



United States
Consumer Product Safety Commission

Safety: Investigation on Race and Ethnicity Consumer Product Safety Differences

Tanetta Isler
U.S. Consumer Product Safety Commission
Office of Hazard Identification and Reduction
4330 East West Highway
Bethesda MD 20814

*This report was prepared by the CPSC staff.
It has not been reviewed or approved by,
and may not reflect the views of, the
Commission.*

Table of Contents

Introduction	3
Diversity in the United States	3
Race and Ethnicity Category	4
CPSC Consumer Product Safety Data	5
CPSC National Electronic Injury Surveillance System (NEISS)	6
Death Certificates (DTHS)	7
CPSC Data Limitations	7
CPSC Injury Statistics and Technical Reports: Data on Race and Ethnicity	8
Carbon Monoxide	8
Fireworks	10
Off-Highway Vehicles with more than Two Wheels	12
Pediatric Poisonings	14
Pool and Spa Submersion	16
Product Instability and Tip-Overs	19
Residential Structures Fires	22
Future Direction for Consideration	24
References	25

Introduction

The U.S. Consumer Product Safety Commission (CPSC) has jurisdiction over thousands of types of consumer products, from children’s toys to portable generators, bicycles, cribs, and toasters. CPSC accomplishes its mission to protect consumers against unreasonable risks of injury and death associated with consumer products by collecting and analyzing hazard data, developing safety standards, enforcing compliance with safety requirements, and providing consumer safety information and education.

Many factors impact the equity of consumer product safety and injury prevention in the United States. The CPSC has taken steps to enhance its collection and analysis of data on product safety incidents, injuries, and deaths among certain populations, such as the use of identifiers including, but not limited to race, age, gender, location, and socioeconomic status. The [Consumer Product Safety Commission’s Equity Action Plan](#) aligns with the [CPSC Strategic Plan](#) and [Executive Order \(EO\) 13985, Advancing Racial Equity and Support for Underserved Communities through the Federal Government](#), and captures the Office of Hazard Identification and Reduction (EXHR)’s commitment to investigating and reporting on race and other demographic factors by:

- identifying population characteristics;
- understanding and reporting the magnitude of injury and death disparities; and
- continuing to make informed decisions to mitigate or prevent injury and death, including focus on addressing identified differences in populations.

This report first provides a brief profile of race and ethnic demographic characteristics in the United States. It then describes the current CPSC surveillance data sources and discusses the challenges in data collection and analysis.

Diversity in the United States

The United States, with a recorded 331.4 million people according to the 2020 Census, has become more racially and ethnically diverse over the past two decades. The most prevalent racial or ethnic group in the United States is the White non-Hispanic population. This prevalence is decreasing, as Hispanic, Asian, and Black or African American population growth collectively outpaces Whites, - non-Hispanic population.

Hispanics account for nearly half of the population growth between 2010 and 2020 in United States (U.S.) population. As 18 percent of the population, Hispanic communities of Mexican origin account for 60 percent of the total Hispanic population in the U.S. The Hispanic demographic is projected to continue to grow and to reach about 196 million by 2050. Hispanics constitute the largest ethnic group in both California and Texas, two of the most populous and diverse states in the country. Importantly, both states have notably large urban populations, and Texas also has the largest rural population of any U.S. state.

Asian Americans represent 6 percent of the total United States population encompassing more than 20 ethnic subgroups from diverse countries. This population has increased by nearly 36 percent within the last 10 years. The term Asian is a broad category that includes communities of Chinese,

Asian Indian, Filipino, Vietnamese, Korean, Japanese, Pakistani, Cambodian, Thai, Hmong, Laotian, Taiwanese, Bangladeshi, Burmese, Nepalese, Indonesian, and Sri Lankan descent.

The Native Hawaiian and Other Pacific Islander category includes Native Hawaiian, Samoan, Guamanian or Chamorro, and Tongan. This population has increased by nearly 30 percent within the last 10 years. Table 1 shows changes in the United States population from 2010 to 2020, by race and ethnicity.

Table 1: US Population Comparison by Race and Ethnicity

2010 and 2020 U.S. Census Population by Race and Ethnicity						
	2010		2020		Change 2010 to 2020	
	Number	Percent Total Pop	Number	Percent Total Pop	Number	Percent
United States	308,745,538		331,449,281		22,703,743	7.4
Race and Ethnicity	Number	Percent Total Pop	Number	Percent Total Pop	2010-2020 Percent Point Diff	2010-2020 Percent Change to Total Pop
American Indian and Alaska Native	2,932,248	0.9	3,727,135	1.1	0.2	27.1
Asian	14,674,252	4.8	19,886,049	6.0	1.2	35.5
Black or African American	38,929,319	12.6	41,104,200	12.4	1	5.6
Hispanic or Latino	50,477,594	16.3	62,080,044	18.7	2.4	23
Native Hawaiian and Pacific Islander	540,013	0.2	689,966	0.2	0.0	27.8
Some other Race	19,107,368	6.2	27,915,715	8.4	2.2	46.1
Two or more Races	9,009,073	2.9	33,848,943	10.2	7.3	275.7
White	223,553,265	72.4	204,277,273	61.6	-10.8	-8.6

Source: Humes, K. R., Jones, N. A., & Ramirez, R. R. (2011). Census Briefs: Overview of race and Hispanic origin. Suitland, Maryland: US Census Bureau; U.S. Census Bureau. (2020). RACE. Decennial Census, DEC Redistricting Data (PL 94-171), Table P1. Retrieved July 12, 2023

Race and Ethnicity Category

The U.S. Office of Management and Budget’s (OMB) *1997 Revisions to Standards for Classification of Federal Data on Race and Ethnicity* established federal standards for collecting data on race and ethnicity (Hispanic or Latino origin). The OMB standards have one category for ethnicity and a minimum of five categories for data on race. The five minimum race categories as defined by OMB are: (1) American Indian (2) Asian (3) Black or African American (4) Native Hawaiian or Other Pacific Islander and (5) White.

Agencies are directed to have a minimum ethnicity category with two options: (1) Hispanic or Latino and (2) Not Hispanic or Latino. Hispanic or Latino respondents may be of any race, and multiple responses to the ethnicity question are not permitted.

In research, policy making, public reporting and funding, OMB considers the following as the major racial categories in the United States:

- An American Indian or Alaska Native is a person having origins in any of the original peoples of North and South America (including Central America) and who maintains tribal affiliation or community attachment.
- An Asian is a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent, including for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippines Islands, Thailand, and Vietnam.
- Black or African American is a person having origins in any black racial groups of Africa.
- Hispanic or Latino is a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race.
- Native Hawaiian or Other Pacific Islanders refers to people residing the United States with origins in any of the original peoples of Hawaii, Guam, Samoa, or the Pacific Islands.
- White is a person having origins in any of the original peoples of Europe, the Middle East, or North Africa.

CPSC's data collection complies with these OMB standards although as previously reported, not all data elements can be captured for every data report.

CPSC Consumer Product Safety Data

The CPSC uses four primary datasets for monitoring consumer product safety:

1. National Electronic Injury Surveillance System (NEISS): statistically valid injury surveillance data is collected on a broad range of product-related emergency department treated injuries occurring in the United States.
2. Death certificates: records of death involving consumer products are provided to CPSC through state programs and state health departments.
3. In-Depth Investigation (IDI): documents from investigations into events surrounding product-related injuries or incidents. When there are victim/witness interviews or first responder

reports, the reports can often provide details about incident sequence, human behavior, and product involvement.

4. Injury and Potential Injury Incident (IPII) Database: maintains reports of incidents of medically treated injuries or fatalities, along with reports of safety concerns without injury incident. Data sources include news clips, as well as reports from medical examiners/coroners, manufacturers/retailers, and consumers (including SaferProducts.gov reports).

Publicly available versions of these data sets with personally identifiable and business information redacted or removed can be found at: <https://cpsc.gov/cgibin/NEISSQuery/home.aspx>, <https://saferproducts.gov>, and https://www.cpsc.gov/epidemiology/cpsc_epi/clearinghouse.html.

CPSC National Electronic Injury Surveillance System (NEISS)

Section 5(a) of the Consumer Product Safety Act, 15 U.S.C. 2054(a), requires CPSC to collect information on the causes and prevention of death, injury, and illness associated with consumer products. The NEISS accomplishes this by providing a probability sample with estimates of the national prevalence of injuries presented within hospital emergency departments (ED) with at least 6 beds that provide 24-hour emergency services, from a total of 96 hospitals in the United States and territories. Table 2 shows the hospital size framework based on the 1996 NEISS Sample, which CPSC is in the process of updating to a new sample with a similar but updated framework. NEISS data are used to measure the magnitude of a problem, providing the basis for national estimates of the number and severity of emergency room-treated injuries associated with, although not necessarily caused by, consumer products. The participating hospitals are grouped into five strata: four representing emergency departments of different sizes and a fifth representing emergency departments from children’s hospitals.

Table 2 Hospital Size Framework

Stratum	ED visits/year	Hospitals (2018)	NEISS Sample (1996)
Very Large	More than 41,000	295	23
Large	<= 41,000	536	9
	>= 28,000		
Medium	< 28,000	868	12
	>= 17,000		
Small	Less than 17,000	3,002	44
Children’s	n/a	63	8
Total		4,764	96

NEISS data record race or ethnicity data for each patient using three variables: Race, RaceOth, and Hispanic (the ethnicity variable was added in 2019). In late 2018, CPSC begin updating participating NEISS hospitals’ software to collect the Hispanic variable to ensure every hospital was converted by the beginning of calendar year 2019. Data recorded using these variables result in the five categories used for analysis on race or ethnicity in reports. In some cases, the requested data are

already available in hospital records. In many cases, the race and ethnicity designation are based on existing electronic health records, which in turn are based upon the race or ethnic category the hospital staff decides to assign to the patient. As such, the NEISS results on race and ethnicity should be interpreted with caution as the designation of race and ethnicity by the hospital staff is subjective and can be incorrect. Table 3 shows the core variables that appear as records within the NEISS data system.

Table 3: Core Variables of NEISS Module

Patient Data	Specific Data
<ul style="list-style-type: none"> • Date of injury • Date of Birth (Age) • Gender (Sex) • Gender Identity • Race or Ethnicity • Part of body injured • Principal Diagnosis • Diagnosis 2 and others • Primary body part • Body part 2 and others • Disposition at discharge 	<ul style="list-style-type: none"> • Case number • Zip code of hospital • Product involved • Intention of injury • Fire involvement • Work-related • Narrative (# characters)

Death Certificates (DTHS)

CPSC purchases an estimated 8,000 death certificates each year where product codes are noted as related to the death. Each entry for a death contains a single underlying cause of death, up to 20 additional causes of death, and when available demographic data of the person (including zip code, age, race, ethnicity, and gender), place of death, time of death, and whether an autopsy was performed. Cause of death is documented by the physician certifying a death, coded by the states, or coded from copies of the original death certificate. The death certificate database includes a classification under specific external cause-of-death codes

CPSC Data Limitations

The CPSC injury surveillance program is designed to collect, report, and distribute data and information to assist staff addressing deaths and injuries associated with consumer products.

The NEISS system offers a national model of data collection and analysis of surveying consumer product related injuries. Small subgroup samples and unknown variables in the dataset can limit the ability to examine variation across ethnic or other demographic groups. NEISS data draw upon and thus reflect hospital medical records where race and ethnicity information are unknown.

Among the most detailed assets are the Death Certificate Files (DTHS), as these data offer specific descriptions about the cause of death. These are the most reliable sources for race and ethnicity

identification associated with consumer products. However, DTSH often lack specifics about the consumer product associated with the death.

To advance equity and support underserved communities, CPSC continues to seek opportunities to collect data for all races, ethnicities, and socioeconomic statuses and to pursue means to fill in the gaps in its data sources, using various analytic techniques. This is intended to support the work of CPSC staff as they address disparities in consumer product injuries and deaths.

CPSC Injury Statistics and Technical Reports: Data on Race and Ethnicity

CPSC publishes statistical and technical reports on hazard types and CPSC product categories. These reports provide data on injuries and fatalities from injury surveillance systems and databases. This section provides specific details about consumer product injury data relating to race and ethnicity. Each report's demographic percentages are based on U.S. population during the relevant time period. The topic areas include carbon monoxide, fireworks, product instability or tip-over injuries, off-highway vehicles with more than two wheels, pediatric poisonings, pool or spa submersion, and residential fire loss estimates. These reports are available on the public CPSC website at: <https://www.cpsc.gov/research-and-reports-overview>.

CPSC staff describe limitations on race and ethnicity data as part of the analysis, for example:

- The *Pool or Spa Submersion: Estimated Nonfatal Drowning Injuries and Reported Drownings, 2023 Report* states that “for more than 52 percent of estimated nonfatal drowning injuries involving children under 15 years of age, the victim’s ethnicity was unspecified,” and, “the victim’s race was also unspecified for more than 50 percent of estimated nonfatal drowning injuries involving children under 15 years of age.” (Yang, 2023).
- The *Product Instability or Tip-Over Injuries and Fatalities Associated with Televisions, Furniture, and Appliances: 2022 Report* states that “estimates of tip-over injuries involving race or ethnicity other than Black, Hispanic, or White are not statistically reliable, and are omitted if available. Since only 70 percent of injured people have a known race or ethnicity comparisons based on race or ethnicity may misrepresent the comparative proportions with the U.S. population in each group.” (Suchy, 2023).
- The *Off-Highway Vehicles with More Than Two Wheels* Report data for “ethnicity, defined as either Hispanic or non-Hispanic, are largely incomplete for the three-year period, with around 77 percent of reported deaths denoting an unknown or unspecified ethnicity.” (Zhang, 2023).

Carbon Monoxide

The CPSC staff published a report, *Non-Fire Carbon Monoxide Deaths Associated with the Use of Consumer Products* (Topping, 2023), providing statistics on injuries and fatalities associated with the estimated number of unintentional, non-fire deaths attributed to carbon monoxide (CO) poisoning that were associated with the use of fuel-burning consumer products such as heating systems and

CPSC: Investigation on Race and Ethnicity | December 2023 | [cpsc.gov](https://www.cpsc.gov)

engine-driven tools for the period 2009 through 2019. CPSC staff found evidence of a statistically significant upward trend in non-fire CO deaths for the 11-year period. The estimated number of consumer product-related CO deaths in 2019 is greater than any other year in this report. The estimate has increased for the seventh straight year. Since 2009, portable generators alone have been associated with an estimated 765 non-fire CO poisoning deaths, accounting for 40 percent of all CO deaths related to consumer products under CPSC's jurisdiction.

During 2019, an estimated 250 non-fire CO poisoning deaths were associated with the use of a consumer product under the jurisdiction of the CPSC. This does not include CO poisoning deaths involving incidents where CO gas resulted from a fire and does not include deaths that were suicides or otherwise intentional in nature. Over the past 10 years, the average for non-fire CO related deaths from consumer products under CPSC's jurisdiction was estimated to be 166 deaths per year.

Because the numbers represent national estimates of unintentional, non-fire deaths attributed to CO poisoning associated with the use of consumer products, statistically filling in for missing data, the generator and other engine-driven tool (EDT) death estimates would not be expected to match the observed fatality counts presented in this report or in the CPSC report titled, *Fatal and Nonfatal Incidents Associated with Non-Fire Carbon Monoxide from Engine-Driven Generators and Other Engine-Driven Tools, 2011–2021*, published in August 2022.

Table 4 shows the annual estimates of non-fire carbon monoxide poisoning deaths by race and ethnicity. The estimated percentages of the average annual CO deaths in 2017 through 2019 demonstrated some statistically significant differences (p-value = 0.0400) when comparing categories of race or ethnicity. There was a statistically significant difference between the proportion of CO poisoning victims who were White (approximately 69 percent of all CO poisoning deaths) and the resident White population (about 60 percent of the U.S. population). The p-value of this comparison was 0.0489. Black or African American population represented 11 percent of all CO fatalities and 13 percent of the U.S. population over the period covered by the report. The difference is not determined to be statistically significant. However, in prior years of this report, the proportion of Black or African American victims of CO poisoning was statistically significantly greater than the resident population. It is unclear whether this is an anomaly in the recent data or an actual change.

Hispanic victims were categorized separately, irrespective of their race, due to the growing population of Hispanic descent. Estimates of the percentage of the U.S. population categorized into the various race or ethnicity groupings were based on single-race characterizations, as represented in the U.S. Census Bureau reports. Non-Hispanic individuals reported as multiracial are included in the Unknown/Other/Mixed category.

Individuals of Hispanic descent comprised approximately 11 percent of the CO poisoning fatality victims, which was below the Hispanic representation of 18 percent in the U.S. population over the period covered by the report. This represents a statistically significant difference, where the p-value was 0.0094. Among other races or ethnicities, no statistically significant differences were observed.

Table 4 Annual Estimates Non-Fire Carbon Monoxide Poisoning Deaths by Race and Ethnicity, 2009–2019

Race/ Ethnicity	2017–2019*		Estimated Percentage of U.S. Population	Annual Estimate										
	Avg. Estimate	Avg. Percent		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018*	2019*
Total	216	100%	100%	148	159	163	137	146	164	172	178	188	210	250
White ⁴	149	69%	60%	93	82	106	82	86	108	109	118	121	153	173
Black or African American ⁴	23	11%	13%	20	43	38	31	35	26	47	32	24	18	26
Hispanic (All races)	25	11%	18%	11	18	9	11	13	18	14	13	19	26	29
Asian/Pacific ¹	5	2%	6%	3	4	3	5	7	6	*	7	7	4	5
American Indian ²	5	2%	1%	1	5	1	*	1	1	*	1	7	4	5
Unknown, Other, Multiple ³	9	4%	2%	19	8	6	7	5	5	3	6	9	6	11
+ Data collection for 2018 and 2019 is only partially complete. Italicized estimates may change in the future if more reports of deaths are received.														
* No reports received by CPSC staff.														
@ Based on estimated U.S. population statistics for the 3- year average (2017-2019). U.S. Census Bureau. 1 Includes Asian, Pacific Islander, and Native Hawaiian 2 Includes American Indian, Native American, and Native Alaskan 3 Includes non-Hispanic Unknown races, Other races, and Multiple races 4 Only includes non-Hispanic ethnicities.														
Sources: - U.S. Consumer Product Safety Commission/EPHA. - CPSC Death Certificate File, CPSC In-Depth Investigation File, CPSC Injury or Potential Injury Incident File, National Center for Health Statistics Mortality File, 2009-2019. - U.S. Census Bureau, Population Division. Annual Estimates of the Resident Population by Sex, Age, Race, and Hispanic Origin for the United States and States: April 1, 2010 to July 1, 2019. June 2020. Note: Reported annual estimates and estimated averages and percentages may not add to subtotals or totals due to rounding.														

Fireworks

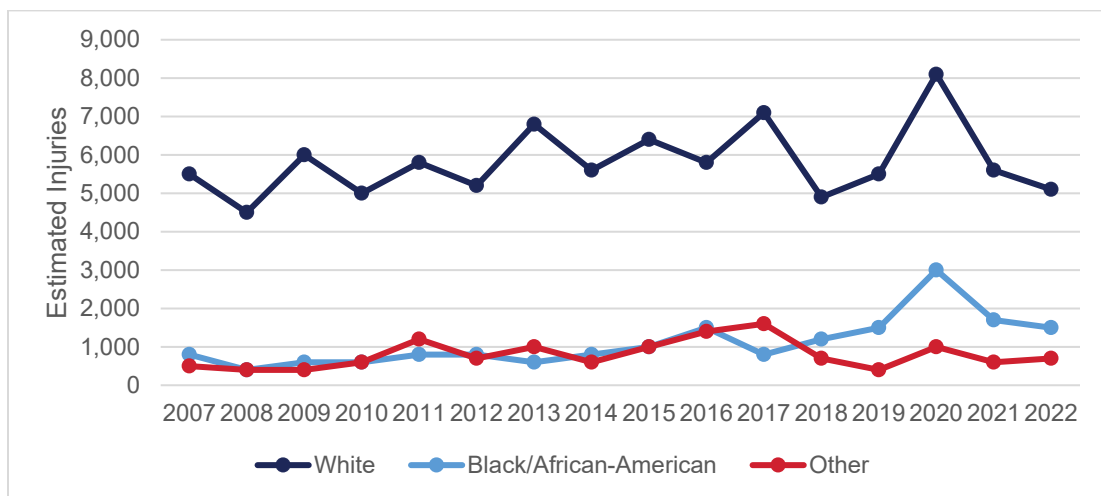
The CPSC Directorate for Epidemiology, Division of Hazard Analysis staff published the report, *Fireworks- Related Deaths, Emergency Department-Treated Injuries and Enforcement Activities During 2021* (Smith, 2023). CPSC staff provided statistics on injuries and fatalities associated with non-occupational, fireworks-related deaths and injuries during calendar year 2021, and summarized enforcement activities during fiscal year 2022. Fireworks were involved in an estimated 10,200 injuries treated in U.S. hospital EDs during the calendar year 2022 (95% confidence interval 7,800–12,500). There were an estimated 11,500 such injuries in 2021. Figure 1 shows estimated fireworks-related, emergency department-treated injuries by race. In 2022, an analysis of fireworks-related incidents and fatalities by race and ethnicity shows:

- There were proportionately fewer White victims of fireworks-related incidents (5,100 total injuries, 69.9% of victims, 75.6% of the U.S. population), proportionately more Black or African American victims (1,500 total injuries, 20.5% victims, 13.6% of the U.S. population), and proportionately fewer victims associated with some other race (700 total injuries 9.8% of the victims. 10.8% of the U.S. population). There were 2,800 fireworks-related injuries where the race of the victim was unknown. These percentages are calculated using only the victims where information on race was available.

CPSC: Investigation on Race and Ethnicity | December 2023 | cpsc.gov

- There were proportionately fewer fireworks-related injuries where the victim identified as Hispanic (800 total injuries, 11.1% of victims, 19.1% of the U.S population identifies as Hispanic) and proportionately more injuries where the victim identified as non-Hispanic (6,400 total injuries, 88.9% of victims, 80.9% of the U.S population identifies as non-Hispanic). There were 3,000 fireworks-related injuries where the ethnicity of the victim was unknown. These percentages are calculated using only the victims where ethnicity was collected. There were 3,000 fireworks-related injuries where the ethnicity of the victim was unknown.

Figure 1: Estimated Fireworks-Related, Emergency Department-Treated Injuries by Race 2007-2022



Source: NEISS, U.S. Consumer Product Safety Commission.

Figure 1 shows the trend by race across years; there is a statistically significant upward trend for both White victims ($p = 0.0019$) and Black or African American victims ($p = 0.0132$), but not for “Other” race victims ($p = 0.9549$). Between the years 2021 and 2022, there was no significant change in the number of White victims ($p=0.5913$) and neither Black or African Americans nor “Other” race victims experienced a significant change. These percentages are calculated using only the victims where race was included over the period covered in this report. Victims with unknown race values accounted for over 27.5% of all fireworks incidents in 2022.

Table 5 shows that each year of the patients treated for firework-related injuries between 2007-2022, most people were identified as White. From there, unknown race was the second most likely racial identification for injuries, followed by Black or African American patients, and lastly, by patients identifying outside these categories. The “Other” racial categories contain options for those who identify as Asian, Pacific Islander/Native Hawaiian, American Indian/Alaskan Native individuals, and multiracial individuals. Because CPSC only began collecting ethnicity information in 2018 and fully implemented collection in 2019, ethnicity information is not available for the full 2007-2022 period.

Table 5: Estimated Fireworks-Related, Emergency Department-Treated Injuries by Race and Ethnicity 2007-2022

Year	White		Black/African American		Other		Unknown		Total
	N	%	N	%	N	%	N	%	N
2007	5,500	56.8	800	8.6	500	5.6	3,000	29.0	9,800
2008	4,500	63.8	400	6.4	400	5.9	1,700	23.9	7,000
2009	6,000	68.6	600	7.4	400	4.9	1,700	19.1	8,800
2010	5,000	58.4	600	7.1	600	6.6	2,400	27.9	8,500
2011	5,800	60.8	800	8.7	1,200	12.6	1,700	17.9	9,600
2012	5,200	59.6	800	8.8	700	10.0	1,900	21.6	8,700
2013	6,800	60.0	600	5.4	1,000	9.2	2,900	25.4	11,400
2014	5,600	52.9	800	7.8	600	5.5	3,600	33.8	10,500
2015	6,400	53.7	1,000	8.3	1,000	8.5	3,500	29.5	11,900
2016	5,800	51.9	1,500	13.3	1,400	12.4	2,500	22.4	11,100
2017	7,100	54.9	800	6.3	1,600	12.5	3,400	26.4	12,900
2018	4,900	53.7	1,200	12.7	700	8.0	2,400	25.7	9,000
2019	5,500	54.7	1,500	14.9	400	3.8	2,700	26.6	10,000
2020	8,100	51.5	3,000	18.7	1,000	6.7	3,600	23.1	15,600
2021	5,600	49.1	1,700	14.7	600	5.2	3,600	31.0	11,500
2022	5,100	50.0	1,500	14.7	700	6.9	2,800	27.5	10,200

Source: NEISS, U.S. Consumer Product Safety Commission.

Race percentages do not match the previous paragraph's values, as incidents with unknown race values are included.

Off-Highway Vehicles with more than Two Wheels

The CPSC Directorate for Epidemiology, Division of Hazard Analysis staff report, *Report on Deaths, and Injuries Involving Off-Highway Vehicles (OHVs) with More than Two Wheels* (Zhang, 2023), provides data on injuries and fatalities associated with OHVs with more than two wheels. CPSC staff define OHVs in three different categories: All-Terrain Vehicles (ATVs), Recreational Off-Highway Vehicles (ROVs) or Utility Terrain Vehicles (UTVs). ATVs within the scope of this report are defined as off-road, motorized vehicles with three or more low-pressure tires, a straddle seat for the operator, and handlebars for steering control. ROVs and UTVs are both off-road vehicles with four or more tires. They differ from ATVs in that both ROVs and UTVs have non-straddle or “side-by-side” seating, automotive-type controls for steering, throttle, and braking (i.e., a steering wheel and pedals).

CPSC staff reported 2,178 deaths associated with OHVs that resulted from 2,126 incidents during the three-year period from 2017 through 2019. Of those 2,178 reported OHV-related deaths, CPSC staff associates 1,513 with all-terrain vehicles (ATVs), 537 with recreational off-highway vehicles (ROVs), and 49 with utility terrain vehicles (UTVs). For the remaining 79 deaths, CPSC staff did not know the vehicle classification, but concluded the vehicle involved was either a ROV or a UTV.

Data relating to the racial identity of the victims are incomplete for OHV-related fatalities between 2017 and 2019; with around 18 percent of reported deaths denoting an unknown or unspecified race. For the three-year period, among the 2,178 reported deaths where victim racial identity was known, at least 73 percent were White, at least five percent were Black or African American, and at least four percent were classified as another race (including Asian, American Indian/Alaskan Native, Native Hawaiian/Pacific Islander, and unspecified other races). Similar to data for race, data for ethnicity, defined as either Hispanic or non-Hispanic, are incomplete for the three-year period; with around 77 percent of reported deaths denoting an unknown or unspecified ethnicity. Between 2017 and 2019, among the 2,178 reported deaths, at least six percent were Hispanic and at least 17 percent were non-Hispanic. It should be reiterated that because Consumer Product Safety Risk Management System data are anecdotal, the above distributions cannot be used to make statistically significant inferences about all OHV-related fatalities in the United States

From 2017 through 2021, there were an estimated 517,700 ED-treated injuries in the United States that were associated with OHVs, resulting in an annual average of around 103,500 emergency department-treated injuries over the five-year period. From 2017 to 2021, the estimated yearly rate of ED-treated, OHV-related injuries ranged from around 29–34 injuries per 100,000 population.

Table 6 shows annual estimates of OHV-related, emergency room department-treated injuries by race from 2017 to 2021. More than 25 percent of both overall and annual estimated injuries are coded as unknown or unspecified race. Among the remaining estimated 381,700 injuries, White victims constitute around 85 percent of injuries, while they are approximately 76 percent of the U.S. population. In contrast, Black or African Americans constitute around nine percent of OHV-related injuries, and they are 13 percent of the U.S. population. Other races constitute the remaining six percent of injuries and are 11 percent of the U.S. population. There was limited fluctuation between years in the known racial distribution for OHV-related injuries.

Among cases with available race information, there were no statistically significant year-to-year changes in estimated injuries among White people. Among Black or African American people, the 59% increase in OHV-related injuries between 2019 and 2020 was found to be statistically significant (p -value < 0.01). However, an important note is that these increases are only influenced by incidents where race information is available, which constituted 75 percent of the incident reports; no inferences can be drawn about the race distribution among OHV-related injuries where race information is unspecified or unknown. Because ethnicity for OHV-related injuries was only added to the NEISS database in 2018, no ethnicity data is available for 2017, and ethnicity data is unknown or unspecified for over 90 percent of injuries in 2018. For the remaining years, at least 25 percent of injuries were of unknown ethnicity. Overall, more than half (53%) of the estimated victims of OHV-related injuries between 2018 and 2021 were people of unknown ethnicity. As such, OHV-related injury rates by ethnicity or race groups cannot be accurately computed. Between 2017 and 2021, among the injured with known ethnicity, around 12 percent were classified as Hispanic, although the overall and annual estimates do not meet NEISS reporting criteria (CV greater than 33 percent); the remaining 88 percent are non-Hispanic. In comparison, in 2021 the overall U.S. population was about 19 percent Hispanic and 81 percent non-Hispanic.

Table 6 Annual Estimated of OHV-Related, Emergency Department-Treated Injuries by Race and Ethnicity, 2017-2021

Year	Race Information Available						Race Information Missing	
	Overall Known	White		Black or African American		Other*	Estimated Number of Injuries	Percent of Injuries
Year	Estimated Number of Injuries	Estimated Number of Injuries	Percent of Injuries	Estimated Number of Injuries	Percent of Injuries	Percent of Injuries	Estimated Number of Injuries	Percent of Injuries
2017	79,300	67,300	85%	6,900	9%	6%	28,800	27%
2018	70,400	60,300	86%	5,400	8%	7%	24,600	26%
2019	70,100	62,000	88%	5,700	8%	3%	25,900	27%
2020	83,100	70,000	84%	9,100	11%	5%	29,200	26%
2021	78,800	63,500	81%	8,100	10%	9%	27,800	26%
Total	381,700	323,100	85%	35,200	9%	6%	136,100	26%

Source: NEISS.

*This race category includes victims classified as Asian, American Indian/Alaska Native, Native Hawaiian/Pacific Islander, biracial/multiracial, or any other non-missing race classification besides White and Black/African American. Estimated overall and annual injuries for this category fail to meet NEISS reporting criteria (CV greater than 33 percent). CVs for the other estimates range between 14 percent and 30 percent.

Pediatric Poisonings

The CPSC Directorate for Epidemiology, Division of Hazard Analysis staff published the *Annual Report on Pediatric Poisoning Fatalities, and Injuries* (Bragg, 2023). CPSC staff provided statistics on injuries and fatalities associated with pediatric poisonings. In this report, the staff presents the latest available statistics on pediatric poisoning fatalities and injuries. Based on mortality data from the National Center for Health Statistics (NCHS), staff identified that pediatric poisonings involving children under five years of age resulted in:

- Forty-three fatalities in 2020, a 26 percent increase from 2019.
- Fifty-nine fatalities in 2021, a 37 percent increase from 2020.

Based on injury data from the NEISS, staff identified that unintentional pediatric poisonings among children under five years of age resulted in:

- An estimated 61,500 ED-treated injuries in 2020, a decrease from the estimated 67,500 injuries in 2019.
- An estimated 62,600 ED-treated injuries in 2021, an increase from the estimated 61,500 injuries in 2020.

CPSC: Investigation on Race and Ethnicity | December 2023 | cpsc.gov

Reports from earlier years (*Pediatric Poisoning Fatalities 1972-2018* and *Unintentional Pediatric Poisoning Injury Estimates for 2019*) present fatalities from 1972 through 2018. These reports estimated injuries involving children under the age of five, who were treated in emergency departments through the year 2019. The 2022 report (*Annual Report on Pediatric Poisoning Fatalities and Injuries, January 2022*) was the first report where fatality and injury data were combined and published together. The 2023 report presents fatalities from 1972 through 2020, and estimated injuries involving children younger than the age of five treated in emergency departments for 2020. Table 7 provide breakdowns by race, ethnicity, and gender for the estimated ED-treated unintentional pediatric poisonings for the injured and U.S. population under the age of 5. The population data are from the U.S. Census Bureau.

Table 7 2021 ED-Treated Unintentional Pediatric Poisoning Estimates by Victims' Ethnicity and Race*

Ethnicity	Race	Injured Population	U.S. Population
Hispanic Origin		14.8%	26.0%
	White	10.4%	21.3%
	Black/African American	0.4%	1.8%
	Asian	<0.1%	0.4%
	American Indian/Alaska Native	-	1.1%
	Native Hawaiian/Pacific Islander	-	0.1%
	Other	4.0%	1.3%
Non-Hispanic Origin		85.2%	74.0%
	White	58.6%	48.2%
	Black/African American	21.0%	14.0%
	Asian	1.5%	5.6%
	American Indian/Alaska Native	1.4%	0.8%
	Native Hawaiian/Pacific Islander	<0.1%	0.2%
	Other	2.7%	5.2%
All		100%	100%
	White	69.0%	69.4%
	Black/African American	21.4%	15.8%
	Asian	1.5%	6.0%
	American Indian/Alaska Native	1.4%	1.9%
	Native Hawaiian/Pacific Islander	<0.1%	0.4%
	Other	6.7%	6.5%

*This category includes two or more races.

Source: National Electronic Injury Surveillance System and U.S. Census Bureau. *Excludes any incidents where either Race was "Not Stated" or Ethnicity was "Not Stated", which comprised 44 percent of the estimated injuries.

Race or ethnicity information was collected on 56 percent of the 62,600 injuries. For cases with known race or ethnicity data, there appears to be a disparity for greater pediatric poisoning among Hispanic-Other, Non-Hispanic White, Non-Hispanic Black/African American, and Non-Hispanic American Indian/Alaskan Native. When looking at all ethnicities, there is a disparity for Black/African American.

Pool and Spa Submersion

The CPSC Directorate for Epidemiology, Division of Hazard Analysis staff published a report on pool or spa submersion *Estimated Nonfatal Drowning Injuries and Reported Drownings* (Yang, 2023). CPSC staff provided statistics on injuries and fatalities associated with pool- or spa-related submersions. There were, on average, an estimated 6,300 pool- or spa-related, hospital ED-treated, nonfatal drowning injuries each year 2020 through 2022, and 371 pool- or spa-related fatal drownings reported per year from 2018 through 2020 involving children younger than 15 years of age. Additionally, an annual average of 76 percent of the ED-treated nonfatal drowning injuries from 2020 through 2022, and 75 percent of the reported fatal drownings from 2018 through 2020 involved children younger than five years of age.

For children younger than 15 years old, 45 percent of the victims of estimated ED-treated pool or spa drowning injuries 2020 through 2022 were admitted to the hospital or treated and transferred to another hospital; compared to five percent for non-pool or spa drowning related ED-treated injuries to children younger than 15 years old during the same period. Overall, annual estimates of the number of children who were treated in hospital emergency departments for pool- or spa-related, nonfatal drowning injuries in 2022 (6,400 injuries) were not statistically different from those in 2021 (6,800 injuries).

The total number of fatal drownings in 2020 (340 fatalities) was lower than the total number of fatal drownings in 2019 (367 fatalities). For children younger than five years of age, the total number of fatal drownings in 2020 (279 fatalities) was higher than the total number of fatal drownings in 2019 (254 fatalities).

For more than 52 percent of estimated nonfatal drowning injuries involving children under 15 years of age, the victim's ethnicity was unspecified, while 9 percent of estimated nonfatal drowning injuries involved Hispanic victims, and 39 percent of estimated nonfatal drowning injuries involved non-Hispanic victims. Focusing on injuries that exclusively involved children of known ethnicities, 18 percent of victims younger than 15 years of age were Hispanic (compared to 26 percent of the population for that age), and 82 percent of victims younger than 15 years of age were non-Hispanic (compared to 74 percent of the population for that age). The victim's race was also unspecified for more than 50 percent of estimated nonfatal drowning injuries involving children younger than 15 years of age. Focusing on those injuries where race was known, 78 percent were White (compared to 71 percent of the population for that age), 14 percent were Black (compared to 15 percent of the population for that age), and 4 percent were Asian (compared to 6 percent of the population for that age) for children less than 15 years old. However, these findings are not definitive, given the high proportion of unspecified ethnicities and races. Table 8 shows the percentage of the estimated number of pool- or spa-related, nonfatal drowning injuries by the victim's ethnicity and race from 2020-2022.

Table 8 Percent of Estimated ED-Treated Nonfatal Pool or Spa Drowning Injuries Children Younger than 15 Years of Age by Ethnicity and Race, 2020-2022

Ethnicity	Race	Estimated Emergency Department-Treated Injury Percentages			
		Younger than 5 Years	5-14 Years	Younger than 15 Years	
Hispanic		18	20	18	
	Not stated	41	22	35	
	White	44	72	52	
	Black/African American	2	4	3	
	Asian	1	-	1	
	Other	12	2	9	
	American Indian/Alaska Native	0	-	0	
	Native Hawaiian/Pacific Islander	-	-	-	
	Non-Hispanic *		82	80	82
Non-Hispanic *	Not stated	19	11	17	
	White	70	57	66	
	Black/African American	8	22	12	
	Asian	1	10	4	
	Other	1	0	1	
	American Indian/Alaska Native	-	-	-	
	Native Hawaiian/Pacific Islander	-	-	-	
	All	Total	100	100	100
		Not stated	54	38	50
White		37	44	39	
Black/African American		5	12	7	
Asian		1	6	2	
Other		2	0	2	
American Indian/Alaska Native		0	0	0	
Native Hawaiian/Pacific Islander		-	-	-	

Source: U.S. CPSC: NEISS.

Percentages may not add up to 100, due to rounding: In this table, 0 represents < 0.5%.

"-" denotes no data recorded.

Demographic percentages are based on <https://www2.census.gov/programs-surveys/popest/datasets/2020-2021/national/asrh/nc-est2021-alldata-r-file02.csv>, <https://www2.census.gov/programs-surveys/popest/datasets/2020-2021/national/asrh/nc-est2021-alldata-r-file04.csv>, <https://www2.census.gov/programs-surveys/popest/datasets/2020-2021/national/asrh/nc-est2021-alldata-r-file06.csv>, and <https://www.census.gov/data/tables/time-series/demo/popest/2020s-national-detail.html>.

*These percentages exclude the percentage of estimated injuries involving victims of unknown ethnicity for the Younger than 5, 5-14, and Younger than 15 age groups (55, 45, and 52 percent, respectively).

On average, 371 fatalities associated with pool or spa drownings involving children younger than 15 years of age were reported to CPSC staff annually from 2018 through 2020. The total number of reported fatal drownings involving children younger than 15 in 2020 (340 fatalities) was lower than the total number of reported fatal drownings in 2019 (367 fatalities). For children younger than five

years of age, the total number of reported fatal drownings in 2020 (279 fatalities) was higher than the total number of reported fatal drownings in 2019 (254 fatalities).

Seventy-five percent of the victims of the reported pool- or spa-related childhood drowning fatalities were younger than five years of age. Victims in this age category also accounted for an average of 76 percent of the childhood drowning injuries related to pools or spas between 2020 and 2022. Cases in NEISS that were classified as dead on arrival (DOA), or died in the ED, are included in fatality case counts for their respective years.

Reported injury frequencies by ethnicity and race are shown in Table 9. More than 54 percent of drowning deaths for children under 15 years of age involved victims of unknown ethnicity; 10 percent of drowning deaths involved Hispanic victims. Among victims with known ethnicity, 22 percent of the drowning deaths involved Hispanic victims, which is less than their proportion in the U.S. population (26 percent). For drowning deaths involving all children less than 15 years of age, 37 percent involved victims whose race was unspecified. Out of the 63 percent of all drowning deaths involving children of known races less than 15 years of age, White victims comprised the highest percentage of all victims at 66 percent (but less than the 71 percent of the population for that age), and Black or African American victims made up the second highest percentage of all victims at 21 percent (more than the 15 percent of the population for that age). For drowning deaths involving all children younger than five years of age, victims whose race was unspecified were 35 percent of the victims. Where race was known, White victims comprised the highest percentage of all victims at 73 percent (compared to 70 percent of the population for that age), and Black or African American victims made up the second highest percentage of all victims, at 15 percent (compared to 16 percent of the population for that age).

Table 9 Drowning Deaths Reported to CPSC Staff Associated with Pools or Spas Children Younger than 15 Years of Age by Ethnicity and Race, 2018-2020

<u>Ethnicity</u>	<u>Race</u>	<u>Reported Fatality Frequencies</u>			
		<u>Younger than 5 Years</u>	<u>5-9 Years</u>	<u>10-14 Years</u>	<u>Younger than 15 Years</u>
Hispanic		94	12	5	111
	Not stated	1	0	0	1
	White	64	8	3	75
	Black/African American	2	0	0	2
	Asian	0	0	0	0
	Other	27	4	2	33
	American Indian/Alaska Native	0	0	0	0
	Native Hawaiian/Pacific Islander	0	0	0	0
Non-Hispanic		295	81	24	400
	Not stated	1	1	0	2
	White	225	34	10	269
	Black/African American	46	38	13	97
	Asian	6	4	0	10
	Other	14	3	1	18

CPSC: Investigation on Race and Ethnicity | December 2023 | cpsc.gov

	American Indian/Alaska Native	1	0	0	1
	Native Hawaiian/Pacific Islander	2	1	0	3
All *	Total	835	206	70	1113
	Not stated	293	87	32	414
	White	395	51	18	464
	Black/African American	79	55	16	150
	Asian	13	5	1	19
	Other	48	7	3	58
	American Indian/Alaska Native	4	0	0	4
	Native Hawaiian/Pacific Islander	3	1	0	4

Source: U.S. CPSC: CPSRMS. *Includes 602 drowning deaths involving victims of unknown ethnicities.

Product Instability and Tip-Overs

The CPSC Directorate for Epidemiology, Division of Hazard Analysis staff published a report on *Product Instability or Tip-over Injuries and Fatalities Associated with Televisions, Furniture and Appliances* (Suchy, 2023). CPSC staff provided statistics on injuries and fatalities associated with television, furniture, and appliance product instability, or tip-over incidents. Tip-over incidents are scenarios where furnishings heavy enough to injure or kill falls on an individual, such as by a force exerted on a product in its normal use condition. A tip-over incident is often caused or affected by an unstable design (objects that are top heavy or have small footprints), use on a sloped or unstable surface (carpet), tip-over restraint device, use of a defective tip-over restraint device, heavy objects on top of furniture, or multiple open drawers.

U.S. hospitals ED-treated an estimated annual average of 19,400 people for product instability or tip-overs. Victim ages categories in the report are children (<1 to 17 years), adults (18 to 59 years), and seniors (60 years and older). For the furniture-related category, 1-year-olds and 2-year-olds account for the highest number of estimated (annual average of 1,500 and 12,000 injuries respectively over 2019-2021). Children ages 1-year old and 2-years-old sustained the highest rate of tip over injuries occurring in the population (50 injuries and 39 injuries per 100,000 population). The disposition of ED-treated tip-over injuries shows that most victims (95 percent of children of all ages) were treated and released; however, 3 percent of children of all ages were hospitalized.

In the estimated annual average of 19,400 tip-over incidents from 2019 through 2021, race or ethnicity was known in 70% (only 13,600) of the patients. Comparing the patients categorized as White in incidents with the proportion of the U.S. population categorized as White, there are:

- proportionately more White children injured from tip-over-related incidents (64 percent of injuries compared to 50 percent in the population);
- proportionately fewer White adults injured from tip-over-related incidents (49 percent of injuries compared to 58 percent in the population); and
- proportionately more White seniors injured from tip-over-related incidents (86 percent of injuries compared to 74 percent in the population).

From 2019 through 2021 of the patients categorized as Black or African American, compared to the proportion of the U.S. population categorized as Black, there are:

- proportionately more Black or African American children injured from tip-over-related incidents (18 percent of injuries compared to 14 percent of the population); and
- proportionately more Black or African American adults injured from tip-over-related incidents (35 percent of injuries compared to 13 percent of the population).

From 2019 through 2021 of the patients categorized as Hispanic, compared to the proportion of the U.S. population categorized as Hispanic, there are:

- proportionately fewer Hispanic children injured from tip-over-related incidents (16 percent of injuries compared to 26 percent of the population); and
- proportionately fewer Hispanic adults injured from tip-over-related incidents (12 percent of injuries compared to 20 percent of the population).

Table 10 below highlights the estimated annual average of ED-treated tip-over related injuries from 2019 through 2021. The data are divided into two main categories: age and race or ethnicity and are further subdivided between these two categories. The percentages presented in the table were gathered by comparing the number of ED-treated tip-over injuries by age and race or ethnicity to the overall U.S. population.

Table 10 Proportion of Product Instability or Tip-Over-Related Estimated ED-Treated Injuries and the Annual Average Estimated Proportions of the U.S. Population by Race or Ethnicity and Age Group (Where Known), 2019-2021 (Annual Average Estimated Proportions of the U.S. Population by Race or Ethnicity for each Age Group)

<u>Race / Ethnicity</u>	<u>Children</u> (<1 to 17 years)	<u>Adults</u> (18 to 59 years)	<u>Seniors</u> (60 years and older)	<u>All Ages</u> <u>Total</u>
Total	100% (100%)	100% (100%)	100% (100%)	100% (100%)
White, Non-Hispanic*	64% (50%)	49% (58%)	86% (74%)	64% (60%)
Black / African American, Non-Hispanic*	18% (14%)	35% (13%)	– (10%)	23% (13%)
Hispanic (Any Race)	16% (26%)	12% (20%)	– (9%)	12% (19%)
Other*	– (11%)	– (9%)	– (6%)	3% (9%)

Source: U.S. Consumer Product Safety Commission: NEISS. The estimates include cases for television, furniture, and appliance product codes, as described in Appendix B. All injuries where the race or ethnicity of the patient is unknown is not reported. Estimates that are not statistically reliable are presented as “–”. Estimates are rounded to the nearest percent and may not add up to the total, due to rounding. Asterisks (*) indicate Race or Ethnicity designations are for reported single race only. The coefficients of variation (CVs) for the given estimates ranged from 0.1065 to 0.3213.

*The Other category includes the proportion of the U.S. population that are not counted among the non-Hispanic Black, Hispanic, or non-Hispanic White people in U.S. Census figures.

Tip-over fatalities were categorized into the same race or ethnicity categories. If a victim reportedly has Hispanic heritage, then the victim is categorized as Hispanic (any race) regardless of whether

the victim is also identified as Black, White, or another, multiple races, or ethnicity categories. Black or African American, non-Hispanic (Black or African American) victims and White, non-Hispanic (White) victims are categorized as such if there is no indication of any other race or ethnicity identification in the reports. Due to small numbers of deaths reported among multiracial race or ethnicity groups (categorized in reports as “Other”), the race or ethnicity of victims that were known and were not categorized as either Black or African American, Hispanic, or White were grouped into the other (Other) race or ethnicity category.

From 2000 through 2021, the race or ethnicity of reported tip-over fatalities is known for 512 out of 592 victims (86 percent), and among the other 80 deaths (14 percent), there was no reported information about the race or ethnicity of these victims. From 2000 through 2021, 12 percent (60 out of 482 deaths) of children, 15 percent (3 out of 20 deaths) of adults, and 19 percent (17 out of 90 deaths) of seniors were victims with no race or ethnicity reported. In order to make comparisons between the proportions of people in the U.S. population and the proportions of reported tip-over deaths by race or ethnicity, deaths where the race or ethnicity is unknown are not reported in Table 12.

Table 11 represents the 512 tip-over-related fatalities from 2000 to 2021 where the race or ethnicity of the victim is known, by age group and the race or ethnicity of the victims. The proportions of tip-over deaths in Table 12 are based upon a total of 422 children, 17 adults, and 73 senior deaths of victims with a known race or ethnicity.

Table 11 Proportion of Reported Product Instability or Tip-Over-Related Fatalities and the Annual Average Estimated Proportions of the U.S. Population by Race or ethnicity by Age Group (Where Known), 2000-2021 (Annual Average Estimated Proportions of the U.S. Population by Race or ethnicity for each Age Group)

<u>Race / Ethnicity</u>	<u>Children</u> (<1 to 17 years)	<u>Adults</u> (18 to 59 years)	<u>Seniors</u> (60 years and older)	<u>All Ages</u> Total
Total	100% (100%)	100% (100%)	100% (100%)	100% (100%)
White, Non-Hispanic*	45% (54%)	88% (63%)	90% (78%)	53% (64%)
Black / African American, Non-Hispanic*	27% (14%)	12% (13%)	8% (9%)	23% (12%)
Hispanic (Any Race)	23% (22%)	– (17%)	1% (8%)	19% (16%)
Other**	5% (9%)	– (8%)	– (5%)	4% (8%)

Source: CPSC databases, including NEISS and CPSRMS. Asterisks (*) indicate Race or ethnicity designations are for reported single race only. Asterisks (**) The Other category includes the proportion of the U.S. population that are not counted among the non-Hispanic Black, Hispanic, or non-Hispanic White people in U.S. Census figures. Source: U.S. Consumer Product Safety Commission: NEISS. The estimates include cases for television, furniture, and appliance product codes, as described in Appendix B. All injuries where the race or ethnicity of the patient is unknown is not reported. Estimates that are not statistically reliable are presented as “–” Estimates are rounded to the nearest percent and may not add up to the total, due to rounding. Asterisks (*) indicate Race or ethnicity designations are for reported single race only. The coefficients of variation (CVs) for the given estimates ranged from 0.1065 to 0.3213.

From 2000 through 2021, the proportion of the White tip-over victims compared to the proportion of White people in the U.S. population:

- proportionately fewer White children are victims of tip-overs (45 percent of victims to 54 percent of the population); of
- proportionately more White adults are victims of tip-overs (88 percent victims to 63 percent of the population); and
- proportionately more White seniors are victims of tip-overs (90 percent of victims to 78 percent in the population).

From 2000 through 2021, the proportion of the Black or African American tip-over victims compared to the proportion of Black people in the U.S. population:

- proportionately more Black children are victims of tip-overs (27 percent of victims compared to 14 percent of the population);
- about the same proportion of Black or African American adults are victims of tip-overs (12 percent of victims compared to 13 percent of the population); and
- the proportion of Black or African American seniors who are victims of tip-overs is mostly proportional to the overall population (8 percent of victims compared to 9 percent of the population).

The proportion of Hispanic children who were victims of tip-overs from 2000 through 2021 is similar to the proportion of Hispanic children in the U.S. population (23 percent victims to 22 percent of the population). Among the child tip-over victims of other races or ethnicities, compared to the proportion of children in the U.S. population of other races/ethnicities, there are fewer child (5 percent of victims compared to 9 percent of the population) tip-over deaths (5 percent of victims compared to 9 percent of the population).

Residential Structures Fires

The CPSC Directorate for Epidemiology, Division of Hazard Analysis staff published a report *U.S. National Estimates of Residential Fires, Deaths, Injuries, and Property Loss from Unintentional Fires* (Miller 2023), estimates consumer product-related losses that occurred in U.S. due to unintentional residential structure fires attended by the fire service. The estimates were derived from data provided by the U.S. Fire Administration's (USFA), National Fire Incident Reporting System (NFIRS), and the National Fire Protection Association's (NFPA) Survey of Fire Departments for U.S. Fire Experience for 2018 to 2020.

The fire and fire loss estimates presented in this report pertain to unintentional residential structure fires and civilian casualties. The estimates are:

- 371,600 fires, 2,480 deaths, 10,740 injuries, and \$7.56 billion in property losses in 2018;
- 346,800 fires, 2,490 deaths, 11,760 injuries, and \$7.32 billion in property losses in 2019;
- 364,100 fires, 2,360 deaths, 11,010 injuries, and \$7.55 billion in property losses in 2020; and
- an estimated annual average of 360,800 fires, 2,440 deaths, 11,170 injuries, and \$7.48 billion in property losses over the 3-year period from 2018 through 2020.

Table 12 provides estimates of the rate of fire deaths and injuries by race. The estimated fire death rate of Black people (1.3 per hundred thousand) is nearly twice the overall death rate. The estimated

CPSC: Investigation on Race and Ethnicity | December 2023 | [cpsc.gov](https://www.cpsc.gov)

injury rate per person for Black people (5.9 per hundred thousand) is also nearly twice the overall rate. The fire injury rate of Other –including multi-racial (5.5 per hundred thousand) is nearly twice the overall injury rate.

Table 12 Death and Injury Estimates by Race: 2018 - 2020

Race	Fire Deaths per Hundred Thousand People	Fire Injuries per Hundred Thousand People
Overall	0.7	3.0
White	0.7	2.6
Black or African American	1.3	5.9
Asian	0.1	0.8
American Indian, Alaska Native	0.5	1.2
Other – Including multi-racial	0.5	5.5

Source: U.S. Consumer Product Safety Commission/EPHA, from data obtained from the USFA and NFPA. Population estimates obtained from U.S. Census Bureau resident population estimates by race for 2018 – 2020. Estimates can be found at <https://www.census.gov/data/datasets/time-series/demo/popest/2010s-national-detail.html>

There is an NFIRS variable for ethnicity that has codes for “Hispanic” and “Other.” However, NFIRS instructs fire services code this variable to leave the selection blank if the ethnicity is unknown or is not listed among the codes. Staff is concerned that this causes confounding of the “others” and “unknowns” and would cause estimates to be unreliable. For this reason, staff did not include estimates of fire deaths and injuries by Hispanic/Non-Hispanic origin.

Future Direction for Consideration

As CPSC continues to advance equity and investigate differences in populations at all levels, staff can explore opportunities to enhance the collection and analysis of race and ethnicity data. Steps to consider and in progress include:

- Acquire machine-readable death certificate data in formats suitable for use in machine learning algorithms to create demographic and hazard scenario categorization schemes to enhance root cause analysis and reporting. Pilot program underway through a study with a contractor;
- Increase outreach to NEISS hospitals not reporting race or ethnicity information, and provide education on the importance of including this information in the medical records and sharing it with CPSC;
- Seek out interagency agreements and partnerships with other research and federal institutions to conduct population studies focusing on specific subgroup populations, if resources become available; and
- Use alternative data sources and apply different population study techniques to uncover hazard patterns (for example, Agency for Healthcare Research and Quality (AHRQ), Healthcare Cost and Utilization Project data sources, and the National Center for Health Statistics (NCHS) Health Interview Survey), if resources become available.

References

- Bragg, S. (2023), "[Annual Report on Pediatric Poisoning Fatalities, and Injuries](#)," Final Report prepared by the U.S. Consumer Product Safety Commission, Directorate of Epidemiology, Division of Hazard Analysis.
- Smith, B. (2023), "[Fireworks- Related Deaths, Emergency Department-Treated Injuries and Enforcement Activities During 2021](#)," Final Report prepared by the U.S. Consumer Product Safety Commission, Directorate for Epidemiology, Division of Hazard Analysis.
- Suchy, A. (2023). "[Product Instability or Tip-Over Injuries and Fatalities Associated with Televisions, Furniture, and Appliances: 2022 Report](#)," Final Report prepared by the U.S. Consumer Product Safety Commission for Epidemiology, Division of Hazard Analysis.
- Topping, J. (2023), "[Non-Fire Carbon Monoxide Deaths Associated with the Use of Consumer Products](#)," Final Report prepared by the U.S. Consumer Product Safety Commission, Directorate for Epidemiology, Division of Hazard Analysis.
- Yang, T. (2023), "[Pool or Spa Submersion: Estimated Nonfatal Drowning Injuries and Reported Drownings, 2023 Report](#)" Final Report prepared by the U.S. Consumer Product Safety Commission, Directorate for Epidemiology, Division of Hazard Analysis.
- Zhang, C. (2023), "[2022 Report of Deaths and Injuries Involving Off-Highway Vehicles with More than Two Wheels](#)," Final Report prepared by the U.S. Consumer Product Safety Commission, Directorate for Epidemiology, Division of Hazard Analysis.