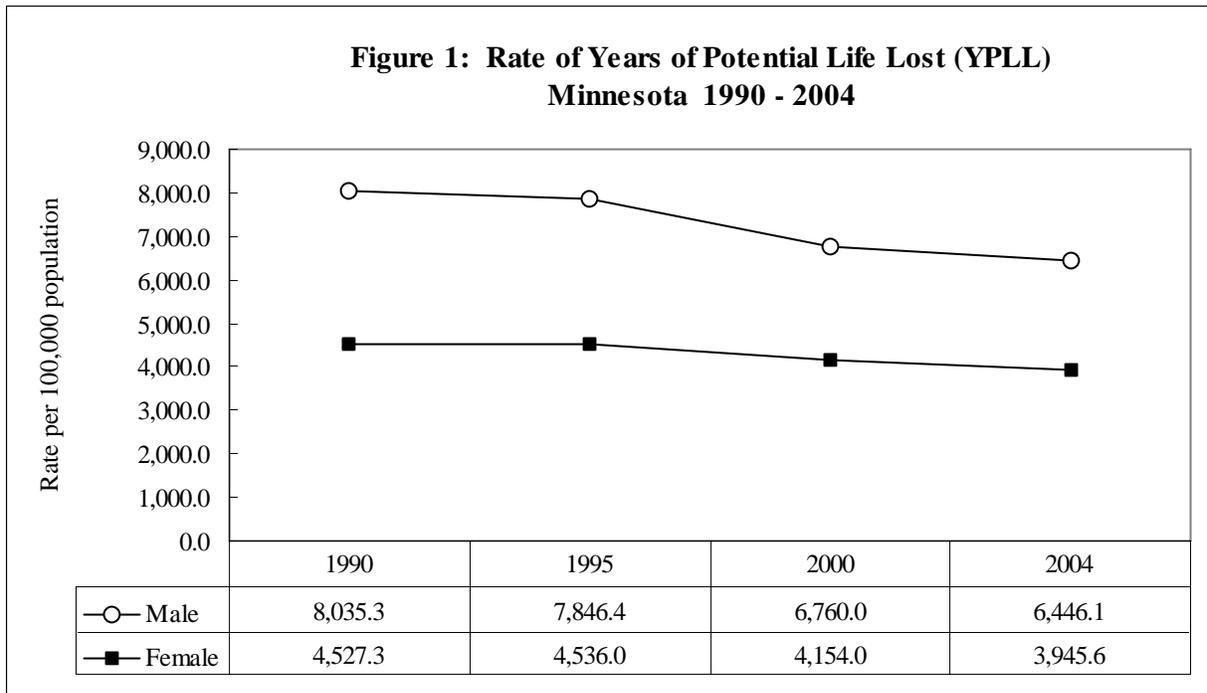


## Premature Mortality by Gender

This edition of *Vital Signs* focuses on Years of Potential Life Lost (YPLL) and gender. YPLL is a measure of premature death in a population, focusing on deaths occurring earlier in life. YPLL for an individual decedent is computed by subtracting the age at death from an arbitrary cutoff age. This document uses the cutoff age of 75 years: thus, for a person who dies from cancer at age 62, one would subtract 62 years (age at death) from 75 years (cutoff age) resulting in 13 years of potential life lost due to cancer. The sum of the years of life lost is the YPLL for a population. This document compares YPLL by gender, looking at differences in overall YPLL, YPLL rates, change in YPLL rates, and YPLL by cause of death. Death data are from Minnesota resident death records.

### YPLL Rates

In 2004 in Minnesota, 248,705 years of potential life were lost due to premature deaths; of which 151,127 YPLL were for males and 93,578 YPLL were for females. A larger YPLL can be attributed to one of the following scenarios; a greater number of deaths, younger ages at death, or a combination of both.



Rather than looking at total YPLL, Figure 1 provides YPLL rates. Rates offer greater comparability among groups because it takes differing population size for males and females into account. Figure 1 indicates a consistently higher YPLL rate for males. In fact, since 1990, male YPLL rates have remained over 1½ times the rate for females for each time period. YPLL rates for both males and females have decreased since 1990, with males experiencing a greater rate of change.

## YPLL Rates by Age and Gender

The reduction in YPLL rates is concentrated in specific age groups among those under 75 years (Table 1). The largest decreases from 1990 to 2004 are among infants during the first year of life where the YPLL rate declined 44.3% for females and 40.6% for males. Substantial declines in YPLL are also indicated for females ages 65-74 (-26.5%), and for males in the 25-34 year old group (-39.2%). Only middle aged males and females (45-54 years) did not contribute to the decline in YPLL rates, as their rates increased by 22.2% for females and 38.5% for males.

**Table 1: YPLL Rates by Age and Gender, Minnesota, 1990 and 2004**

Age	1990		2004		Rate Change	
	Female	Male	Female	Male	Female	Male
Under 1	755.1	1029.6	420.6	611.5	<b>-44.3%</b>	<b>-40.6%</b>
1-14	255.5	383.4	211.7	258.3	-17.1%	-32.6%
15-24	326.5	965.4	247.9	695.4	-24.1%	-28.0%
25-34	349.7	1003.7	263.5	610.0	-24.6%	-39.2%
35-44	584.5	1142.2	576.6	898.1	-1.4%	-21.4%
45-54	685.4	1059.5	837.3	1467.5	<b>22.2%</b>	<b>38.5%</b>
55-64	909.3	1469.3	887.9	1257.3	-2.4%	-14.4%
65-74	675.9	1003.5	496.9	632.6	-26.5%	-37.0%

## YPLL Rates by Cause of Death

YPLL rate by cause of death provides insight into how particular causes contribute to YPLL in a population (Table 2). The greatest contributors to YPLL for males and females are cancer, unintentional injury and heart disease. For males, suicide is the fourth highest contributor to the overall YPLL and for females, congenital anomalies is the fourth highest contributor.

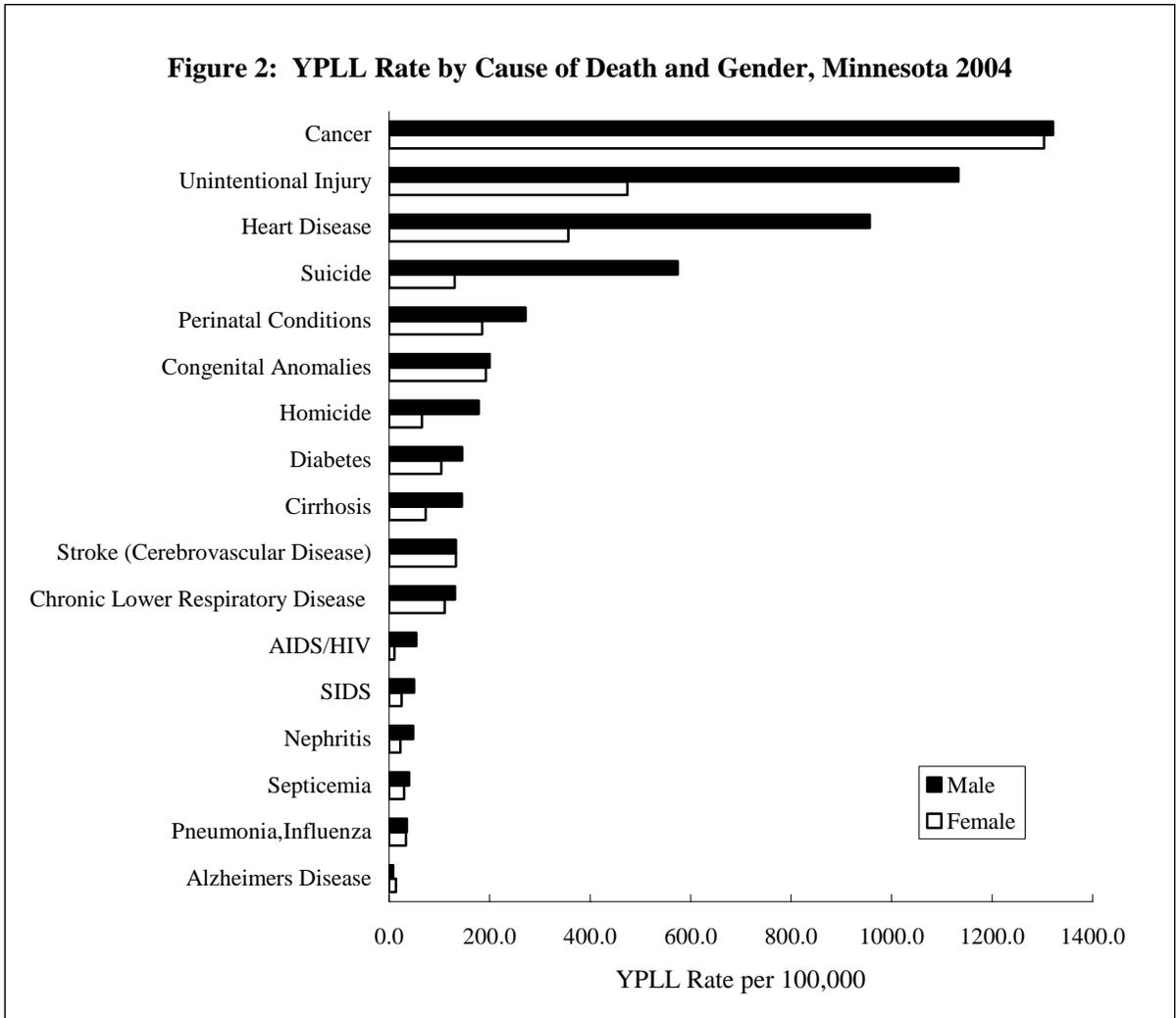
**Table 2. YPLL Rates by Gender, Minnesota 2004**

Cause of Death	Male		Female	
	YPLL Rank	YPLL Rate	YPLL Rank	YPLL Rate
<i>All Causes</i>		6,446.1		3,945.6
AIDS/HIV	12	53.9	17	10.3
Alzheimer's Disease	17	8.1	16	13.7
Cancer	1	1,321.2	1	1,303.1
Chronic Lower Respiratory Disease	11	130.9	8	110.7
Cirrhosis	9	144.9	10	72.9
Congenital Anomalies	6	200.3	4	192.4
Diabetes	8	145.3	9	103.6
Heart Disease	3	956.5	3	356.6
Homicide	7	178.3	11	65.0
Nephritis	14	48.1	15	22.3
Perinatal Conditions	5	271.8	5	185.2
Pneumonia and Influenza	16	35.2	12	33.7
Septicemia	15	40.1	13	29.7
SIDS	13	49.4	14	25.1
Stroke (Cerebrovascular Disease)	10	133.2	6	133.2
Suicide	4	573.9	7	130.4
Unintentional Injury	2	1,132.8	2	474.3
Motor Vehicle		614.2		237.4
Other Unintentional Injury		518.6		200.9
<i>Other</i>		1,008.4		678.8

Rate is per 100,000 population

Figure 2 indicates how YPLL rates differ by gender and cause of death. Male YPLL rates are higher for every cause of death except for Alzheimer's disease, with male YPLL rates for unintentional injury and heart disease twice that of female rates. The YPLL rates for cancer, congenital anomalies, stroke, chronic lower respiratory disease, pneumonia and influenza are similar for males and females.

**Figure 2: YPLL Rate by Cause of Death and Gender, Minnesota 2004**



**Average YPLL**

The average YPLL is the average loss of years per cause of death. It is computed by dividing the total YPLL for those 75 and under for each cause of death by the total number of deaths for those under 75. A higher average YPLL indicates that individuals are dying at younger ages for particular causes. Table 3 indicates that the YPLL for female deaths due to homicide (48.2 years) and AIDS/HIV (35.0 years) have higher average YPLLs than females dying of Alzheimer’s disease (7.2 years) – meaning that females are dying of homicide and AIDS/HIV at younger ages than Alzheimer’s disease. In Table 3, both male and female YPLL averages are high (74.5) for perinatal conditions and SIDS, both of which are deaths that occur to young infants.

**Table 3: Average YPLL by Gender, Minnesota 2004**

Cause of Death	Male			Female		
	YPLL	# Deaths	Avg YPLL*	YPLL	#Deaths	Avg YPLL*
<i>All Causes</i>	155,499.5	8,037	19.3	93,652.5	5,406	17.3
AIDS/HIV	1,300.0	44	29.5	245.0	7	35.0
Alzheimer's Disease	195.0	25	7.8	325.0	45	7.2
Cancer	31,872.0	2,392	13.3	30,930.0	2,250	13.7
Chronic Lower Respiratory Disease	3,158.5	319	9.9	2,627.0	273	9.6
Cirrhosis	3,495.0	177	19.7	1,730.0	90	19.2
Congenital Anomalies	4,832.5	93	52.0	4,566.0	84	54.4
Diabetes	3,505.0	253	13.9	2,460.0	178	13.8
Heart Disease	23,073.5	1,528	15.1	8,463.5	625	13.5
Homicide	4,302.0	98	43.9	1,543.5	32	48.2
Nephritis	1,161.0	88	13.2	529.5	44	12.0
Perinatal Conditions	6,556.0	88	74.5	4,395.5	59	74.5
Pneumonia and Influenza	849.5	64	13.3	799.0	45	17.8
Septicemia	966.5	55	17.6	705.0	51	13.8
SIDS	1,192.0	16	74.5	596.0	8	74.5
Stroke (Cerebrovascular Disease)	3,213.5	265	12.1	3,162.0	220	14.4
Suicide	13,845.0	391	35.4	3,094.0	92	33.6
Unintentional Injury	27,326.0	794	34.4	11,259.0	330	34.1

\* Average YPLL is equal to total YPLL / total deaths under age 75 years

# Minnesota Vital Signs

**Minnesota Center for Health Statistics  
Office Health Policy, Statistics and Informatics  
Minnesota Department of Health**

Vital Signs is available on the Minnesota Center for Health Statistics website, <http://www.health.state.mn.us/divs/chs/vitalsigns/index.html>. If you require this document in another format such as large print, Braille, or cassette tape call 651/201-3504 or email [healthstats@health.state.mn.us](mailto:healthstats@health.state.mn.us).



*Protecting, maintaining and improving the health of all Minnesotans*