



United States  
**Consumer Product Safety Commission**

# Consumer Product-Related Injuries and Deaths Among Adults 65 Years of Age and Older

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*This report was prepared by the CPSC staff.  
It has not been reviewed or approved by,  
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# Executive Summary

In this report, staff of the Division of Hazard Analysis in the U.S. Consumer Product Safety Commission's (CPSC or Commission) Directorate for Epidemiology presents statistics on injuries and deaths associated with consumer products among adults 65 years and older. Although coverage of all hazard areas is not feasible, we provide statistics for areas that pose the highest risk for older adults and also involve consumer product(s) under CPSC's jurisdiction.

## Emergency Department-Treated Injuries

- From 2017–2021, the latest 5 years of data available from emergency department-treated injuries, adults 65 and older sustained an estimated 14.9 million emergency department (ED)–treated injuries associated with, but not necessarily caused by, consumer products. This is an average of 3.0 million injuries per year. Although there is a statistically significant drop in the estimated ED-treated injuries from 2019 to 2020, staff observed no statistically significant linear trend over the 2017 through 2021 period.
- The estimated rate of emergency department-treated injuries sustained by the older adult population (5.5 consumer product-related injuries per 100 older adults in the population) is higher than the rate for adults aged 25 to 64 (2.9 injuries per 100 adults aged 25 to 64), and injuries sustained by older adults more frequently led to hospitalization (28 percent of injuries for older adults, versus 9 percent for adults 25 to 64 during 2017–2021).
- Nearly two-thirds of the estimated consumer product-related injuries to older adults were due to falls. Forty-eight percent of the emergency department-treated fall injuries to older adults resulted in hospitalization. From 2017 through 2021, emergency departments treated nearly 7.5 million (an annual average of 1.5 million) estimated fall-related injuries sustained by older adults associated with floors, stairs/steps, and beds.
  - For fall injuries treated in emergency departments that were sustained on or associated with floors, stairs/steps, and beds, the top two diagnoses (at around 27% and 21%, respectively) were fractures and internal organ injuries.
  - For fall injuries associated with floors, stairs/steps, and beds, the most frequently injured body part was the head (around 29%), followed by the lower trunk (around 17%).
- The other major consumer product-related hazards facing adults 65 and older are being struck-by/struck-against objects, receiving cut/pierce injuries, and injuries from accidents related to the “other transportation” category in the CDC WISQARS data, shown in Table A of the Appendix. The “other transportation” category includes mobility products, such as bicycles, golf carts, and off-highway vehicles, among others.

- A total of 1.1 million estimated injuries among older adults were associated with struck-by/struck-against injuries involving consumer products. Doors/windows and tip overs of appliances, furniture, and/or televisions together accounted for 504,900 estimated injuries (an annual average of 101,000 estimated injuries) among older consumers during the 5-year period.
- A total of 624,500 estimated injuries among older consumers were associated with cut/pierce injuries involving consumer products. Saws and other lawn equipment together accounted for 305,100 estimated injuries (an annual average of 61,000 estimated injuries) to older adults during the 5-year period.
- Accidents in the category of “other transportation” involve mobility-related products. For older adults, the use of some vehicles under CPSC jurisdiction, such as bicycles, off-highway vehicles, golf carts, and micro mobility products, together accounted for an estimated 277,200 injuries during 2017–2021 (an annual average of 55,400 injuries). Bicycles alone account for 80 percent of these estimated injuries.
- Beyond the above-mentioned specific consumer products associated with the major hazards to older adults, many more product categories are associated with a high number of estimated injuries sustained by adults 65 and over. For example, in 2019 alone (the mid-point in the 5-year timeframe), the NEISS Data Highlights report<sup>1</sup> shows that more than a dozen other product groups were associated with 10,000 to 20,000 ED-treated estimated injuries among adults 65 and older. Another dozen or so product groups were associated with 5,000 to 10,000 ED-estimated injuries annually.
- There are many product groups where the estimated rate of emergency department-treated injuries is higher for the 65 and over group, than people aged 25 to 64. For example, for recliner chairs, during 2017–2021, there were 33.8 fall-related ED-treated injuries to adults 65 and over per 100,000 in the population versus 2.7 fall-related ED-treated injuries per 100,000 adults aged 25 to 64.
- The drastic lifestyle changes brought on by COVID-19 affected the 2020 ED-treated injury estimates to some extent, perhaps some product areas more than others.<sup>2</sup> The increases since the 2020 injury estimates are presumed to reflect a reduction in emergency department avoidance due to COVID-19 than was apparent in 2020.

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<sup>1</sup> <https://www.cpsc.gov/s3fs-public/2019-NEISS-data-highlights.pdf?ZU3YoE6xnBRlICuP8BvBRpsXMV7Tb9sg>.

<sup>2</sup> Schroeder, T. and Cowhig, M., “[Effect of Novel Coronavirus Pandemic on 2020 NEISS Estimates](#)”, March-December, 2020

## Fatalities

- From 2017–2019, the most recent 3-years for which nearly complete information is available, CPSC staff is aware of almost 10,000 reports<sup>3</sup> of deaths reported in the CPSC databases that involve adults 65 and older; these deaths are associated with, but not necessarily caused by, consumer products.
- The major fatal hazards that are associated with the use of consumer products among adults 65 and older are falls, fires, drownings, accidents categorized as “other transportation,” and poisonings.
- Falls are the most common hazard in fatalities, accounting for a total of 3,381 fatalities (an annual average of 1,127). Of the numerous consumer products involved with fatal falls, the top three products, floors, stairs/steps, and beds, account for 1,517 (annual average of 506) fatalities among older adults.
- Fires are associated with an estimated total of 2,980 fatalities (an annual average of 990) among adults 65 and older across the nation during the 3-year period. Smoking materials and cooking are two major fire sources. Clothing fires disproportionately affect the older adults; the estimated clothing fire death rate for the 65-plus group is 9 times higher than the rate for people under 65.
- Drownings associated with the use of consumer products, such as swimming pools, bathtubs, and spas, account for a total of 919 (an annual average of 306) fatalities among older adults during the 3-year period.
- Other transportation fatalities involving consumer products under CPSC jurisdiction, such as off-highway vehicles, bicycles, e-scooters, e-bikes, and hoverboards are identified through incident reports received by CPSC. These products account for 787 deaths over the 3-year period—averaging at 262 deaths per year, for adults 65 and older.
- Carbon Monoxide (CO) poisonings are associated with an estimated total of 163 (an annual average of 54) fatalities among older consumers across the nation. Heating devices, portable generators, and other engine-driven tools account for nearly three-quarters of these estimated deaths. Anecdotally, staff is also aware of an additional 15 deaths due to chemical poisoning during 2017–2019, where household cleaners and liquid laundry pods were specifically identified as the major contributors.

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<sup>3</sup> Death certificates and medical examiner/coroners’ reports associated with elder falls on floors have historically yielded limited insight on consumer products, other than those products being the object on which the decedent fell. As a result, in 2019, CPSC reduced the purchases of these reports, preserving limited resources for other reports detailing more actionable information. This decrease is reflected in the overall death reports staff identified in the 2017–2019 period, relative to the 2016–2018 period.

## Background

The CPSC compiles and reports data on consumer product-related injuries, fatalities, and hazards. Adults 65 and older have higher rates of medically treated, consumer product-related injuries and consumer product-related deaths than adults ages 55 to 64.<sup>4</sup>

According to the Centers for Disease Control and Prevention (CDC),<sup>5</sup> from 2017–2020 (2021 data are not yet available), more than 18 million (an annual average of 4.6 million) adults 65 and older suffered unintentional, nonfatal injuries that were seen in emergency departments. See Table A in the Appendix of this report. Unintentional falls were the leading cause of nonfatal injuries, accounting for nearly two-thirds of all injuries seen in emergency departments.

Almost 173,700 unintentional deaths from fatal injuries occurred to adults 65 and older between 2017 and 2019 (an annual average of 57,897 deaths). Nearly 60 percent of those deaths resulted from falls.<sup>5</sup> See Table B in the Appendix of this report. The CDC data provide a national picture of both injuries and deaths; as such, they inform the larger picture of hazards facing older adults. However, they are based on the mechanism that causes the injuries and deaths and not the products involved in the incidents. Moreover, not all these causes are associated with a consumer product under CPSC's jurisdiction.

Data from CPSC's National Electronic Surveillance System (NEISS) database on consumer product-related injuries show an estimated annual average of almost 3 million injuries to adults aged 65 and older who were seen in emergency departments between 2017 and 2021. When divided by the population of that age, this equates to almost 5.5 visits per 100 older adults during 2017–2021. Looking at injuries sustained by adults older than 64, 39.5 percent were between the ages of 65 and 74; 33.6 percent were between 75 and 84; and 26.9 percent were aged 85 and older. The injuries skewed older than the population during this 5-year timeframe, because in the corresponding population over age 64, 58.7 percent of adults were aged 65 to 74; 29.3 percent were 75 to 84; and 12.0 percent were 85 or older. Three-fifths (60.0%) of the older adult victims were women versus two-fifths (40.0%) were men. Nearly three-quarters of injuries were given one of five specific diagnoses: fractures were most common (23.0%), followed by internal organ injury (15.9%, which include brain injuries), contusions/abrasions (14.3%), lacerations (12.5%), and strains/sprains (5.6%). More than a quarter (28.4%) of older adult victims seen in emergency departments during 2017–2021 were admitted to the hospital or transferred to another hospital.

By contrast, there were an estimated annual average of 4.9 million consumer product-related injuries to adults between 25 and 64 years of age seen in emergency departments between

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<sup>4</sup> Schroeder, Tom, "Consumer Product-Related Injuries and Deaths in the United States: Estimated Injuries Occurring in 2021 and Estimated Deaths Occurring in 2020" pp.10–11.

<sup>5</sup> CDC data were retrieved from [WISQARS \(Web-Based Injury Statistics Query and Reporting System\) | Injury Center | CDC](#).

2017 and 2021. When divided by the population of that age, this equates to 2.9 visits per 100 adults in this age group during 2017–2021. When compared to the injury rate of adults 65 and older, the older adults are injured 1.9 times more than the younger adults. During 2017–2021, 8.6 percent of victims age 25 to 64 and seen in emergency departments, were admitted to the hospital or transferred to another hospital, which is less than one-third of what occurs among the older adults.

CPSC received almost 10,000 incident reports on fatalities associated with the use of a consumer product that occurred between 2017 and 2019 among adults aged 65 years and older. These include death certificates purchased by CPSC from all 50 states and its territories based on a select set of the World Health Organization’s ICD-10 codes, fatal injuries reported through NEISS, and many other sources reporting fatal incidents to the Consumer Product Safety Risk Management System (CPSRMS). Because one death may be reported by multiple sources, the number of fatal incident reports exceed the number of fatal incidents. Although CPSC attempts to avoid duplicate counting, unidentified redundant cases may be present. The fatality statistics based on these incident reports are not national estimates; they are not based on a representative probability sample; nor are they a census of all fatalities that have occurred in the United States. However, the statistics likely provide a minimum number of deaths that adults 65 and older suffered during 2017 through 2019.

For two of the major causes of death that CDC cites as high risks for older adults, namely fire and carbon monoxide poisoning, CPSC staff presents national fatality estimates that use data from external sources. For fire deaths, the U.S. Fire Administration-maintained National Fire Incident Reporting System (NFIRS) database is used; for carbon monoxide poisoning deaths, CDC’s National Center for Health Statistics-maintained Mortality files are used.

## Methods

The injuries included in this report are emergency department-treated injuries from CPSC’s NEISS database and do not reflect injuries treated in other settings. The fatalities are from CPSC’s CPSRMS database, the U.S. Fire Administration-maintained NFIRS database, or CDC’s National Center for Health Statistics (NCHS)-maintained Mortality files.

With thousands of consumer products under CPSC’s jurisdiction, an enumeration of each product was impractical. Instead, using CDC’s guidance on the major causes of unintentional nonfatal or fatal injuries that are likely to overlap with products within CPSC’s jurisdiction, staff focused on a few product/hazard areas to present in this report.

For injuries, data from the NEISS database can be extracted by the diagnoses codes assigned to each injury. However, the diagnoses codes do not always map onto an injury mechanism provided by CDC. For example, in NEISS, a fall can be identified only through reading the injury narrative; a variety of diagnoses (such as internal organ injury, fracture, or



contusion/abrasion) may be associated with such a fall injury. Hence, a one-to-one mapping from CDC injury causes to diagnoses in NEISS is not always feasible. In addition, it is not always clear how a cause of injury is associated with a product. For example, when a person falls onto the floor, the data occasionally show that this injury is coded as a struck-against injury, *i.e.*, the person is considered to have been struck-against the floor, instead of a fall injury associated with the floor. Staff has also found that often the consumer products that the consumer hit in the process of falling while walking were coded as the products “associated” with the falls.

Even within each hazard area, it is not feasible to run analyses on all possible products that may be involved to rank and identify the top contributors. Furthermore, injuries may be associated with more than a single product, so an injury could be counted in more than one category.

In this report, staff presents detailed analyses on a few products (or product groups) associated with a large volume of estimated injuries, as indicated by the NEISS Data Highlights report and/or staff’s prior knowledge of particularly hazardous products for adults 65 and older, from among the specific major causes outlined by CDC. In addition, staff presents abbreviated results from certain product areas where CPSC has active, ongoing work, even if these areas do not have a large volume or a high rate of injuries associated with them.

The data analyses and findings are presented in the following order:

## Estimated Injuries

- Falls
  - Floors
  - Stairs/Steps
  - Beds
  - Others
- Struck-by/struck against
  - Doors/Windows
  - Others (Tip overs)
- Cut/pierce
  - Saws
  - Lawn Equipment
- Other transportation
  - Bicycles
  - Golf Carts
  - Others (OHVs, Micromobility)
- Other causes

- Fire
- Poisoning (Household cleaners/drugs).

Injuries may involve multiple products, so an injury could be counted in more than one category.

## **Fatalities**

- Falls – reported deaths
- Fires – national estimates
- Drownings – reported deaths
- Other transportation
  - Bicycles – reported deaths
  - OHVs – reported deaths
- Poisonings
  - Carbon Monoxide – national estimates
  - Household cleaners/Liquid laundry – reported deaths
- Other Causes
  - Adult Bed Rail-related reported deaths

For injury and death estimates presented, rates per 100,000 population are also presented. The population data are from the U.S. Census Bureau.

# Consumer Product-Related Estimated Injuries Among Older Adults: 2017–2021

CPSC staff used the CDC guidance on the major causes of unintentional nonfatal or fatal injuries to focus on the product groups that are addressed in this report.

Throughout the injury section of this report, the information for each product group includes, from NEISS, a graph of the estimated number of consumer product-related injuries to older adults seen in emergency departments for each year between 2017 and 2021. A two-tailed test for statistical significance ( $p\text{-value} < .05$ ) on the change in the number of injuries over time (upward or downward) was computed to determine whether any apparent trend over time is statistically significant.<sup>6</sup> The estimated rate of consumer product-related, ED-treated injuries per 100,000 adults 65 and older also appears on the graph.

Additional detail from NEISS is provided for the years 2017–2021. First, the estimated rate of consumer product-related injuries per 100,000 population that is 25–64 and 65 and older in the United States is provided to allow comparison between adults over 64 and adults below that age.<sup>7</sup> These rates are presented for all injuries (for the specific product or product group) as well as for serious injuries. Serious injuries are those that needed hospitalization or transfers to other hospitals. Then, the estimated number of injuries is presented by age group (for the 25–64, 65–74, 75–84, and 85+ age groups) and by gender for older adults.<sup>8</sup> For some of the product groups that include different products, the injury estimates are broken out further by product codes to provide a sense of products involved most frequently. Estimates less than 1,200 are not reported per NEISS standards.<sup>9</sup> Some statistics on the more common diagnoses and the injured body parts follow. Finally, the distribution of race among the injured older adults is compared with that in the U.S. population. Ethnicity information has been captured in the NEISS since 2019. Given that the injury timeframe covered in this report starts in 2017, information is missing for a large portion of the data for ethnicity. A note on the extent of the missing information for both race and ethnicity is included for each analysis.

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<sup>6</sup> The significance tests used for trending is described in Schroeder, T., *Trend Analysis of NEISS Data*, February 2000, U.S. Consumer Product Safety Commission.

<sup>7</sup> 2017–2020 population estimates are from: <https://www.census.gov/programs-surveys/popest/technical-documentation/research/evaluation-estimates/2020-evaluation-estimates/2010s-national-detail.html> Monthly National Population Estimates by Age, Sex, Race, Hispanic Origin, and Population Universe for the United States: April 1, 2010 to December 1, 2020.

2021 population estimates are from: <https://www2.census.gov/programs-surveys/popest/tables/2020-2021/national/asrh/nc-est2021-agesex.xlsx> Annual Estimates of the Resident Population for Selected Age Groups by Sex for the United States: April 1, 2020 to July 1, 2021 (NC-EST2021-AGESEX) Release Date: June 2022.

<sup>8</sup> NEISS injury estimates by age and gender may not sum to the total presented in the figure.

<sup>9</sup> According to the NEISS publication criteria, an estimate must be 1,200 or greater, the sample size must be 20 or greater, and the coefficient of variation must be 33 percent or smaller.

## Fall Injuries

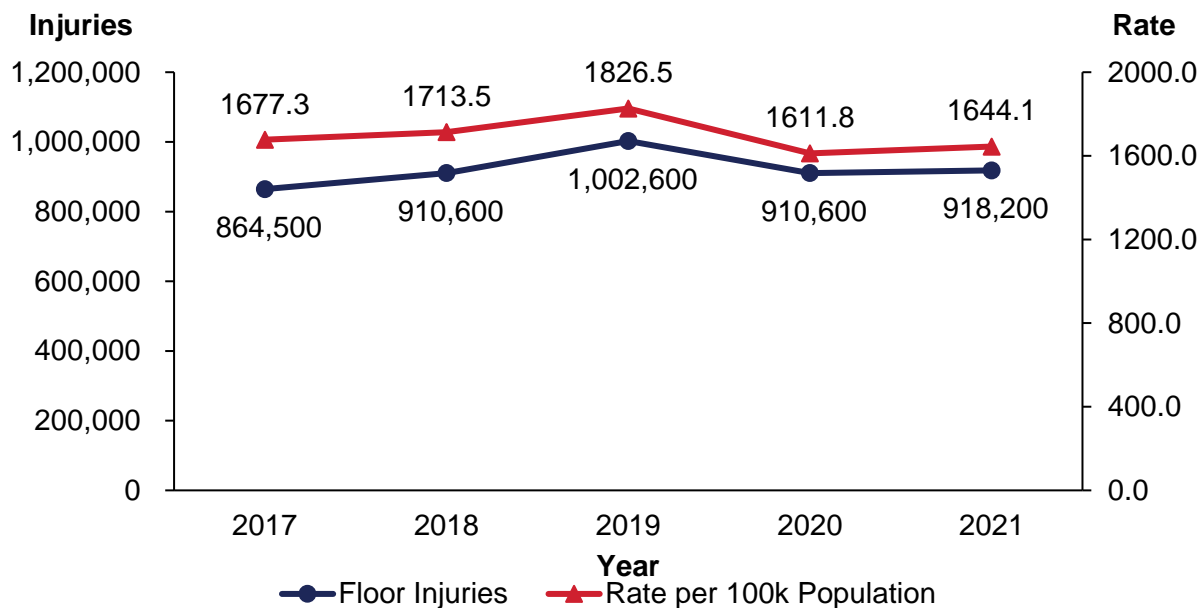
Staff examined NEISS injury case narratives to identify falls among older adults. The 25 most frequent product codes involving fall-related injuries among adults ages 65 and older were selected for analysis. Based on these 25 product codes, an estimated 9.9 million fall-related injuries were treated in U.S. emergency departments from 2017 to 2021, averaging 2.0 million injuries annually among adults 65 and over.

From among the large array of products and product-related scenarios involved in the fall-related emergency department visits for older adults, the top three product codes were identified for more in-depth analysis.

## Floors

During 2017–2021, adults 65 and older sustained an estimated 4,606,500 floor-related ED-treated fall injuries (an annual average of 921,300 injuries).

### Estimated ED-Treated Injuries and Injury Rates Involving Floors Among Adults 65 and Over, 2017–2021



There were no statistically significant linear trends detected in injuries between 2017 and 2021.

## Injury Rate (per 100,000 Population) Comparisons: 2017–2021

25-64 years old:	267.1
65 years and older:	1694.7
Rate Ratio:	6.3 times higher for seniors, aged 65 and older.
Rate Ratio for serious injuries:	13.6 times higher for seniors, if <i>only</i> hospitalized and treated/transferred (to another hospital) injuries are considered.

## Details of Estimated ED-Treated Fall Injuries Involving Floors: 2017–2021 Total

### Estimated Injuries by Age Group

Age Group	Estimated Number of ED-Treated Injuries
25-64	2,284,800
65-74	1,302,000
75-84	1,575,500
85 and older	1,729,000

### Disposition of Estimated Injuries by Age Group

Age Group	Disposition of ED-Treated Injuries				
	Treated & Released	Hospitalized	Fatality	Treated & Transferred	Other
25–64	78.6%	16.2%	0.1%	1.8%	3.3%
65 and Older	58.3%	35.6%	0.1%	3.0%	2.9%

Note: Percentages may not add to 100 due to rounding.

### Estimated Injuries by Gender Among Adults 65 and Older

Gender	Estimated Total Number of ED-Treated Injuries	Percent of Estimated ED-Treated Injuries	Percent of Estimated Population
Male	1,550,700	33.7%	44.7%
Female	3,055,800	66.3%	55.3%

### Most Common Diagnoses for Injuries Among Adults 65 and Older: 2017–2021

Fracture (code 57): 26 percent,  
 Internal Organ Injury (Code 62): 23 percent,  
 Other/Not Stated (code 71): 19 percent,  
 Contusions/Abrasions (Code 53): 15 percent.

### Most Common Body Parts Injured Among Adults 65 and Older: 2017–2021

Head (code 75): 27 percent,  
 Lower Trunk (code 79): 13 percent,  
 Upper Trunk Excl Shoulder (code 31): 9 percent,  
 Face (including eyelid, eye area and nose) (Code 76): 8 percent.

## Consumer Product-Related Injuries and Deaths Among Adults 65 Years of Age and Older |

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**Distribution of Race Among Estimated Injuries (with Race Information Available) and U.S. Population (Adults 65 and Older)**

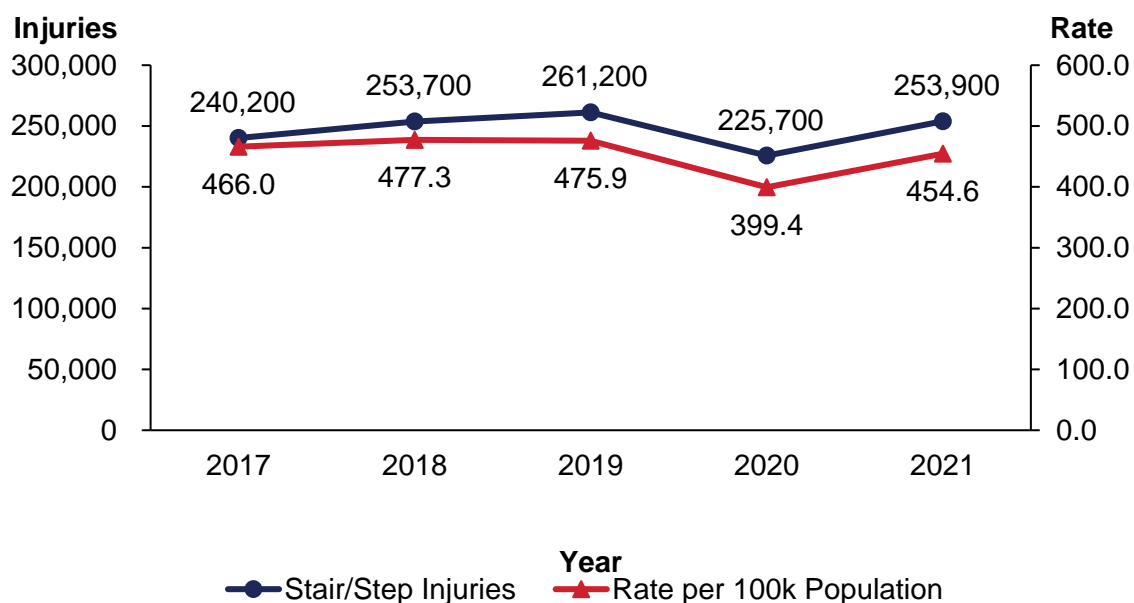
Race	Injured Population	U.S. Population
White	89.4%	83.8%
Black/African American	7.7%	9.6%
Asian	0.9%	4.7%
American Indian/Alaska Native	0.3%	0.8%
Native Hawaiian/Pacific Islander	0.1%	0.1%
Other	1.6%	0.9%

Note: **Ethnicity data are captured in NEISS starting in 2019.** Race is “Not Stated” for 30 percent of the injuries. “Other” includes bi/multi/interracial, as well as races not already listed. Ethnicity was unknown or not stated in 55 percent of the injuries, and hence, not presented.

**Stairs/Steps**

During 2017–2021, adults 65 and older sustained an estimated 1,234,700 stair/step-related ED-treated fall injuries (an annual average of 246,940 injuries).

**Estimated ED-Treated Injuries and Injury Rates Involving Stairs/Steps Among Adults 65 and Over, 2017–2021**



There were no statistically significant linear trends detected in injuries between 2017 and 2021.

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## Injury Rate (per 100,000 Population) Comparisons: 2017–2021

25-64 years old:	282.8
65 years and older:	454.6
Rate Ratio:	1.6 times higher for seniors, aged 65 and older.
Rate Ratio for serious injuries:	4.8 times higher for seniors, if <i>only</i> hospitalized and treated/transferred (to another hospital) injuries are considered.

## Details of Estimated ED-Treated Fall Injuries Involving Stairs/Steps: 2017–2021 Total

### Estimated Injuries by Age Group

Age Group	Estimated Number of ED-Treated Injuries
25-64	2,418,700
65-74	578,900
75-84	434,900
85 and older	220,800

### Disposition of Estimated Injuries by Age Group

Disposition of ED-Treated Injuries					
Age Group	Treated & Released	Hospitalized	Fatality	Treated & Transferred	Other
25–64	86.2%	9.5%	0.1%	0.7%	3.5%
65 and Older	66.0%	29.0%	0.2%	1.8%	3.0%

Note: Percentages may not add to 100 due to rounding.

### Estimated Injuries by Gender Among Adults 65 and Older

Gender	Estimated Total Number of ED-Treated Injuries	Percent of Estimated ED-Treated Injuries	Percent of Estimated Population
Male	452,800	36.7%	44.7%
Female	781,800	63.3%	55.3%

### Most Common Diagnoses for Injuries Among Adults 65 and Older: 2017–2021

Fracture (code 57): 34 percent,  
 Internal Organ Injury (Code 62): 19 percent,  
 Contusions/Abrasions (Code 53): 13 percent,  
 Other/Not Stated (code 71): 12 percent.

### Most Common Body Parts Injured Among Adults 65 and Older: 2017–2021

Head (code 75): 32 percent,  
 Lower Trunk (code 79): 20 percent,  
 Face (including eyelid, eye area and nose) (Code 76): 9 percent,  
 Upper Trunk Excl Shoulder (code 31): 6 percent.

## Consumer Product-Related Injuries and Deaths Among Adults 65 Years of Age and Older |

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**Distribution of Race Among Estimated Injuries (with Race Information Available) and U.S. Population (Adults 65 and Older)**

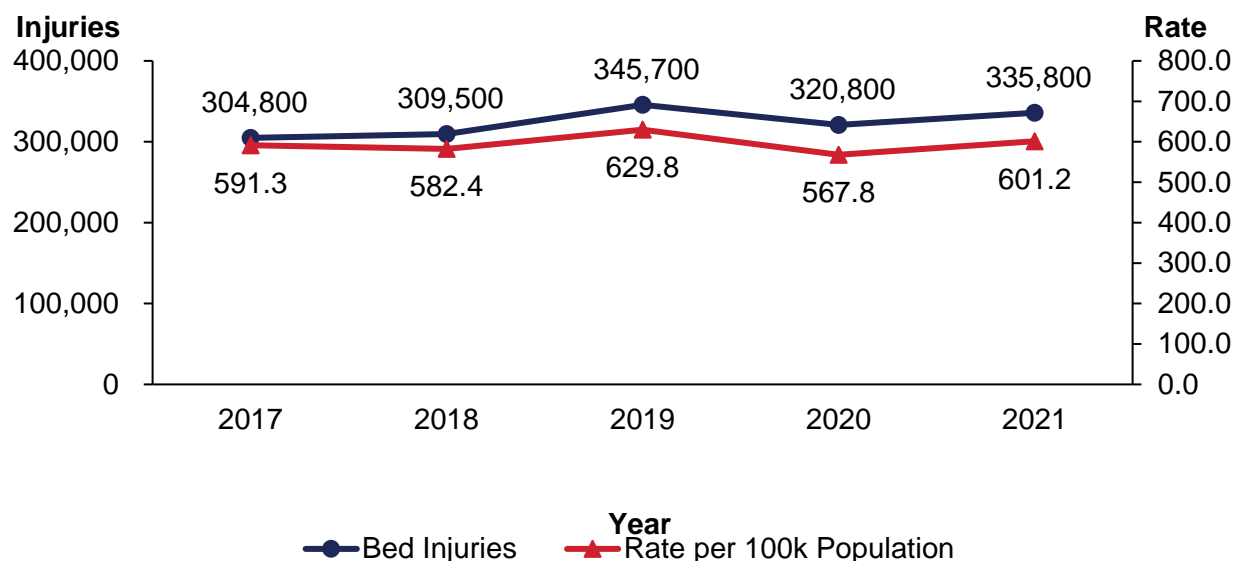
Race	Injured Population	U.S. Population
White	86.2%	83.8%
Black/African American	10.3%	9.6%
Asian	1.4%	4.7%
American Indian/Alaska Native	0.4%	0.8%
Native Hawaiian/Pacific Islander	0.1%	0.1%
Other	1.6%	0.9%

Note: **Ethnicity data are captured in NEISS starting in 2019.** Race is “Not Stated” for 39 percent of the injuries. “Other” includes bi/multi/interracial, as well as races not already listed. Ethnicity was unknown or not stated in 62 percent of the injuries, and hence, not presented.

**Beds**

During 2017–2021, adults 65 and older sustained an estimated 1,616,600 bed-related ED-treated fall injuries (an annual average of 323,320 injuries).

**Estimated ED-Treated Injuries and Injury Rates Involving Beds Among Adults 65 and Over, 2017–2021**



There were no statistically significant linear trends detected in injuries between 2017 and 2021.



## Injury Rate (per 100,000 Population) Comparisons: 2017–2021

25-64 years old:	81.5
65 years and older:	594.5
Rate Ratio:	7.3 times higher for seniors, aged 65 and older.
Rate Ratio for serious injuries:	13.7 times higher for seniors, if <i>only</i> hospitalized and treated/transferred (to another hospital) injuries are considered.

## Details of Estimated ED-Treated Fall Injuries Involving Beds: 2017–2021 Total

### Estimated Injuries by Age Group

Age Group	Estimated Number of ED-Treated Injuries
25-64	697,000
65-74	461,400
75-84	542,900
85 and older	612,400

### Disposition of Estimated Injuries by Age Group

Age Group	Disposition of ED-Treated Injuries				
	Treated & Released	Hospitalized	Fatality	Treated & Transferred	Other
25–64	77.5%	17.5%	0.1%	1.1%	3.9%
65 and Older	61.2%	34.0%	0.2%	1.6%	3.1%

Note: Percentages may not add to 100 due to rounding.

### Estimated Injuries by Gender Among Adults 65 and Older

Gender	Estimated Total Number of ED-Treated Injuries	Percent of Estimated ED-Treated Injuries	Percent of Estimated Population
Male	585,000	36.2%	44.7%
Female	1,031,600	63.8%	55.3%

### Most Common Diagnoses for Injuries Among Adults 65 and Older: 2017–2021

Other/Not Stated (code 71): 24 percent,  
 Fracture (code 57): 21 percent,  
 Internal Organ Injury (Code 62): 20 percent,  
 Contusions/Abrasions (Code 53): 15 percent.

### Most Common Body Parts Injured Among Adults 65 and Older: 2017–2021

Head (code 75): 28 percent,  
 Lower Trunk (code 79): 19 percent,  
 Face (including eyelid, eye area and nose) (Code 76): 10 percent,  
 Upper Trunk Excl Shoulder (code 31): 8 percent.

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## Consumer Product-Related Injuries and Deaths Among Adults 65 Years of Age and Older |

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### Distribution of Race Among Estimated Injuries (with Race Information Available) and U.S. Population (Adults 65 and Older)

Race	Injured Population	U.S. Population
White	84.9%	83.8%
Black/African American	11.9%	9.6%
Asian	1.4%	4.7%
American Indian/Alaska Native	0.4%	0.8%
Native Hawaiian/Pacific Islander	0.1%	0.1%
Other	1.6%	0.9%

Note: **Ethnicity data are captured in NEISS starting in 2019.** Race is “Not Stated” for 38 percent of the injuries. “Other” includes bi/multi/interracial, as well as races not already listed. Ethnicity was unknown or not stated in 61 percent of the injuries, and hence, not presented.

### Other Fall Injuries

Although the top three fall-related product areas were selected for an in-depth analysis, many other consumer products that were associated with a large volume of ED-treated fall injuries sustained by older adults are worth mentioning. During 2017–2021, adults aged 65 and over sustained:

- An estimated total of 717,700 ED-treated fall injuries associated with **Chairs**, with an annual average of 143,540 estimated injuries. This equates to an injury rate of 264.2 injuries per 100,000 older adults in the United States. Specifically, a comparison of injury rates for older adults to adults under 65 shows older adults are 12.5 times more likely to be injured in **Recliner Chairs**, and 9.8 times more likely in **Rocking Chairs**.
- An estimated total of 502,900 ED-treated fall injuries associated with **Bathtubs/Showers**, with an annual average of 100,580 injuries. This equates to an injury rate of 185.1 injuries per 100,000 older adults in the United States.
- An estimated total of 443,900 ED-treated fall injuries associated with **Toilets**, with an annual average of 88,780 injuries. This equates to an injury rate of 163.3 injuries per 100,000 older adults in the United States. In addition, older adults are 7.4 times more likely to get injured from a fall injury involving toilets compared to adults under 65.
- An estimated total of 181,400 ED-treated fall injuries associated with **Ladders**, with an annual average of 36,280 injuries. This equates to an injury rate of 66.8 injuries per 100,000 adults over 64 in the United States

## Discussion on Falls

Falls are known to be a major hazard to adults 65 and over. In 2011, staff carefully reviewed some 2,000 cases, based on a random subsample of 2011 NEISS injuries among older adults. Seventy-five percent of the sampled injuries, *i.e.*, an estimated 1.5 million consumer product-related falls, were treated in emergency departments. With input from CPSC Human Factors staff of the Directorate for Engineering Sciences (ESHF), the consumer product-related falls for 2011 were classified into seven categories. The categories included loss of balance (12% of fall injuries), slips (11%), trips due to a change in elevation (11%), trips over an obstacle (10%), missteps (5%), other falls (29%), and unknown (23%).

The **loss of balance** category included cases that explicitly mentioned a loss of balance, cited alcohol impairment, or syncope (the medical term for fainting). Forty-six percent of cases in the loss-of-balance category mentioned syncope, which is known to occur with adults 65 and older. The **slip** category included cases that explicitly mentioned a slip. Only 5 percent of cases in the slip category seemed to indicate that a slippery product was associated with the fall. The **trip due to a change in elevation** category included cases involving stairs most of the time. Other cases in this category included uneven pavement, curbs, or a threshold between rooms. Cases in the **trip over an obstacle** category usually included a consumer product, such as carpet or footwear, but the obstacle may also have been a pet. The **misstep** category included trips where neither a change in elevation, nor an obstacle was indicated; the category also captured people who fell while walking and hit a consumer product. Many of the other products in cases of missteps were those that the victim fell against after the misstep. The **other falls** category is large; it includes cases that were not captured by any of the aforementioned categories, but the hazard scenario can be considered known. The **unknown** category is large, in part, because the hazard scenarios captured in emergency departments can lack detail, but also because the victim may not remember falling, or the fall was not witnessed by another party.

According to a 2005 report<sup>10</sup> from ESHF staff, “balance” can be defined as the process of controlling the body’s center of mass or gravity relative to the base of support, typically one’s feet. Failing to maintain balance ultimately leads to a fall. The ability to maintain balance depends on the sensory, cognitive, and motor control systems. Age-related declines in some or all of these systems are likely to be responsible for observed age-related deficits in balance, resulting in falls. In addition, older adults tend to not lift their feet as high as younger adults during the stride, and therefore, are less able to clear obstructions or changes in elevation, potentially resulting in a trip. Similarly, older adults tend to clear obstacles using a slower, shorter step that often results in the foot contacting the opposite side of the obstacle before contacting the ground. These age-related changes make older adults more susceptible to fall injuries.

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<sup>10</sup> <https://www.cpsc.gov/content/Older-Consumer-Safety-Phase-I>

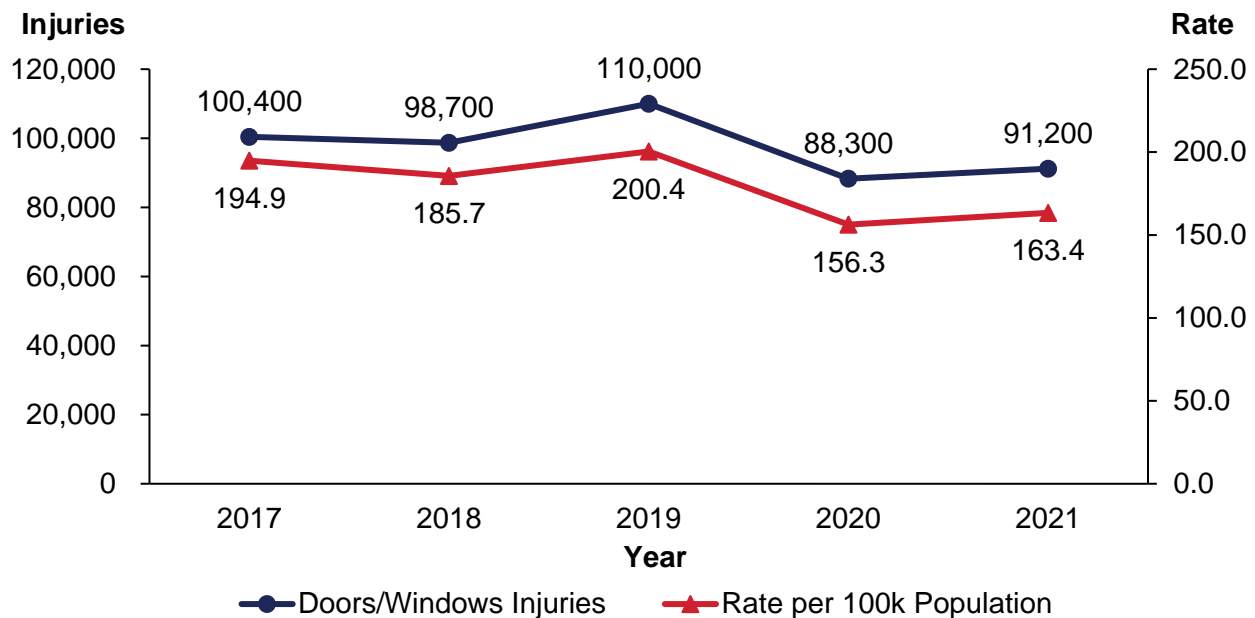
## Struck-By/Struck-Against Injuries

### Doors/Windows

(All doors and windows – including panes, sills, frames)

During 2017–2021, adults 65 and older sustained an estimated total of 488,600 ED-injuries (an annual average of 97,700) on doors and windows.

### Estimated ED-Treated Injuries and Injury Rates Involving Doors and Windows Among Adults 65 and Over, 2017–2021



There were no statistically significant linear trends detected in injuries between 2017 and 2021.

### Injury Rate (per 100,000 Population) Comparisons: 2017–2021

25-64 years old:	98.7
65 years and older:	179.7
Rate Ratio:	1.8 times higher for adults, aged 65 and over.
Rate Ratio for serious injuries:	5.8 times higher for older adults, if <i>only</i> hospitalized and treated/transferred (to another hospital) injuries are considered.

## Details of Estimated ED-Treated Injuries Involving Doors/Windows: 2017–2021 Total

### Estimated Injuries by Age Group

Age Group	Estimated Number of ED-Treated Injuries
25-64	844,300
65-74	175,700
75-84	173,300
85 and older	139,600

### Disposition of Estimated Injuries by Age Group

Age Group	Disposition of ED-Treated Injuries				
	Treated & Released	Hospitalized	Fatality	Treated & Transferred	Other
25–64	89.9%	5.6%	<0.1%	1.0%	3.5%
65 and Older	76.7%	19.3%	0.1%	1.8%	2.1%

Note: Percentages may not add to 100 due to rounding.

### Estimated Injuries by Gender Among Adults 65 and Older

Gender	Estimated Total Number of ED-Treated Injuries	Percent of Estimated ED-Treated Injuries	Percent of Estimated Population
Male	162,300	33.2%	44.7%
Female	326,400	66.8%	55.3%

### Most Common Diagnoses for Injuries Among Adults 65 and Older: 2017–2021

Fracture (code 57): 22 percent,  
Lacerations (code 59): 19 percent,  
Internal Organ Injury (code 62): 19 percent,  
Contusions/Abrasions (code 53): 15 percent,  
Other/Not Stated (code 71): 11 percent.

### Most Common Body Parts Injured Among Adults 65 and Older: 2017–2021

Head (code 75): 30 percent,  
Lower Trunk (code 79): 12 percent,  
Face (code 76): 9 percent,  
Finger (code 92): 7 percent,  
Upper Trunk Excluding Shoulders (code 31): 6 percent.

### Distribution of Race Among Estimated Injuries (with Race Information Available) and U.S. Population (Adults 65 and Older)

Race	Injured Population	U.S. Population
White	89.0%	83.8%
Black/African American	8.1%	9.6%
Asian	1.3%	4.7%
American Indian/Alaska Native	0.4%	0.8%
Native Hawaiian/Pacific Islander	0.1%	0.1%
Other	1.1%	0.9%

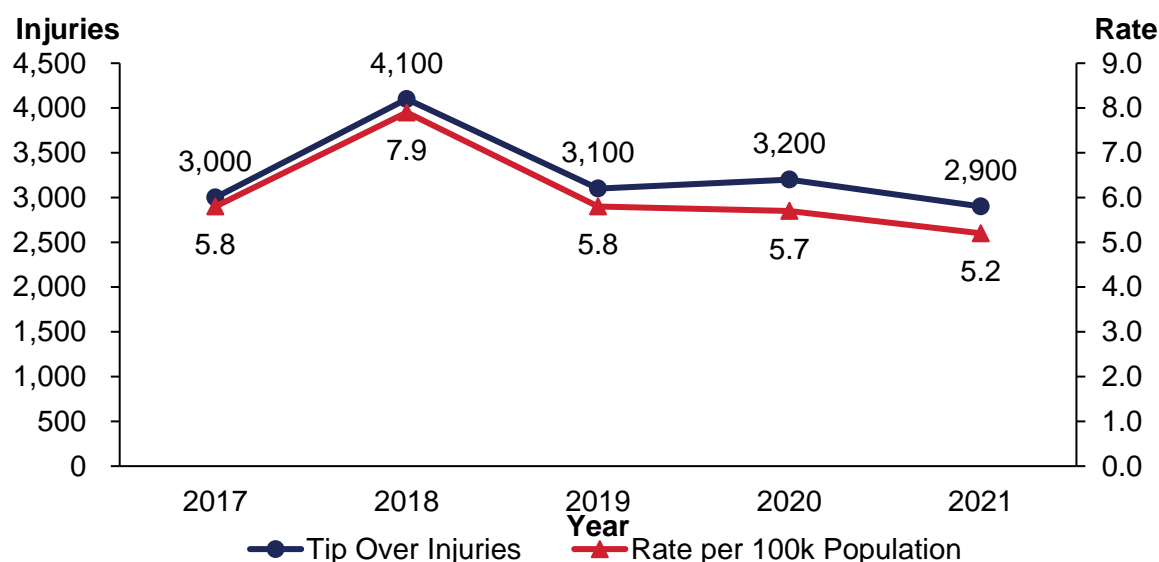
Note: **Ethnicity data are captured in NEISS starting in 2019.** Race is “Not Stated” for 36 percent of the injuries. “Other” includes bi/multi/interracial, as well as races not already listed. Ethnicity was unknown or not stated in 60 percent of the injuries, and hence, not presented.

### Other Injuries: Tip Overs

#### (Appliances, Furniture, and Televisions)

This product group is not associated with a particularly high volume of estimated injuries among adults over 64, but this is an ongoing project area for CPSC in FY 2022. During 2017–2021, adults 65 and older sustained an estimated total of 16,300 ED-injuries (an annual average of 3,300) from tip overs of appliances, furniture, and/or televisions.

#### Estimated ED-Treated Injuries and Injury Rates Involving Appliance, Furniture, and Television Tip Overs Among Adults 65 and Over, 2017–2021



There were no statistically significant linear trends detected in injuries between 2017 and 2021.

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### Consumer Product-Related Injuries and Deaths Among Adults 65 Years of Age and Older |

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### Injury Rate (per 100,000 Population) Comparisons: 2017–2021

25-64 years old:	4.7
65 years and older:	6.1
Rate Ratio:	1.3 times higher for older group, 65 years and older
Rate Ratio for serious injuries:	6.4 times higher for older adults, if <i>only</i> hospitalized and treated/transferred (to another hospital) injuries are considered.

### Details of Estimated ED-Treated Tip-Over Injuries (Appliance, Furniture, and Television): 2017–2021 Total

#### Estimated Injuries by Age Group

Age Group	Estimated Number of ED-Treated Injuries
25-64	40,400
65-74	5,800
75-84	5,400
85 and older	5,100

#### Disposition of Estimated Injuries by Age Group

Age Group	Disposition of ED-Treated Injuries				
	Treated & Released	Hospitalized	Fatality	Treated & Transferred	Other
25–64	91.4%	4.1%	--	--	4.6%
65 and Older	76.4%	17.8%	0.3%	2.4%	3.2%

Note: Percentages may not add to 100 due to rounding.

#### Estimated Injuries by Gender Among Adults 65 and Older

Gender	Estimated Total Number of ED-Treated Injuries	Percent of Estimated ED-Treated Injuries	Percent of Estimated Population
Male	6,200	38.0%	44.7%
Female	10,100	62.0%	55.3%

#### Estimated Injuries by Product Code Among Adults 65 and Older

Product Code	Estimated Total Number of ED-Treated Injuries
4057 Tables (excl. baby changing tables, billiard tables, or pool tables)	5,200
4056 Cabinets, racks, room dividers, and shelves	5,300
572 Televisions	2,600
604 Desks, chests, bureaus, or buffets	2,100

Note: Since multiple product codes can be used for a given case, a single incident may be counted in multiple product code estimates. All other product codes had an estimate of less than 1,200.

### Consumer Product-Related Injuries and Deaths Among Adults 65 Years of Age and Older |

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### Most Common Diagnoses for Injuries Among Adults 65 and Older: 2017–2021

Contusions/Abrasions (code 53): 23 percent,  
Internal Organ Injury (code 62): 17 percent,  
Other/Not Stated (code 71): 17 percent,  
Fracture (code 57): 16 percent,  
Laceration (code 59): 13 percent.

### Most Common Body Parts Injured Among Adults 65 and Older: 2017–2021

Head (code 75): 23 percent,  
Trunk, lower (code 79): 10 percent,  
Lower leg Excl Knee/Ankle (code 36): 9 percent,  
Trunk, upper (not including shoulders) (code 31): 8 percent.

### Distribution of Race Among Estimated Injuries (with Race Information Available) and U.S. Population (Adults 65 and Older)

Race	Injured Population	U.S. Population
White	87.5%	83.8%
Black/African American	8.6%	9.6%
Asian	1.1%	4.7%
American Indian/Alaska Native	0.6%	0.8%
Native Hawaiian/Pacific Islander	0.0%	0.1%
Other	2.2%	0.9%

Note: **Ethnicity data are captured in NEISS starting in 2019.** Race is “Not Stated” for 36 percent of the injuries. “Other” includes bi/multi/interracial, as well as races not already listed. Ethnicity was unknown or not stated in 34 percent of the injuries, and hence, not presented.

## Discussion on Struck-by and Struck-Against Injuries

Struck-by and struck-against injuries figure prominently as the second largest group of injuries among adults 65 and older. Like falls, a preponderance of these types of injuries among the older consumers is also attributed to changes brought on by the aging process.

Among the many findings presented in a 2005 report,<sup>11</sup> staff from CPSC’s Human Factors of the Directorate for Engineering Sciences (ESHF) note that older adults’ **sensory systems** generally become less sensitive, making them less capable than the young of perceiving information. Age-related declines in **muscle strength** and **motor coordination** limit the extent to which older adults are capable of performing actions that may be necessary to use a product or to avoid a hazard. Adult aging is also associated with deficits in **cognitive skills** that require rapid, flexible thinking about novel or unfamiliar situations. A closer look at each of these factors is presented below.

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<sup>11</sup> <https://www.cpsc.gov/content/Older-Consumer-Safety-Phase-I>



**Sensory Systems:** A consequence of increased incidence of pathological diseases and conditions of the eye, such as cataracts, glaucoma, and macular degeneration, as well as changes in the eye structure leading to **vision** impairments in visual acuity, light sensitivity and glare sensitivity, for example. Objects may be in focus only at a limited fixed distance, and that distance may differ between the two eyes. Optical corrections can also present problems. Adaptation to changing light conditions, such as when moving from a brightly lit room to a dark one, or vice-a-versa, takes longer for the older adult. Older adults are found to be less sensitive to, and slower to detect, object movement, and they are shown to have difficulty smoothly tracking fast-moving objects with the eyes. These difficulties, among others, make them more prone to, for example, hit a door/door frame when attempting to pass through it, or get hit if a door/window were to swing open.

The report<sup>11</sup> additionally mentions that with increased age, the **somatosensory** system, which includes all receptors associated with the body's sense of touch, position, and motion, have decreased sensitivity. Older adults have less accurate knowledge of limb position, are significantly less capable of detecting slow limb movements, and have difficulty judging the direction of passive limb movements. These factors, individually, or in combination, can render the act of walking through a doorway a perilous process, with an increased risk of strike-by/strike-against injuries.

**Muscle Strength and Motor Coordination:** According to the report<sup>11</sup> mentioned above, on average, older adults are approximately 1 ½ to 2 times slower than their younger counterparts. Deficits in movement speed with advanced age may be attributable to the loss of muscle mass. Declines in force production and regulation may also play a role. Age-related deficits in movement speed are most commonly seen in reaction time. The actions of opening a door at a steady pace, keeping the door open while walking through it, getting out of the way when a door/window is about to slam shut, or getting out of harm's way when a dresser is about to fall, may prove to be difficult.

**Cognitive Skills:** According to the same report,<sup>11</sup> older adults show greater deficits in selective attention with the presence of distractors. In general, older adults show deficits in the ability to divide attention between tasks. Hence, for older adults, focus on mundane tasks of opening/closing/navigating their way through doors/windows may be compromised if the mind is focused elsewhere. That, in turn, makes them vulnerable to strike-by or strike-against injuries.

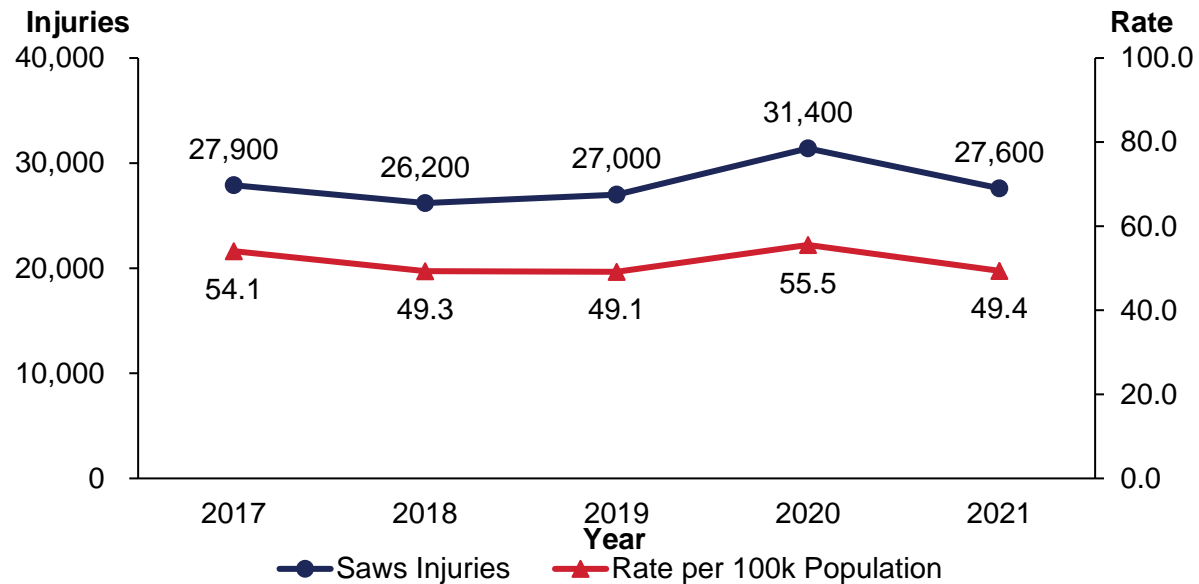
## Cut/Pierce Injuries

### Saws

#### (All Saws Including Chain, Circular, Radial Arm, Table, and Hack Saws)

During 2017–2021, adults 65 and older sustained an estimated total of 140,000 ED-injuries (an annual average of 28,000) using saws.

#### Estimated ED-Treated Injuries and Injury Rates Involving Saws Among Adults 65 and Over, 2017–2021



There were no statistically significant linear trends detected in injuries between 2017 and 2021.

#### Injury Rate (per 100,000 Population) Comparisons: 2017–2021

25-64 years old:	40.7
65 years and older:	51.5
Rate Ratio:	1.3 times higher for adults, aged 65 and older
Rate Ratio for serious injuries:	1.5 times higher for older adults, if <i>only</i> hospitalized and treated/transferred (to another hospital) injuries are considered.

## Details of Estimated ED-Treated Injuries Involving Saws: 2017–2021 Total

### Estimated Injuries by Age Group

Age Group	Estimated Number of ED-Treated Injuries
25-64	348,100
65-74	92,000
75-84	41,000
85 and older	6,900

### Disposition of Estimated Injuries by Age Group

Disposition of ED-Treated Injuries					
Age Group	Treated & Released	Hospitalized	Fatality	Treated & Transferred	Other
25–64	91.7%	4.6%	<0.1%	2.3%	1.3%
65 and Older	90.9%	5.3%	--	3.1%	0.7%

Note: Percentages may not add to 100 due to rounding.

### Estimated Injuries by Gender Among Adults 65 and Older

Gender	Estimated Total Number of ED-Treated Injuries	Percent of Estimated ED-Treated Injuries	Percent of Estimated Population
Male	134,200	95.9%	44.7%
Female	5,800	4.2%	55.3%

### Most Common Diagnoses for Injuries Among Adults 65 and Older: 2017–2021

Lacerations (code 59): 64 percent,  
Fracture (code 57): 14 percent,  
Amputation (code 50): 9 percent.

### Most Common Body Parts Injured Among Adults 65 and Older: 2017–2021

Finger (code 92): 66 percent,  
Hand (code 82): 10 percent.

### Distribution of Race Among Estimated Injuries (with Race Information Available) and U.S. Population (Adults 65 and Older)

Race	Injured Population	U.S. Population
White	94.7%	83.8%
Black/African American	2.7%	9.6%
Asian	1.0%	4.7%
American Indian/Alaska Native	0.2%	0.8%
Native Hawaiian/Pacific Islander	--	0.1%
Other	1.3%	0.9%

Note: **Ethnicity data are captured in NEISS starting in 2019.** Race is “Not Stated” for 27 percent of the injuries. “Other” includes bi/multi/interracial, as well as races not already listed. Ethnicity was unknown or not stated in 53 percent of the injuries, and hence, not presented.

## Consumer Product-Related Injuries and Deaths Among Adults 65 Years of Age and Older |

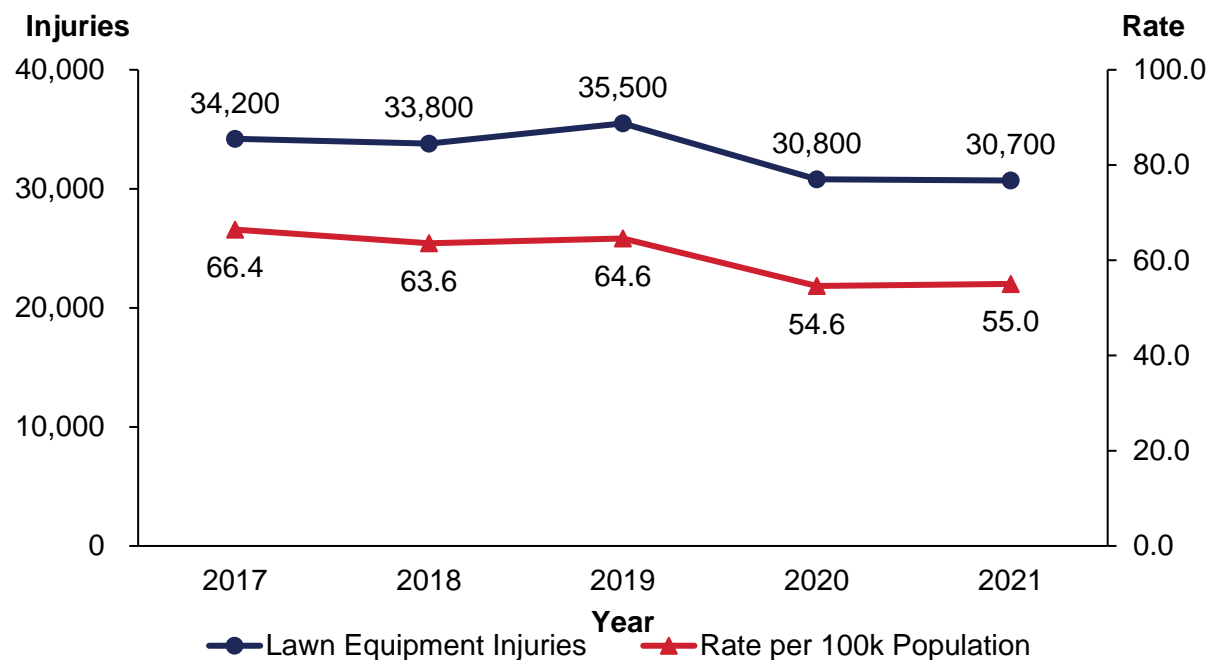
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## Other Lawn Equipment

### (Pruning/Trimming Equipment, Snowblowers, etc.)

During 2017–2021, adults 65 and older sustained an estimated total of 165,100 ED-injuries (an annual average of 33,000) while using various lawn equipment listed above.

### Estimated ED-Treated Injuries and Injury Rates Involving Lawn Equipment Among Adults 65 and Over, 2017–2021



There were no statistically significant linear trends detected in injuries between 2017 and 2021.

### Injury Rate (per 100,000 Population) Comparisons: 2017–2021

25-64 years old:	21.7
65 years and older:	60.7
Rate Ratio:	2.8 times higher for adults, aged 65 and over.
Rate Ratio for serious injuries:	6.6 times higher for older adults, if <i>only</i> hospitalized and treated/transferred (to another hospital) injuries are considered.

## Details of Estimated ED-Treated Injuries Involving Other Lawn Equipment: 2017–2021 Total

### Estimated Injuries by Age Group

Age Group	Estimated Number of ED-Treated Injuries
25-64	185,800
65-74	74,200
75-84	61,900
85 and older	29,000

### Disposition of Estimated Injuries by Age Group

Age Group	Disposition of ED-Treated Injuries				
	Treated & Released	Hospitalized	Fatality	Treated & Transferred	Other
25–64	90.8%	6.7%	0.2%	0.8%	1.7%
65 and Older	80.7%	16.1%	0.3%	1.4%	1.6%

Note: Percentages may not add to 100 due to rounding.

### Estimated Injuries by Gender Among Adults 65 and Older

Gender	Estimated Total Number of ED-Treated Injuries	Percent of Estimated ED-Treated Injuries	Percent of Estimated Population
Male	77,800	47.1%	44.7%
Female	87,300	52.9%	55.3%

### Most Common Diagnoses for Injuries Among Adults 65 and Older: 2017–2021

Fracture (code 57): 24 percent,  
Lacerations (code 59): 19 percent,  
Other/Not Stated (code 71): 15 percent,  
Contusions/Abrasions (code 53): 14 percent,  
Internal Organ Injury (code 62): 12 percent.

### Most Common Body Parts Injured Among Adults 65 and Older: 2017–2021

Head (code 75): 18 percent,  
Lower Trunk (code 79): 13 percent,  
Upper Trunk Excl Shoulder (code 31): 9 percent,  
Face (code 76): 9 percent,  
Finger (code 92): 8 percent.

### Distribution of Race Among Estimated Injuries (with Race Information Available) and U.S. Population (Adults 65 and Older)

Race	Injured Population	U.S. Population
White	93.5%	83.8%
Black/African American	3.6%	9.6%
Asian	1.5%	4.7%
American Indian/Alaska Native	0.2%	0.8%
Native Hawaiian/Pacific Islander	0.1%	0.1%
Other	1.1%	0.9%

Note: **Ethnicity data are captured in NEISS starting in 2019.** Race is “Not Stated” for 38 percent of the injuries. “Other” includes bi/multi/interracial, as well as races not already listed. Ethnicity was unknown or not stated in 60 percent of the injuries, and hence, not presented.

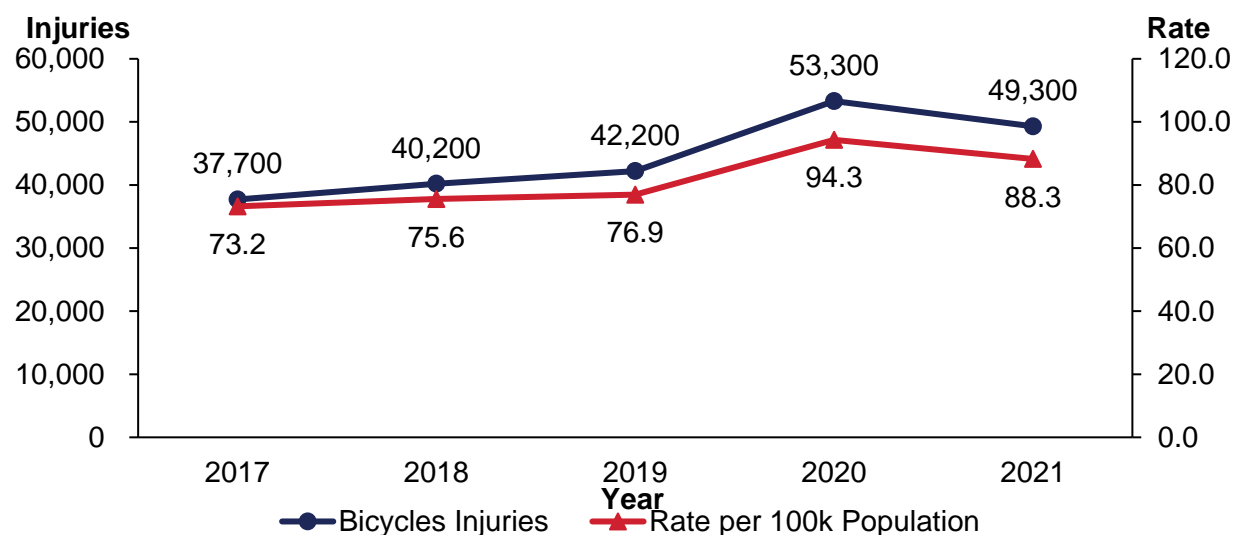
## Other Transportation Injuries

Most motor vehicle-related accidents on roads and highways are outside the jurisdiction of CPSC. However, there are a few products that are under the CPSC’s purview, and some of them, collectively referred to as “other transportation” (to align with CDC WISQARS nomenclature), are discussed in this report.

### Bicycles and Accessories

During 2017–2021, adults 65 and older sustained an estimated total of 222,700 ED-injuries (an annual average of 44,500) while using bicycles.

### Estimated ED-Treated Injuries and Injury Rates Involving Bicycles Among Adults 65 and Over, 2017–2021



There were no statistically significant linear trends detected in injuries between 2017 and 2021.

## Consumer Product-Related Injuries and Deaths Among Adults 65 Years of Age and Older |

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## Injury Rate (per 100,000 Population) Comparisons: 2017–2021

25-64 years old:	110.3
65 years and older:	81.9
Rate Ratio:	1.3 times higher for younger group, 25-64 years old.
Rate Ratio for serious injuries:	1.5 times higher for older adults, if <i>only</i> hospitalized and treated/transferred (to another hospital) injuries are considered.

## Details of Estimated ED-Treated Injuries Involving Bicycles: 2017–2021 Total

### Estimated Injuries by Age Group

Age Group	Estimated Number of ED-Treated Injuries
25-64	943,300
65-74	153,800
75-84	59,100
85 and older	9,800

### Disposition of Estimated Injuries by Age Group

Age Group	Disposition of ED-Treated Injuries				
	Treated & Released	Hospitalized	Fatality	Treated & Transferred	Other
25–64	82.9%	12.0%	0.1%	1.3%	3.6%
65 and Older	71.1%	24.0%	0.3%	2.4%	2.2%

Note: Percentages may not add to 100 due to rounding.

### Estimated Injuries by Gender Among Adults 65 and Older

Gender	Estimated Total Number of ED-Treated Injuries	Percent of Estimated ED-Treated Injuries	Percent of Estimated Population
Male	155,700	69.9%	44.7%
Female	67,000	30.1%	55.3%

### Most Common Diagnoses for Injuries Among Adults 65 and Older: 2017–2021

Fracture (code 57): 31 percent,  
 Contusions/Abrasions (code 53): 16 percent,  
 Other/Not Stated (code 71): 16 percent,  
 Internal Organ Injury (code 62): 16 percent.

### Most Common Body Parts Injured Among Adults 65 and Older: 2017–2021

Head (code 75): 20 percent,  
 Upper Trunk Excl Shoulder (code 31): 15 percent,  
 Lower Trunk (code 79): 11 percent,  
 Shoulder (code 30): 8 percent,  
 Lower Leg Excl Knee/Ankle (code 36), Knee (code 35), Face (code 76): 6 percent each.

## Consumer Product-Related Injuries and Deaths Among Adults 65 Years of Age and Older |

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**Distribution of Race Among Estimated Injuries (with Race Information Available) and U.S. Population (Adults 65 and Older)**

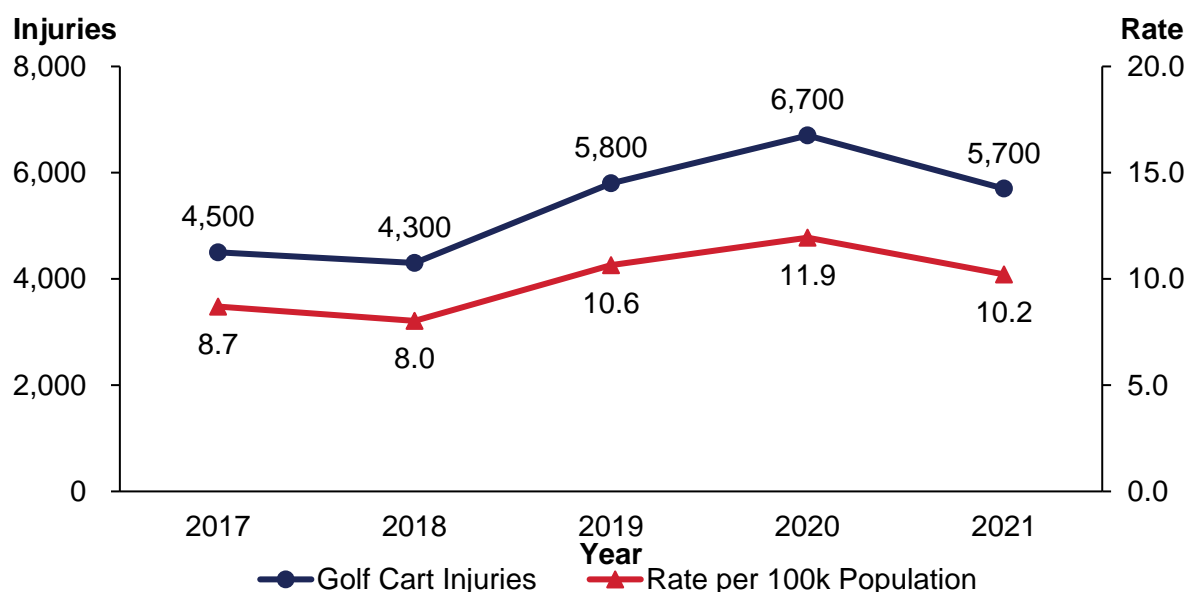
Race	Injured Population	U.S. Population
White	88.9%	83.8%
Black/African American	7.7%	9.6%
Asian	1.6%	4.7%
American Indian/Alaska Native	0.5%	0.8%
Native Hawaiian/Pacific Islander	0.1%	0.1%
Other	1.3%	0.9%

Note: **Ethnicity data are captured in NEISS starting in 2019.** Race is “Not Stated” for 54 percent of the injuries. “Other” includes bi/multi/interracial, as well as races not already listed. Ethnicity was unknown or not stated in 70 percent of the injuries, and hence, not presented.

**Golf Carts**

During 2017–2021, adults 65 and older sustained an estimated total of 27,000 ED-injuries (an annual average of 5,400) while using golf carts.

**Estimated ED-Treated Injuries and Injury Rates Involving Golf Carts Among Adults 65 and Over, 2017–2021**



There were no statistically significant linear trends detected in injuries between 2017 and 2021.



## Injury Rate (per 100,000 Population) Comparisons: 2017–2021

25-64 years old:	3.7
65 years and older:	9.9
Rate Ratio:	2.7 times higher for adults, aged 65 and over.
Rate Ratio for serious injuries:	4.9 times higher for older adults, if <i>only</i> hospitalized and treated/transferred (to another hospital) injuries are considered.

## Details of Estimated ED-Treated Injuries Involving Golf Carts: 2017–2021 Total

### Estimated Injuries by Age Group

Age Group	Estimated Number of ED-Treated Injuries
25-64	32,000
65-74	12,200
75-84	10,200
85 and older	4,600

### Disposition of Estimated Injuries by Age Group

Age Group	Disposition of ED-Treated Injuries				
	Treated & Released	Hospitalized	Fatality	Treated & Transferred	Other
25–64	84.1%	12.3%	0.1%	1.2%	2.3%
65 and Older	72.6%	23.0%	0.6%	2.0%	1.9%

Note: Percentages may not add to 100 due to rounding.

### Estimated Injuries by Gender Among Adults 65 and Older

Gender	Estimated Total Number of ED-Treated Injuries	Percent of Estimated ED-Treated Injuries	Percent of Estimated Population
Male	15,000	55.6%	44.7%
Female	12,000	44.4%	55.3%

### Most Common Diagnoses for Injuries Among Adults 65 and Older: 2017–2021

Fracture (code 57): 25 percent,  
 Laceration (code 59): 16 percent,  
 Internal Organ Injury (code 62): 16 percent,  
 Contusion/Abrasion (code 53): 14 percent.

### Most Common Body Parts Injured Among Adults 65 and Older: 2017–2021

Head (code 75): 22 percent,  
 Lower Trunk (code 79): 13 percent,  
 Lower Leg Excl Knee/Ankle (code 36): 12 percent,  
 Upper Trunk Excl Shoulder (code 31): 10 percent.

## Distribution of Race Among Estimated Injuries (with Race Information Available) and U.S. Population (Adults 65 and Older)

Race	Injured Population	U.S. Population
White	93.7%	83.8%
Black/African American	3.1%	9.6%
Asian	1.8%	4.7%
American Indian/Alaska Native	0.2%	0.8%
Native Hawaiian/Pacific Islander	--	0.1%
Other	1.3%	0.9%

Note: **Ethnicity data are captured in NEISS starting in 2019.** Race is “Not Stated” for 58 percent of the injuries. “Other” includes bi/multi/interracial, as well as races not already listed. Ethnicity was unknown or not stated in 74 percent of the injuries, and hence, not presented.

## Other Vehicles

The product groups below are not associated with a particularly high volume of estimated injuries or high injury rates among adults over 64. They were, however, project areas for CPSC in FY 2022 (October 1, 2021 through September 30, 2022).

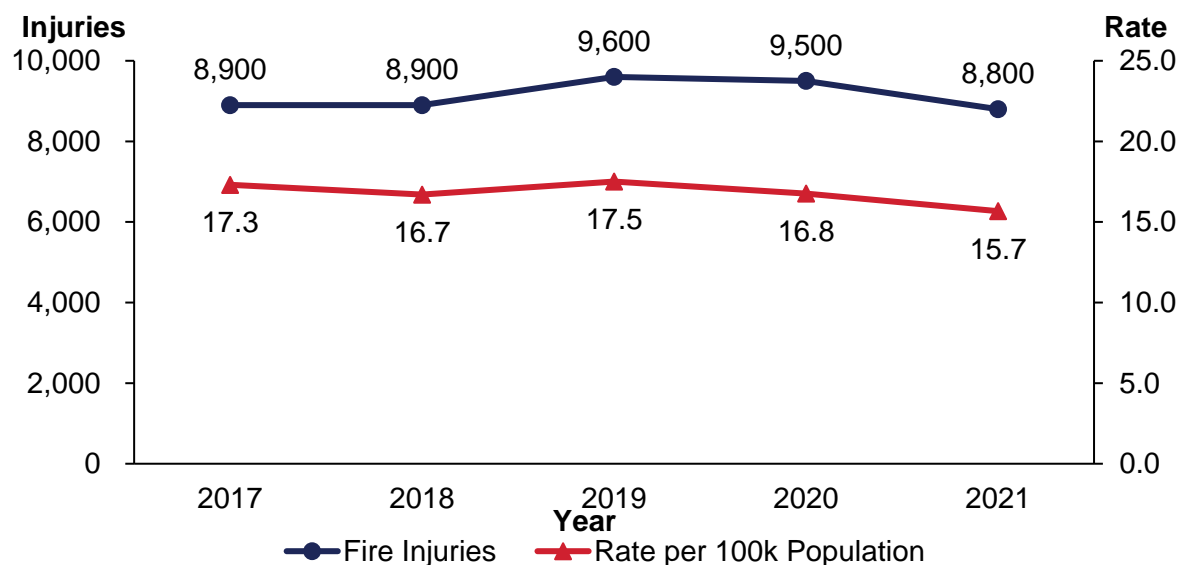
- E-Scooters, E-Bikes, or Hoverboards (Micromobility): A total of 7,100 ED-treated injuries (an annual average of 1,400), were sustained among adults aged 65 and older from 2017–2021. Nevertheless, younger adults aged 25 to 64 have a higher risk for injury with micromobility products and are 4.8 times more likely to get injured using these products than seniors aged 65 and older.
- Off-Highway Vehicles (OHVs) with 3 or More Wheels (ATVs, ROVs, and UTVs): During 2017–2021, adults 65 and older sustained an estimated total of 20,200 ED-injuries (an annual average of 4,000) associated with the use of ATVs, ROVs, and UTVs. However, younger adults are at a higher risk for injury and are 3.8 times more likely to get injured using OHVs than older adults.

## Other Causes

### Fire

CPSC staff produced 2017–2021 NEISS fire injury estimates by age using the NEISS FMV code to identify fire involvement. These estimates include injuries from fires that occurred in homes as well as outside of homes and were attended by fire departments. During 2017–2021, adults 65 and older sustained an estimated total of 45,600 ED-injuries (an annual average of 9,100) due to fires.

## Estimated ED-Treated Injuries and Injury Rates Involving Fires Among Adults 65 and Over, 2017–2021



### Injury Rate (per 100,000 Population) Comparisons: 2017–2021

25-64 years old:	22.3
65 years and older:	16.8
Rate Ratio:	1.3 times <u>higher for younger group</u> , 25-64 years old.
Rate Ratio for serious injuries:	1.1 times higher for older adults, if <i>only</i> hospitalized and treated/transferred (to another hospital) injuries are considered.

### Details of Estimated ED-Treated Injuries Involving Fires: 2017–2021 Total

#### Estimated Injuries by Age Group

Age Group	Estimated Number of ED-Treated Injuries
25-64	190,600
65-74	27,200
75-84	13,400
85 and older	5,000

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## Consumer Product-Related Injuries and Deaths Among Adults 65 Years of Age and Older |

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### Disposition of Estimated Injuries by Age Group

Disposition of ED-Treated Injuries					
Age Group	Treated & Released	Hospitalized	Fatality	Treated & Transferred	Other
25–64	66.9%	20.2%	0.4%	9.1%	3.4%
65 and Older	53.3%	31.5%	2.4%	10.0%	2.7%

Note: Percentages may not add to 100 due to rounding.

### Estimated Injuries by Gender Among Adults 65 and Older

Gender	Estimated Total Number of ED-Treated Injuries	Percent of Estimated ED-Treated Injuries	Percent of Estimated Population
Male	27,600	60.5%	44.7%
Female	18,000	39.5%	55.3%

### Most Common Diagnoses for Fire Injuries Among Adults 65 and Older: 2017–2021

Thermal Burns (code 51): 51 percent,  
Anoxia (code 65): 37 percent.

### Most Common Body Parts Injured Among Adults 65 and Older: 2017–2021

All parts of body (code 85): 40 percent,  
Face (code 76): 17 percent,

### Distribution of Race Among Estimated Injuries (with Race Information Available) and U.S. Population (Adults 65 and Older)

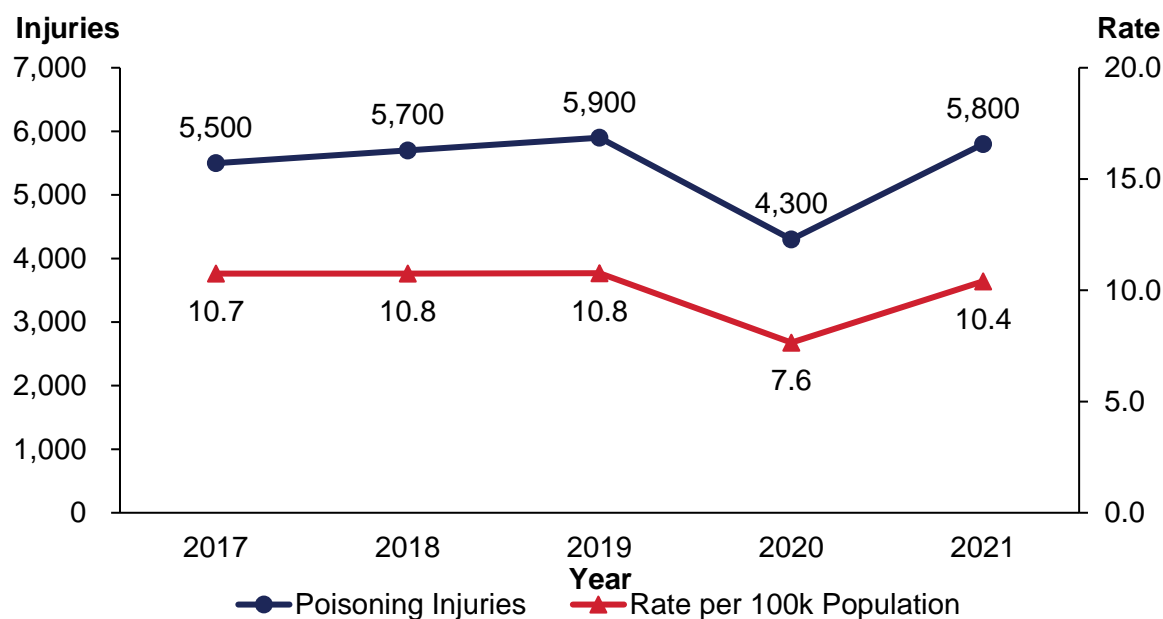
Race	Injured Population	U.S. Population
White	71.8%	83.8%
Black/African American	22.8%	9.6%
Asian	1.5%	4.7%
American Indian/Alaska Native	0.9%	0.8%
Native Hawaiian/Pacific Islander	0.4%	0.1%
Other	2.6%	0.9%

Note: **Ethnicity data are captured in NEISS starting in 2019.** Race is “Not Stated” for 21 percent of the injuries. “Other” includes bi/multi/interracial, as well as races not already listed. Ethnicity was unknown or not stated in 40 percent of the injuries, and hence, not presented.

## Poisoning

During 2017–2021, adults 65 and older sustained an estimated total of 27,300 ED-injuries (an annual average of 5,500) from unintentional poisoning events.

## Estimated ED-Treated Injuries and Injury Rates Involving Unintentional Poisoning and Chemical Burns Among Adults 65 and Over, 2017–2021



There were no statistically significant linear trends detected in injuries between 2017 and 2021. Incidents involving intentional abuse were excluded.

The injury rate per 100,000 population of adults 65 and older was 10.0 during 2017–2021.

### Details of Estimated ED-Treated Injuries Involving Unintentional Poisoning Events: 2017–2021 Total

#### Estimated Injuries by Age Group

Age Group	Estimated Number of ED-Treated Injuries
65-74	17,100
75-84	7,900
85 and older	2,300

#### Disposition of Estimated Injuries

Age Group	Disposition of ED-Treated Injuries				
	Treated & Released	Hospitalized	Fatality	Treated & Transferred	Other
65 and Older	80.4%	15.0%	0.3%	0.7%	3.7%

Note: Percentages may not add to 100 due to rounding.

### Consumer Product-Related Injuries and Deaths Among Adults 65 Years of Age and Older |

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### Estimated Injuries by Gender Among Adults 65 and Older

Gender	Estimated Total Number of ED-Treated Injuries	Percent of Estimated ED-Treated Injuries	Percent of Estimated Population
Male	13,200	48.3%	44.7%
Female	14,100	51.7%	55.3%

### Most Common Diagnoses for Injuries Among Adults 65 and Older: 2017–2021

Poisoning (code 68): 60 percent,  
Chemical Burn (code 49): 35 percent.

### Most Common Body Parts Injured Among Adults 65 and Older: 2017–2021

All Parts of Body (code 85): 60 percent,  
Eyeball (code 77): 19 percent.

### Estimated Injuries by Product Code Among Adults 65 and Older

Product Code	Estimated Total Number of ED-Treated Injuries
956 Bleaches (non-cosmetic)	6,800
954 General Purpose Household Cleaners (excluding abrasives, ammonia, pine oil and toilet bowl products)	3,900
1931 Tablet or Capsule Drugs (excluding aspirin, aspirin substitutes, iron preparations and antihistamines)	1,700
921 Chemicals, Not Elsewhere Classified	1,500

Note: Since multiple product codes can be used for a given case, a single incident may be counted in multiple product code estimates. All other product codes had an estimate of less than 1,200.

### Distribution of Race Among Estimated Injuries (with Race Information Available) and U.S. Population (Adults 65 and Older)

Race	Injured Population	U.S. Population
White	76.2%	83.8%
Black/African American	20.1%	9.6%
Asian	1.4%	4.7%
American Indian/Alaska Native	1.1%	0.8%
Native Hawaiian/Pacific Islander	--	0.1%
Other	1.2%	0.9%

Note: **Ethnicity data are captured in NEISS starting in 2019.** Race is “Not Stated” for 38 percent of the injuries. “Other” includes bi/multi/interracial, as well as races not already listed. Ethnicity was unknown or not stated in 64 percent of the injuries, and hence, not presented.

# Consumer Product-Related Fatalities Among Older Adults 2017–2019

The fatality reports in the CPSRMS come from a variety of sources, such as NEISS, death certificates, coroners and medical examiners, consumers, news clippings, manufacturers/retailers, and state/local agencies. Many of these reports are followed up through on-site or telephone investigations, and the resulting reports also reside in CPSRMS. Given the 2- to 3-year lag in death certificates reporting from the states, at the time of writing this report, 2017 through 2019 are considered the latest three years with nearly complete data. However, slight changes in the fatality statistics are possible in the future. These reports are not based on an inclusive probability survey, nor do they comprise a complete census of all fatal incidents associated with consumer products during 2017–2019. CPSC staff attempted to identify duplicate reports; however, in some cases, the details provided in multiple reports of a single incident may have been too incomplete or contradictory to allow for all duplicate reports to be identified. Thus, these counts are to be considered minimums, or near-minimums, associated with these products for older adults during 2017–2019.

As identified by CDC (see Table B in Appendix), major specific causes of deaths during the 2017–2019 timeframe that are likely associated with a consumer product under CPSC’s jurisdiction are: falls, fires, drownings, other transportation accidents, and poisonings, specifically carbon monoxide (CO) poisonings.

The Fires and CO poisonings sections present national estimates; those sections also include either death rates or a proportional comparison with the U.S. population. The remaining death sections (Falls, Drownings, and various forms of Transportation) are based on anecdotal data, and, as such, death rates or proportional comparisons with the U.S. population are not presented.

The consumer product-related anecdotal death reporting for older adults over the 2017-2019 timeframe shows a substantial decrease relative to the same from the 2016-2018 timeframe. The decrease is especially noticeable in the Falls death section. This decrease in reporting is due to the reduction in the number of death certificates and medical examiner/coroners’ reports purchased by CPSC associated with elder falls on floors, a practice that went into effect in 2019.<sup>3</sup>

The CO poisoning data relies entirely on death certificates received from CDC’s National Center for Health Statistics (NCHS)-maintained Mortality files. Race and ethnicity are coded differently in the NCHS data, compared to the NEISS emergency department-treated injury data presented earlier in this report. For example, in the NCHS data, all Hispanics, regardless of race, are coded together, and all non-Hispanics are broken out by their races. This means that a non-Hispanic White person is coded as “White,” while a Hispanic White person is coded as

“Hispanic.” The NEISS data, on the other hand, codes race and ethnicity separately and independently of each other.

## Reported Fall Deaths

Based on data from the CPSRMS from 2017 through 2019, staff identified a total of 3,381 fall-related fatalities associated with the use of a consumer product among adults 65 and over. The same selection process that was used for ED-treated injuries was used to select the top three products involved in the most fatalities. Coincidentally, but not unexpectedly, the same top three products that were identified in the injury section were also found to be associated with the most fatalities. The top three products associated with the highest number of deaths are floors, beds, and stairs/steps.

The way data are collected from the medical and coroner’s offices for floors and stairs/steps fatalities changed halfway through the 2017–2019 timeframe. Hence, a breakout of the fatalities by year provides a lop-sided view that is more a function of the change in the data-collection process, rather than a change in the actual number of older adult deaths. To avoid misleading the reader, staff presents information based on annual averages, rather than by incident years.

The table below presents the age distribution of decedents for all older adult, fall-related fatalities that were reported to CPSC for the years spanning 2017 through 2019. The 85 years and older category far outweighed the other categories, accounting for 41 percent of all fall-related fatalities among adults 65 and over.

### Reported Fall Deaths for All Products by Age Group, 2017–2019

	Total Reported Fatalities (Annual Average Fatalities)			
	65 to 74 Years	75 to 84 Years	85 Years and Older	65 Years and Older
All products	896 (298.7)	1104 (368.0)	1385 (461.7)	3381 (1127.0)
Percentage of Total Fall Deaths	26.5%	32.7%	41.0%	100%

Source: CPSRMS, CPSC.

The table below presents the percentages of fatal falls among the top three product categories by gender and age group. Distributions are relatively similar for fatalities involving all three products. However, there were slightly more females suffering fatal falls involving beds, whereas there were slightly more males suffering fatal falls involving stairs/steps. For fatal falls involving floors, the gender distribution was even.



**Distribution of Reported Fall Deaths Among Adults 65 and Older by Top Product Types and Age, 2017-2019**

Product	Gender	Percentage of Reported Fatalities			
		65 to 74 Years	75 to 84 Years	85 Years and Older	65 Years and Older
Floors	Male	65%	51%	43%	50%
	Female	35%	49%	57%	50%
Beds	Male	54%	44%	38%	43%
	Female	46%	56%	62%	57%
Stairs/Steps	Male	57%	56%	49%	54%
	Female	43%	44%	51%	46%

Source: CPSRMS, CPSC.

The table below shows the total number of fatal falls among adults 65 and over with the top three product types and age categories. For bed and floor-related fatalities, more than 45 percent of the victims were in the 85 years and older section. For stair/step-related fatalities, the distribution within age groups appeared to be relatively even.

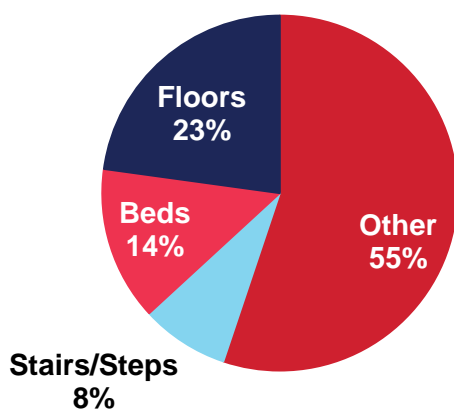
**Reported Fall Deaths by Product Type and Age Group, 2017–2019**

Product	Reported Fatality Frequencies (Annual Average)			
	65 to 74 Years	75 to 84 Years	85 Years and Older	65 Years and Older
Floors	163 (54.3)	243 (81.0)	366 (122.0)	772 (257.3)
Beds	80 (26.7)	141 (47.0)	254 (84.7)	475 (158.3)
Stairs/Steps	82 (27.3)	109 (36.3)	79 (26.3)	270 (90.0)

Source: CPSRMS, CPSC.

The figure below is a visual representation of the breakdown of fall deaths by the consumer products involved.

**Fall-Related Senior Fatalities by Product, 2017–2019**



Source: CPSRMS, CPSC.

## **Death Narrative Examples**

With 3,381 fall deaths from 2017 through 2019 reported to CPSC, it is expected that there will be a wide variety in the sequence of events that led to the fatalities. Excerpts from some of the more common scenario descriptions, involving the top three products associated with fall fatalities among adults 65 and over, are presented below.

### **Floors**

- A 72-year-old male fell to the floor of a hotel bathroom. The victim suffered a subdural hematoma, as well as a skull fracture. Blunt impact injury of the head is the listed cause of death.
- A 70-year-old female fell to the floor twice at a nursing home. The victim was not treated at a hospital. The victim did, however, receive x-ray imaging, which showed 7<sup>th</sup> and 8<sup>th</sup> rib fractures. The official cause of death was not recorded.

### **Beds**

- A 95-year-old female fell out of bed, resulting in a femoral condyle fracture, odontoid fracture with type III morphology, and a patella fracture. The patient never recovered and was pronounced dead at an assisted living facility.
- A 78-year-old male fell between a bed frame and the wall. The cause of death is listed as “positional mechanical asphyxia.”

### **Stairs/Steps**

- An 80-year-old male was heard falling down 16 carpeted steps in his home. The cause of death is listed as “blunt force craniocerebral injury.”
- A 75-year-old female and her daughter were walking up the stairs at a residence when they both fell. The 75-year-old died; the cause of death is listed as “complications due to decreased mobility.”

## **Fire Death Estimates**

Based on NFIRS data from the U.S. Fire Administration (USFA), from 2017–2019, there were an annual average estimate of 990 residential structure fire deaths suffered by older adults. These NFIRS fire death estimates are restricted to unintentional fires and fires that occurred in residential structures. The annual estimate increased from 930 in 2017, to 1,010 in 2018, and then to 1,040 in 2019. Older adults comprised 16.2 percent of the U.S. population during this period, but they represented an estimated 41.5 percent of the fire deaths. The estimated fire

death rate is 1.87 deaths per 100,000 people for older adults, but only 0.51 deaths per 100,000 people for those under age 65. The fire death rate is an estimated 1.54 for those aged between 65 and 74, 2.20 for those between 75 and 84, and 2.62 for those 85 and older. See the table below for annual residential structure fire death estimates (and rates per 100,000 people) by year and by age.

**Older Adults Fire Death Estimates and Fire Death Rates per 100,000 Population, 2017-2019**

Year	65 Years and Older	65–74 Years	75–84 Years	85 Years and Older	All Ages
2017	930 (1.81)	410 (1.38)	310 (2.08)	210 (3.15)	2,230 (0.68)
2018	1,010 (1.90)	490 (1.58)	380 (2.44)	140 (2.14)	2,460 (0.75)
2019	1,040 (1.89)	530 (1.65)	340 (2.08)	170 (2.58)	2,490 (0.76)
2017 – 2019 Avg.	990 (1.87)	480 (1.54)	340 (2.20)	170 (2.62)	2,390 (0.73)

Source: NFIRS, USFA.

**Ignition Sources:**

Two major hazards, in terms of ignition sources for deadly fires for older adults, are **smoking materials**<sup>12</sup> and **cooking**. The NFIRS 2017–2019 annual average estimate of older adult smoking material fire deaths is 250. The annual average estimate for older adult cooking fire deaths is 70. See the tables below for the annual fire death estimates (and rates per 100,000 people) for smoking materials and cooking by year and by age. Estimates show that the fire death rates are high for smoking materials for older adults of all ages, but cooking is a much bigger hazard for older adults 85 and older than for those between age 65 and 84.

**Smoking Material Fire Death Estimates and Fire Death Rates per 100,000 Population, 2017-2019**

Year	65 Years and Older	65–74 Years	75–84 Years	85 Years and Older	All Ages
2017	230 (0.45)	150 (0.51)	60 (0.39)	20 (0.28)	550 (0.17)
2018	290 (0.55)	150 (0.50)	110 (0.69)	30 (0.47)	600 (0.18)
2019	230 (0.42)	170 (0.53)	50 (0.31)	10 (0.13)	500 (0.15)
2017 – 2019 Avg.	250 (0.47)	160 (0.51)	70 (0.46)	20 (0.29)	550 (0.17)

Source: NFIRS, USFA.

**Cooking Fire Death Estimates and Fire Death Rates per 100,000 Population, 2017-2019**

Year	65 Years and Older	65–74 Years	75–84 Years	85 Years and Older	All Ages
2017	70 (0.13)	40 (0.13)	0 (0.00)	30 (0.47)	250 (0.08)
2018	60 (0.11)	30 (0.09)	20 (0.11)	20 (0.23)	210 (0.07)
2019	70 (0.13)	40 (0.12)	20 (0.14)	10 (0.16)	180 (0.05)
2017 – 2019 Avg.	70 (0.13)	30 (0.11)	10 (0.08)	20 (0.29)	210 (0.07)

Source: NFIRS, USFA.

<sup>12</sup> The NFIRS Heat Source codes that comprise smoking materials are '61 – Cigarette,' '62 – Pipe or cigar,' and '63 – Heat from undetermined smoking material.'

## **Clothing Fire Deaths:**

Clothing fire<sup>13</sup> deaths is a hazard that disproportionately affects older adults. While older adults were 16.2 percent of the population in 2017–2019, they were an estimated 63.6 percent of the clothing fire deaths. The estimated clothing fire death rate for older adults is 9 times higher than the rate for people under 65.

It is important to note that while some consumer product involvement in fires is as an ignition source (e.g., cigarette or cooking stove), other products can be the item first ignited in a fire (e.g., mattress or clothing). A fire can count toward the estimates of both its ignition source, as well as its item first ignited. For example, a fire can count as a cooking fire and a clothing fire.

Estimates of clothing fire deaths (and rates per 100,000 people) by year and age are below.

### **Clothing (Worn) Fire Death Estimates and Fire Death Rates per 100,000, 2017-2019**

Year	65 Years and Older	65–74 Years	75–84 Years	85 Years and Older	All Ages
2017	60 (0.12)	40 (0.13)	20 (0.11)	10 (0.10)	90 (0.03)
2018	70 (0.14)	30 (0.10)	30 (0.22)	10 (0.15)	90 (0.03)
2019	50 (0.08)	10 (0.04)	30 (0.21)	0 (0.00)	100 (0.03)
2017–2019 Avg.	60 (0.11)	30 (0.09)	30 (0.18)	10 (0.08)	100 (0.03)

Source: NFIRS, USFA.

See the table below for NFIRS estimates of fire deaths for people aged 65 and over by race. These estimates are for the aggregate of the years 2017–2019.

### **Distribution of Race Among Estimated NFIRS Deaths for Adults Aged 65 and Over, 2017-2019**

Race	Fatal Victims	U.S. Population
White	78.8%	84.1%
Black/African American	19.3%	9.5%
Asian	0.5%	4.6%
American Indian/Alaska Native	0.2%	0.7%
Native Hawaiian/Pacific Islander	0.0%	0.1%
Other	1.3%	0.9%

Source: NFIRS, USFA.

## **Reported Drowning Deaths**

From 2017 to 2019, 919 (an annual average of 306) fatal drownings involving victims 65 years of age and older were reported to CPSC staff. The table below shows the total number of fatal drownings among older adults by year and age category. About 48 percent of the fatal drownings involved victims between 65 and 74 years old. Conversely, victims between 75 and 84 years old made up less than 34 percent of all fatal drownings to adults over 64. Drowning

<sup>13</sup> NFIRS clothing fire death estimates are based on the NFIRS Item First Ignited code, '35 – Wearing apparel – on a person.'

victims who were 85 years of age and older comprised 18 percent of all fatal drownings to older adults.

Although most fatal drownings take place on the same day of the submersion incident, the interval of time between the date of the incident and the date of death can vary greatly; in some cases, the lapse may be years. Overall, in 93 percent of all older-adult fatal drownings from 2017 to 2019, the date of death was either the same as the date of the incident, or 1 day later.

For older-adult fatal drownings where the death occurred 2 or more days later, 48 percent of the victims were between 65 and 74 years old; 36 percent of the victims were between 75 and 84 years old; and 16 percent of the victims were 85 years of age and older.

**Distribution of Reported Drowning Deaths Among Older Adults by Year and Age Group, 2017–2019**

Year	Reported Fatality Frequencies			
	65 to 74 Years	75 to 84 Years	85 Years and Older	65 Years and Older
Average <sup>14</sup>	146	104	57	306
2017	142	103	60	305
2018	151	95	55	301
2019	144	114	55	313
2017-2019 Totals	437	312	170	919

Source: CPSRMS, CPSC.

The table below shows the percentages of fatal drownings by gender and age category. In every age category, there were fewer reported male drowning victims than reported female drowning victims.

**Distribution of Reported Drowning Deaths Among Older Adults by Gender and Age Group, 2017–2019**

Gender	Percentage of Reported Fatalities			
	65 to 74 Years	75 to 84 Years	85 Years and Older	65 Years and Older
Male	44%	43%	49%	45%
Female	56%	57%	51%	55%

Source: CPSRMS, CPSC.

The table and figure below show the top three products involved in fatal older-adult drownings. Most fatal drownings took place in swimming pools, followed by bathtubs, and then spas.

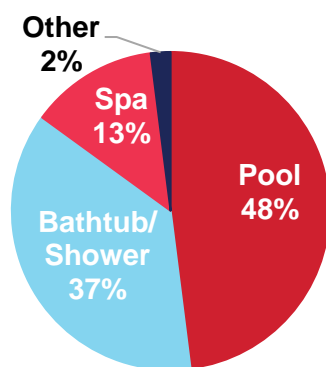
<sup>14</sup> Row averages may not add to total, due to rounding. Fatal drownings per year are determined by date of death.

## Distribution of Drowning Deaths Among Older Adults by Products Involved and Age Group, 2017–2019

Product	Reported Fatality Frequencies			
	65 to 74 Years	75 to 84 Years	85 Years and Older	65 Years and Older
Pool	186	158	95	439
Bathtubs	172	112	56	340
Spa	64	35	17	116
Other <sup>15</sup>	15	7	2	24
Total	437	312	170	919

Source: CPSRMS, CPSC.

## Drowning-Related Fatalities by Product Among Older Adults, 2017–2019



Source: CPSRMS, CPSC.

## Reported Other Transportation Deaths

### Bicycle Deaths

From 2017 to 2019, 407 (an annual average of 136) bicycle deaths involving victims 65 years of age and older were reported to CPSC staff. The table below presents the total number of bicycle deaths among adults 65 and over by year and age category. While 65 percent of the bicycle deaths involved victims between 65 and 74 years old, less than 30 percent of the bicycle deaths involved victims between 75 and 84 years old. Older adult victims who were 85 years of age and older comprised the remaining 6 percent of all bicycle deaths for that age group.

<sup>15</sup> Includes buckets, fountains, tanks, and unknown/unspecified products.

### Distribution of Bicycle Deaths Among Older Adults by Year and Age Group, 2017–2019

Year	Reported Fatality Frequencies			
	65 to 74 Years	75 to 84 Years	85 Years and Older	65 Years and Older
Average <sup>16</sup>	89	39	8	136
2017	87	41	6	134
2018	65	37	5	107
2019	115	38	13	166
2017-2019 Totals	267	116	24	407

Source: CPSRMS, CPSC.

The table below shows the percentages of bicycle deaths among older adults by gender and age category. Male victims vastly outnumbered female victims in every age category.

### Distribution of Older Adult Bicycle Deaths by Gender and Age Group, 2017–2019

Gender	Percentage of Reported Fatalities			
	65 to 74 Years	75 to 84 Years	85 Years and Older	65 Years and Older
Male	90%	86%	92%	89%
Female	10%	14%	8%	11%

Source: CPSRMS, CPSC.

The table below provides a breakdown for bicycle deaths by hazard scenario among adults over 64. The greatest discrepancy between deaths in traffic accidents and deaths in isolated incidents took place among the 65 to 74 years age group, where 172 bicycle deaths occurred in traffic accidents, and 95 bicycle deaths occurred in isolated incidents.

### Distribution of Bicycle Deaths Among Adults 65 and Over by Hazard Scenario and Age Group, 2017–2019

Hazard Scenario	Reported Fatality Frequencies			
	65 to 74 Years	75 to 84 Years	85 Years and Older	65 Years and Older
Traffic Accident	172	60	13	245
Isolated Incident	95	56	11	162
Total	267	116	24	407

Source: CPSRMS, CPSC.

The table below provides a breakdown for bicycle deaths among older adults by hazard types, such as collisions with another vehicle, falls from the bicycle due to loss of balance, or unknown factors.

<sup>16</sup> Row averages may not add to total, due to rounding.

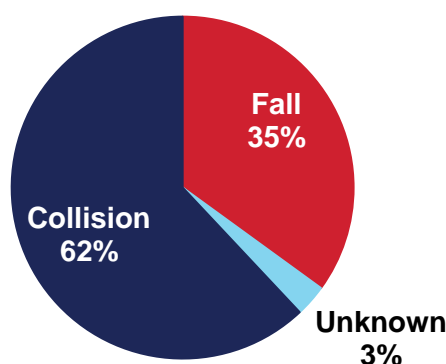
## Distribution of Bicycle Deaths Among Adults 65 and Over by Hazard Types and Age Group, 2017–2019

Hazard Type	Reported Fatality Frequencies			
	65 to 74 Years	75 to 84 Years	85 Years and Older	65 Years and Older
Collision	172	69	13	254
Fall	87	45	9	141
Unknown	8	2	2	12
Total	267	116	24	407

Source: CPSRMS, CPSC.

The figure below is a visual representation of the table above, showing the percentage breakdown of bicycle deaths among older adults by hazard type.

### Bicycle-Related Fatalities Among Older Adults by Hazard Type, 2017–2019



Source: CPSRMS, CPSC.

## Off-Highway Vehicle (OHV) Deaths

From 2017 to 2019, 373 (an annual average of 124) reported deaths of victims 65 years of age or older involved in OHV-related incidents have been received by CPSC staff. The included OHVs correlate with one of three vehicle classifications: “All-terrain Vehicles” (ATVs), “Recreational Off-Highway Vehicles” (ROVs), and “Utility Terrain Vehicles” (UTVs).

The table below shows the total number of reported deaths by year and age category. About 54 percent of these decedents were age 65 to 74 years at the time of the OHV-related incident. About 35 percent were 75 to 84 years, and 11 percent were age 85 and older.



### Distribution of OHV-Related Deaths Among Older Adults by Year and Age Group, 2017–2019

Year	Reported Fatality Frequencies			
	65 to 74 Years	75 to 84 Years	85 Years and Older	65 Years and Older
Average <sup>17</sup>	68	43	13	124
2017	62	41	10	113
2018	60	46	20	126
2019	81	43	10	134
2017-2019 Totals	203	130	40	373

Source: CPSRMS, CPSC.

Although many OHV-related deaths occur on the same day of the OHV-related incident, the interval of time between the date of the incident and the date of death can vary greatly; in a small proportion of cases, the lapse may be years.

These statistics exclude decedents who may have survived long enough to reach an age of 65 or older before a delayed death, if they were initially under 65 years old at the time of the preceding OHV-related incident.

These deaths are typically related to rollover, collision, or some combination of related factors.

The table below gives the percentages of OHV-fatalities by gender and age category. Males represent an overwhelming majority in every age category.

### Distribution of OHV-Related Deaths Among Older Adults by Gender and Age Group, 2017–2019

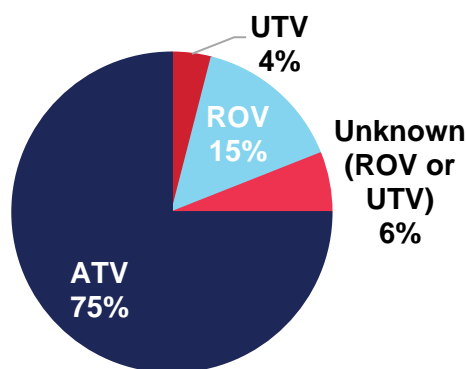
Gender	Percentage of Reported Fatalities			
	65 to 74 Years	75 to 84 Years	85 Years and Older	65 Years and Older
Male	92%	92%	100%	92%
Female	8%	8%	0%	8%

Source: CPSRMS, CPSC.

The figure below shows the percentage breakdown of reported deaths among older adults by the type of OHV product involved.

<sup>17</sup> Row averages may not add to total, due to rounding. Fatalities per year are determined by incident date (which precede the ultimate date of death). Victim age classification is based on age at the time of incident (which may be younger than age on the date of death).

## OHV-Related Fatalities Among Adults 65 and Over by Product, 2017–2019



Source: CPSRMS, CPSC.

Classifications are based on information reported to CPSC, including follow-up investigations to the extent possible. ROVs and UTVs may be described by many sources as “ATVs,” and for that reason, the actual percentage of ROVs and UTVs may be higher than the reported distribution shown in the figure above.

## Poisoning Deaths

### Carbon Monoxide (CO) Death Estimates

From 2017 to 2019, CPSC staff estimated a total of 163 fatal CO poisonings nationwide involving victims 65 years of age and older. The table below compares the estimated CO fatalities for individuals 65 years and older and those for the entire resident population. The percentage of death estimates for each of the 3 years 2017, 2018, and 2019 all appear to be substantially greater than the resident population.

#### Comparison of Proportions of CO Poisoning Deaths Estimates with U.S. Population, 2017–2019

Year	Fatality Estimates 65 Years and Older	CO Fatalities – All Ages	Percentage of CO Fatalities 65 Years and Older	Percentage of U.S. Population 65 Years and Older
Average	54	216	25%	16%
2017	51	188	27%	16%
2018	54	210	26%	16%
2019	58	250	23%	16%
Total	163	648	25%	16%

Source: CPSC and NCHS.

The table below presents the CO fatalities estimates by age groups among adults 65 and older. Although there is some indication that older adults are more likely to die from CO poisoning (see

table above), there does *not* appear to be much indication that adults 85 years and older are any more likely to die from CO poisoning than either adults 65 to 74 years or 75 to 84 years.

**Distribution of CO Poisoning Death Estimates Among Older Adults by Year and Age Group, 2017–2019**

Year	Fatality Estimates			
	65 to 74 Years	75 to 84 Years	85 Years and Older	65 Years and Older
Average	31	14	9	54
2017	28	15	9	51
2018	37	12	5	54
2019	27	15	12	58
2017-2019 Totals	93	43	26	163
CO Fatalities Percentage	58%	26%	16%	100%
U.S. Population Percentage	58%	29%	12%	100%

Source: CPSC and NCHS.

The table below presents the CO fatality estimates among adults 65 and over, broken out by gender. Although the gender percentages are nearly equal in the U.S. population, it can be seen from the estimates that more than 2 times as many older adult males are dying from CO poisoning than females.

**Distribution of CO Poisoning Death Estimates Among Older Adults by Gender and Age Group, 2017–2019**

Gender	65 Years and Older	65 Years and Older Percent	65 Years and Older U.S. Population
Male	114	70%	44%
Female	49	30%	56%
Totals 2017-2019	163	100%	100%

Source: CPSC and NCHS.

The table below presents the estimates based on race/ethnicity, as defined by the U.S. Census Bureau. This combination of race/ethnicity values follows the method used by the U.S. Census Bureau exactly and differs from the race-only distributions presented earlier for injury data. Disproportionately fewer Hispanic and Asian/Pacific adults over 64 are suffering CO poisoning deaths.

### Distribution of CO Poisoning Death Estimates Among Adults 65 and Over by Race/Ethnicity and Age Group, 2017-2019

Race / Ethnicity	65 Years and Older	65 Years and Older Percent	65 Years and Older U.S. Population
White	126	78%	77%
Black or African American	20	12%	9%
Hispanic (All races) <sup>1</sup>	4	2%	8%
Asian/Pacific <sup>2</sup>	1	<1%	5%
American Indian <sup>3</sup>	4	2%	1%
Other/Multiple races <sup>4</sup>	0	--	1%
Unknown <sup>5</sup>	7	4%	--
Totals 2017-2019	163	100%	100%

Source: CPSC and NCHS.

<sup>1</sup> Hispanic category includes all races. Other Races/Ethnicities do include those of Hispanic origins.

<sup>2</sup> Includes Asian, Pacific Islander, and Native Hawaiian.

<sup>3</sup> Includes American Indian, Native American, and Native Alaskan.

<sup>4</sup> Includes non-Hispanic Other races and Multiple races.

<sup>5</sup> Includes non-Hispanic Unknown races.

The table below shows a breakout of the three products/product categories associated with the highest estimated percentages of fatal CO poisoning to older adults, as well as the matching estimates of CO poisoning affecting the under-65-years group. It appears that older adults are significantly more likely to die due to CO poisoning associated with heating devices (*e.g.*, furnaces, space heaters, portable LP heaters) than adults under 65. Also, more than double the death rate was suffered by older adults than by adults under 65 for non-generator, engine-driven tools (*i.e.*, mostly lawnmowers, but also power washers, snow blowers). Conversely, although generators represent the second highest CO poisoning category for older adults, the rate of fatalities for that age group was substantially less than for those under age 65.

### Distribution of CO Poisoning Death Estimates Among Older Adults by Product Type and Age Group, 2017-2019

Product	65 Years and Older	65 Years and Older Percent	Under 65 Years Percent
Heating Devices	66	40%	33%
Generators	49	30%	46%
Other Engine-Driven Tools	20	12%	6%
Other Products	27	16%	15%
Totals 2017-2019	163	100%	100%

Source: CPSC and NCHS.

## **Reported Poisoning Deaths – Household Cleaners/Laundry Pods**

Based on CPSC databases, staff identified 15 reported deaths related to poisonings from household cleaners and laundry pods that occurred between 2017 and 2019 among older adults. The incident characteristics were as follows:

- Most (12 of 15) victims were male;
- Six decedents were between 65-74 years, three were between 75-84 years, and six were 85 years or older;
- Ten of the 15 incidents occurred at home;
- Eight of the deaths involved household cleaners; one death involved laundry pods; and the remaining six deaths involved a variety of other products (such as antifreeze). No drug overdose fatalities were reported.

## **Other Causes of Deaths**

### **Reported Adult Portable Bed Rail Deaths**

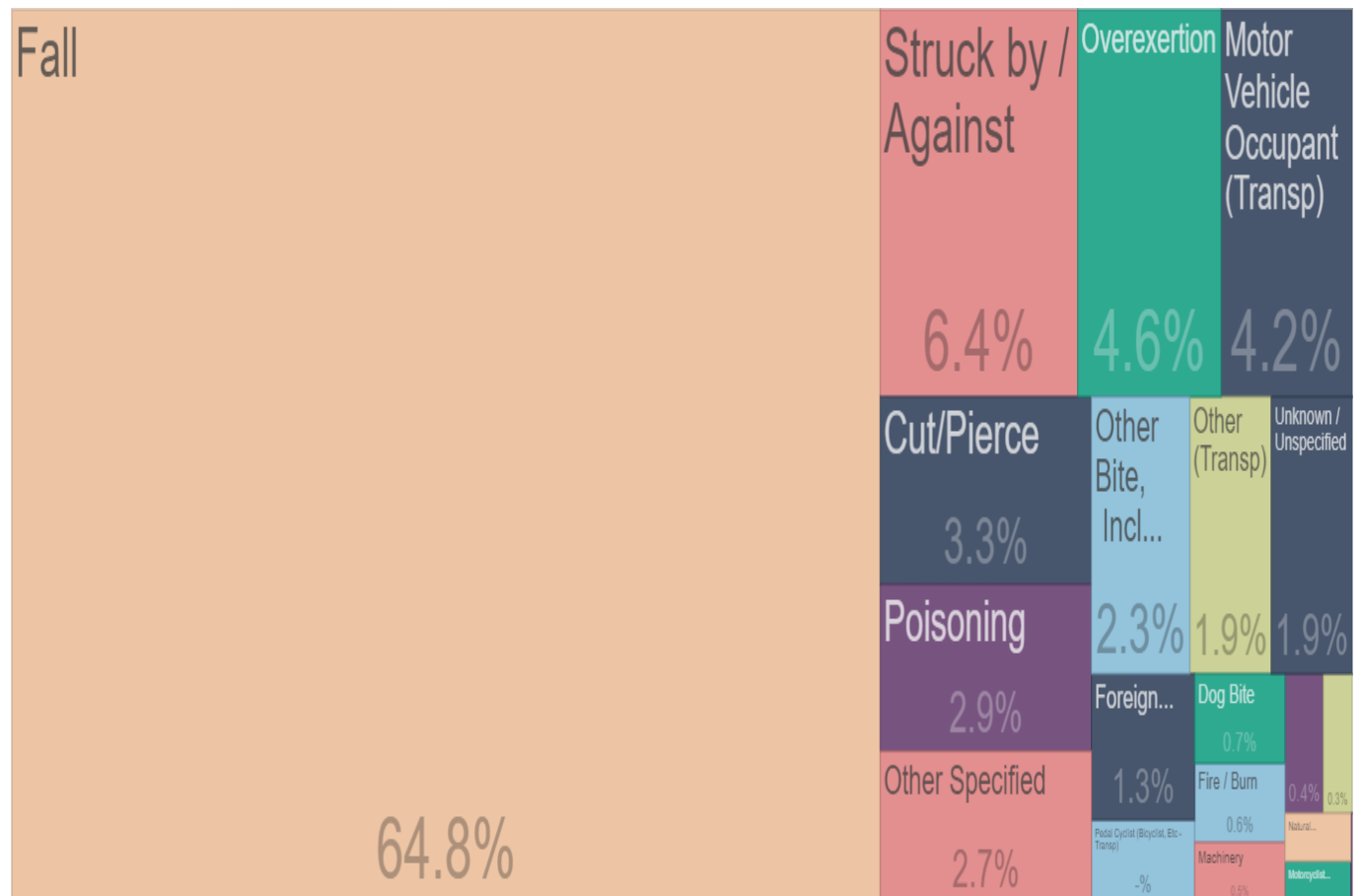
From 2017 to 2019, a total of 61 fatal adult portable bed rail-related incidents involving victims 65 years of age and older were reported to CPSC staff. The characteristics of these fatalities are as follows:

- 49 percent of the decedents were 85 years of age and older; 39 percent were between 75 and 84 years; and 11 percent were between 65 and 74 years.
- 25 deaths were reported in 2017, 10 in 2018, and 26 in 2019.
- 26 percent of decedents were males, and 74 percent females. A substantial majority of the decedents in the two older age groups were female; while 86 percent of the decedents between 65 and 74 years were male; 83 percent of the decedents between 75 and 84 years were female; and 80 percent of the decedents over 85 years were female.
- *Rail entrapment:* 60 incidents were related to rail entrapment. Decedents were caught, stuck, wedged, or trapped between mattress/bed and the bed rail, between bed rail bars, or between a dresser and bed rail, around the neck and/or head.
- *Falls:* one incident, related to falls, included an incident where the victim fell and hit the bed rail.

# Appendix

**Table A**  
**CDC WISQARS Data, 2017–2020 (2021 unavailable)**  
**Unintentional (Includes undetermined) All Causes Injuries and Rates per 100,000**  
**Disposition: All Dispositions; Sex: Both Sexes; Age Range: 65+**

18,483,613 Estimated Number of Injuries	212,808,344 Population	8,685.57 Crude Rate	8,878.78 Age-Adjusted Rate	261,660 Number of Cases (Samples)
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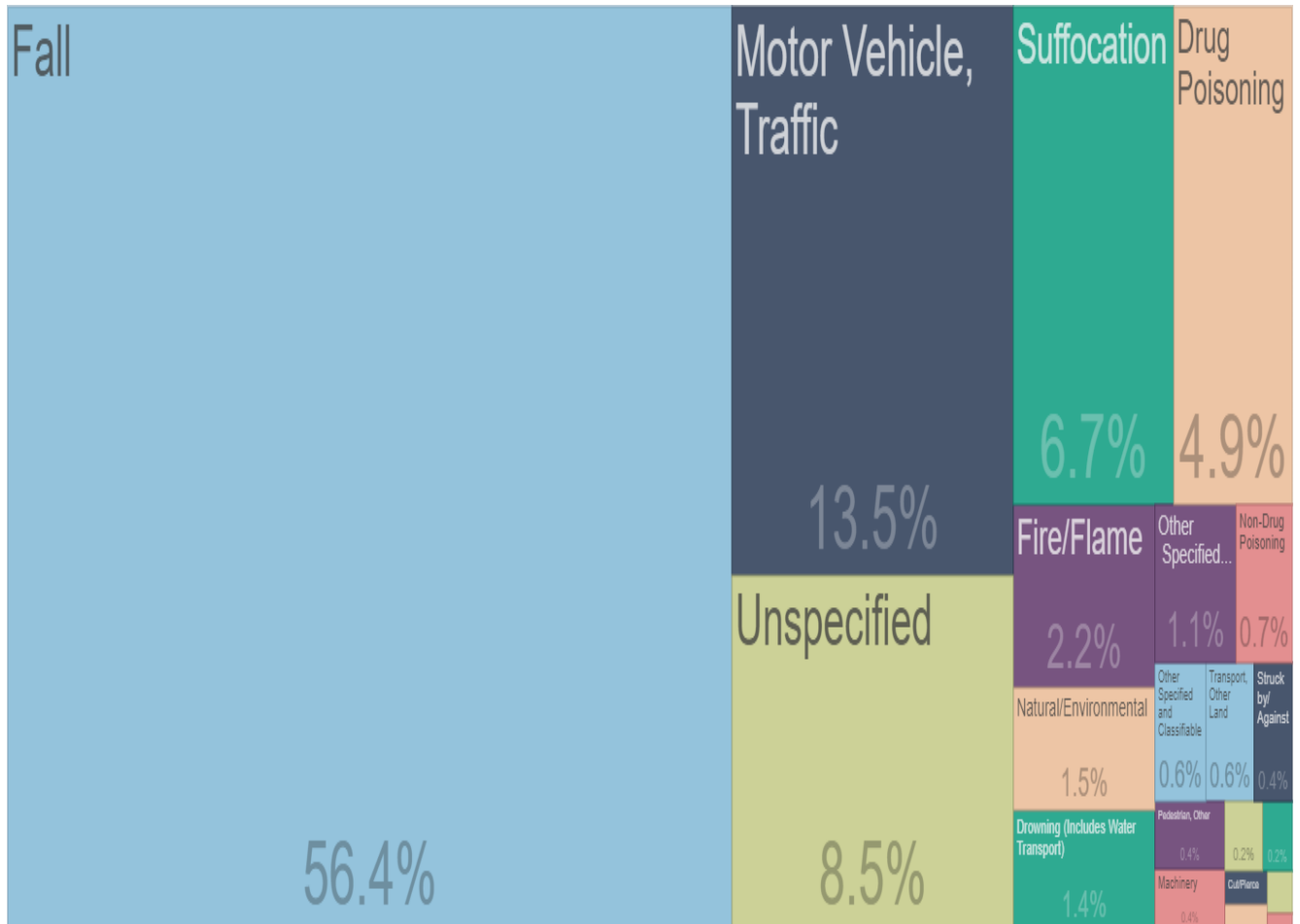


## Consumer Product-Related Injuries and Deaths Among Adults 65 Years of Age and Older |

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**Table B**  
**CDC WISQARS Data, 2017-2019**  
**Unintentional (Includes undetermined) All Causes Fatal Injuries and Rates per 100,000**  
**Disposition: All Dispositions; Sex: Both Sexes; Age Range: 65+**

173,691 Number of Deaths	157,148,979 Population	110.53 Crude Rate	113.75 Age-Adjusted Rate
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See <https://paa2010.princeton.edu/papers/101269> for a discussion on older-adult **suffocation** deaths.

**Consumer Product-Related Injuries and Deaths Among Adults 65 Years of Age and Older |**

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