

## **CDC: Fall-Related TBI Death Jumped 17% 2008-2017**

**Significant increases were reported in 29 states, with residents of rural areas and individuals 75 and older seeing the most dramatic annual rise in deaths.**

*In this review:* Deaths from Fall-Related Traumatic Brain Injury — United States, 2008-2017  
([U.S. Centers for Disease Control and Prevention Morbidity and Mortality Weekly Report, March 6, 2020](#))

### **The Message**

The rate of deaths related to traumatic brain injury received in a fall has climbed 17% in 10 years, with 29 states recording what CDC officials call a "significant" increase in deaths. The trend was present in all demographic groups, with males, those in rural areas, and individuals 75 or older seeing the most notable increases. Authors of the CDC analysis think that the country's aging population and better survival rates from cancer, stroke, and heart disease may have something to do with the increase. No matter the underlying causes, they say, the numbers point to a need for greater emphasis on falls prevention.

### **The Study**

Using data from the National Vital Statistics System, a database of death certificates filed across the U.S., researchers looked at ICD-10 cause-of-death codes — first for codes indicating an unintentional fall as a cause of death, and then for multiple cause-of-death codes that included a diagnosis of traumatic brain injury, or TBI. Data was further analyzed for various demographic groups, including metropolitan versus nonmetropolitan settings, as well as by state. The study spanned 10 years of data, from 2008 to 2017.

### **Findings**

Overall, national age-adjusted rates of fall-related TBI deaths rose from 3.86 per 100,000 individuals in 2008 to 4.52 per 100,000 in 2017, a 17% increase. Increases were present in nearly all demographic groups and in 49 of 51 jurisdictions.

In 2017, the highest rate of fall-related TBI death was among adults 75 and older, at 54.08 per 100,000 — eight times higher than the 55-74 age group.

Between 2008 and 2017, individuals living in "noncore nonmetropolitan counties" — mostly more rural areas — experienced the highest rate of annual increase in deaths, averaging a yearly 2.9% increase, followed by the 75-and-older cohort with an average annual increase of 2.6%.

At the state level, the largest average annual increases in fall-related TBI deaths were recorded in Maine (6.5%), South Dakota (6.1%), and Oklahoma (5.2%), with "significant" increases reported in 26 other states and no changes reported in 21 states. Alabama reported the lowest 2017 death rate, at 2.25 per 100,000 individuals; South Dakota had the highest rate, at 9.09 per 100,000.

In 2017, males had a higher rate of death than females, at 6.31 per 100,000 compared with 3.17.

### **Why It Matters**

According to the CDC, 10% of U.S. residents 18 and older report falling annually, with falls now being estimated as the second leading cause of TBI. Authors of the study believe the rise in deaths attributed fall-related TBI point out the need for more focus on falls prevention programs, writing that "health care providers and the public need to be aware of evidence-based strategies to prevent falls."

"Health care providers might consider prescribing exercises that incorporate balance, strength, and gait activities, such as tai chi, and reviewing and managing medications linked to falls," authors write.

"Actions the public can take to prevent falls include talking to their health care provider about their or their parents' risk of falls, performing strength and balance exercises, having an annual eye exam, and making the home safer."

*[Editor's note: APTA and its components offer multiple resources on falls prevention: [Check out this PT in Motion News story](#) from 2019 for suggestions on ways to get up to speed.]*

### **More From the Study**

Authors offered a few theories to explain the higher death rates in certain groups and in the overall increase. The general increase, as well as the particularly notable increase among the 75-and-older population is likely attributable to the country's aging population and better survival rates after diseases such as cancer, stroke, and heart disease, they write. As for the higher rates among rural populations — in addition to an even higher aging rate in those areas compared with urban settings, rural areas

tend to have greater "heterogeneity in the availability and accessibility of resources (e.g., access to high-level trauma centers and rehabilitative services)."

### Keep in Mind ...

The study has three main limitations, according to authors. First, it's possible that some deaths were misclassified; second, race and ethnicity may have been inaccurately recorded on death certificates; and third, when multiple trauma was experienced, a non-TBI factor may have contributed to the death.

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