-Q99);

Sudden Infant Death Syndrome (ICD-10: R95); External Causes (ICD-10: V01-Y89)

**Mortality Table F6. Mother's Race/Ethnicity<sup>1</sup> by Infant (Age < 1 Year) County of Residence<sup>2</sup>, 2002**

County	Total	African		Native		Asian	Other	Unk	Hispanic <sup>3</sup>
		White	American	American	American				
<b>State Total</b>	<b>452</b>	<b>332</b>	<b>29</b>	<b>22</b>	<b>35</b>	<b>0</b>	<b>34</b>	<b>68</b>	
<b>State Rate<sup>4</sup></b>	<b>5.7</b>	<b>5.2</b>	<b>8.9</b>	<b>11.9</b>	<b>5.1</b>	<b>*</b>	<b>n/a</b>	<b>5.5</b>	
Adams	3	3	0	0	0	0	0	3	
Asotin	1	1	0	0	0	0	0	0	
Benton	13	12	0	0	1	0	0	1	
Chelan	3	1	0	0	0	0	2	1	
Clallam	3	3	0	0	0	0	0	0	
Clark	24	21	0	1	2	0	0	5	
Columbia	0	0	0	0	0	0	0	0	
Cowlitz	9	8	1	0	0	0	0	0	
Douglas	2	2	0	0	0	0	0	0	
Ferry	0	0	0	0	0	0	0	0	
Franklin	6	4	0	0	0	0	2	3	
Garfield	1	1	0	0	0	0	0	0	
Grant	7	7	0	0	0	0	0	3	
Grays Harbor	5	3	0	1	0	0	1	0	
Island	8	7	0	0	0	0	1	1	
Jefferson	1	0	0	0	0	0	1	0	
King	99	53	16	6	16	0	8	13	
Kitsap	20	16	0	1	2	0	1	2	
Kittitas	0	0	0	0	0	0	0	0	
Klickitat	2	2	0	0	0	0	0	0	
Lewis	6	6	0	0	0	0	0	1	
Lincoln	1	0	0	0	0	0	1	0	
Mason	2	2	0	0	0	0	0	1	
Okanogan	2	0	0	2	0	0	0	0	
Pacific	3	1	0	1	0	0	1	0	
Pend Oreille	1	1	0	0	0	0	0	0	
Pierce	77	56	8	2	7	0	4	6	
San Juan	0	0	0	0	0	0	0	0	
Skagit	6	6	0	0	0	0	0	3	
Skamania	1	1	0	0	0	0	0	1	
Snohomish	45	28	1	2	5	0	9	5	
Spokane	43	39	1	1	0	0	2	3	
Stevens	3	2	0	1	0	0	0	0	
Thurston	16	9	1	3	2	0	1	0	
Wahkiakum	1	1	0	0	0	0	0	0	
Walla Walla	7	7	0	0	0	0	0	2	
Whatcom	8	7	1	0	0	0	0	0	
Whitman	2	2	0	0	0	0	0	0	
Yakima	21	20	0	1	0	0	0	14	

<sup>1</sup> Infant deaths are matched with births to find mother's race/ethnicity.

<sup>2</sup> Residence is the infant's at the time of death.

<sup>3</sup> Persons of Hispanic Origin may be of any race. See Appendix A, "Hispanic Origin."

<sup>4</sup> Rate per 1,000 live births.

\* Rate not calculated because number of deaths was less than 5.

**Mortality Table F7. Mother's Age Group<sup>1</sup> by Infant (Age < 1 Year) by Place of Residence<sup>2</sup>, 2002**

County	Under										Age Unk
	All Ages	15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45 and Over	
<b>State Total</b>	<b>452</b>	<b>2</b>	<b>19</b>	<b>27</b>	<b>147</b>	<b>96</b>	<b>87</b>	<b>56</b>	<b>13</b>	<b>1</b>	<b>4</b>
<b>State Rate<sup>3</sup></b>	<b>5.7</b>	<b>*</b>	<b>8.8</b>	<b>5.5</b>	<b>7.5</b>	<b>4.5</b>	<b>4.4</b>	<b>6.0</b>	<b>6.0</b>	<b>*</b>	<b>n/a</b>
Adams	3	0	1	0	0	1	0	1	0	0	0
Asotin	1	0	0	0	0	0	1	0	0	0	0
Benton	13	0	1	1	5	2	2	1	1	0	0
Chelan	3	0	0	1	0	0	0	1	0	0	1
Clallam	3	0	0	0	0	1	1	1	0	0	0
Clark	24	0	1	1	14	3	3	2	0	0	0
Columbia	0	0	0	0	0	0	0	0	0	0	0
Cowlitz	9	0	0	0	3	3	2	1	0	0	0
Douglas	2	0	0	0	2	0	0	0	0	0	0
Ferry	0	0	0	0	0	0	0	0	0	0	0
Franklin	6	0	2	0	1	3	0	0	0	0	0
Garfield	1	0	0	0	0	0	1	0	0	0	0
Grant	7	0	0	1	2	1	3	0	0	0	0
Grays Harbor	5	0	1	0	3	0	0	1	0	0	0
Island	8	0	1	0	0	3	2	2	0	0	0
Jefferson	1	0	0	1	0	0	0	0	0	0	0
King	99	1	1	2	26	17	21	25	4	0	2
Kitsap	20	0	1	3	9	1	5	1	0	0	0
Kittitas	0	0	0	0	0	0	0	0	0	0	0
Klickitat	2	0	0	0	0	0	1	0	1	0	0
Lewis	6	0	1	0	2	1	1	1	0	0	0
Lincoln	1	0	0	0	1	0	0	0	0	0	0
Mason	2	0	0	0	1	1	0	0	0	0	0
Okanogan	2	0	0	0	1	1	0	0	0	0	0
Pacific	3	0	0	0	1	1	1	0	0	0	0
Pend Oreille	1	0	0	0	1	0	0	0	0	0	0
Pierce	77	0	1	3	31	21	13	6	1	0	1
San Juan	0	0	0	0	0	0	0	0	0	0	0
Skagit	6	0	0	0	1	1	2	1	1	0	0
Skamania	1	0	0	1	0	0	0	0	0	0	0
Snohomish	45	0	5	2	7	12	11	5	3	0	0
Spokane	43	1	1	5	15	13	5	1	1	1	0
Stevens	3	0	0	0	2	0	1	0	0	0	0
Thurston	16	0	0	4	4	3	3	1	1	0	0
Wahkiakum	1	0	0	0	0	0	1	0	0	0	0
Walla Walla	7	0	0	0	3	0	2	2	0	0	0
Whatcom	8	0	0	1	0	4	1	2	0	0	0
Whitman	2	0	0	0	0	1	1	0	0	0	0
Yakima	21	0	2	1	12	2	3	1	0	0	0

<sup>1</sup> Infant deaths are matched with births to find mother's age.

<sup>2</sup> Residence is the infant's at the time of death.

<sup>3</sup> Rate per 1,000 live births.

\* Rate not calculated because number of deaths was less than 5.



**Mortality Table F8. Fetal Deaths, Perinatal, Neonatal, and Infant Mortality by County/City of Residence, 2002**

County and City	Fetal Deaths		Perinatal Mortality		Neonatal Mortality		Infant Mortality	
	Number	Ratio <sup>1</sup>	Number	Rate <sup>2</sup>	Number	Rate <sup>3</sup>	Number	Rate <sup>4</sup>
<b>State Total</b>	<b>434</b>	<b>5.5</b>	<b>657</b>	<b>8.3</b>	<b>287</b>	<b>3.6</b>	<b>452</b>	<b>5.7</b>
Adams	4	*	5	14.2	2	*	3	*
Asotin	0	*	0	*	0	*	1	*
Benton	15	6.9	22	10.1	7	3.2	13	6.0
Kennewick	6	5.4	6	5.4	0	*	2	*
Richland	5	10.0	8	15.9	3	*	4	*
Chelan	7	7.6	9	9.7	3	*	3	*
Wenatchee	2	*	3	*	2	*	2	*
Clallam	4	*	5	8.4	1	*	3	*
Port Angeles	2	*	3	*	1	*	2	*
Clark	16	3.0	25	4.8	11	2.1	24	4.6
Vancouver	11	3.2	16	4.6	6	1.7	14	4.0
Columbia	0	*	0	*	0	*	0	*
Cowlitz	6	4.8	9	7.2	5	4.0	9	7.2
Longview	4	*	7	12.1	5	8.7	5	8.7
Douglas	3	*	3	*	1	*	2	*
Ferry	1	*	1	*	0	*	0	*
Franklin	10	8.4	15	12.5	5	4.2	6	5.0
Pasco	10	10.6	14	14.7	4	*	5	5.3
Garfield	0	*	0	*	1	*	1	*
Grant	8	5.7	12	8.6	4	*	7	5.0
Moses Lake	2	*	2	*	0	*	1	*
Grays Harbor	4	*	6	7.4	2	*	5	6.2
Aberdeen	1	*	1	*	0	*	1	*
Island	4	*	11	11.8	8	8.6	8	8.6
Oak Harbor	0	*	2	*	2	*	2	*
Jefferson	1	*	2	*	1	*	1	*
King	109	5.0	164	7.5	69	3.2	99	4.5
Auburn	2	*	4	*	4	*	6	6.7
Bellevue	5	3.8	6	4.5	1	*	1	*
Bothell part	1	*	3	*	2	*	2	*
Burien	2	*	3	*	1	*	2	*
Des Moines	4	*	4	*	0	*	0	*
Federal Way	6	4.9	11	9.0	6	4.9	8	6.6
Kenmore	0	*	1	*	1	*	1	*
Kent	7	4.6	13	8.6	7	4.6	13	8.6
Kirkland	6	7.6	7	8.8	1	*	2	*
Maple Valley	2	*	2	*	0	*	0	*
Mercer Island	0	*	0	*	0	*	0	*
Redmond	5	6.5	6	7.7	2	*	4	*
Renton	5	3.8	8	6.1	4	*	4	*
Sammamish	1	*	1	*	0	*	0	*
SeaTac	1	*	3	*	3	*	3	*
Seattle	42	5.7	64	8.7	27	3.7	32	4.4
Shoreline	4	*	4	*	0	*	0	*
Tukwila	1	*	2	*	1	*	2	*
Kitsap	16	5.4	24	8.1	11	3.7	20	6.8
Bainbridge Island	1	*	1	*	0	*	1	*

**Mortality Table F8. (Continued) Fetal Deaths, Perinatal, Neonatal, and Infant Mortality by County/City of Residence, 2002**

County and City	Fetal Deaths		Perinatal Mortality		Neonatal Mortality		Infant Mortality	
	Number	Ratio <sup>1</sup>	Number	Rate <sup>2</sup>	Number	Rate <sup>3</sup>	Number	Rate <sup>4</sup>
Bremerton	8	8.5	12	12.7	5	5.3	10	10.6
Kittitas	1	*	1	*	0	*	0	*
Ellensburg	0	*	0	*	0	*	0	*
Klickitat	1	*	2	*	2	*	2	*
Lewis	8	8.9	11	12.2	4	*	6	6.7
Centralia	0	*	1	*	1	*	2	*
Lincoln	0	*	0	*	0	*	1	*
Mason	3	*	5	9.2	2	*	2	*
Okanogan	1	*	1	*	0	*	2	*
Pacific	0	*	1	*	1	*	3	*
Pend Oreille	0	*	1	*	1	*	1	*
Pierce	60	6.0	94	9.3	45	4.5	77	7.7
Lakewood	8	8.1	11	11.1	3	*	8	8.1
Puyallup	2	*	4	*	5	5.1	6	6.2
Tacoma	29	7.8	42	11.3	17	4.6	28	7.6
University Place	2	*	8	37.4	6	28.3	8	37.7
San Juan	1	*	1	*	0	*	0	*
Skagit	9	6.6	13	9.4	4	*	6	4.4
Mount Vernon	2	*	4	*	2	*	2	*
Skamania	0	*	0	*	0	*	1	*
Snohomish	48	5.8	67	8.0	26	3.1	45	5.4
Edmonds	1	*	2	*	2	*	3	*
Everett	13	6.2	21	9.9	10	4.8	18	8.6
Lynnwood	3	*	4	*	1	*	3	*
Marysville	0	*	2	*	3	*	5	7.8
Mountlake Terrace	2	*	2	*	0	*	0	*
Mukilteo	0	*	2	*	2	*	2	*
Spokane	40	7.2	60	10.7	27	4.9	43	7.8
Spokane (city)	27	8.4	36	11.1	13	4.0	25	7.8
Stevens	3	*	5	10.8	3	*	3	*
Thurston	21	8.6	29	11.8	12	4.9	16	6.5
Lacey	7	13.4	10	18.8	4	*	5	9.5
Olympia	10	11.1	15	16.4	5	5.5	6	6.7
Wahkiakum	0	*	0	*	1	*	1	*
Walla Walla	1	*	5	7.2	5	7.2	7	10.1
Walla Walla (city)	1	*	5	11.1	5	11.1	6	13.3
Whatcom	11	5.6	17	8.6	7	3.5	8	4.1
Bellingham	3	*	8	9.2	5	5.8	6	7.0
Whitman	2	*	3	*	1	*	2	*
Pullman	1	*	1	*	0	*	1	*
Yakima	16	4	28	6.9	15	3.7	21	5.2
Yakima (city)	5	3.1	12	7.4	8	4.9	11	6.8

<sup>1</sup> Fetal death ratio = fetal deaths per 1,000 live births.

<sup>2</sup> Perinatal mortality rate = fetal deaths plus deaths to infants within first 6 days of life per 1,000 live births plus fetal deaths.

<sup>3</sup> Neonatal mortality rate = deaths to infants within first 27 days of life per 1,000 live births.

<sup>4</sup> Infant mortality rate = deaths to infants under one year of age per 1,000 live births.

\* Rate or ratio not calculated because number of deaths was less than 5.

## G. Fetal Death

Fetal death data includes cases where the fetus shows no sign of life at delivery. Fetal death has also been called 'stillbirth.' Only fetal deaths of 20 or more weeks' gestation are required to be reported to the state. Thus, data for early fetal losses are not included in this report. Fetal deaths complete the picture: together with births and early infant deaths they are used to describe the perinatal period (i.e., the period surrounding the delivery).

**Mortality Table G1. Selected Causes of Fetal Deaths for Residents, 1993-2002**

Year	Total All Causes		Fetus Affected by Maternal Complications of Pregnancy		Complications of Placenta, Cord, & Membrane		Other Perinatal Conditions		Congenital Anomalies	
	Number	Ratio <sup>1</sup>	Number	Ratio <sup>1</sup>	Number	Ratio <sup>1</sup>	Number	Ratio <sup>1</sup>	Number	Ratio <sup>1</sup>
1993	396	5.0	33	0.4	147	1.9	170	2.2	41	0.5
1994	443	5.7	41	0.5	156	2.0	176	2.3	66	0.9
1995	419	5.4	44	0.6	145	1.9	171	2.2	59	0.8
1996	462	5.9	51	0.7	142	1.8	208	2.7	58	0.7
1997	457	5.8	43	0.6	144	1.8	186	2.4	80	1.0
1998	471	5.9	57	0.7	148	1.9	209	2.6	55	0.7
1999	468	5.9	52	0.7	125	1.6	213	2.7	77	1.0
2000	437	5.4	53	0.7	141	1.7	191	2.4	51	0.6
2001	418	5.3	52	0.7	116	1.5	185	2.3	62	0.8
2002	434	5.5	56	0.7	134	1.7	180	2.3	63	0.8

<sup>1</sup>Ratio per 1,000 live births.

Note:

Causes of death were coded with ICD-9 through 1998 and with ICD-10 beginning 1999. Comparability ratios to adjust for the change in classification are not available for fetal death causes. ICD codes are:

Maternal Complications of Pregnancy: ICD-9: 761; ICD-10: P01

Complications of Placenta, Cord, & Membranes: ICD-9: 762; ICD-10: P02

Other Perinatal Conditions: ICD-9: 760,763-771.2,771.4-779; ICD-10: P00,P03-P96

Congenital Anomalies: ICD-9: 740-759; ICD-10: Q00-Q99

Fetal death ratios have fluctuated overtime. The most recent ratio (2002) is typical in looking at the past decade. Data for future years will show if this is just another fluctuation or part of a downward trend. Trends in *cause-specific* fetal death ratios generally parallel the *all-cause* trend.

**Mortality Table G2. Fetal Deaths by Mother's Age Group by Place of Residence, 2002**

County	All Ages	Under 15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45 and Over	Unk
<b>State Total</b>	<b>434</b>	<b>2</b>	<b>12</b>	<b>27</b>	<b>109</b>	<b>105</b>	<b>90</b>	<b>69</b>	<b>15</b>	<b>3</b>	<b>2</b>
<b>State Ratio<sup>1</sup></b>	<b>5.5</b>	<b>.</b>	<b>5.6</b>	<b>5.5</b>	<b>5.6</b>	<b>5.0</b>	<b>4.6</b>	<b>7.4</b>	<b>7.0</b>	<b>.</b>	<b>n/a</b>
Adams	4	0	0	0	1	2	1	0	0	0	0
Asotin	0	0	0	0	0	0	0	0	0	0	0
Benton	15	0	1	0	4	2	2	5	1	0	0
Chelan	7	0	0	0	3	3	1	0	0	0	0
Clallam	4	0	0	1	0	1	0	2	0	0	0
Clark	16	1	0	1	6	2	2	4	0	0	0
Columbia	0	0	0	0	0	0	0	0	0	0	0
Cowlitz	6	0	0	0	2	2	1	1	0	0	0
Douglas	3	0	0	0	1	1	0	1	0	0	0
Ferry	1	0	0	0	0	1	0	0	0	0	0
Franklin	10	0	2	1	3	2	0	1	1	0	0
Garfield	0	0	0	0	0	0	0	0	0	0	0
Grant	8	0	1	2	2	2	0	1	0	0	0
Grays Harbor	4	0	0	1	1	0	2	0	0	0	0
Island	4	0	1	0	0	2	1	0	0	0	0
Jefferson	1	0	0	0	0	0	1	0	0	0	0
King	109	1	0	2	22	24	33	20	4	2	1
Kitsap	16	0	0	4	6	3	0	3	0	0	0
Kittitas	1	0	0	0	0	0	1	0	0	0	0
Klickitat	1	0	0	0	0	0	0	0	1	0	0
Lewis	8	0	0	0	1	4	2	0	1	0	0
Lincoln	0	0	0	0	0	0	0	0	0	0	0
Mason	3	0	0	0	2	0	0	0	0	1	0
Okanogan	1	0	0	0	0	1	0	0	0	0	0
Pacific	0	0	0	0	0	0	0	0	0	0	0
Pend Oreille	0	0	0	0	0	0	0	0	0	0	0
Pierce	60	0	1	5	21	8	11	10	4	0	0
San Juan	1	0	0	0	0	0	1	0	0	0	0
Skagit	9	0	0	0	3	1	2	2	0	0	1
Skamania	0	0	0	0	0	0	0	0	0	0	0
Snohomish	48	0	2	2	10	15	11	7	1	0	0
Spokane	40	0	3	4	11	10	7	3	2	0	0
Stevens	3	0	0	0	2	0	0	1	0	0	0
Thurston	21	0	0	2	5	9	4	1	0	0	0
Wahkiakum	0	0	0	0	0	0	0	0	0	0	0
Walla Walla	1	0	0	0	0	0	1	0	0	0	0
Whatcom	11	0	0	0	2	2	2	5	0	0	0
Whitman	2	0	0	0	0	1	1	0	0	0	0
Yakima	16	0	1	2	1	7	3	2	0	0	0

<sup>1</sup> Ratio of fetal deaths per 1,000 live births.

\* Ratio not calculated because number of deaths was less than 5.

**Mortality Table G3. Fetal Deaths for Residents by Cause, 2002**

<b>Cause with ICD-10 Code</b>	<b>Number</b>
<b>All causes<sup>1</sup></b>	<b>434</b>
<b>Perinatal conditions (P00-P96)</b>	<b>370</b>
Fetus Affected by Maternal Conditions (P00) <sup>2</sup>	(23)
Maternal Hypertensive Disorders (P00.0)	15
Maternal Injury (P00.5)	3
Other Maternal Conditions (P00.1-P00.4,P00.6-P00.9)	5
Fetus Affected by Maternal Complications of Pregnancy (P01)	(56)
Incompetent Cervix (P01.0)	11
Premature Rupture of Membranes (P01.1)	32
Multiple Pregnancy (P01.5)	7
Other (P01.2-P01.4,P01.6-P01.9)	6
Fetus Affected by Complications of Placenta, Cord & Membrane (P02)	(134)
Other Forms of Placental Separation & Hemorrhage (P02.1)	40
Other Morphological & Functional Abnormalities of Placenta (P02.2)	11
Placental Transfusion Syndrome (P02.3)	8
Other Compression of Umbilical Cord (P02.5)	30
Other & Unspecified Conditions of Umbilical Cord (P02.6)	29
Chorioamnionitis (P02.7)	14
Other (P02.0,P02.4,P02.8-P02.9)	2
Fetus Affected by Complications of Labor & Delivery (P03)	1
Fetus Affected by Noxious Influences Via Placenta (P04)	1
Slow Fetal Growth & Fetal Malnutrition (P05)	0
Disorders Related to Short Gestation, Low Birth Weight (P07)	31
Disorders Related to Long Gestation & High Birth Weight (P08)	0
Birth Trauma (P10-P15)	5
Intrauterine Hypoxia and Birth Asphyxia (P20-P21)	8
Fetal Hemorrhage (P50-P54)	3
Hydrops Fetalis Due to Hemolytic Disease (P56)	0
Transitory Endocrine & Metabolic Disorders (P70-P74)	4
Fetal Death of Unspecified Cause (P95)	83
All other (P22-P26,P28,P30-P49,P55,P57-P69,P75-P94,P96)	21
<b>Congenital Malformations &amp; Chromosomal Abnormalities (Q00-Q99)</b>	<b>63</b>
Congenital Malformations of Nervous System (Q00-Q07)	(11)
Anencephaly & Similar Malformations (Q00)	7
Other (Q01-Q07)	4
Congenital Malformations of Heart (Q20-Q24)	6
Congenital Malformations of Urinary System (Q60-Q64)	6
Congenital Malformations Musculoskeletal & Integument (Q65-Q85)	3
Chromosomal Abnormalities Not Elsewhere Classified, (Q90-Q99)	(25)
Down's Syndrome (Q90)	6
Edward's Syndrome (Q91.0-Q91.3)	6
Other (Q91.4-Q99)	13
Other (Q08-Q18,Q25-Q56,Q86-Q89)	12
<b>All Other Causes (A00-O00,R00-R99,V01-V84)</b>	<b>1</b>

<sup>1</sup> Group totals are shown in bold.<sup>2</sup> Sub-group totals are shown in parentheses.

**Mortality Table G4. Fetal Deaths by Weight and Sex for Residents, 2002**

<b>Weight in Grams</b>	<b>Total</b>	<b>Male</b>	<b>Female</b>	<b>Unknown</b>
<b>State Totals</b>	<b>434</b>	<b>229</b>	<b>204</b>	<b>1</b>
Under 250	23	13	10	0
250 - 499	91	43	47	1
500 - 749	43	27	16	0
750 - 999	28	14	14	0
1,000 - 1,499	40	24	16	0
1,500 - 1,999	24	12	12	0
2,000 - 2,499	29	14	15	0
2,500 - 2,999	34	19	15	0
3,000 - 3,499	33	17	16	0
3,500 - 3,999	12	7	5	0
4,000 - 4,499	5	2	3	0
4,500 and over	6	4	2	0
Unknown	66	33	33	0



# Marriage



**Marriage**

The Washington State Marriage Certificate System gathers information about each marriage that occurs in Washington State. The information on the marriage certificate is provided by the couple themselves and the officiant. The filing of marriage certificates at the state level began in 1968.

The main purposes of the marriage system are: 1) to provide a legal record of the marriage; and 2) to collect information on population trends, especially in regards to the age and location of the participants.

**Table 1. Marriages by County of Occurrence and County of Residence<sup>1</sup>, 2002**

County	Occurrence		Wife's Residence		Husband's Residence	
	Number	Rate <sup>2,3</sup>	Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>
<b>State Total</b>	<b>39,518</b>	<b>6.5</b>	<b>36,530</b>	<b>6.0</b>	<b>36,008</b>	<b>6.0</b>
Adams	88	5.3	82	4.9	77	4.6
Asotin	55	3.3	27	1.6	23	1.4
Benton	905	6.1	830	5.6	798	5.4
Chelan	692	10.2	342	5.1	335	5.0
Clallam	465	7.2	395	6.1	388	6.0
Clark	2,386	6.6	1,972	5.4	1,896	5.2
Columbia	31	7.6	19	4.6	17	4.1
Cowlitz	663	7.0	585	6.2	563	6.0
Douglas	120	3.6	168	5.1	167	5.0
Ferry	46	6.3	28	3.8	28	3.8
Franklin	348	6.8	312	6.1	295	5.8
Garfield	19	7.9	9	3.8	14	5.8
Grant	385	5.0	382	5.0	393	5.1
Grays Harbor	533	7.8	443	6.5	436	6.4
Island	622	8.5	472	6.5	504	6.9
Jefferson	273	10.3	136	5.1	135	5.1
King	11,278	6.4	11,023	6.2	10,873	6.1
Kitsap	1,752	7.5	1,606	6.8	1,625	6.9
Kittitas	205	5.9	216	6.2	213	6.1
Klickitat	126	3.6	92	2.6	88	2.5
Lewis	501	7.1	442	6.3	438	6.2
Lincoln	44	4.3	37	3.6	38	3.7
Mason	376	7.6	329	6.6	319	6.4
Okanogan	260	6.5	203	5.1	195	4.9
Pacific	214	10.2	131	6.2	140	6.7
Pend Oreille	59	2.8	40	1.9	44	2.1
Pierce	5,329	7.4	4,914	6.8	4,985	6.9
San Juan	378	25.9	71	4.9	72	4.9
Skagit	858	8.2	707	6.7	679	6.5
Skamania	114	11.5	41	4.1	36	3.6
Snohomish	3,383	5.4	3,826	6.1	3,761	6.0
Spokane	2,192	5.2	2,029	4.8	1,976	4.6
Stevens	209	5.2	215	5.3	208	5.1
Thurston	1,507	7.1	1,486	7.0	1,400	6.6
Wahkiakum	18	4.7	11	2.9	14	3.7
Walla Walla	369	6.7	311	5.6	301	5.4
Whatcom	1,175	6.8	1,108	6.4	1,076	6.2
Whitman	150	3.7	177	4.4	179	4.4
Yakima	1,389	6.2	1,313	5.8	1,279	5.7
Tribal Authority	1	*	*	*	*	*
Out of State	—	—	—	—	—	—
Unknown	*	*	2,988	*	3,510	*

<sup>1</sup> Does not include marriages to Washington residents performed in other states or countries.<sup>2</sup> Rates per 1,000 population.<sup>3</sup> Exceptionally high rates by county of occurrence may reflect unique local circumstances, such as highly desirable locations for weddings. See pages 5-6 for a discussion of occurrence rates.

**Table 2. Marriages by Woman's Age and County where Ceremony was Performed, 2002**

County	Total	Under										65 and Over	Unk
		20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64		
<b>State Total</b>	<b>39,518</b>	<b>3,126</b>	<b>10,751</b>	<b>8,010</b>	<b>5,698</b>	<b>3,607</b>	<b>2,897</b>	<b>2,231</b>	<b>1,405</b>	<b>741</b>	<b>388</b>	<b>515</b>	<b>149</b>
Adams	88	14	32	14	4	7	4	2	7	3	1	0	0
Asotin	55	6	19	14	4	2	3	1	3	0	0	3	0
Benton	905	105	328	156	106	53	58	39	24	16	2	15	3
Chelan	692	61	185	115	109	74	47	36	24	18	4	16	3
Clallam	465	41	113	63	42	61	47	43	21	10	11	12	1
Clark	2,386	205	698	420	282	229	186	141	97	65	29	33	1
Columbia	31	3	10	3	2	4	0	2	4	3	0	0	0
Cowlitz	663	71	205	131	84	53	40	29	26	10	2	12	0
Douglas	120	10	49	16	9	7	6	15	6	0	1	0	1
Ferry	46	5	12	3	2	4	10	3	3	2	0	2	0
Franklin	348	50	118	64	41	20	19	20	8	1	3	2	2
Garfield	19	0	7	5	1	2	1	0	1	0	1	1	0
Grant	385	56	126	67	31	39	22	23	4	4	8	3	2
Grays Harbor	533	52	140	69	74	53	55	36	28	8	6	10	2
Island	622	67	178	113	88	50	42	36	20	12	11	5	0
Jefferson	273	10	44	47	60	33	20	24	17	9	5	4	0
King	11,278	496	2,551	2,740	2,139	1,152	801	573	401	175	90	106	54
Kitsap	1,752	216	504	315	214	146	130	100	45	33	18	24	7
Kittitas	205	10	73	37	18	18	21	8	10	5	2	2	1
Klickitat	126	14	23	26	19	14	11	6	6	3	2	2	0
Lewis	501	63	135	81	50	36	45	29	19	16	5	18	4
Lincoln	44	3	15	5	3	9	3	4	0	0	1	0	1
Mason	376	27	98	64	41	34	45	20	19	10	4	10	4
Okanogan	260	28	67	39	40	26	19	18	13	1	3	6	0
Pacific	214	8	52	31	29	22	25	18	10	5	9	5	0
Pend Oreille	59	8	18	8	6	3	6	4	3	1	1	0	1
Pierce	5,329	511	1,572	1,025	706	455	375	284	161	106	42	63	29
San Juan	378	4	35	89	97	46	37	36	17	7	4	4	2
Skagit	858	82	203	161	122	65	68	73	32	18	9	23	2
Skamania	114	4	19	26	15	14	10	7	4	6	2	6	1
Snohomish	3,383	249	889	670	466	342	275	220	120	63	35	46	8
Spokane	2,192	176	798	439	241	152	136	105	74	30	16	25	0
Stevens	209	17	63	39	19	16	21	17	5	9	0	2	1
Thurston	1,507	122	386	310	170	143	122	103	72	31	23	16	9
Wahkiakum	18	3	2	4	4	3	0	2	0	0	0	0	0
Walla Walla	369	41	124	63	40	26	23	16	14	8	4	9	1
Whatcom	1,175	83	348	243	148	90	82	65	53	29	18	12	4
Whitman	150	12	58	33	17	9	6	6	4	3	0	1	1
Yakima	1,389	193	453	262	155	95	76	67	30	21	16	17	4
Tribal Authority	1	0	1	0	0	0	0	0	0	0	0	0	0

**Table 3. Marriages by Man's Age and County where Ceremony was Performed, 2002**

County	Total	Under										65 and Over	Unk
		20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64		
<b>State Total</b>	<b>39,518</b>	<b>1,099</b>	<b>9,078</b>	<b>8,648</b>	<b>6,357</b>	<b>4,081</b>	<b>3,255</b>	<b>2,522</b>	<b>1,758</b>	<b>1,136</b>	<b>615</b>	<b>875</b>	<b>94</b>
Adams	88	7	29	19	9	3	8	3	3	4	2	1	0
Asotin	55	2	19	10	9	2	2	5	1	2	1	2	0
Benton	905	29	323	176	115	81	59	37	39	16	6	20	4
Chelan	692	22	159	140	108	73	56	44	37	20	8	24	1
Clallam	465	18	102	78	45	44	49	49	26	16	14	23	1
Clark	2,386	85	555	518	331	239	205	160	106	73	55	58	1
Columbia	31	2	10	4	1	3	2	1	3	3	1	1	0
Cowlitz	663	25	190	140	89	57	58	29	35	18	12	10	0
Douglas	120	3	42	26	11	6	9	11	6	5	0	1	0
Ferry	46	4	10	7	0	6	3	2	6	2	4	2	0
Franklin	348	13	119	82	47	25	15	20	11	8	2	6	0
Garfield	19	0	6	2	3	1	1	2	0	1	0	1	2
Grant	385	17	120	91	47	25	29	20	9	7	6	14	0
Grays Harbor	533	16	125	86	77	43	59	50	33	17	9	16	2
Island	622	26	179	118	80	64	42	37	32	16	10	15	3
Jefferson	273	5	28	49	47	36	27	24	19	22	8	7	1
King	11,278	141	1,889	2,740	2,366	1,346	943	695	486	304	141	189	38
Kitsap	1,752	68	516	352	227	176	130	104	66	37	34	41	1
Kittitas	205	2	60	40	25	25	18	11	10	6	4	4	0
Klickitat	126	3	22	23	27	17	12	10	6	1	3	2	0
Lewis	501	16	127	93	62	45	34	42	33	20	9	19	1
Lincoln	44	2	9	7	8	4	6	2	3	2	1	0	0
Mason	376	16	69	71	57	33	38	37	20	13	7	15	0
Okanogan	260	13	52	48	49	20	26	17	15	10	3	7	0
Pacific	214	4	33	40	22	19	34	22	11	10	7	12	0
Pend Oreille	59	2	23	6	5	3	6	4	4	2	1	2	1
Pierce	5,329	207	1,396	1,106	801	519	426	323	218	143	74	98	18
San Juan	378	2	23	70	85	59	45	43	22	10	9	10	0
Skagit	858	19	194	170	124	85	76	63	42	37	21	27	0
Skamania	114	3	13	20	28	9	12	7	4	6	5	6	1
Snohomish	3,383	91	729	729	498	373	334	246	146	92	61	78	6
Spokane	2,192	62	675	531	279	176	149	104	86	64	26	39	1
Stevens	209	7	48	44	23	20	19	17	18	6	3	4	0
Thurston	1,507	40	329	319	226	156	127	115	81	50	20	39	5
Wahkiakum	18	2	4	3	2	0	3	2	0	0	0	2	0
Walla Walla	369	20	111	69	47	38	22	19	14	14	4	11	0
Whatcom	1,175	33	265	268	183	105	81	69	58	49	24	35	5
Whitman	150	3	51	36	23	14	7	6	4	3	0	3	0
Yakima	1,389	69	423	317	171	131	83	70	45	27	20	31	2
Tribal Authority	1	0	1	0	0	0	0	0	0	0	0	0	0



# Divorce



## **Divorce**

The Washington State Divorce Certificate System gathers information about each dissolution, annulment, or legal separation that is finalized in Washington State. These certificates may come from any superior court or tribal court in the state. The clerk of the court forwards the divorce certificate to the Center upon finalization of the decree. The clerk of the court or the legal counsel for the person requesting the divorce can complete the information on the certificate. The filing of divorce certificates at the state level began in 1968.

The main purposes of the divorce system are 1) to provide a brief, legal record of the event; and 2) to collect information on population trends.

**Table 1. Divorces and Annulments by County of Decree and County of Residence<sup>1</sup>, 2002**

County	Occurrence		Wife's Residence		Husband's Residence	
	Number	Rate <sup>2,3</sup>	Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>
<b>State Total</b>	27,205	4.5	25,006	4.1	24,051	4
Adams	41	2.5	52	3.1	48	2.9
Asotin	100	6	86	5.2	76	4.6
Benton	684	4.6	660	4.5	579	3.9
Chelan	403	6	255	3.8	259	3.8
Clallam	313	4.8	310	4.8	291	4.5
Clark	1,709	4.7	1,659	4.6	1,553	4.3
Columbia	24	5.9	18	4.4	14	3.4
Cowlitz	472	5	475	5	458	4.9
Douglas	9	0.3	148	4.5	122	3.7
Ferry	29	4	36	4.9	33	4.5
Franklin	201	3.9	181	3.5	191	3.7
Garfield	15	6.3	10	4.2	7	2.9
Grant	287	3.8	269	3.5	262	3.4
Grays Harbor	294	4.3	277	4	292	4.3
Island	263	3.6	290	4	286	3.9
Jefferson	110	4.1	106	4	112	4.2
King	6,229	3.5	6,463	3.6	6,308	3.6
Kitsap	1,048	4.5	1,050	4.5	988	4.2
Kittitas	97	2.8	93	2.7	86	2.5
Klickitat	76	2.2	66	1.9	66	1.9
Lewis	333	4.7	314	4.5	293	4.2
Lincoln	3,422	335.5	41	4	36	3.5
Mason	213	4.3	230	4.6	236	4.7
Okanogan	157	3.9	167	4.2	162	4.1
Pacific	56	2.7	77	3.7	77	3.7
Pend Oreille	51	2.4	49	2.3	54	2.6
Pierce	2,672	3.7	3,346	4.6	3,262	4.5
San Juan	39	2.7	45	3.1	41	2.8
Skagit	497	4.7	480	4.6	461	4.4
Skamania	66	6.7	44	4.4	35	3.5
Snohomish	2,529	4	2,785	4.4	2,720	4.3
Spokane	1,913	4.5	2,050	4.8	1,903	4.5
Stevens	141	3.5	182	4.5	159	3.9
Thurston	903	4.3	968	4.6	901	4.2
Wahkiakum	14	3.7	14	3.7	13	3.4
Walla Walla	206	3.7	202	3.6	220	4
Whatcom	599	3.5	598	3.5	580	3.4
Whitman	109	2.7	98	2.4	95	2.3
Yakima	839	3.7	812	3.6	772	3.4
Tribal Authority	42	*	*	*	*	*
Out-of-State	—	—	—	—	—	—
	*	*	1,586	*	2,301	*
Unknown	*	*	613	*	853	*

<sup>1</sup> Does not include divorces to Washington residents obtained in other states or countries.

<sup>2</sup> Rates per 1,000 population.

<sup>3</sup> Exceptionally high rates may reflect unique local circumstances, such as administrative procedures that make divorces for non-county residents easy. See pages 5-6 for a discussion of occurrence rates.

**Table 2. Divorces, Annulments, and Legal Separations by County of Decree, 2002**

<b>County</b>	<b>Total</b>	<b>Divorce</b>	<b>Annulment</b>	<b>Legal Separation<sup>1</sup></b>
<b>State Total</b>	<b>28,023</b>	<b>27,032</b>	<b>173</b>	<b>818</b>
Adams	42	40	1	1
Asotin	101	100	0	1
Benton	695	681	3	11
Chelan	413	403	0	10
Clallam	320	310	3	7
Clark	1,742	1,705	4	33
Columbia	24	24	0	0
Cowlitz	481	472	0	9
Douglas	9	8	1	0
Ferry	29	28	1	0
Franklin	205	200	1	4
Garfield	15	15	0	0
Grant	289	286	1	2
Grays Harbor	300	293	1	6
Island	274	262	1	11
Jefferson	114	108	2	4
King	6,464	6,183	46	235
Kitsap	1,089	1,043	5	41
Kittitas	99	97	0	2
Klickitat	76	76	0	0
Lewis	340	329	4	7
Lincoln	3,523	3,378	44	101
Mason	215	211	2	2
Okanogan	159	157	0	2
Pacific	56	56	0	0
Pend Oreille	54	51	0	3
Pierce	2,774	2,655	17	102
San Juan	41	39	0	2
Skagit	503	496	1	6
Skamania	68	66	0	2
Snohomish	2,613	2,517	12	84
Spokane	1,953	1,907	6	40
Stevens	146	138	3	5
Thurston	935	896	7	32
Wahkiakum	16	14	0	2
Walla Walla	207	206	0	1
Whatcom	630	596	3	31
Whitman	114	109	0	5
Yakima	853	835	4	14
Tribal Authority	42	42	0	0

<sup>1</sup>Since legal separations are not final dissolutions of marriage they are excluded from the total.

**Table 3. Divorces and Annulments by Wife's Age and County of Decree, 2002**

County	Total	Under										65 and Over	Unk
		20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64		
<b>State Total</b>	<b>27,205</b>	<b>123</b>	<b>2,187</b>	<b>4,041</b>	<b>4,667</b>	<b>4,410</b>	<b>4,258</b>	<b>3,242</b>	<b>1,851</b>	<b>969</b>	<b>358</b>	<b>318</b>	<b>781</b>
Adams	41	0	6	8	11	6	2	2	5	1	0	0	0
Asotin	100	0	12	17	19	13	16	9	4	3	2	2	3
Benton	684	4	75	108	112	128	102	72	32	23	9	8	11
Chelan	403	7	40	63	64	56	65	50	29	10	3	6	10
Clallam	313	3	40	34	48	35	58	33	20	15	9	10	8
Clark	1,709	10	122	242	307	294	292	182	118	61	18	24	39
Columbia	24	0	2	0	2	7	2	5	3	0	2	0	1
Cowlitz	472	2	49	78	81	77	68	45	31	24	10	7	0
Douglas	9	0	0	0	2	1	2	2	1	0	1	0	0
Ferry	29	0	3	4	4	4	7	1	2	3	1	0	0
Franklin	201	2	23	33	34	32	38	16	11	4	1	5	2
Garfield	15	0	1	1	1	3	3	0	4	2	0	0	0
Grant	287	5	30	41	47	47	44	27	19	9	6	2	10
Grays Harbor	294	1	20	54	54	39	53	37	10	14	6	3	3
Island	263	1	34	45	41	39	31	30	19	8	6	7	2
Jefferson	110	0	13	14	13	8	22	13	19	5	0	2	1
King	6,229	11	290	913	1,112	1,076	965	761	477	244	85	64	231
Kitsap	1,048	8	125	143	152	174	157	142	66	37	11	12	21
Kittitas	97	0	10	12	13	12	17	13	10	5	1	4	0
Klickitat	76	0	8	10	9	11	13	7	6	7	1	0	4
Lewis	333	0	35	45	49	56	47	44	22	12	10	8	5
Lincoln	3,422	15	322	537	610	524	497	394	214	117	45	34	113
Mason	213	0	24	25	29	30	37	26	19	11	2	1	9
Okanogan	157	3	14	17	21	23	28	18	13	3	4	6	7
Pacific	56	0	2	9	3	11	15	7	2	2	1	2	2
Pend Oreille	51	0	4	5	3	11	11	6	3	2	1	0	5
Pierce	2,672	9	242	408	468	434	421	331	157	80	26	22	74
San Juan	39	0	2	4	3	7	7	3	8	4	0	0	1
Skagit	497	2	34	80	88	71	79	75	24	26	3	5	10
Skamania	66	1	3	11	12	10	9	7	7	3	0	2	1
Snohomish	2,529	14	166	330	419	423	431	326	158	73	32	25	132
Spokane	1,913	11	194	302	334	308	292	227	121	60	23	23	18
Stevens	141	0	9	17	22	23	27	22	13	5	1	2	0
Thurston	903	5	65	147	173	142	138	106	76	21	9	7	14
Wahkiakum	14	0	1	2	1	3	4	1	1	1	0	0	0
Walla Walla	206	0	25	28	30	34	24	27	17	11	5	3	2
Whatcom	599	1	36	89	99	99	106	75	45	32	4	4	9
Whitman	109	1	16	17	14	18	16	12	7	3	3	0	2
Yakima	839	7	89	140	154	116	105	84	55	28	16	17	28
Tribal Authority	42	0	1	8	9	5	7	4	3	0	1	1	3

**Table 4. Divorces and Annulments by Husband's Age and County of Decree, 2002**

County	Total	Under										65 and Over	
		20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	Unk	
<b>State Total</b>	<b>27,205</b>	<b>29</b>	<b>1,247</b>	<b>3,312</b>	<b>4,423</b>	<b>4,499</b>	<b>4,429</b>	<b>3,581</b>	<b>2,424</b>	<b>1,345</b>	<b>655</b>	<b>643</b>	<b>618</b>
Adams	41	0	5	4	11	6	4	5	1	1	1	1	2
Asotin	100	0	7	14	20	14	16	16	6	1	3	3	0
Benton	684	1	34	102	115	106	106	103	47	27	24	15	4
Chelan	403	0	27	58	48	72	64	63	28	19	9	8	7
Clallam	313	0	21	41	40	49	42	36	29	19	13	17	6
Clark	1,709	3	66	202	291	285	276	229	161	85	41	40	30
Columbia	24	0	2	0	1	4	5	4	3	2	2	1	0
Cowlitz	472	0	26	73	84	69	68	55	36	30	13	15	3
Douglas	9	0	0	0	1	2	3	1	2	0	0	0	0
Ferry	29	0	0	5	3	6	5	3	2	2	0	2	1
Franklin	201	2	14	28	36	30	34	22	13	7	5	6	4
Garfield	15	0	0	0	1	2	2	2	4	1	1	0	2
Grant	287	0	24	30	41	48	58	36	19	14	7	5	5
Grays Harbor	294	0	8	37	57	47	53	34	25	15	3	13	2
Island	263	0	23	43	51	34	31	29	20	13	5	12	2
Jefferson	110	0	5	10	15	8	15	21	16	9	6	4	1
King	6,229	3	146	625	1,085	1,107	1,018	827	592	338	161	130	197
Kitsap	1,048	2	82	148	141	158	193	130	95	45	22	13	19
Kittitas	97	0	3	8	19	13	13	16	11	4	1	7	2
Klickitat	76	0	6	9	7	13	9	7	9	6	4	4	2
Lewis	333	0	23	35	47	60	49	40	31	18	12	15	3
Lincoln	3,422	3	199	469	594	557	510	407	285	153	77	83	85
Mason	213	0	9	27	25	30	35	37	25	10	5	4	6
Okanogan	157	0	8	17	24	12	27	19	13	10	5	11	11
Pacific	56	0	1	6	10	3	13	9	5	4	2	3	0
Pend Oreille	51	0	3	6	1	4	10	10	6	4	3	3	1
Pierce	2,672	6	138	358	417	492	434	350	221	111	57	40	48
San Juan	39	0	1	3	5	3	9	4	2	6	2	4	0
Skagit	497	2	17	67	72	80	78	72	55	23	12	12	7
Skamania	66	0	2	5	13	10	11	10	8	3	1	3	0
Snohomish	2,529	3	87	256	374	423	487	351	218	128	50	47	105
Spokane	1,913	2	118	264	318	309	300	251	171	85	33	45	17
Stevens	141	0	5	14	17	23	24	17	20	10	5	5	1
Thurston	903	1	37	121	144	140	146	137	79	49	16	21	12
Wahkiakum	14	0	3	0	1	2	4	2	2	0	0	0	0
Walla Walla	206	0	11	28	32	32	25	26	26	12	5	8	1
Whatcom	599	1	17	64	91	97	106	83	57	44	21	11	7
Whitman	109	0	14	12	17	17	20	10	11	4	3	1	0
Yakima	839	0	55	117	149	128	114	100	67	32	24	30	23
Tribal Authority	42	0	0	6	5	4	12	7	3	1	1	1	2

**Table 5. Divorces and Annulments by Number of Children<sup>1</sup> and County of Wife's Residence<sup>2</sup>, 2002**

County	Total	0	1	2	3	4 +	Unknown <sup>3</sup>
<b>State Total</b>	<b>27,205</b>	<b>12,581</b>	<b>5,640</b>	<b>5,739</b>	<b>1,900</b>	<b>741</b>	<b>604</b>
Adams	52	14	14	19	3	2	0
Asotin	86	30	28	19	4	4	1
Benton	660	264	149	156	55	30	6
Chelan	255	118	46	61	19	6	5
Clallam	310	137	72	63	23	11	4
Clark	1,659	688	349	396	144	43	39
Columbia	18	9	1	5	2	0	1
Cowlitz	475	202	104	107	39	16	7
Douglas	148	67	26	38	11	5	1
Ferry	36	16	2	12	4	1	1
Franklin	181	74	32	47	10	9	9
Garfield	10	2	2	6	0	0	0
Grant	269	103	50	67	30	9	10
Grays Harbor	277	132	45	62	21	13	4
Island	290	135	62	61	23	6	3
Jefferson	106	54	19	20	9	3	1
King	6,463	3,237	1,273	1,256	369	166	162
Kitsap	1,050	470	215	235	68	27	35
Kittitas	93	42	20	20	8	1	2
Klickitat	66	26	14	15	6	2	3
Lewis	314	138	80	63	22	8	3
Lincoln	41	21	6	11	2	0	1
Mason	230	96	56	45	22	8	3
Okanogan	167	79	36	27	14	6	5
Pacific	77	32	15	17	6	5	2
Pend Oreille	49	26	7	12	2	1	1
Pierce	3,346	1,480	788	731	239	69	39
San Juan	45	20	12	5	3	4	1
Skagit	480	212	107	109	34	13	5
Skamania	44	20	6	11	4	2	1
Snohomish	2,785	1,229	606	613	209	61	67
Spokane	2,050	888	438	489	154	62	19
Stevens	182	80	31	47	14	9	1
Thurston	968	440	208	209	65	24	22
Wahkiakum	14	8	1	5	0	0	0
Walla Walla	202	80	51	45	13	10	3
Whatcom	598	272	128	137	44	13	4
Whitman	98	55	13	17	9	3	1
Yakima	812	312	180	169	82	41	28
Out-of-State	1,586	940	252	216	90	40	48
Unknown	613	333	96	96	24	8	56

<sup>1</sup>Certificate of dissolution records, "Children born alive of this marriage." All children are counted regardless of age.

<sup>2</sup>Does not include residents who obtain divorces or annulments outside of Washington State.

<sup>3</sup>Unknowns are higher and divorces with no children appear lower in 1999 than in prior years since cases in which the number of children was not reported were previously entered as "none" rather than "unknown."



# Appendices



## Appendix A. Technical Appendix

### Interpreting Vital Statistics

*Washington State Vital Statistics* presents commonly used vital statistics data. These data are intended for a variety of users ranging from the beginner to the sophisticated analyst. This section is intended primarily to help those who may not entirely understand how to use vital statistics data or are not aware of data limitations, especially limitations due to small numbers. Reading this section may help beginning users avoid drawing incorrect conclusions from the data. For other users, this section may serve as a review.

Vital statistics pertain to basic events of life collected from mandated certificates: birth, fetal death, death, marriage, and divorce. They provide powerful indicators of health problems and, therefore, can help track progress toward health improvement goals. They can also provide information on what health problems occur, who may have these problems, and when and where they occur. Unfortunately, vital statistics cannot usually tell us why health problems occur, which is what prevention programs really need to know. It is a common mistake to think that if two data items are associated or correlated (such as age of mother and low birth weight), then one causes the other. In reality, this could be a chance association (if you look at enough variables you usually find some relationship) or both items could be associated with a third, unmeasured factor (such as poverty or poor nutrition).

Mortality statistics are sometimes used as indicators of disease conditions within the population. They are very limited in this capacity, however, especially for illnesses that are not usually classified as the underlying cause of death. Hospital inpatient data from the Comprehensive Hospital Abstract Reporting System (CHARS) provide a somewhat better measure of morbidity, but even these data are limited to conditions that result in a hospital admission.

#### Frequently asked Questions:

##### *Residence vs. Occurrence*

What's the difference between *residence* and *occurrence*? Users may notice that tables contain tabulations in two ways: 1) by residence (where the person lived) or 2) by occurrence (where the event occurred). For example, a woman who lived in Olympia (Thurston County) but had her baby in Seattle (King County) would be counted in Thurston County on a residence

table and in King County on an occurrence table. The Center for Health Statistics actually registers only those vital events occurring in Washington State. However, because of an interstate exchange agreement, we receive data on Washington residents who have babies in another state, or who die in another state. Thus we have complete records on births, deaths and fetal deaths for residents of Washington State regardless of where the event took place.

Some users may be tempted to add residence and occurrence figures together to get a total for an area, but this would not be correct. There is a great deal of overlap between these two ways of counting, as most residents of a county have their babies or die in the same county. Other users try to subtract residence and occurrence data to figure out how many residents are born or die outside of their county, but this is also incorrect. The only way to determine where county residents are having babies or dying is to tabulate births or deaths by place of residence relative to place of occurrence. For births, one may use *Natality Table C8* of this report which cross-tabulates the mother's county of residence by the county in which the birth occurred. For deaths, please refer to *Mortality Table A7-a*, which shows deaths by residence and occurrence by county and city.

*When should residence or occurrence data be used?* Users generally need data about the residents of an area. Residents would be the target audience for any local health assessment or health promotion programs. Population figures, commonly used to calculate rates, are also based on a person's residence. Hospital planners might want to know both (where births occurred to residents of their area) so they can assess possible markets.

For certain events, particularly external causes of death such as motor vehicle accidents or drowning, prevention programs might instead want to know where the event occurred so they can identify potentially hazardous situations or areas. Unfortunately, there is no population base to use for calculating occurrence rates, which might tell if the numbers are unusually high or low. For example, a rural road might have a high number of motor vehicle accidents relative to the number of people living there, but there may be many more people driving that road on their way to work, so there would be more people at risk of getting in accidents. The size of particular events and occurrences vary, so population must always be considered when looking at occurrence data.

#### *Numbers vs. Crude or Age-Adjusted Rates*

When should numbers or rates be used? All tables in this report give the number of events (e.g., the number of Washington residents dying of cancer). These numbers are used to determine the size of a problem in any area (e.g., how many people die of cancer) or to estimate population changes

due to birth and death. But, using just numbers, we cannot readily compare two areas or two time periods. Such comparisons should take the size of the population into account to avoid erroneous conclusions.

To eliminate the effect of different sized populations, we compare rates. A rate is the number of vital events (such as deaths) in a specified time period divided by the number of people at risk of these events in that period (typically, a state or county population, or the number of births in the case of infant death). This figure is generally multiplied by a constant such as 1,000 or 100,000 to get a number that is easy to read and compare and is reported as “per 1,000” or “per 100,000.”

Rates calculated in this manner are called *crude rates*. They adjust for differences in population size but not differences in population characteristics. These population characteristics also need to be considered in interpreting comparisons. For example, since death rates increase with increasing age, a county with an older population may have higher death rates just because its population is older.

To compare rates and see if a particular county’s death rate is high just because of its older population, we need to use *age-adjusted death rates*. These rates are computed by taking a county's death rates for each age group and applying them to a standard population. The traditional standard has been the 1940 US population. However, in 1999 the standard changed and is now the 2000 US population (see Anderson, RN, and Rosenberg, HM. *Age standardization of death rates: implementation of the year 2000 standard*. National Center for Health Statistics. National Vital Statistics Report 3 (47), 1998, or Klein,RJ and Schoenborn, CA. *Age Adjustment Using the 2000 Projected U.S. Population*. CDC Statistical Notes, No.20, January, 2001.). The year 2000 population has a higher concentration of population in the age groups between 35 to 44 years and 65 and over. The population of age 65 years and over almost doubled during this period. Since age-adjusted rates using 2000 population give more weight to older age groups, the magnitude of age-adjusted rates using this standard will change considerably.

Age-adjusted death rates describe what a particular county's death rate would be if it had the same age distribution as the standard population. The major use of age-adjusted death rates is to allow comparisons among different areas and/or over various periods of time. Users should be aware that an age-adjusted death rate has no absolute meaning; it is an artificial number based on a hypothetical population and is only useful for comparing with other rates calculated in the same manner. While age adjustment is the most common method for adjusting rates, a similar process can be used to adjust for other characteristics such as sex, education, or birth weight.

Although reports often focus on which population has the highest rate, one should remember that rates can mask differences in numbers that may be needed for policy decisions. For example, the infant mortality rate is considerably higher for many people of color than for whites. However, due to the state's racial composition, most infants who die in this state are white and examining the rate for all infants might mask information of a particular race or ethnicity. To reduce racial disparity, one would focus on reducing infant mortality among people of color. Such a reduction, however, would not necessarily have much effect on the state's overall infant mortality rate. So, to determine the burden of a health problem in a community, numbers rather than rates are usually the most appropriate measure.

### *Standards for Comparison of Rates*

What are good standards for comparison of rates? To help interpret a particular rate, one may choose to compare it to rates for another county or similar geographical area, national or state data, or an independent goal or standard. Such issues as comparability of population characteristics and stability of rates from year to year for the standard population should be considered when choosing a base for comparison.

In comparing rates from different sources, users should be sure that the same methods and definitions were used to calculate the rates. Otherwise, the rates are not truly comparable and may lead to incorrect conclusions. Some questions to ask might be: Are the rates crude or adjusted? Are they for the same time period? Is the definition of what constitutes an event the same? Are the same coding definitions used? Is the completeness of reporting events similar? Are the denominators taken from the same or similar data sources?

### *Unknowns*

Most vital statistics data are not 100% complete. Sometimes the information is not (or cannot be) collected, and then the item is reported as unknown. How should unknowns be handled? When the number of unknowns for a particular characteristic is large, it can affect rates or percentage distributions based on that characteristic. For example, in 2002, father's education was missing for about 21% of the births.

How should unknowns be handled in calculating percentages? If we include unknowns in the total, the percent in any category is smaller than it would be if we subtract unknowns from the total. For example, in the case of 2002 births, the percent of fathers with less than a high school education is 10.2% if unknowns are included in the total, but is 12.9% if unknowns are excluded from the total.

In deciding which method offers a “truer” representation of the population as a whole one needs to consider whether the cases with an unknown characteristic are *similar to* or *different from* those cases in which the characteristic is known. If it appears likely that the cases with the unknown characteristic are similar to those with the known values, then “unknowns” should be excluded from the total and percentages should be based on the “known” population. To the extent that this assumption seems unlikely, then other methods could be invoked to distribute the cases with unknown values.

Assumptions about the probable characteristics of the population with a given unknown attribute could be based on: 1) greater familiarity with local situations by persons in the county or city health community; or 2) on more in-depth analysis of the source of the unknowns in the reporting system. For example, if only a few hospitals or medical facilities fail to report a particular variable, one might examine information about the population served by those particular facilities or those living in the nearby community.

#### *Changes in Classification of Causes of Death (ICD-10)*

Beginning with deaths occurring in January 1999, the United States began using International Classification of Diseases (ICD-10) to classify causes of death reported on death certificates. ICD-9 had been used during 1979-1998. Implementation of ICD-10 has had an important impact on the presentation and interpretation of mortality statistics by cause-of-death. The change to ICD-10 created a discontinuity in trends that must be accounted for when comparing mortality during 1999 and later to prior years. To put it another way, ***cause-of-death data for 1999 and later years are not comparable to prior years***, unless adjustments are made for the coding and classification changes. Without adjustment, it is impossible to know whether an observed increase or decrease in deaths due to a particular cause is “real” or merely the result of the changes in classification and coding.

Some of the differences between ICD-10 and ICD-9 are:

- ICD-10 is far more detailed and has about 8,000 categories compared to ICD-9 with about 5,000 categories.
- ICD-10 uses 4-digit alphanumeric codes that begin with a letter compared to ICD-9 which has 4-digit numeric codes.
- Additional chapters have been added and some have been rearranged. For example, myelodysplastic syndromes have been moved into the neoplasm chapter which has caused an increase in the number of benign neoplasms and neoplasms of uncertain or unknown behavior.
- Tabulation lists with groups of ICD codes have changed. More conditions are included in the lists used to determine leading

causes of death and some of the groups of conditions have changed. For example, accidents and adverse effects were combined in ICD-9 tabulation lists. With ICD-10, accidents and adverse effects are now in separate categories.

- Coding rules for causes of death have changed. For example, pneumonia is now considered a direct sequel of more conditions which has led to a 30% decrease in pneumonia as an underlying cause-of-death.

To enable comparisons across the ICD-9 to ICD-10 transition, a preliminary comparability study was carried out by the National Center for Health Statistics (NCHS). NCHS double-coded a large sample of the 1996 national mortality file, once by ICD-9, and again by ICD-10. A **comparability ratio** was then calculated by dividing the number of deaths for a selected cause of death classified by ICD-10 by the number of deaths classified to the most nearly comparable cause of death by ICD-9. The resulting ratio can be used to *adjust* counts and rates for a given cause of death classified by ICD-9 so they are comparable to those for the most similar cause classified by ICD-10. The ratio will also allow users to estimate the extent of the discontinuity of the change to ICD-10 by showing the net effect of coding and classification changes.

The National Center for Health Statistics (NCHS) is working on a final comparability study based on the complete national mortality file to supercede the preliminary comparability study. When the NCHS Study is published, it will be noted on the CHS update website at <http://www.doh.wa.gov/EHSPHL/CHS/CHS-Data/main.htm>.

*Calculations:* In order to compare rates or counts coded by ICD-9 with rates or counts coded by ICD-10, multiply the ICD-9 count or rate by the cause specific comparability ratio. The Center for Health Statistics produced an additional report *Washington State Vital Statistics ICD-10 Supplement, 1990-1999* (See: [http://www.doh.wa.gov/ehsphil/chs/chs-data/public/sup90\\_99.pdf](http://www.doh.wa.gov/ehsphil/chs/chs-data/public/sup90_99.pdf)). This report provides more information about ICD-10 and includes tables with comparability ratios and tables with counts and age-adjusted mortality rates for 1990-1999.

For example, there were 1,717 deaths due to pneumonia and influenza to residents of Washington State in 1998 (ICD-9 480-487). In 1999, 1,257 residents of Washington State died due to pneumonia and influenza (ICD-10 J10-J18). Comparing these counts leads to a conclusion that there was a very large drop in deaths due to pneumonia and influenza. This conclusion is incorrect: By multiplying the 1998 count of 1,717 by the comparability ratio of 0.70, the resulting comparability modified number of deaths in 1998 would be 1,202. Comparing the modified count in 1998

of 1,202 to the ICD-10 count in 1999 of 1,257 shows an increase of only 55 deaths from 1998 to 1999 instead of a large decrease.

### *Small Numbers*

How should small numbers be handled? If the state collects all births and deaths in a year, then aren't the birth and death rates exactly as calculated? It's certainly true that vital statistics are not based on samples of the population, as many research data are. We do know the actual number of births, deaths, and population (assuming complete reporting of events), so we can calculate an exact birth or death rate for any one year. However, the data may still be affected by random fluctuations in the number of events between successive measurements (e.g., for different years).

The effect of such random fluctuations on birth or death rates is proportionately larger when the number of events is small. For example, one more infant death has a larger numerical impact on an area with three deaths than it does on an area with 300 deaths. Because of these random fluctuations, the rates based on small numbers may not be as reliable as those based on larger numbers in the sense that they may have limited predictive value. Specifically, knowing one year's rate in such instances may not allow one to reliably anticipate the rate for another year. This instability makes it difficult to use the rates for program planning or assessment purposes. In fact, considerable caution should be used in interpreting any data where the number of events is small.

There are no hard and fast rules as to when numbers are too small for rates to be stable predictors of what's happening. However, the Washington State Department of Health *Guidelines for Working with Small Numbers* call for suppressing calculation of rates when the number of events is less than five. In addition, tables should include a footnote indicating that rates based on fewer than 20 events are likely to be unstable and imprecise. To increase the stability of the rate, one can combine several years of data (as long as there is no strong temporal trend in rates) or one can group several counties in the same geographic area or with similar population characteristics. For more help in using small numbers consult the *Data Guidelines* at <http://www.doh.wa.gov/Data/guidelines/SmallNumbers.htm>.

### *Data Quality*

How does data quality affect the use of the data? Conclusions and health policy decisions are only as good as the data that go into making them. Vital statistics data quality has three major components: completeness, accuracy, and timeliness. Are vital statistics **complete**, i.e., do we have a record for each vital event? According to National Center for Health Statistics (NCHS) studies, registration of births and deaths is currently better than 99%

complete. However, some records come in after the data files are prepared and thus are not included in the data presented in this report.

In addition to determining the completeness of a reporting system, researchers are often concerned with the degree to which people report what is actually happening. This characteristic of the data is called its *validity*. Studies of validity of reporting systems like the birth certificate system usually look for an independent source of the information and determine the consistency with data contained in the reporting system. A study currently being conducted at the University of Washington aims to validate birth data by comparing them to hospital records and to the hospital inpatient reporting system.

To improve data quality, both birth and death certificates are edited for accuracy of the data. Where possible, data are checked to see if they are within a reasonable range of values (e.g., mother's age must be 8-59, with warning notices for ages less than 14 or greater than 49). Data are also checked to see if there is internal consistency between items (e.g., a person is not expected to have more than one year of college education if he/she is less than 16 years old). Those who complete death certificates are queried if there is not enough information to establish an accurate and specific cause of death.

A factor that affects the completeness of the data is the number of *unknowns* among responses. Sometimes providers do not complete all items on a certificate. The information may be overlooked or refused by the informant, or the informant may not have been asked for the data. Missing data decrease the overall accuracy of an item because we don't know where they fit (e.g., are smokers less likely to respond to a question on smoking?). Periodic data quality analyses are done to help identify facilities with large amounts of missing data. These facilities are queried for more information. In order to help improve data completeness, the Center for Health Statistics provides annual feedback on data completeness to each birth hospital and also works intensively with the facilities throughout the year to help them improve their data collection procedures.

Finally, are vital statistics *timely*, i.e., are they registered early enough so that the data are available when needed to be most useful for planning and program assessment purposes? There is often a tradeoff between timeliness and accuracy. For example, if birth certificates are filed quickly, there may not be enough time for malformations or complications (such as fetal alcohol syndrome) to become evident. Similarly, if death certificates are filed quickly, there may not be time for autopsy results to be incorporated into the cause of death data. Despite the potential benefits of waiting for complete information, the main thrust, particularly for birth certificates, is to

streamline the reporting process and to gather and report information as close to the event as possible. This has been accomplished by the Center for Health Statistics primarily by the development of the Electronic Birth Certificate System.

### *Confidentiality*

How do we ensure confidentiality of the data? All of the data in this report are presented in aggregate form so that individuals are not likely to be identified from the tables. However, it is important for potential data users to be aware of confidentiality issues related to the data. The medical and health information on birth and fetal death certificates is confidential and is to be used only in aggregate statistics which do not enable the identification of specific individuals. Hence, such confidential data may not be linked to any identifying information except for research projects approved by the Washington State Institutional Review Board of the Department of Social and Health Services and the Department of Health. The sample birth and fetal death certificates in Appendix G delineate the portion that is confidential. Some death data (particularly causes of death such as suicide and AIDS), while not confidential by law, are extremely sensitive. It is the responsibility of all data users to treat these data in such a way as to respect and protect the privacy of individuals who have provided information about their personal lives, to be used for the good of the public. To ensure continued reporting of important demographic, medical, and health information, data must be handled in a way that ensures the privacy of individuals as required by law.

### Sources of Data

#### *Collection Year*

Data for *Washington State Vital Statistics, 2002* are compiled from items on birth, death, fetal death, marriage, and dissolution certificates received before extraction of the annual data files from the database files in 2003. The tables in this report will therefore not reflect any changes made to the database files after the extraction date. (See Appendix F for samples of certificate forms used.)

#### *Population*

Population estimates in this report are from the Washington State Office of Financial Management, Forecasting Division, *Intercensal and Postcensal Estimates of County Population by Age and Sex: 1980-2002*, July 2003.

## *Classification of Data*

Classification and coding of data on Washington State vital records follow National Center for Health Statistics (NCHS) guidelines as defined in *Vital Statistics Instruction Manuals*, parts 1-20 (Published by U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Center for Health Statistics, Hyattsville, Maryland).

## Demographics

### *Age*

The death certificate contains fields for reported age at death and also birth and death dates, which are used to calculate age at death. Where there is a discrepancy between the reported and calculated ages, the county (and ultimately the funeral director) is queried and most of the discrepancies are resolved. For the remaining discrepancies, where there is a difference of one year, the calculated age is used for age at death (which assumes that the informant made an arithmetic error). Where there is a difference of more than one year, the reported age is used.

For infant deaths (<1 year), age is measured in minutes, hours, days, or months. Some certificates may report a primary and secondary age, e.g., 1 month 2 weeks. This report uses only the primary age (e.g., 1 month). The secondary age (e.g., 2 weeks) is dropped off, so the infant's age is truncated at the primary age category.

### *Race*

Race data collected on vital statistics follow the definition established by the Census Bureau, as follows:

The concept of race as used by the Census Bureau reflects self-identification; it does not denote any clear-cut scientific definition of biological stock. The data for race represents self-classification by people according to the race with which they most closely identify. Furthermore, it is recognized that the categories of the race item include both racial and national origin or socio-cultural groups.

(This method of capturing multiple races is correct for this annual summary. Beginning with birth certificate data on January 1, 2003 (which will be reported in next year's Annual Summary) race and ethnicity data will be captured according to the rules established by

the US Office of Management and Budget, as used in the collection of the 2000 Census Data. Beginning January 1, 2004, the same convention will be applied to race and ethnic data captured by death certificates.)

Birth and death certificates use open-ended reporting of race, allowing for multiple racial entries. Reporting of race on birth certificates is based on information provided by the mother. Reporting of race on death certificates is sometimes based on observing the decedent, rather than questioning the next of kin. This procedure causes an underestimate of deaths for certain groups, particularly Native Americans, some of the Asian subgroups, and Hispanics. Thus, death rates based on death certificate data are lower than true death rates for these groups.

Because the denominator for infant mortality rates uses the race at birth, the most accurate race-specific infant mortality rates come from linked birth-infant death data files, where the mother's race can be used for both the numerator and the denominator. In this report, *Mortality Table F6* tabulates data by the mother's race/ethnicity.

### Hispanic Origin

“Origin” as used by the Census Bureau refers to “the ancestry, nationality group, lineage, or country of birth of the person or the person's parents or ancestors before their arrival in the United States.” Persons of Hispanic Origin have their origins in a Hispanic or Spanish-speaking country such as Mexico, Cuba, or Puerto Rico, or the Spanish-speaking countries of Central or South America. Persons of Hispanic Origin may be of any race.

The certificates for live births, deaths, and fetal deaths in Washington State capture Hispanic Origin under two separate items, one to measure ethnicity and another to measure race. The item measuring ethnicity asks, [Is the person] "Of Hispanic Origin or descent (Ancestry)?" and permits a "Yes/No" response. The item measuring race on the birth and fetal death certificates says, "Race (American Indian, White, Black, Asian/Pacific Islander (Specify subgroup), etc.). On the death certificate, the item reads, "Race (Specify)." Beginning in 1992, “Hispanic” was no longer listed as a sample response under "Race.” Nonetheless, some people do report Hispanic Origin under the race item on birth, death, and fetal death certificates. To capture this information, separate codes are used to record Hispanic responses when provided under race, and this information is available on data files provided by the Center for Health Statistics.

The National Center for Health Statistics (NCHS), however, does not treat Hispanic Origin as a race and requires instead that persons reporting

Hispanic as a race be counted as "White." Tables in this report use this NCHS convention for tabulations by race. In addition, at the end of each table on race, counts of persons identified as "Hispanic Origin" under the ethnicity item are provided as well.

### *County of Residence*

The county of residence data reported by the informant was verified by a process called geocoding using software that identifies county based on street address. When the reported county differed from the one assigned through geocoding, the address was located on a base map and the correct county was assigned to the record. In the rare instances in which a post office box was given as the address, the reported county of residence was retained since the software cannot assign county without a street address. Geocoding has been done since 1987 for births, deaths, and fetal deaths. Geocoding could not be done prior to 1987 because address information was not available for many records in those years.

The county of residence assigned through geocoding matched the county originally reported by the informant in all but about 0.4% of the records. Most of the differences occurred in areas where zip codes cross county boundaries. It is likely that some informants in this situation may be less sure of whether an address is in one county or the other. In most instances where differences were found, the geocoded county was determined to be correct and, in these instances, it was used in place of the reported county. The differences amounted to very small proportions of births or deaths in the affected counties.

In the few instances when the county or city of residence or occurrence is unknown, the county/city is imputed using NCHS guidelines. For place of occurrence, if the county is known but the city is not, the place of occurrence is set to the rural county value (no defined city). If both county and city are unknown, the place of occurrence is set to the county and city of occurrence of the previous record. For place of residence, if the county is known but the city is not, the place of residence is set to the rural county value. If both county and city of residence are unknown but the event occurred in Washington, the place of residence is set to the county/city of occurrence. If both county and city of residence are unknown and the event occurred outside Washington, the place of residence is set to the largest city in the state (Seattle).

### *City of Residence*

A city is given a separate code in the vital statistics system only if it has a population of at least 2,500. Vital events in cities smaller than 2,500 are assigned a place of residence code that represents other small and rural areas of a county, termed “balance of county.” Because of space considerations, only vital statistics for cities of 15,000 population or more are published in this report. Population estimates and information on the incorporation of cities provided by the Washington State Office of Financial Management are used to establish which cities meet the 2,500 minimum population criteria for receiving a separate place of residence code. New codes are implemented in January of each year based on population estimates and municipal incorporations published in the preceding year. Thus, an area that was incorporated in 1990 with a population of at least 2,500 would be coded as a distinct place of residence and would have separate vital statistics beginning with 1991 published data.

The city of residence assigned for a record is based on whether or not the person lived within city limits using responses to an item on the certificate: “Inside city limits - yes/no.” If the response to this item is “yes,” “unknown,” or blank, the place of residence is assigned to the reported city. If the response is “no,” the place of residence is assigned a “balance of county” code. Reporting on this item has been found to be somewhat unreliable when compared to locating addresses within city boundaries using geocoding software. For city of occurrence there is no “inside city limits” item to use for coding. If a city is given on the certificate, the event is coded as occurring within city limits of that city. However, if the place of occurrence lists a rural road, state park, or other remote location, the place of occurrence is coded to “balance of county.”

### *Birth Data Notes*

#### *Method of Delivery*

The method of delivery is selected by the data provider from a list of possible methods. This list just gives common methods with no hierarchy assumed by the order of the methods on the list. The data provider can check all methods that apply, although it is rare to have more than two methods given (<0.4% of births). For this report, the method of delivery was determined by the following algorithm: If there was a second method given and it was a ‘higher technology’ or more invasive method, it was assigned as the method of delivery. Otherwise, the first method was used. Thus, for example, if both vaginal and forceps were reported, forceps was the method chosen. This is a departure from previous tables where only

the first method was used. Since vaginal delivery is numerically first on the check box list, using only the first method underestimates the use of other methods which appear later on the list, particularly forceps and vacuum delivery.

### *Low Birth Weight*

Traditionally, low birth weight has been defined as 2,500 grams or less. However, the International Classification of Diseases, Ninth Revision (ICD-9) redefines low birth weight as less than 2,500 grams. Thus, according to national and international guidelines, a birth weight equal to 2,500 grams has been shifted from the low birth weight category to the next higher weight category (i.e., 2,500-2,999). Other birth weight categories have been adjusted for consistency (e.g., the group that was 3,001-3,500 grams in earlier reports is now 3,000-3,499 grams). As of 1994, the birth weight categories published in this report were revised in accordance with these guidelines.

The impact of the change is small in the United States, where many weights are given in pounds and ounces. No weight of pounds and ounces converts exactly to 2,500 grams (5-lb 8-oz is 2,495 g and 5-lb 9-oz is 2,523 g). It is, therefore, unlikely that many weights of 2,500 grams are recorded. In fact, in Washington State before 1992, if a weight in grams were recorded on the birth certificate, it was converted to pounds and ounces at data entry, and then reconverted to grams for data analysis. Using this method, a weight of 2,500 grams was converted to 5-lb 8-oz, which was reconverted to 2,495 grams. Thus, no weights of exactly 2,500 grams were found. Starting in 1992, weights in grams could be directly entered into the computer. In 1992-1994, an average of 11 births per year were recorded with weights of exactly 2,500 grams (0.3% of the low birth weight births). Even though the impact of the change is very small at the state level, it could have a slightly greater effect on low birth weight rates for a small county, if the county has any births at 2,500 grams.

### *Calculated Gestational Age*

The gestational age is calculated by subtracting the date of last normal menses from the birth date, dividing by 7 and truncating the result to eliminate decimal places. If the menses day is missing but the month and year are present, a value of '15' is used for the day. In cases where the menses month and/or year are missing or the calculated gestational age is beyond a reasonable range (<18 or >45 weeks), the gestational age is estimated from the child's birth weight. Overall, about 18% of the calculated gestational ages are estimated from the birth weight. This percentage varies by gestational age from 34% for preterm births to 17% for term births to 0% for postterm births.

### *Increase in Unknowns*

Since 1995, the percent unknown for many birth risk factors has increased steadily. For example, the percent of birth certificates with unknown month prenatal care began was around 4.9% for 1990-1994. This percentage increased to 7.7% in 1995, was at an all-time high of 9.7% in 1998, and decreased slightly to 9.5% in 1999. The Center for Health Statistics has recently been working individually with hospitals to determine why unknowns are so high, with the eventual aim of improving reporting completeness. A key element of this work is a hospital profile sheet which shows the staff how the data they provide compares with state data for selected items, so that they can see where there are problems. Discussions with staff have revealed one possible reason for the increase in unknowns. With budget shortages, hospitals have decreased the amount of staff time available for completing birth certificates. This change means that, if the mother does not provide the information on her worksheet, the hospital staff no longer has time to look up missing information in the medical records.

### *Cause of Death*

The causes of death presented in this report are classified in accordance with the International Classification of Diseases, Tenth Revision published by the World Health Organization. The State of Washington began using this revision on January 1, 1999. More information about the change to the new revision can be found in the introduction.

According to the National Center for Health Statistics, more than 99% of all deaths occurring in the United States are registered in the death certificate system. The accuracy of reporting specific causes of death may vary since classification of disease conditions is a medical-legal opinion subject to the best information available to the physician, medical examiner, or coroner certifying the cause of death.

### *Underlying Cause Of Death*

Tabulated causes of death in this report are based on the underlying cause of death. The underlying cause of death is defined as “(a) the disease or injury which initiated the train of events leading directly to death or (b) the circumstances of the accident or violence which produced the fatal injury.” International (World Health Organization) rules are used to determine the underlying cause of death using data supplied by the certifier in the “cause of death” and “other significant conditions” sections of the death certificate.

Information from other sources is used to supplement the cause of death data on the certificate to determine a more precise or more accurate cause of death. The following sources are used:

1. **Queries:** For about 8% of records, the certifier of the cause of death is asked for additional information because the cause of death data given are inaccurate, incomplete, or non-specific. About 93-98% of these queries are returned. The underlying cause of death may change minimally or substantially as a result of these queries. Query standards change over time, which can affect trends in cause of death and death rates for Washington compared to other states or to the United States.
2. **State Patrol:** The Washington State Patrol provides information on motor vehicle accidents which is used to refine or add a more complete cause of death for these deaths, particularly related to whether the decedent was the driver or a passenger.
3. **Gun Surveillance:** In many gun-related deaths, the gun is removed from the scene so the cause of death cannot be coded to the specific type of gun involved (such as handgun or rifle). Beginning in 1995, cause of death data have been supplemented with information on type of gun from a statewide reporting system for gun-related deaths operated by the Department of Health's Injury Prevention Program. Beginning in 1999, cause of death information for legal intervention was updated using the gun surveillance data.
4. **Labor and Industries (L&I):** For injury deaths, the death certificate asks whether the injury occurred at work or not. This item is sometimes open to interpretation as to whether the injury occurred in the course of the person's work or not. Beginning with 1996, death certificate data are supplemented with results of L&I investigations of work-related injuries.

### Cause of Death Groupings

Due to the detailed nature of this classification system, it is common to group ICD codes into more general categories for analysis and comparison purposes. The National Center for Health Statistics (NCHS) provides one of the most commonly used classification systems in which causes of deaths for adults are grouped into 113 separate groups and deaths for infants into 130 groups. NCHS groupings were used throughout this report with the exception of Mortality Section E which follows guidelines from the NCHS International Collaborative Effort (ICE) on Injury Statistics.

## *Maternal Death*

Maternal deaths are those for which a maternal condition (ICD-9 codes 630-676 and ICD-10 codes O00-O99) is given as the underlying cause of death. The World Health Organization defines a maternal death as:

The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.

With ICD-10, an additional category was added for late maternal death (>42 days and > 1 year after termination of pregnancy). A death will be coded as maternal only if the death certificate notes pregnancy or a maternal condition.

In 1979-1988, Washington State supplemented reported maternal deaths with results from a special study. Death certificates for women ages 15-44 were linked to birth/fetal death certificates to see if the woman had a delivery within 42 days of the death. If so, the cause of death was examined to see if the death could have been related to the pregnancy. This special study added an average of two maternal deaths per year, a substantial change because only about three deaths per year are reported as maternal.

In 1990-1996, deaths to Washington resident women were linked to births, fetal deaths and obstetric hospitalizations within 365 days prior to death. Information from the linkages was provided to the Department of Health Maternal and Child Health Office. Three perinatologists, an obstetrician and an epidemiologist reviewed the information available on each death from the death certificate, birth/fetal death certificate and hospitalization information. All linked deaths were considered pregnancy-associated deaths (deaths which occurred within 365 days of pregnancy regardless of cause) and were further classified as to pregnancy-related (deaths caused by pregnancy or by condition exacerbated by pregnancy) or not. Deaths considered not pregnancy-related included all deaths due to cancer, injury, or deaths with a vague or indefinite cause. Deaths due to epilepsy or seizures, deep vein thrombosis, infection, or intracerebral hemorrhage if they occurred  $\geq 42$  days post delivery were also considered not pregnancy-related. Deaths considered pregnancy-related included deaths due to deep vein thrombosis, pneumonia or aneurysm that occurred during pregnancy or less than 42 days post delivery. Cardiovascular deaths within three months of delivery, and deaths due to epilepsy/seizures or infection that occurred within 42 days of delivery were considered on a case by case basis.

Underreporting of maternal deaths may exist in years for which this linkage procedure has not been done. Further investigation of maternal deaths is currently underway within the Department of Health.

### *Perinatal Death*

The perinatal period covers times shortly before and after birth. Thus, perinatal death includes both fetal and infant deaths. Perinatal death rates are generally more consistent between different sources than infant or fetal death rates because they eliminate the effect of judgments as to whether the fetus was alive at time of delivery. However, there are at least four definitions of perinatal death, using different combinations of fetal death, gestational age, and infant age at death. This report uses the following definition from the National Center for Health Statistics: “fetal deaths of 20 or more weeks’ gestation plus infant deaths of less than seven days.” This definition gives the second largest number of perinatal deaths among the four common definitions. Caution should be used in comparing perinatal death rates in this report with rates from other sources unless it is certain that the same definition has been used.

### Marriage and Divorce Data

#### *Residence vs. Occurrence Data*

Information on the number of marriages or divorces for all residents of Washington State is not available since residents may go elsewhere to have a marriage performed or to obtain a divorce. For marriage and divorce statistics, unlike other vital records such as births, deaths, or fetal deaths, there is no interstate agreement for the exchange of information on marriages or divorces for residents of Washington State that occur in other states or countries. Marriages are tabulated in this report according to the county in which the marriage was performed. Divorces, annulments and legal separations also include tabulations by the county in which the legal certificate was issued. Thus, statistics calculated with these data reflect the place of occurrence of the legal activity (e.g. marriage ceremony performed, divorce decree issued) rather than the place of residence of the individuals involved. Please note that tabulations by occurrence include events that were issued in Washington State for residents of other states.

Divorces and annulments issued in Washington State are also tabulated by wife’s county of residence (Divorce Tables 1 and 5) and husband’s county of residence (Divorce Table1). These tables, unlike the other tables in this section, present information by place of residence rather than by the place (county) where the legal document was issued and recorded. As stated above, the data in these tables do not include divorces to Washington residents obtained in other states or countries.

### *Legal Separations*

In annual summaries for years prior to 1992, legal separations were included in divorce totals. Because legal separations are not final dissolutions of marriage, they have been excluded from divorce totals in annual summary tables beginning with 1992 data. This change makes Washington State's tabulations consistent with those contained in national publications by the National Center for Health Statistics. The impact of the change on trends is small, since legal separations reported to this office equal only about 1 to 2% of total dissolutions.

### *Court Orders*

Prior to 1996, a small number of divorces (between 32 and 145, see Vital Statistics 1994-95 – Table 50) were submitted to the Center for Health Statistics by county clerks as court orders without filing the certificate of dissolution with the Center as required by law (RCW 70.58.055(3)). The number of such court orders were reported in a footnote in those years but were not included in divorce totals. Beginning in 1996, this problem has been corrected through the cooperation of county clerks.

### *Number of Children*

Data on the number of children reported on the certificate of dissolution are captured by an item on the form labeled, "Children born alive of the marriage." Divorce Table 5 in this report presents the number of divorces and annulments tabulated by the number of children born to the couple regardless of the child's age (i.e., some of the children may be over 18 years of age).

Prior to 1997, in some cases, when the number of children was unknown, the number was erroneously recorded as none due to a data entry problem. Beginning in 1997, this problem was corrected. As a result, divorces for which the number of children is recorded as unknown is somewhat higher than in prior years.

## Definitions

*Birth Weight* - Weight of fetus or infant at time of delivery (normally recorded in pounds and ounces).

*Fetal Death* - Death prior to the complete expulsion or extraction from its mother of a product of human conception, irrespective of the duration of pregnancy. The death is indicated by the fact that after such expulsion or extraction the fetus does not breathe or show any other evidence of life such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles. Reporting of fetal deaths to the state is required only when the gestational period is twenty weeks or more.

*Infant Death* - Death of a child under one year of age.

*Live Birth* - The complete expulsion or extraction from its mother of a product of human conception, irrespective of the duration of pregnancy, which, after such expulsion or extraction, breathes, or shows any other evidence of life such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached.

*Live Birth Order* – Live birth order indicates what number the present birth represents; for example, a baby born to a mother who has had two previous live births (even if one or both are not now living) has a live birth order of three.

*Maternal Death* - Death attributed to complications of pregnancy, childbirth, or the puerperium (ICD-10 O00-O99) for women of childbearing age; includes abortion-related death.

*Neonatal Death* - Death of an infant within the first 27 days of life.

*Nulliparous* - Having never given birth to a live born infant.

*Occurrence Data* - Data allocated by place where the event occurred, regardless of the person's place of residence.

*Parity* - Total number of previous live births; does not include the current birth.

*Perinatal Death* - Fetal deaths plus deaths to infants within the first six days of life.

*Plurality* - The number of siblings born as the result of a single pregnancy (e.g., twins, triplets).

*Postneonatal Death* - Death of an infant of 28-364 days of age.

*Premature Birth* - A live birth weighing 2,500 grams (5-1/2 pounds) or less. If birth weight is not stated, length of gestation (under 37 weeks) is used.

*Residence Data* - Data allocated by place of residence of the child's mother (births, fetal deaths), or by place of residence of the decedent (deaths), regardless of where the event occurred.

*Underlying Cause of Death* - The disease or injury which initiated the train of morbid events leading directly or indirectly to death or the circumstances of the accident or violence which produced the fatal injury.

## Rates and Ratios

*Rounding of Rates* - Rates are rounded to the nearest tenth. When the rate or percent is less than one-tenth, the entry is 0. Rates are not calculated when the number of events is less than 5.

*Rates and Ratios Used in this Report* - Rates and ratios are calculated by dividing the number of events of concern by the population at risk (or a related population) and multiplying by a standard constant (i.e., 1,000 or 10,000 or 100,000).

$$\text{(Crude) Birth Rate} = \frac{\# \text{ Live Births}}{\text{Total Population}} \times 1,000$$

$$\text{Age - Specific Birth Rate} = \frac{\# \text{ Births for Specific Age Group}}{\text{Population for Same Age Group}} \times 1,000$$

$$\text{(Crude) Death Rate} = \frac{\# \text{ Deaths}}{\text{Total Population}} \times 1,000$$

$$\text{Age - Specific Death Rate} = \frac{\# \text{ Deaths for Specific Age Group}}{\text{Population for Same Age Group}} \times 100,000$$

$$\text{Cause - Specific Death Rate} = \frac{\# \text{ Deaths for Specific Cause}}{\text{Total Population}} \times 100,000$$

$$\text{Age - adjusted Death Rate} = \sum_i W_i \cdot \frac{\# \text{ Deaths}_i}{\text{Population}_i} \times 100,000$$

$$\text{where } W_i = \frac{\text{Standard Population}_i}{\text{Total Standard Population}}$$

and  $_i = \text{agegroup}$

$$\text{Comparability Ratio} = \frac{\# \text{ Deaths Classified with ICD - 10}}{\# \text{ Deaths Classified with ICD - 9}}$$

*Comparability Modified Values* = Rate or Count  $\times$  Comparability Ratio

$$\text{Infant Death Rate} = \frac{\# \text{ Infant Deaths}}{\text{Total Live Births}} \times 1,000$$

$$\text{Neonatal Death Rate} = \frac{\# \text{ Neonatal Deaths}}{\text{Total Live Births}} \times 1,000$$

$$\text{Postneonatal Death Rate} = \frac{\# \text{ Postneonatal Deaths}}{\text{Total Live Births}} \times 1,000$$

$$\text{Maternal Death Rate} = \frac{\# \text{ Maternal Deaths}}{\text{Total Live Births}} \times 10,000$$

$$\text{Fetal Death Ratio} = \frac{\# \text{ Fetal Deaths}}{\text{Total Live Births}} \times 1,000$$

$$\text{Perinatal Death Rate} = \frac{\# \text{ Perinatal Deaths}}{\text{Live Births} + \text{Fetal Deaths}} \times 1,000$$

## Appendix B. Conversion of Birth Weight in Grams to Pounds and Ounces

Weight in Grams	Pounds and Ounces
Under 1,000	2lbs. 3 oz. and less
1,000 - 1,499	2 lbs. 4 oz. - 3 lbs. 4 oz.
1,500 - 1,999	3 lbs. 5 oz. - 4 lbs. 6 oz.
2,000 - 2,499	4 lbs. 7 oz. - 5 lbs. 8 oz.
2,500 - 2,999	5 lbs. 9 oz. - 6 lbs. 9 oz.
3,000 - 3,499	6 lbs. 10 oz. - 7 lbs. 11 oz.
3,500 - 3,999	7 lbs. 12 oz. - 8 lbs. 13 oz.
4,000 - 4,499	8 lbs. 14 oz. - 9 lbs. 14 oz.
4,500 and over	9 lbs. 15 oz. and over
One pound = 453.59 grams	

**Appendix C. Estimated Population, State of Washington, by Age Group by Sex, April 1, 2002**

<b>Age Group</b>	<b>Total</b>	<b>Male</b>	<b>Female</b>
<b>Total</b>	6,041,700	3,008,770	3,032,930
Under 1 Year <sup>1</sup>	79,002	40,455	38,547
1 - 4	320,298	164,067	156,231
5 - 14	860,643	441,563	419,080
15 - 19	437,829	225,024	212,805
20 - 24	416,732	214,102	202,630
25 - 34	838,308	429,712	408,596
35 - 44	959,608	483,450	476,158
45 - 54	896,573	445,510	451,063
55 - 64	555,382	275,452	279,930
65 - 74	340,869	160,175	180,694
75 - 84	245,217	100,267	144,950
85 and Over	91,239	28,993	62,246

<sup>1</sup>Population under 1 year is shown as births in current year, the denominator for infant mortality rates; other population estimates for children under 1 or aged 1-4 may differ.

Source: Washington State Office of Financial Management, Forecasting Division, Intercensal and Postcensal Estimates of County Population by Age and Sex: 1980-2002, July 2003.

## Appendix D. Estimated Population of Counties and Cities of 15,000 Population and Over, April 1, 2002

Name	City	County	Name	City	County
<b>State Total</b>	6,041,710		Kenmore	19,180	
			Sammamish	34,660	
Adams		16,600	Kitsap		234,700
Asotin		20,700	Bremerton	37,530	
Benton		147,600	Bainbridge Island	20,920	
Kennewick	56,280		Kittitas		34,800
Richland	40,150		Ellensburg	15,830	
Chelan		67,600	Klickitat		19,300
Wenatchee	28,270		Lewis		70,200
Clallam		64,900	Lincoln		10,200
Port Angeles	18,430		Mason		49,800
Clark		363,400	Okanogan		39,800
Vancouver	148,800		Pacific		21,000
Columbia		4,100	Pend Oreille		11,800
Cowlitz		94,400	Pierce		724,998
Longview	35,310		Tacoma	194,900	
Douglas		33,100	Puyallup	34,920	
Ferry		7,300	Lakewood	58,662	
Franklin		51,300	University Place	30,350	
Pasco	34,630		San Juan		14,600
Garfield		2,400	Skagit		105,100
Grant		76,400	Mount Vernon	26,670	
Moses Lake	15,420		Skamania		9,900
Grays Harbor		68,400	Snohomish		628,000
Aberdeen	16,250		Everett	96,070	
Island		73,100	Edmonds	39,460	
Oak Harbor	19,880		Lynnwood	33,990	
Jefferson		26,600	Marysville	27,580	
King		1,774,312	Mountlake		
Seattle	570,802		Terrace	20,470	
Renton	53,840		Mukilteo	18,520	
Auburn	43,970		Spokane		425,600
Kent	84,275		Spokane (city)	195,500	
Kirkland	45,790		Stevens		40,400
Bellevue	117,000		Thurston		212,300
Mercer Island	21,955		Olympia	42,690	
Redmond	46,040		Lacey	31,860	
Bothell part	16,264		Wahkiakum		3,800
Des Moines	29,510		Walla Walla		55,400
Tukwila	17,270		Walla Walla (city)	29,550	
Federal Way	83,850		Whatcom		172,200
SeaTac	25,320		Bellingham	69,260	
Burien	31,810		Whitman		40,600
Shoreline	53,250		Pullman	24,910	
			Yakima		225,000
			Yakima (city)	79,120	

Source: Population estimates in this report are from the Washington State Office of Financial Management, Forecasting Division, Intercensal and Postcensal Estimates of County Population by Age and Sex: 1980-2002, July 2003.

## Appendix E. Comparison Between Current and Previous Table Numbers

### Table Numbers

2000+	1999 <sup>1</sup>	1980-1998 <sup>2</sup>	Current Title	Comments
<b>Nativity A: Demographics</b>				
A1	---	---	Summary Indicators, Washington State Residents,	New Table
A2	1A	2A	Mother's Race/Ethnicity by Child's Sex, Residence	
A3	1C	2C	Mother's Age Group by Child's Sex, Residence	
A4	---	---	Child's Birth Order by Mother's Age Group, Residence	New Table
A5	---	---	Mother's Education by Mother's Age Group, Residence	New Table
A6a	Appendix E		Top 100 Baby Names of Girls, Residence	
A6b	Appendix E		Top 100 Baby Names of Boys, Residence	
A7	7	8	Place of Residence, Sex, and Place of Occurrence	
A8	12	13	Month of Birth by Place of Residence	
A9	8	9	Mother's Age Group by Place of Residence	
A10	---	---	Age-Specific Live Birth Rates by Place of Residence	New Table <sup>3</sup>
A11	9	10	Single Mothers, Mother's Age Group by Place of Residence	
A12	---	---	Father's Age Group by Place of Residence	New Table
A13	10	11	Mother's Race/Ethnicity by Place of Residence	
A14	---	---	Mother's Education by Place of Residence	New Table
<b>Nativity B: Behavioral and Health Characteristics</b>				
B1	---	---	Summary Indicators, Washington State Residents,	New Table
B2	---	---	Mother's Age Group by Maternal Smoking, Residence	New Table
B3	---	---	Mother's Education by Maternal Smoking, Residence	New Table
B4	16	17	Maternal Smoking During Pregnancy by Place of Residence	
B5	---	---	Selected Medical Risk Factors by Place of Residence	New Table
<b>Nativity C: Health Service Utilization</b>				
C1	---	---	Summary Indicators, Washington State Residents,	New Table
C2	5	6	Month Prenatal Care Began by Mother's Age Group, Residence	
C3	6	7	Number of Prenatal Visits by Month Care Began, Residence	
C4	14	15	Month Prenatal Care Began by Place of Residence	
C5	17	18	Birth Facility by Place of Occurrence	
C6	---	---	Moethod of Delivery by Place of Occurrence	New Table
C7	---	---	Birth Attendant by Place of Occurrence	New Table
C8	18	19	County of Residence by County of Occurrence	
<b>Nativity D: Infant Health</b>				
D1	---	---	Summary Indicators, Washington State Residents,	New Table
D2	2	3	Birth Weight in Grams by Mother's Race/Ethnicity, Residence	
D3	4	5	Birth Weight in Grams by Mother's Age Group, Residence	
D4	---	---	Birth Weight in Grams by Calculated Gestational Age, Residence	New Table
D5	---	---	Birth Weight in Grams by Plurality, Residence	New Table
D6	---	---	Mother's Age Group by Plurality, Residence	New Table
D7	13	14	Birth Weight in Grams by Place of Residence	
D8	---	---	Calculated Gestational Age by Place of Residence	New Table
D9	---	---	Plurality by Place of Residence	New Table
<b>Nativity Tables Not Included in Current Report</b>				
---	1B	2B	Residence, Child's Race/Ethnicity by Sex	Mother's race has been the standard since 1980
---	1D	2D	Residence, Order of Birth to Mother	See 'All ages' column of Table A4
---	1E	2E	Residence, Attendant at Birth	See 'State total' row of Table C7

**Table Numbers**

2000+	1999 <sup>1</sup>	1980-1998 <sup>2</sup>	Current Title	Comments
---	1F	2F	Residence, Maternal Smoking	See 'State total' row of Table B4
---	1G	2G	Residence and Occurrence, Birth Weight in Grams by Sex	See 'State total' row of Table A8 (births)
---	1H	2H	Residence and Occurrence, Live Births and Fetal Deaths by Month	See 'State total' row of Table D7 (residence data)
---	1I	2I	Occurrence, Primary Method of Birth Delivery by Obstetric Procedures	See 'State total' row of Table C6
---	1J	2J	Occurrence, Type of Place	See 'State total' row of Table C5
---	3	4	Live Births to Residents by Birth Weight in Grams by Child's Race/Ethnicity	Mother's race has been the standard since 1980
---	11	12	Live Births by Child's Race/Ethnicity by Place of Residence	Mother's race has been the standard since 1980
---	15	16	Live Births with Malformations by Place of Residence	Malformation data are not very reliable
<b>Mortality A: Demographics</b>				
A1	--	--	Age-Adjusted Mortality Rates and Life Expectancy by Sex for Residents,	New Table
A2	2	20B	Age by Race/Ethnicity for Residents	
A3	3	20C	Age by Sex for Residents	
A4	4	20D	Life Expectancy by Age and Sex for Residents	
A5	7	20H	Marital Status by Sex for Residents	
A6	--	--	Education by Age for Residents	New Table
A7-a	17A	25	Residence and Occurrence by County and City	
A7-b	17B	--	Residence and Occurrence by County Listed by Age-Adjusted Rates for 1998-2000	
A8	18	26	Sex and Race/Ethnicity by County/City of Residence	
A9	19	27	Age Group by County of Residence	
A10	20	28	Month of Death by County of Residence	
A11	28	37	Place Where Death Occurred by County of Occurrence	
<b>Mortality B: Autopsy and Disposition</b>				
B1	--	--	Percent Autopsy and Cremation for Residents,	New Table
B2	9	--	Autopsy by Age and Manner of Death for Residents	
B3	--	--	Type of Disposition by County of Residence	New Table
<b>Mortality C: Leading Causes of Death, Overview and Selected Causes of Death</b>				
C1	--	--	Age-Adjusted Rates <sup>1</sup> for 10 Leading Causes of Death for Residents,	New Table
C2	5A	20E	Leading Causes of Death for Residents	
C3	10	21	Leading Causes by Age Group and Sex for Residents	
C4	11A	22	Crude Rates for Selected Causes by Sex for Residents	
C5	11B	22	Age-Adjusted Rates for Selected Causes by Sex for Residents	
C6	21A	29	Diabetes, Alzheimer's Disease, and Major Cardiovascular Disease by County of Residence	
C7	21B	29	Diseases of the Heart, Ischemic Heart Diseases, and Cerebrovascular Diseases by County of Residence	
C8	21C	29	Influenza & Pneumonia, Chronic Lower Respiratory Disease, and Chronic Liver Disease & Cirrhosis by County of Residence	

**Table Numbers**

2000+	1999 <sup>1</sup>	1980-1998 <sup>2</sup>	Current Title	Comments
<b>Mortality D: Cancer</b>				
D1	--	--	Age-Adjusted Rates for Leading Causes of Cancer for Residents,	New Table
D2	12	23	Cancer by Primary Site and Sex for Residents	
D3	23A	30A	Cancer for Total All Sites, Lung, and Colo-Rectal by County of Residence	
D4	23B	30B	Cancer for Female Breast, Prostate, and Pancreas by County of Residence	
<b>Mortality E: External Causes or Injuries</b>				
E1	--	--	Age-Adjusted Rates for External Causes for Residents,	New Table
E2-a	13	24	External Causes of Injury With Crude Rates for Residents	
E2-b	13	24	External Causes of Injury With Age-Adjusted Rates for Residents	
E2-c	13	24	ICD-10 Codes for External Causes	
E3	14	--	External Causes by Place of Injury for Residents	
E4	15	--	Type of Firearm by Intent for Residents	
E5	16	--	Poisoning by Intent and Substance	
E6	25	33	Suicide, Homicide, Undetermined by County of Residence	
E7	22	--	Drug and Alcohol-Induced Causes for Residents	
E8	24A	32A	Unintentional Injury (Accident), Motor Vehicle Traffic, and Falls by Place of Residence	
E9	24B	32B	Drowning Drowning, Fires, and Other Unintentional Injury (Accident) by County of Residence	
E10	27	36	Suicide, Homicide, and Undetermined for Residents by County of Injury	Tables prior to 1999 used county of occurrence
E11	26	35	Unintentional Injury (Accident) to Residents by County of Injury	7
<b>Mortality F: Infant Deaths</b>				
F1	--	--	Selected Causes for Infant (Age < 1 Year) Residents,	New Table
F2	5B	20F	Leading Causes of Infant (Age < 1 Year) Death for Residents	
F3	29	--	Birth Weight and Age for Infant (Age < 1 Year) Residents	
F4-a	30A	38A	Selected Causes by Age and Sex for Infant (Age < 1 Year) Residents	
F4-b	30B	38B	Selected Causes by Age and Sex for Infant (Age < 1 Year) Residents	
F5	31	39	Selected Causes for Infant (Age < 1 Year) County of Residence	
F6	32	40	Mother's Race/Ethnicity by Infant (Age < 1 Year) County of Residence	
F7	34	42	Mother's Age Group by Infant (Age < 1 Year) County of Residence	
F8	35	26	Fetal Deaths, Perinatal, Neonatal, and Infant Mortality by County/City of Residence	
<b>Mortality G: Fetal Deaths</b>				
G1	--	--	Selected Causes of Fetal Death Residents	New Table
G2	36	45	Fetal Deaths by Mother's Age Group by Place of Residence	
G3	37	46	Fetal Deaths for Residents by Cause	
G4	38	47	Fetal Deaths by Weight in Grams and Sex for Residents	
<b>Mortality Tables Not Included in Current Report</b>				
--	1	20A	Deaths to Residents by Race/Ethnicity and Sex	See 'State Total' row of Table A8
--	6	20G	Deaths to Residents and by Occurrence by Month of Death	See 'State Total' row of Table A10
--	8	20I	Deaths by Occurrence by Type of Place	See 'State Total' row of Table A11

**Table Numbers**

2000+	1999 <sup>1</sup>	1980-1998 <sup>2</sup>	Current Title	Comments
--	--	31	Deaths Due to Human Immunodeficiency Virus by Sex by Place of Residence	Number of deaths have declined; Most cells are zero
--	--	34	Deaths Due to Human Immunodeficiency Virus by Sex by Place of Occurrence	Number of deaths have declined; Most cells are zero
--	--	44	Fetal Deaths, Perinatal, Neonatal and Infant Mortality by Place of Occurrence	Place of Residence is used more often
--	33	41	Infant (Age < 1 Year) Deaths by Child's Race/Ethnicity by Residence	Mother's race has been the standard since 1980

<sup>1</sup>From *Washington State Vital Statistics, 1999*

<sup>2</sup>From *Washington State Vital Statistics Reports, 1980-1998*

<sup>3</sup>Also published as Table 19 in *Washington State Pregnancy and Induced Abortion Statistics*

**Appendix F. Sample Certificates**

Certificate of Live Birth

Certificate of Death

Certificate of Fetal Death

Certificate of Dissolution

# Certificate of Marriage



## CERTIFICATE OF MARRIAGE

Please type or print clearly in permanent black ink.

COUNTY OF LICENSE		DATE VALID		NOT VALID AFTER	
<b>OFFICIANT - I certify the persons named below were married on . . . .</b>					
1. DATE OF MARRIAGE(MO/DAY/YR)		2. COUNTY OF CEREMONY		3. TYPE OF CEREMONY <input type="checkbox"/> Religious <input type="checkbox"/> Civil	
4. DATE SIGNED(MO/DAY/YR)		5. OFFICIANT'S NAME (PRINT)		6. OFFICIANT'S SIGNATURE <b>X</b>	
7. OFFICIANT'S ADDRESS (STREET, CITY, STATE & ZIP)					
<b>GROOM</b>					
8. GROOM'S NAME		FIRST	MIDDLE	LAST	
9. USUAL RESIDENCE ADDRESS (NUMBER AND STREET)			10. DATE OF BIRTH(MO/DAY/YR)		11. BIRTHSTATE(IF NOT USA GIVE COUNTRY)
12. CITY/TOWN/LOCATION			13. INSIDE CITY LIMITS <input type="checkbox"/> Yes <input type="checkbox"/> No		14. COUNTY
15. STATE			16. FATHER'S NAME (FIRST/LAST)		17. BIRTHSTATE(IF NOT USA GIVE COUNTRY)
18. MOTHER'S MAIDEN NAME (FIRST/LAST)			19. BIRTHSTATE(IF NOT USA GIVE COUNTRY)		20. GROOM'S SIGNATURE <b>X</b>
21. DATE SIGNED (MO/DAY/YR)			22. BRIDE'S NAME		
FIRST		MIDDLE	LAST		23. MAIDEN NAME
24. USUAL RESIDENCE ADDRESS (NUMBER AND STREET)			25. DATE OF BIRTH(MO/DAY/YR)		26. BIRTHSTATE(IF NOT USA GIVE COUNTRY)
27. CITY/TOWN/LOCATION			28. INSIDE CITY LIMITS <input type="checkbox"/> Yes <input type="checkbox"/> No		29. COUNTY
30. STATE			31. FATHER'S NAME (FIRST/LAST)		32. BIRTHSTATE(IF NOT USA GIVE COUNTRY)
33. MOTHER'S MAIDEN NAME (FIRST/LAST)			34. BIRTHSTATE(IF NOT USA GIVE COUNTRY)		35. BRIDE'S SIGNATURE <b>X</b>
36. DATE SIGNED (MO/DAY/YR)			37. WITNESS' SIGNATURE <b>X</b>		
38. WITNESS' SIGNATURE <b>X</b>			39. COUNTY AUDITOR'S SIGNATURE <b>X</b>		
40. DATE RECEIVED (MO/DAY/YR)					

DOH 110-009 FRONT (REV 2/2000)

continued Certificate of Marriage

**Department of Health is required to collect your Social Security Number in order to assist in enforcement of child support laws (Section 7, Chapter 160 Laws of 1998). If you do not have a Social Security Number, you are required to complete the Social Security Declaration.**

41. GROOM'S SOCIAL SECURITY NUMBER	42. BRIDE'S SOCIAL SECURITY NUMBER
------------------------------------	------------------------------------

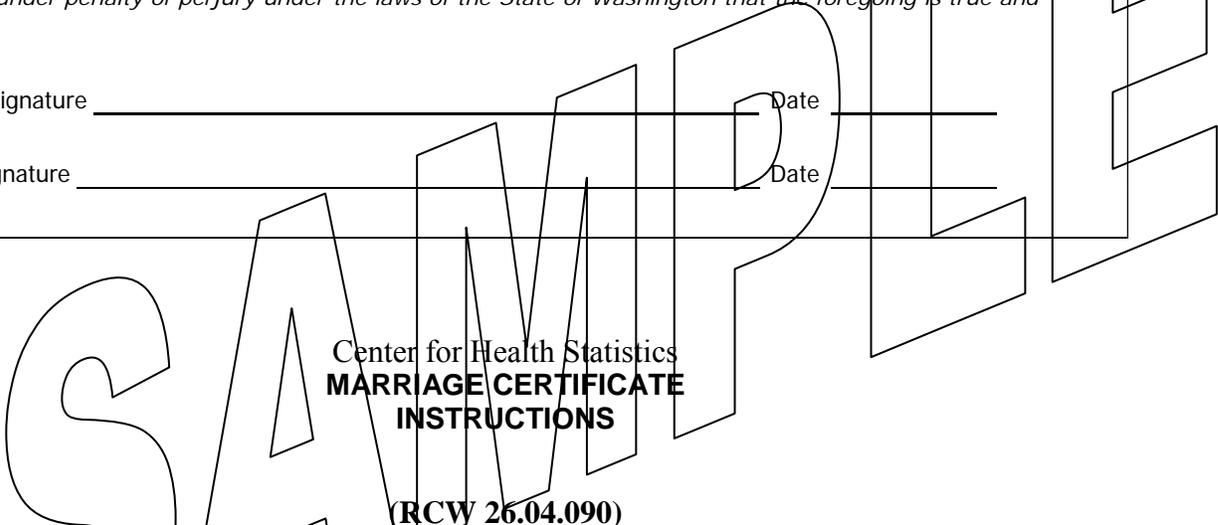
**SOCIAL SECURITY DECLARATION**

*I have not furnished a Social Security Number on my application for registration of a marriage certificate, because I do not have a Social Security Number.*

*I declare under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct.*

Groom's Signature \_\_\_\_\_ Date \_\_\_\_\_

Bride's Signature \_\_\_\_\_ Date \_\_\_\_\_



Center for Health Statistics  
**MARRIAGE CERTIFICATE  
INSTRUCTIONS**

**(RCW 26.04.090)**

- Items 1 - 7 ----- Completed by the Officiant. Signature and complete address required.
- Items 8 - 19 ----- Completed at the time the application for marriage license is filed.
- Items 20 - 21 ----- The signature of the groom and date signed is required.
- Items 22 - 34 ----- Completed at the time the application for marriage license is filed.
- Items 35 - 36 ----- The signature of the bride and date signed is required.
- Items 37 - 38 ----- Signatures of two witnesses are required by law.
- Items 39 - 40 ----- Completed by the county auditor when the certificate is filed.
- Items 41 - 42 ----- Completed at the time the application for marriage license is filed.

***NOTE: This form is to be transmitted to the county auditor for the county in which the license was obtained within thirty (30) days of the marriage.***

DOH 110-009 BACK (REV 2/2000)