

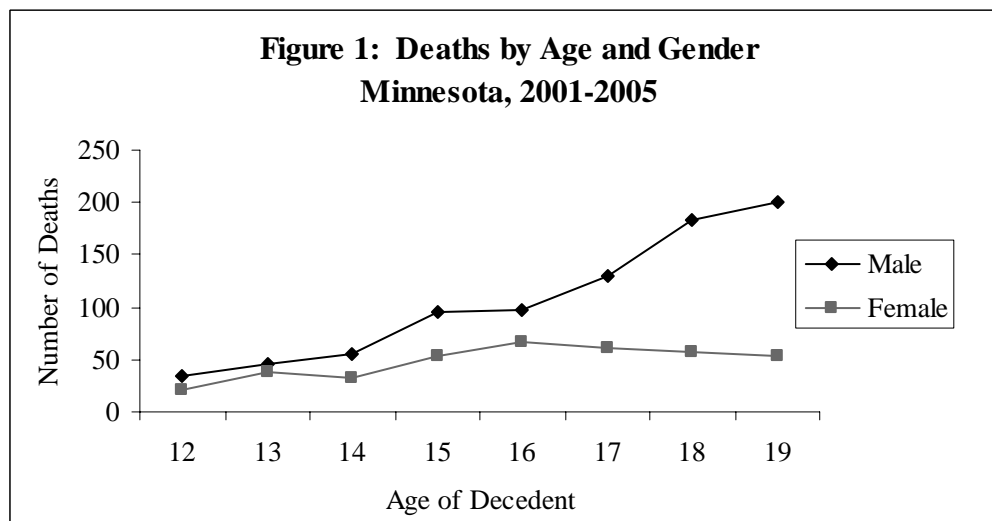
Adolescent Deaths, 2001 - 2005

Deaths to adolescents age 12 to 19, while small in number, are of public health interest due to the fact that most are not of natural causes and are thus potentially preventable deaths. As is often the practice with small-number data, this issue of Vital Signs will look at an aggregated 5 years of data, 2001 – 2005, rather than individual data years.

Age and Gender

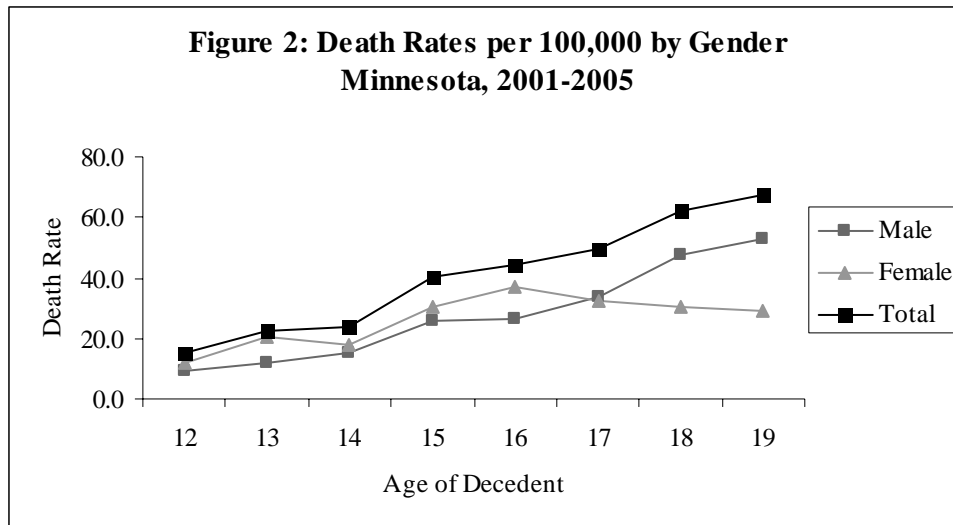
Numbers of Deaths

The total number of deaths occurring among adolescents rises with age. This increase is much more pronounced for males than for females. While male adolescent deaths exhibit a steep rise after age 16, the number of deaths to adolescent females rises more slowly and then only until age 16 when the numbers begin to decrease (Figure 1).



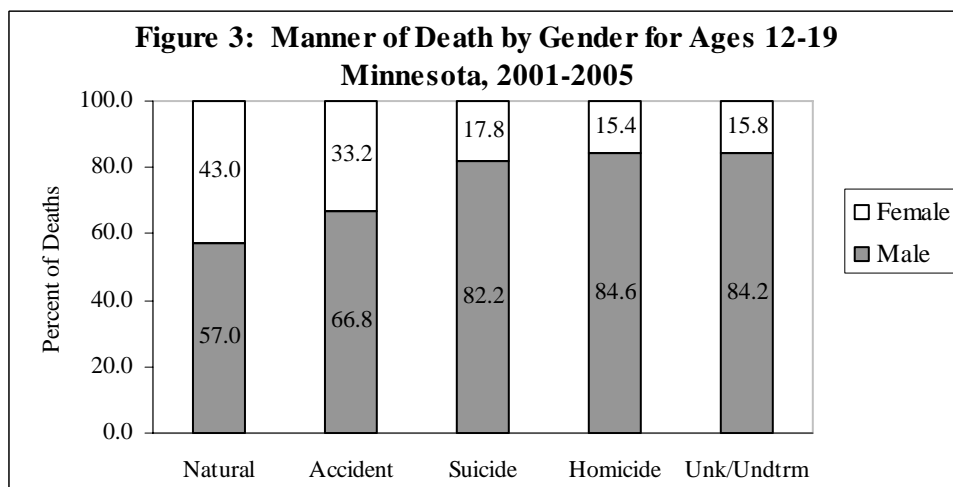
Death Rates

Although the numbers of deaths to males are greater than to females at each age point, death rates are higher for females until age 17 (Figure 2). This occurs because the estimated female population is smaller than the estimated male population. For ages 17, 18 and 19 however, while the female population remains smaller, the large increase in number of deaths to males causes those death rates to rise while that for females remains fairly stable.



Manner of Death

A similar disparity in number of deaths to males and females is observed in the distribution of manner of death (Figure 3). Although a small majority of natural deaths, that is, those due to illness, occur to males; males account for much larger percentages of accidental deaths, suicides, homicides, and deaths of undetermined intent.



Cause of Death

Natural Causes

Approximately 25% of deaths to adolescents are due to natural causes. Cancer is the leading cause of natural deaths, followed by congenital anomalies and birth injuries, heart and circulatory system diseases, diseases of the nervous system such as cerebral palsy and muscular dystrophy, and respiratory system diseases such as asthma and pneumonia (Table 1). There is some variation in rank order by gender, with heart and circulatory system and nervous system diseases ranking second and third ahead of congenital anomalies for males and respiratory system diseases ranking third by a very small margin for females.

Table 1: Natural Causes of Death by Gender for Ages 12-19, Minnesota 2001-2005

| Cause | Total | | Male | | Female | |
|-------------------------------------|--------|------|--------|-------|--------|-------|
| | Number | Rate | Number | Rate* | Number | Rate* |
| Cancers/Leukemia | 89 | 3.0 | 47 | 3.1 | 42 | 2.9 |
| Congenital Anomalies/Birth Injuries | 36 | 1.2 | 15 | --- | 21 | 1.4 |
| Heart/Circulatory System | 32 | 1.1 | 24 | 1.6 | 8 | --- |
| Nervous System | 25 | 0.8 | 19 | --- | 6 | --- |
| Respiratory System | 22 | 0.8 | 13 | --- | 9 | --- |
| All Other Natural Causes | 100 | 3.5 | 58 | 3.8 | 42 | 2.9 |
| Total | 304 | 10.2 | 176 | 10.9 | 126 | 8.7 |

*Rates are not computed for counts of 20 and under

Accidental Causes

Motor vehicle accidents involving cars, trucks, and SUVs are by far the leading cause of accidental deaths among adolescents (Table 2). The order of the remaining accidental causes of death for females deviates from the overall and male ranking order with accidental poisonings and pedestrian accidents outranking other vehicle and drowning/boating accidents. The number and rate of accidental deaths to females is only about half that of males overall and considerably less than half for many of the accidental causes of death.

Table 2: Accidental Causes of Death by Gender for Ages 12-19, Minnesota 2001-2005

| Cause | Total | | Male | | Female | |
|----------------------------------|--------|------|--------|-------|--------|-------|
| | Number | Rate | Number | Rate* | Number | Rate* |
| Motor Vehicle (car, truck, SUV) | 415 | 13.8 | 252 | 16.4 | 163 | 11.1 |
| Other Vehicle (motorcycle, ATV) | 49 | 1.6 | 41 | 2.7 | 8 | --- |
| Drowning, Water/Boating Accident | 37 | 1.2 | 33 | 2.1 | 4 | --- |
| Pedestrian | 32 | 1.1 | 23 | 1.5 | 9 | --- |
| Accidental Drug, Poisoning | 24 | 0.8 | 14 | --- | 10 | --- |
| Falls | 11 | --- | 11 | --- | 0 | --- |
| Fire | 10 | --- | 7 | --- | 3 | --- |
| All Other Accidents | 40 | 1.3 | 33 | 2.1 | 7 | --- |
| Total | 618 | 20.6 | 414 | 27.0 | 204 | 13.9 |

*Rates are not computed for counts of 20 and under

Intentional Causes: Suicide and Homicide

Consistent with the pattern seen in overall deaths to adolescents, many more males than females are victims of intentional injury with approximately 83% of these deaths occurring to males (Table 3). The rates for males are more than 4 times greater than they are for females.

Table 3: Intentional Injury Causes of Death by Gender for Ages 12-19, Minnesota 2001-2005

| Cause | Total | | Male | | Female | |
|----------|--------|-------|--------|-------|--------|-------|
| | Number | Rate* | Number | Rate* | Number | Rate* |
| Suicide | 225 | 7.5 | 185 | 12.0 | 40 | 2.7 |
| Homicide | 78 | 2.6 | 66 | 4.3 | 12 | --- |
| Total | 303 | 10.1 | 251 | 16.3 | 52 | 3.6 |

*Rates are not computed for counts of 20 and under.

Age at Death by Cause Type

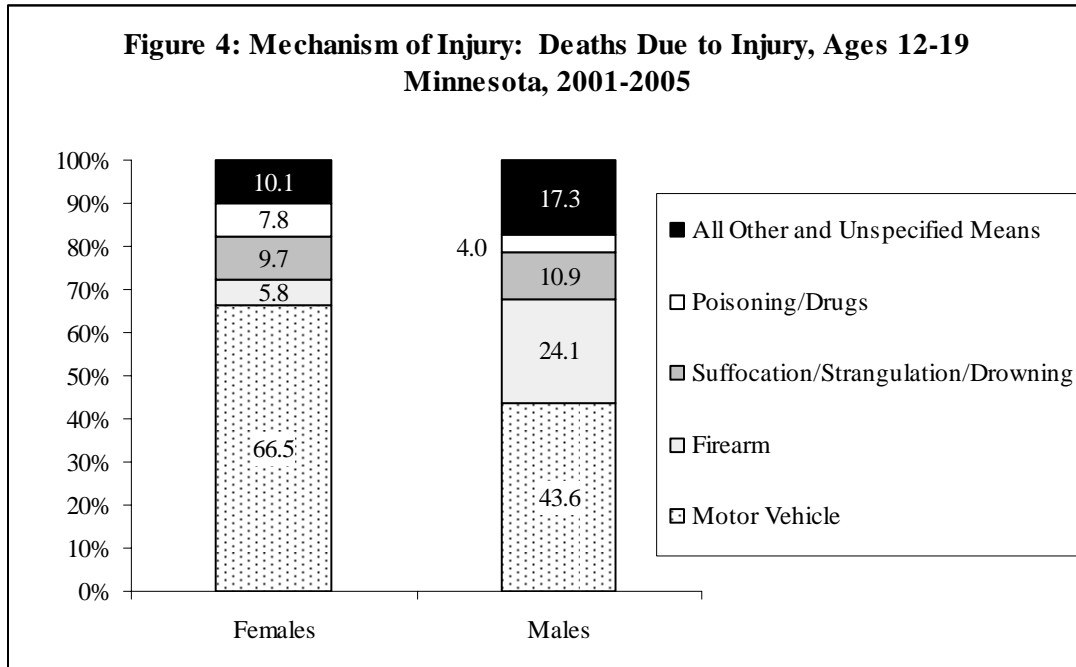
While the number of deaths due to natural causes exhibits no strong pattern, the number of deaths due to injury, whether accidental or intentional, rises with age for males. For females, however, the numbers increase from early to middle adolescence and then decrease again for older adolescents (Table 4).

Table 4: Cause of Death by Age Group and Gender Minnesota, 2001-2005

| Age Group | Natural Causes | | Accidental Causes | | Intentional Causes | |
|-----------|----------------|--------|-------------------|--------|--------------------|--------|
| | Male | Female | Male | Female | Male | Female |
| 12-14 | 49 | 47 | 57 | 32 | 28 | 11 |
| 15-17 | 61 | 49 | 162 | 106 | 93 | 26 |
| 18-19 | 57 | 30 | 190 | 65 | 130 | 15 |
| Total | 167 | 126 | 409 | 203 | 251 | 52 |

Mechanism of Injury

Figure 4 looks at the mechanism of injury which caused the death regardless of the manner of death. It thus includes all accidental, suicide, and homicide deaths and those where it was undetermined whether the injury was accidentally or purposely inflicted. Motor vehicle injuries account for the majority of deaths by a large margin for both sexes, comprising 66.5% of the injury deaths for females and 43.6% for males. Percentages for suffocation, strangulation and drowning deaths are similar for male and female adolescents (10.9% vs. 9.7%). Firearm deaths comprise a much larger proportion of male deaths than female (24.1% vs. 5.8%), while poisoning and drugs are more prevalent among females (7.8% vs. 4.0%).



Minnesota VitalSigns

**Minnesota Center for Health Statistics
Division of Health Policy
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.



Protecting, maintaining and improving the health of all Minnesotans