

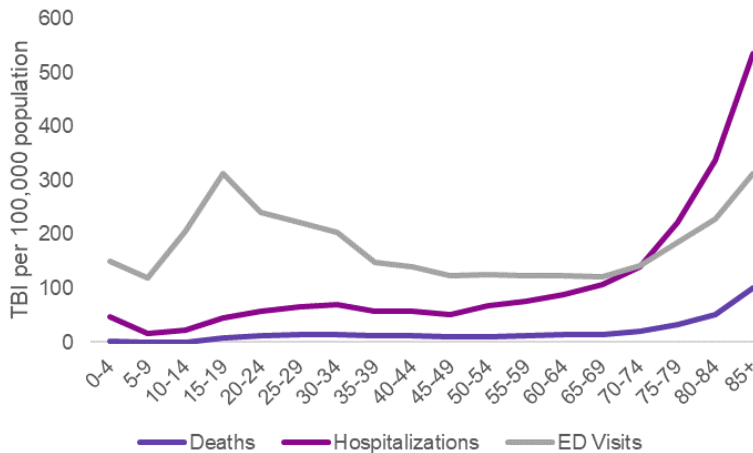
Injury and Violence Prevention Branch

Traumatic Brain Injury Among Older Californians, 2021

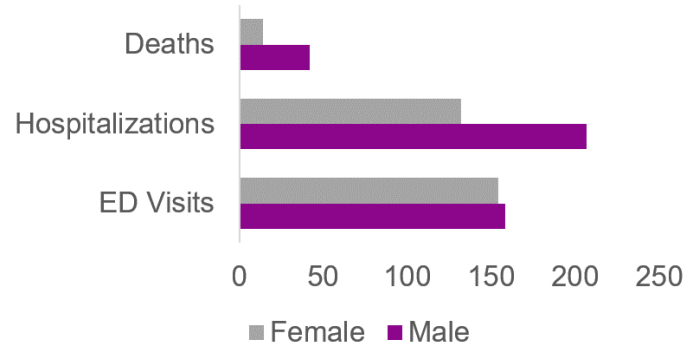
Background

Traumatic brain injuries (TBI) disrupt the normal function of the brain and can adversely affect cognitive, behavioral, emotional, and physical functioning, leading to reductions in quality of life. A TBI can be caused by a bump, blow, or penetration to the head. The body’s aging process puts older adults at greater risk for unintentional TBI, with rates of TBI deaths and hospitalizations greatest among older adults (aged 55+). Older adults are also disproportionately affected by TBI resulting from suicide by firearm. This brief provides an overview of older adult TBIs in California, with a focus on highlighting TBIs that resulted in emergency department (ED) visits, hospitalizations, and deaths in 2021.

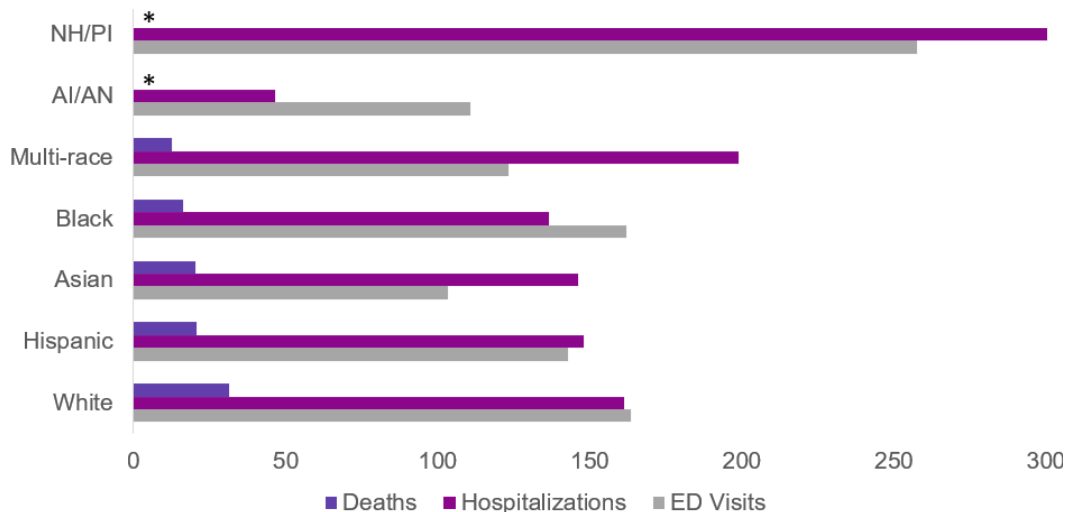
Older adults are at increased risk for TBI in comparison to other age groups, especially for TBI resulting in death or hospitalization.



Older adult males have higher age-adjusted rates (per 100,000) of TBI deaths, hospitalizations, and ED visits compared to older adult females.



Older adult Californians who are white have the highest age-adjusted rates (per 100,000) of TBI deaths. TBI hospitalization and ED visit rates are highest among older adult Native Hawaiian/Pacific Islanders.



*Age-adjusted rates for deaths suppressed due to small number of incidents in Native Hawaiian/Pacific Islander (NH/PI) and American Indian/Alaska Native (AI/AN) populations.

Leading Causes of TBI in Older Adults

Unintentional falls were the most common cause of TBI deaths, hospitalizations, and ED visits among older Californians in 2021. Additional common causes of death were suicides by firearm and unintentional motor vehicle traffic (MVT) collisions. The most common causes of hospitalizations beyond falls were unintentional MVT collisions and unintentional strikes to the head. These three categories were also the most common causes for ED visits.

Leading Causes of Older Adult TBI	
Deaths	
Causes	Injuries (%)
1. Unintentional Fall	1,566 (55%)
2. Suicide by Firearm	662 (23%)
3. Unintentional MVT	318 (11%)
.....	
Hospitalizations	
Causes	Injuries (%)
1. Unintentional Fall	13,307 (73%)
2. Unintentional MVT	2,933 (16%)
3. Unintentional Strike	443 (2%)
.....	
ED Visits	
Causes	Injuries (%)
1. Unintentional Fall	11,796 (68%)
2. Unintentional MVT	2,288 (13%)
3. Unintentional Strike	1,901 (11%)

TBI Resources for Public Health Professionals

TBI within the older adult population is often associated with falls and is addressed by public health through falls prevention programs and education. However, this data brief highlights some other causes that should also be addressed through public health injury prevention programming. To address the high numbers of suicide by firearm, suicide prevention programs that promote safe environments and address access to firearms could reduce TBIs within the older adult population. Additionally, to help prevent motor vehicle traffic injuries, public health programs could consider promoting changes that better protect motorists and pedestrians from collisions that can result in TBI injuries and deaths. See specific resources below to support prevention efforts for the top three leading causes of TBI in older Californians.

Falls Prevention

CDC's National Center for Injury Prevention and Control created the [STEADI \(Stopping Elderly Accidents, Deaths, and Injuries\) Toolkit](#) to help health care providers incorporate fall risk assessment and interventions into their practice.

Suicide Prevention

The CDC created the [Suicide Prevention Resource for Action \(2022\)](#) which represents a core set of evidence-based strategies to prevent suicide.

Traffic Safety

The CDC provides a variety of older adult safe driving resources on their [Injury Prevention and Control Older Adult Drivers](#) webpage.

Developed by UC Berkeley's Safe Transportation Research and Education Center (SafeTREC), [The Safe Routes for Older Adults Guide](#) provides communities with information on walking and bicycling safety for older adults.

Source Data: Deaths identified from the 2021 CDPH California Comprehensive Master Death File; Hospital and ED visits identified from the 2021 California Department of Health Care Access and Information Patient Discharge Data (PDD) and ED data, respectively. **TBI Case Definition:** TBI Fatalities and proposed TBI non-fatal hospitalizations and ED visit case definition diagnosis codes from Thomas KE, Johnson RL. State injury indicators report: Instructions for preparing 2021 data. Atlanta (GA): Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2023.

Rates per 100,000 Population: Calculated using 2021 population data from California Department of Finance. Demographic Research Unit. Report P-3: Population Projections, California, 2010-2060 (Baseline 2019 Population Projections; Vintage 2020 Release). Sacramento: California. July 2021. Age-adjusted rates calculated using the direct method with the year 2000 U.S. standard population.

This data brief is a product of the California Department of Public Health (CDPH) Injury and Violence Prevention Branch (IVPB). IVPB's mission is to help Californians achieve their full potential by ensuring that everyone has safe places in which to live, work, play, and fully participate in all activities of daily life free of violence or injury.

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December 2023