

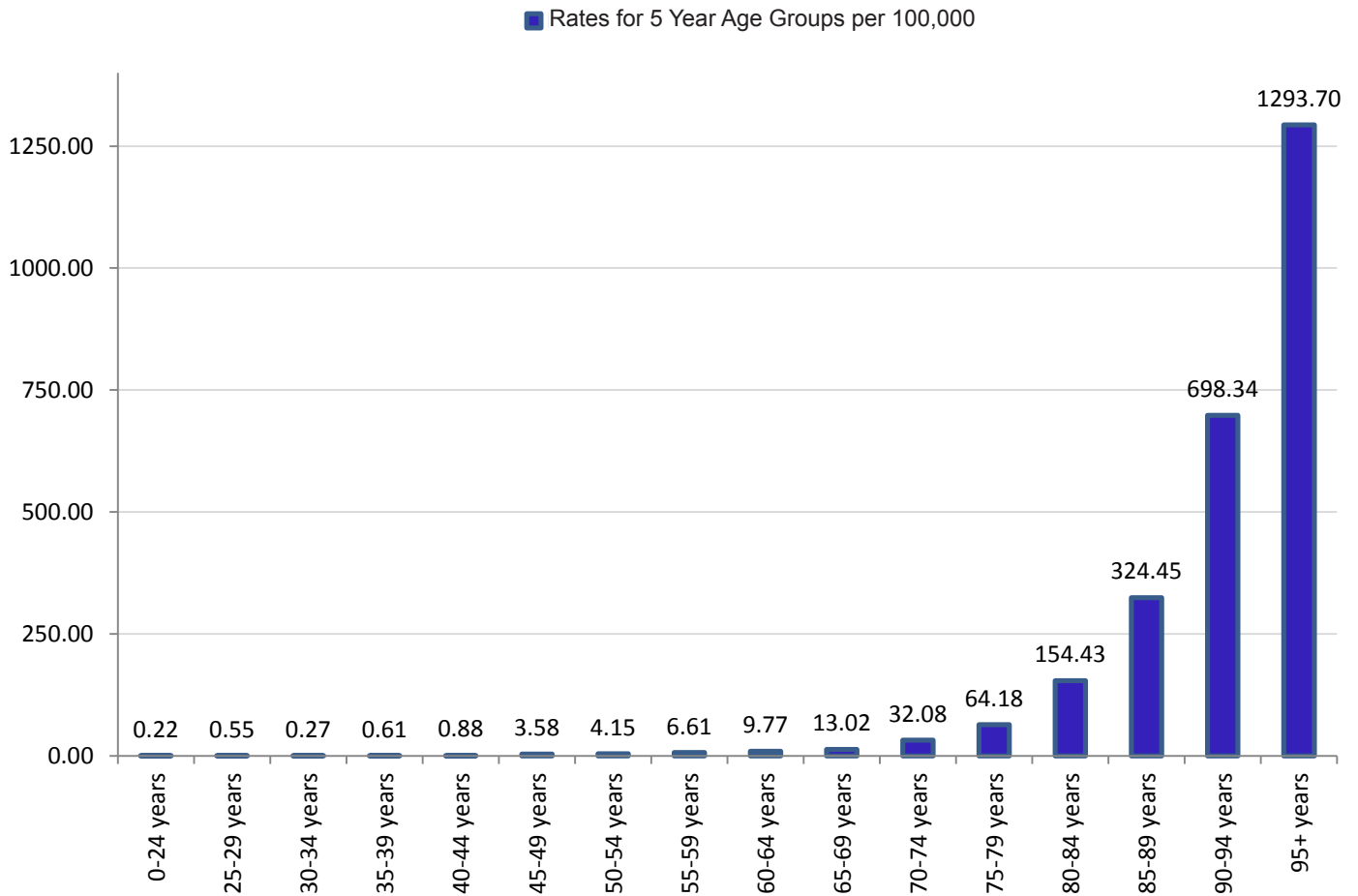


Falls among Adults Aged 65 Years and Older in Minnesota

Data Brief 1999-2013

Figure 1: Minnesota Fatal Fall Rates for 2013 by Age Group

After Age 65, Rates Double Every 5 Years



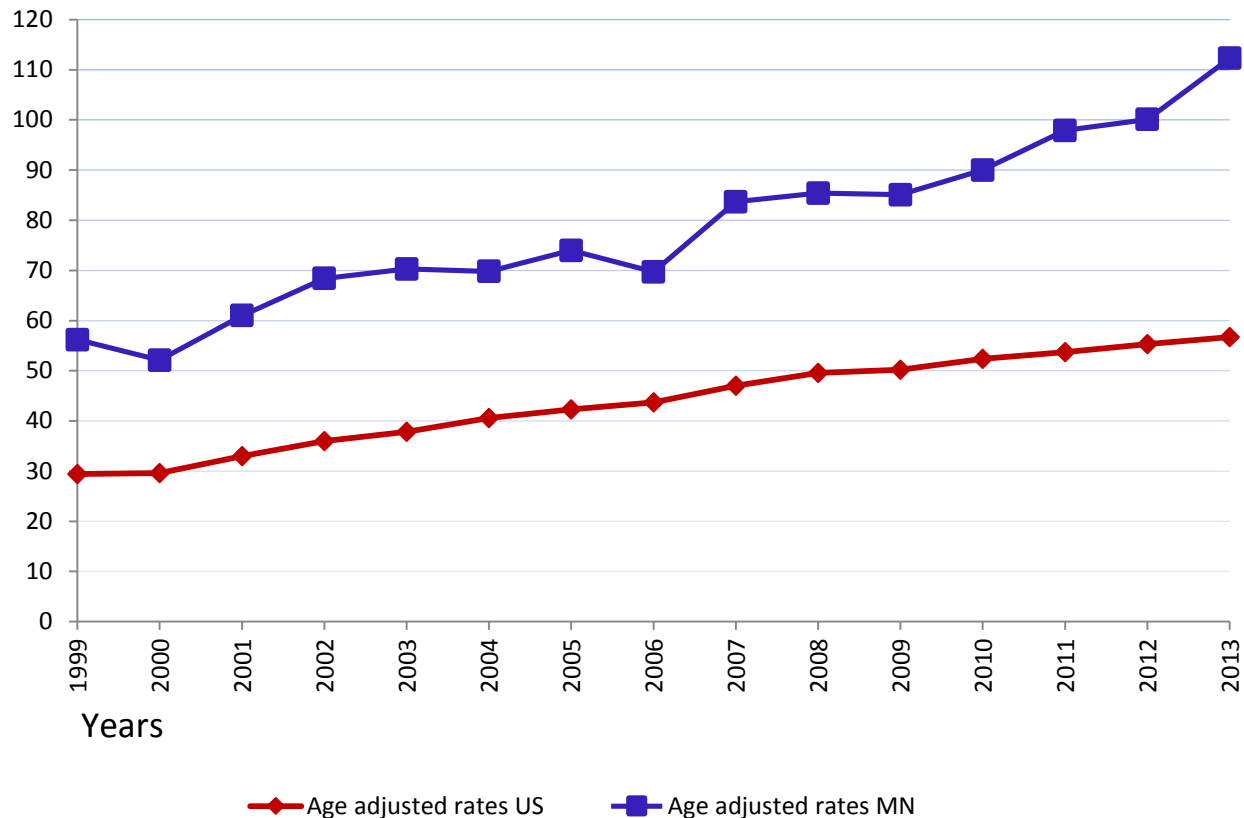
In 2013, Minnesota experienced a record number of fall deaths (N=918) for residents 65 years and older. **Figure 1** shows that the rates of falls for those under 65 are much lower than the rates for older adults. After 65 years, the rate starts doubling every five years of age. Those aged 95 plus have the highest rate of fall mortality within their small population. (n =131 denominator = 10126)

Figure 2: Fatal Fall Trends for US and MN for 65+ Age Group

MN 2013 Rates Are Double: US 2013 & MN 1999

MN Rate Doubled from 2000 to 2013

Rates are per 100,000 adults aged 65 and older



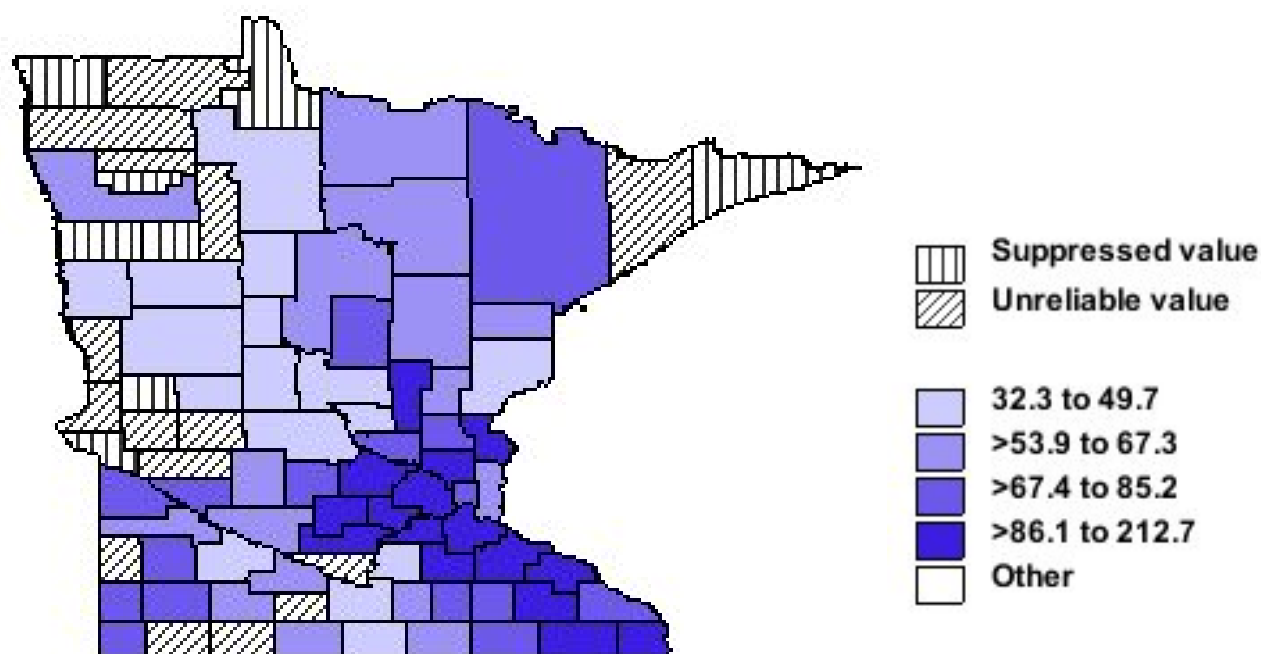
Source: CDC WONDER Online Database, released 2015. Data is from the Multiple Cause of Death Files, 2013

The age-adjusted rate of fall injury mortality in those aged 65+ is increasing every year, both in the United States and in Minnesota. The rate of fatal falls in Minnesota is climbing faster than in the U.S. as a whole. The rate of falls in Minnesota has doubled over the time period 2000 through 2013.

In 2013, for the first time, the age-adjusted fall mortality rate in Minnesota was double the U.S. rate. It is not clear why Minnesota's rate (112.3/100,000) is so much higher than that of the U.S. (56.7). Minnesota had the fourth highest rate among all U.S. states: Vermont (125.1), Wisconsin (114.7), and Colorado (112.8) each had higher rates in 2013. Minnesota's rate is more than four times that of that of New Jersey (27.1), the state with the lowest rate. Falls in older adults occur due to a number of factors or circumstances and an older adult's susceptibility for a fall is often attributed to more than one underlying risk factor or condition; however the wide difference in fall mortality between Minnesota and other states is likely to be due, in large part, to how states collect and report data on falls.

Figure 3: 1999-2013 Fall Mortality Rates 65 and Older

Rates Highest in Urban Areas



Rates are per 100,000 adults aged 65 and older.

Source: CDC WONDER Online Database, released 2015. Data is from the Multiple Cause of Death Files, 1999-2013; MIDAS 1999-2013

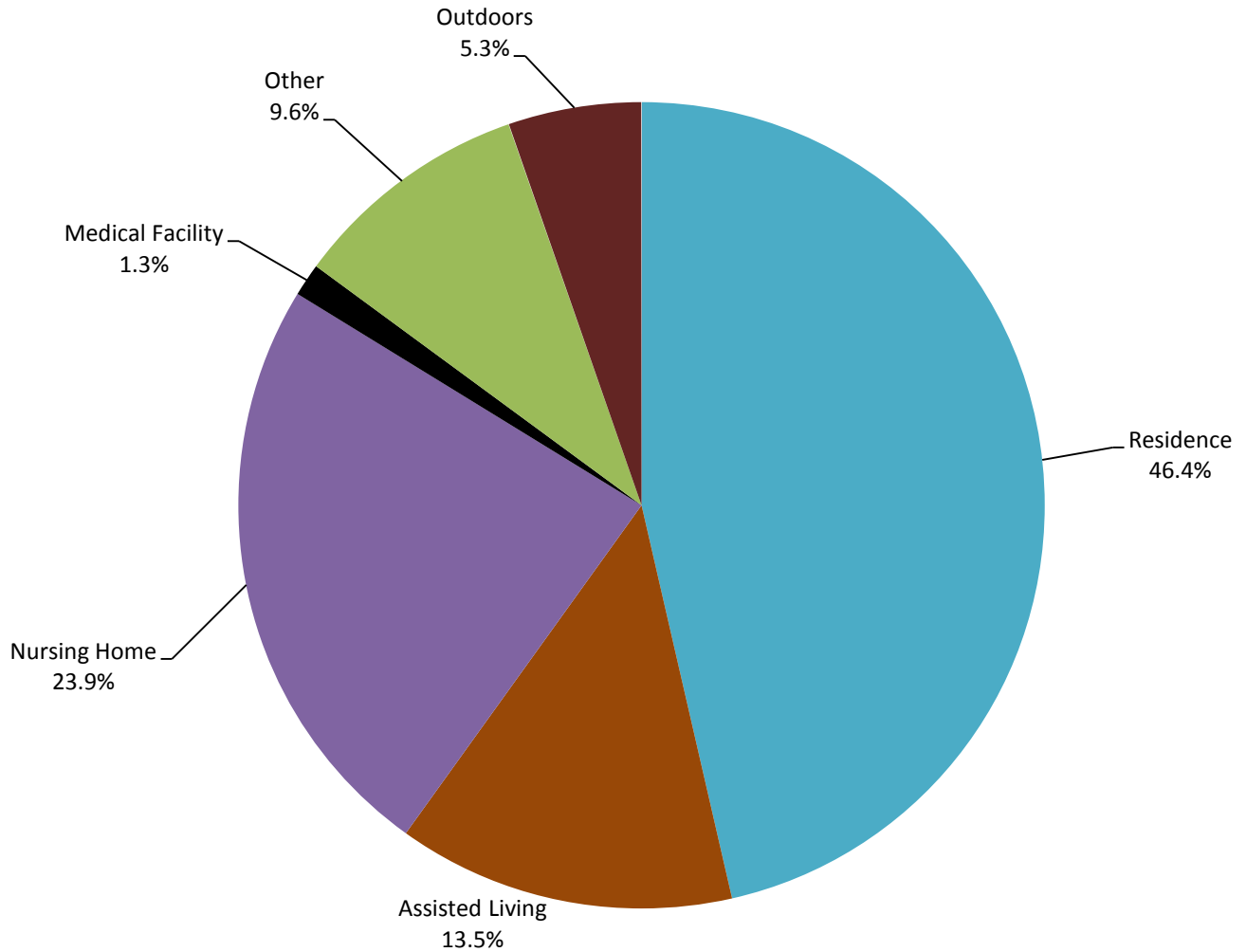
In the U.S. as a whole, there are only small differences between urban and rural fall mortality rates. This is not the case for Minnesota where the Metro area accounts for twice the rate of falls deaths when compared to U.S. metro rates. There are wide variations from county to county but the greatest concentration is found in the Twin City Metroplex. The Metroplex includes 14 counties in the Rochester-Twin Cities-St. Cloud Corridor (Gillaspy, 2008).

The rates in the most rural areas of Minnesota (non-core, non-metro), are basically the same as the overall U.S. rates. Counties with a small number of fatal falls are indicated by the black stripes. The CDC suppresses the rates when there is less than 10 occurrences (vertical black stripes) and considers rates between 11 and 20 occurrences unreliable or unstable (diagonal black stripes).

Figure 3 suggests where prevention efforts might be directed.

Figure 4: Location of Fatal Falls for Adults 65 and older in 2013

Almost Half Occurred in the Home



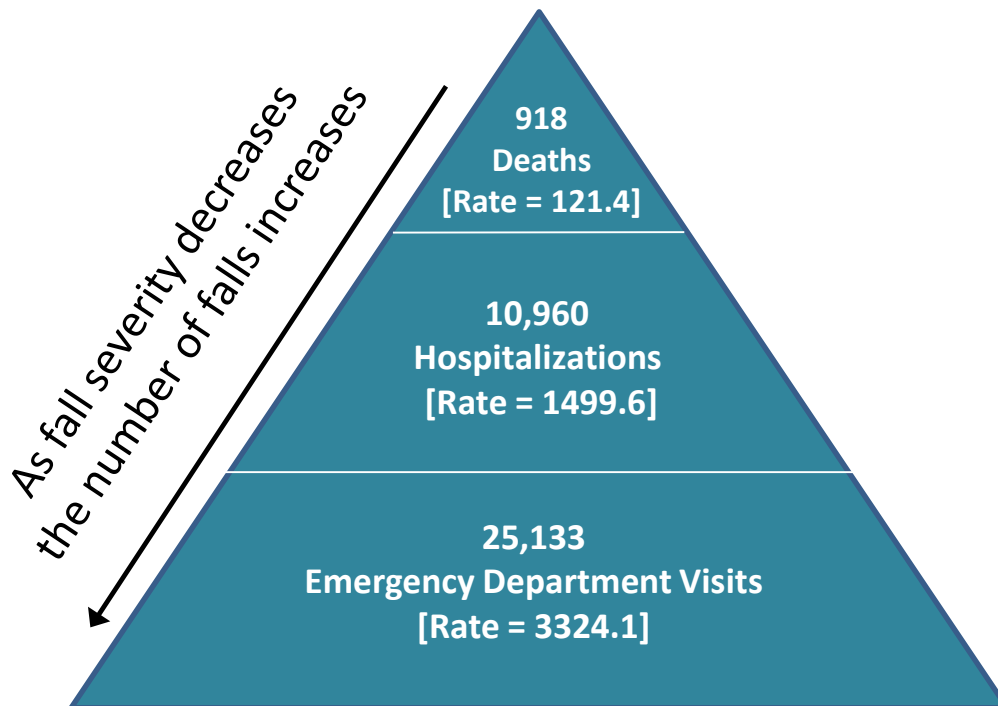
Source: MN Death Certificate Data, 2013.

Figure 4 compares the various locations in which fatal falls occur. The leading location for fatal falls is the home. This is twice the number of falls that occur in a nursing home and three times the number that occur in assisted living facilities. Fatal falls in nursing homes or assisted living facilities account for more than a third of the total. Continuing to address fall prevention in homes and senior facilities is imperative.

Only a small proportion of falls (5.3% or 1 out of 20) occur in the outdoors. Minnesota does have snowy and icy conditions in the winter; however, only 1% of total fatal falls in 2013 were due to snow and ice (ICD-10 code w00). It is also notable that there is no readily identifiable seasonal pattern to fall deaths in Minnesota's elderly.

Figure 5: The Annual Number and Rate of Reported Falls Among Older Adults

Minnesota, 2013, Ages 65+



Rates are per 100,000 adults aged 65 and older.

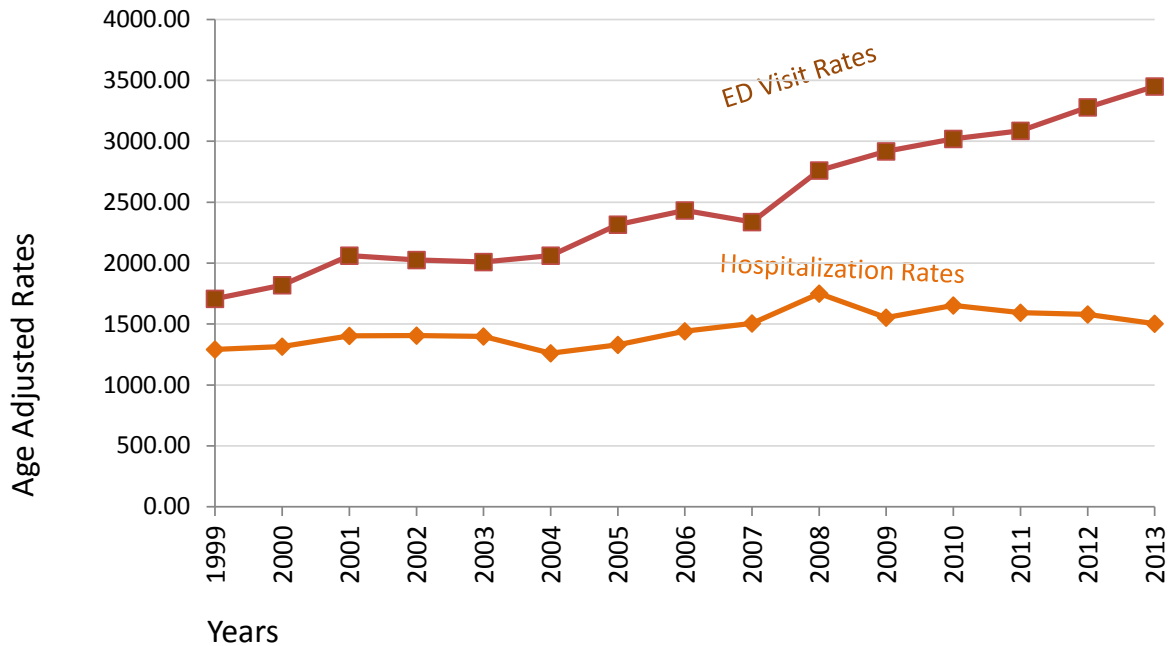
Source: MIDAS 2013; MN Death Certificate Data, 2013

In Minnesota in 2013, there were 1,016 people who died as a result of an injury sustained from a fall. Of these, 918 were among adults 65 and older. However, deaths are but the “tip of the iceberg” when it comes to outcomes from fall injury; many more falls in Minnesota result in hospitalization or a visit to the Emergency Department (ED). (At this time, we are unable to count the number of clinic treated or urgent care visits resulting from a fall.) ED visits do not include visits where the patient was then transferred to inpatient status.

Hospitalized cases are heterogeneous in terms of risk factors and outcomes, and need to be investigated further.

The cases of ED-only visits are notable in that there are evidenced-based interventions available to prevent falls in high-risk individuals who have fallen but are still able to walk. Many of these seniors may be eligible for Medicare coverage of exercise programs and physical/occupational therapy to reduce their risk of additional falls.

Figure 6: Non Fatal Fall Trends for Hospitalization and ED visits in MN for 65+ Age Group



Rates are per 100,000 adults aged 65 and older

Source: CDC WONDER Online Database, Population Estimates 1998 -2013.; MIDAS 1999-2013.

The rate of hospitalization of non-fatal falls increased from 2004 through 2008; the good news is that since then we are now seeing a decrease in those rates. From 1999 to 2013 the rate for Emergency Department visits doubled. Among elders, there are 25 ED-only visits for every death from fall injury. Denominator data for age groups.

Methodology:

U.S. and Minnesota mortality data was extracted via query from the Centers for Disease Control and Prevention (CDC) WONDER, the Compressed Mortality File produced by the Office of Analysis and Epidemiology in CDC's National Center for Health Statistics (NCHS) for the years 1999 – 2013. Underlying cause of death is classified in accordance with the ICD 10th Revision (ICD-10). The ICD-10 includes 20 e-codes (sub-causes) for falls w00 to w19. Denominator data for 5 year age groups greater than 80 years were extrapolated from census data supplied from the State Demographers office. Minnesota fall and hospitalization trend data was extracted via query from the Minnesota Injury Data Access System (MIDAS). An electronic file of death certificate data was provided by the Minnesota Office of Vital Records which was analyzed for location and treatment trends by the authors of this brief.

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