



Toy-Related Deaths and Injuries Calendar Year 2020

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Executive Summary

In this report, U.S. Consumer Product Safety Commission (CPSC) staff presents the latest available statistics on deaths and emergency department (ED) treated injuries associated with toys. For toy-related deaths and injuries, it is important to note that although a toy was associated with many of the incidents, the toy was not necessarily the cause of the death or injury. Additionally, due to delays in death certificate reporting, fatality information is not yet complete for 2018, 2019, or 2020.

Reported Toy-Related Fatalities in Calendar Year 2020

- CPSC staff received reports of 9 toy-related deaths that occurred in the 2020 calendar year among children 14 years of age or younger.
- Three fatalities involved a balloon and one fatality involved a rubber ball, due to airway obstruction. Other fatalities involved a stuffed toy in an unsafe sleep environment, choking or inhalation on small parts of a toy, and suffocation in a toy chest. No fatalities were reported for nonmotorized scooters among children 14 years of age or younger in 2020.

ED-Treated Toy-Related Injuries in Calendar Year 2020¹

- An estimated 198,000 toy-related injuries were treated in U.S. hospital emergency departments in 2020, and males accounted for 57 percent of the injuries.
- Of the estimated 198,000 toy-related injuries, 75 percent were sustained by children 14 years of age or younger; 73 percent were sustained by children 12 years of age or younger; and 40 percent were sustained by children 4 years of age or younger.²
- Forty-two percent of the estimated ED-treated injuries were classified as lacerations, contusions, or abrasions. Forty-seven percent of the estimated injuries were to the head and face area, the most commonly affected area of the body.
- Ninety-three percent of the ED-treated, toy-related injury victims were treated and released.
- Nonmotorized scooters were associated with the most estimated injuries among the specifically identified toys for all ages, 14 years of age or younger and 12 years of age or younger (21 percent, 24 percent and 24 percent, respectively).
- Building sets was the specifically identified toy category related to the most estimated toy-related injuries for 4 years of age or younger (9 percent).

ED-Treated Toy-Related Injuries from 2013 to 2020

- Staff observed a statistically significant decreasing trend in the estimated toy-related injuries for all age groups except for the 4 years or younger group from 2013 to 2020.

¹ The percentages are calculated from the unrounded injury estimates.

² All toys intended for use by children 12 years of age and under must be third party tested and be certified in a [Children's Product Certificate](#) as compliant with the federal toy safety standard enacted by Congress, and to other applicable requirements as well. Additional age breaks are provided in this report to describe hazards to older and younger children, as we provided in prior reports.

Introduction

This report provides updated summary information on toy-related fatalities for the years 2018 and 2019, along with detailed information on toy-related fatalities for 2020. CPSC staff bases fatality counts on reports obtained from the CPSC database known as the Consumer Product Safety Risk Management System (CPSRMS). In addition, staff presents in this report the estimated ED-treated injuries associated with toys for the 2020 calendar year and the injury estimates from 2016 to 2020, based on the National Electronic Injury Surveillance System (NEISS). In Appendix A, staff presents historical estimated toy-related, ED-treated injuries from 2013 to 2020, along with the coefficient of variations for the injury estimates. Appendix B lists the NEISS product codes used to generate this report.

Toy-Related Deaths³

Table 1 summarizes fatalities of children 14 years of age or younger that were associated with a toy and that occurred from 2018 to 2020, as reported to CPSC staff. The reported death totals for each year and age groups are listed at the top of the table, with each year's reported deaths detailed by the type of toy, with a parenthetical description of the hazard in the rows that follow. Table 1 also lists toy types that are associated with more than one death that happened in the period 2018 to 2020, to highlight the toys (and associated hazards). For other types of toys associated with only one fatality across the 3 years, the information is summarized in the final row of the table. Staff considered fatalities in-scope if a toy was present, and based on statements by investigators, police, family members, or medical examiners, the toy may have played a contributing role in the death.

Due to delays in death certificate reporting, fatality information is not yet complete for 2018, 2019 or 2020. At the time of data extraction for this report, death certificate reporting is estimated to be was 98 percent, 88 percent, and 42 percent complete for 2018, 2019 and 2020, respectively.⁴ The data for 2018 and 2019 have been updated since the previous annual report to include five new incident reports CPSC staff received— three fatalities that occurred in 2018, and two fatalities that occurred in 2019. Thus, the data differ from the reported fatality tabulations detailed in the previous report for the calendar year 2019.⁵ Of the five newly reported fatalities, three incidents involved choking on a small toy (a party favor toy, a rubber ball, and an unspecified ball); one incident involved blunt head injury after falling into a toy organizer; and one incident involved positional asphyxia, where the child was found wedged between a bed and a stuffed toy. The children ranged in age from 8 months to 3 years.

³ These fatalities do not represent a sample of known probability of selection.

⁴ Staff measures the reporting percent as the number of months for each state, where at least one death certificate was received, divided by 600 (50 states multiplied by 12 months).

⁵ [Qin, A. "Toy-Related Deaths and Injuries, Calendar Year 2019," CPSC, October 2020.](#)

**Table 1: Reported Toy-Related Deaths Among Children 14 Years of Age or Younger
2018–2020**

Type of Toy (Hazard)	2018 ⁶		2019 ⁷		2020	
	Children 12 Years of Age or Younger [†]	Children 13 and 14 Years of Age	Children 12 Years of Age or Younger [†]	Children 13 and 14 Years of Age	Children 12 Years of Age or Younger [†]	Children 13 and 14 Years of Age
TOTAL	26		16		9	
Sub Total	26	0	15	1	9	0
Nonmotorized scooters (motor vehicle involvement or fall)	3		4	1		
Stuffed toys/doll/doll accessory/toy figure (hanging, airway obstruction, suffocation, mechanical asphyxia, undetermined)	2		1		1	
Rubber balls (drowning, aspiration, airway obstruction)	4				1	
Balls, other (drowning, airway obstruction, ingestion)	1		5			
Nonmotorized riding toys (motor vehicle involvement, drowning)	2					
Water toys (drowning)	2		1			
Toy chest (suffocation/blunt force)	1		1		1	
Toy dart (airway obstruction)	2					
Balloons/balloon strings (asphyxia/suffocation, airway)	2				3	
Other toys with a single reported fatality in the year (airway obstruction, mechanical asphyxia, hanging, battery ingestion, drowning, electrocution)	7		3		3	

Source: CPSRMS and NEISS from 1/1/2020 to 12/31/2020; CPSC. Data were extracted in May 2021.

[†] Toy-related deaths among children 12 years of age or younger are presented separately to be consistent with the age definition of a children’s product in the Consumer Product Safety Improvement Act of 2008 (CPSIA), 15 U.S.C. § 2052 (a)(2).

⁶ Three new toy-related deaths were reported to CPSC that occurred in the 2018 calendar year, increasing the number of reported deaths to 26 in 2018.

⁷ Two new toy-related deaths were reported to CPSC that occurred in the 2019 calendar year, increasing the number of reported deaths to 16 in 2019.

Table 2 details the fatalities associated with toys for children 14 years of age or younger in 2020 that were reported to CPSC. The toy types and associated hazards involved in these reported fatalities are presented in descending order of the frequency of fatal incidents.

**Table 2: Reported Toy-Related Deaths Among Children 14 Years of Age or Younger
2020**

Type of Toy	Children 12 Years of Age or Younger [‡]	Children 13 and 14 Years of Age
TOTAL	9	
Sub Total	9	0
Balloon (airway obstruction)	3	
Rubber ball (airway obstruction)	1	
Toy Chest (suffocation)	1	
Stuffed toy (cause undetermined)	1	
Nail Shaped Plastic Toy (aspiration)	1	
Clip on Toy (airway obstruction)	1	
Wooden Toy Set (airway obstruction)	1	

Source: CPSRMS and NEISS from 1/1/2020 to 12/31/2020; CPSC. Data were extracted in May 2021.

[‡] Toy-related deaths among children 12 years of age or younger are presented separately to be consistent with the age definition of a children's product in the Consumer Product Safety Improvement Act of 2008 (CPSIA), 15 U.S.C. § 2052 (a)(2).

Of the above 9 toy-related fatalities, four victims were known to be females, and three were known to be males. The children ranged in age from 1 month to 7 years. The scenario-specific details of these incidents are presented below.

Balloon

Three females —ages 7 months to 7 years— died from airway obstruction due to a balloon.

- A 7-month-old girl was found with a deflated balloon in her airway.
- A 6-year-old girl died from accidental self-placement of balloon over her head.
- A 7-year-old girl was found unresponsive on a bed with a helium balloon over her head.

Rubber Ball

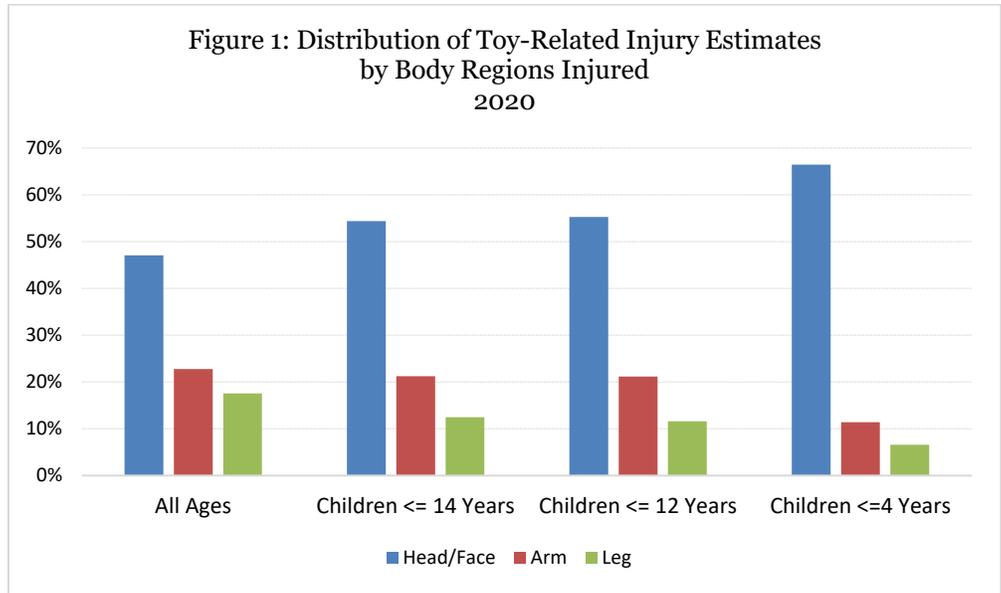
A 4-year-old girl was at home playing in her room when her cousin noticed her in distress. EMS arrived and removed a rubber bouncy ball lodged in the victim's throat; however, the child was pronounced deceased at the scene.

Toy Chest

A 6-year-old boy died as a result of global hypoxic encephalopathy due to smothering with absence of oxygen following prolonged entrapment in a sealed toy chest.

Stuffed Toy

Figure 1 presents the distribution of the 2020 annual estimated toy-related, ED-treated injuries by the specific parts of the body most frequently injured for different age groups.^{9,10} As shown in Figure 1, the head/face regions were the parts of the body associated with the largest number of estimated toy-related injuries in 2020 for all four age groups specified, followed by arms and legs.



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

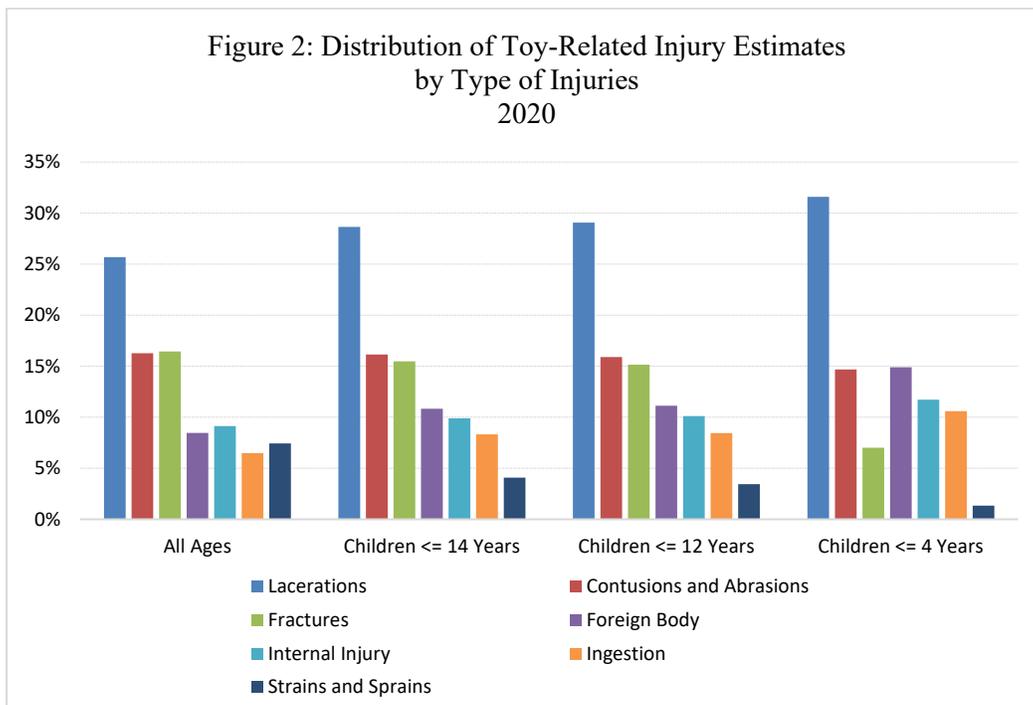
‡ Head/Face regions include NEISS codes for head, eyelid, eye area, nose, eyeball, mouth, and ear. Arm includes upper arm, elbow, lower arm, shoulder, wrist, hand, and finger. Leg includes upper leg, knee, lower leg, ankle, foot, and toe.

Figure 2 shows the distribution of the annual estimated toy-related ED-treated injuries by the type of injuries diagnosed most frequently for different age groups.¹¹ For all four age groups, lacerations was the diagnosis associated the largest number of estimated toy-related injuries in 2020. Contusions/abrasions and fracture ranked second and third for all ages, children 14 years of age or younger and children 12 years of age or younger. For children 4 years of age or younger, foreign body and contusions/abrasions ranked second and third.

⁹ In October 2018, CPSC upgraded the NEISS system. As a result of this upgrade, an emergency-department visit is allowed to contain up to two codes for the body part injured and the diagnoses. In 2020, about 13 percent of the toy-related injury cases in NEISS had two codes of body part injured or diagnosis.

¹⁰ If either of the two codes listed a specific body part (as opposed to an unspecified body part), staff classifies that body part as being injured in the incident for the data analysis purpose.

¹¹ If either of the two codes lists a specific diagnosis (type of injury), staff classifies that diagnosis as being the type of injury for the data analysis purpose.



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

Table 4 presents the toy categories that were associated with the largest number of injuries in 2020 for different age groups. Nonmotorized scooters was the specifically identified toy category that accounted for the most injuries for all age groups except for children 4 years of age or younger. For children 4 years of age or younger, building sets was the specifically identified toy category related to the most estimated toy-related injuries.

Table 4: Toy Categories Associated with the Largest Number of Estimated ED-Treated Injuries for Different Age Groups 2020

Toy Category	Estimated Injuries (% of Total Estimates [‡])			
	All Ages	14 Years of Age or Younger	12 Years of Age or Younger	4 Years of Age or Younger
Toys, Not Specified	50,200 (25)	33,100 (22)	32,900 (23)	24,200 (31)
Nonmotorized Scooters	41,700 (21)	36,500 (24)	34,200 (24)	5,300 (7)
Toy Balls	15,300 (8)	11,400 (8)	10,600 (7)	5,300 (7)
Building Sets	10,600 (5)	9,900 (7)	9,800 (7)	6,800 (9)
Toy Vehicles	9,600 (5)	6,200 (4)	6,200 (4)	4,500 (6)

Source: NEISS, U.S. Consumer Product Safety Commission. Estimates are rounded to the nearest 100.

[‡] Percentages are calculated from the unrounded injury estimates and then rounded to the nearest integer.

In 2020, a NEISS special study was initiated that further investigated all injuries coded as 5024 (*Scooters, Unspecified*). See Appendix B for details on the special study. Based on the results from this study, staff was able to allocate a proportion of all injuries coded as 5024 to nonmotorized scooters. Hence, the estimates for nonmotorized scooters in 2020 are based on the code for nonmotorized scooters as well as a proportion of the unspecified scooters as informed by the results of the special study.

Nonmotorized scooters continued to be the category of toys associated with the most injuries. Table 5 displays the annual estimated ED-treated injuries associated with nonmotorized scooters and the percentages of injury estimates for different age groups from 2016 to 2020. Table 5 shows that the proportions the estimated injuries of related to this product code have remained steady for all four age groups, and staff found no statistically significant trend between 2016 and 2020.¹²

Table 5: Nonmotorized Scooter-Related ED-Treated Injury Estimates for Different Age Groups 2016–2020

Calendar Year	Estimated Injuries (% of Total Estimates) Associated with “Nonmotorized Scooter”			
	All Ages	14 Years of Age or Younger	12 Years of Age or Younger	4 Years of Age or Younger
2016	48,000 (20)	39,800 (23)	36,600 (22)	5,700 (7)
2017	48,700 (19)	40,300 (22)	36,800 (21)	6,100 (7)
2018	39,500 (17)	31,700 (19)	28,800 (18)	4,900 (6)
2019	45,400 (20)	35,600 (22)	32,800 (21)	4,700 (6)
2020	41,700 (21)	36,500 (24)	34,200 (24)	5,300 (7)

Source: NEISS, U.S. Consumer Product Safety Commission. Estimates are rounded to the nearest 100.

Toys that are identified, but cannot be placed under already-established toy product codes, are likely to be coded under the product code “Toys, Not Elsewhere Classified.” Table 6 displays the estimated ED-treated injuries associated with this product code and the percentages of injury estimates for all ages, 14 years of age or younger, 12 years of age or younger, and 4 years of age or younger from 2016 to 2020. Table 6 shows that the proportions of the estimated injuries related to this product code have remained steady for all four age groups, and staff found no statistically significant trend between 2016 and 2020.¹³

¹² The lowest p-value for the age groups was 0.17. For methodology on trend analysis, see T. Schroeder, “Trend Analysis of NEISS Data,” CPSC, 2000.

¹³ The lowest p-value for the age groups was 0.17.

**Table 6: ED-Treated Injury Estimates Associated with Product Code,
“Toys, Not Elsewhere Classified,” for Different Age Groups
2016–2020**

Calendar Year	Estimated Injuries (% of Total Estimates) Associated with “Toys, Not Elsewhere Classified”			
	All Ages	14 Years of Age or Younger	12 Years of Age or Younger	4 Years of Age or Younger
2016	7,700 (3)	6,400 (4)	6,200 (4)	2,300 (3)
2017	9,900 (4)	8,300 (4)	7,900 (5)	4,200 (5)
2018	7,600 (3)	6,400 (4)	6,200 (4)	2,700 (3)
2019	6,100 (3)	4,600 (3)	4,400 (3)	2,100 (3)
2020	7,000 (4)	5,900 (5)	5,800 (5)	3,200 (4)

Source: NEISS, U.S. Consumer Product Safety Commission. Estimates are rounded to the nearest 100.

The product code, “Toys, Not Specified,” was reinstated as an available product code in NEISS in 2010, to classify injuries that were associated with a toy that was not identified specifically in the NEISS injury narrative. Table 7 presents the annual estimated ED-treated injuries associated with this product code and the percentages of injury estimates for all individuals, 14 years of age or younger, 12 years of age or younger, and 4 years of age or younger from 2016 to 2020. Table 7 shows that the proportions of the estimated injuries related to this product code have remained steady for all four age groups, and staff found no statistically significant trend between 2016 and 2020.¹⁴

**Table 7: ED-Treated Injury Estimates Associated with Product Code,
“Toys, Not Specified,” for Different Age Groups
2016–2020**

Calendar Year	Estimated Injuries (% of Total Estimates) Associated with “Toys, Not Specified”			
	All Ages	14 Years of Age or Younger	12 Years of Age or Younger	4 Years of Age or Younger
2016	57,900 (24)	36,000 (21)	35,900 (22)	27,000 (32)
2017	59,000 (23)	37,200 (20)	36,700 (21)	26,900 (30)
2018	56,800 (25)	36,200 (22)	35,800 (23)	27,000 (32)
2019	52,300 (23)	32,600 (20)	31,900 (21)	23,600 (30)
2020	50,200 (30)	33,100 (28)	32,900 (28)	24,200 (32)

Source: NEISS, U.S. Consumer Product Safety Commission. Estimates are rounded to the nearest 100.

¹⁴ The lowest p-value for the age groups was 0.17.

Appendix A

Estimated Number of Toy-Related Injuries from 2013 through 2020

Table 8, Figure 3 and Figure 4 display the annual ED-treated injury estimates and rates associated with toys from 2013 through 2020. Staff found a statistically significant decreasing trend in the injury estimates for all age groups except for 4 years of age or younger group.¹⁵

**Table 8: Toy-Related ED-Treated Injury Estimates for Different Age Groups
2013–2020**

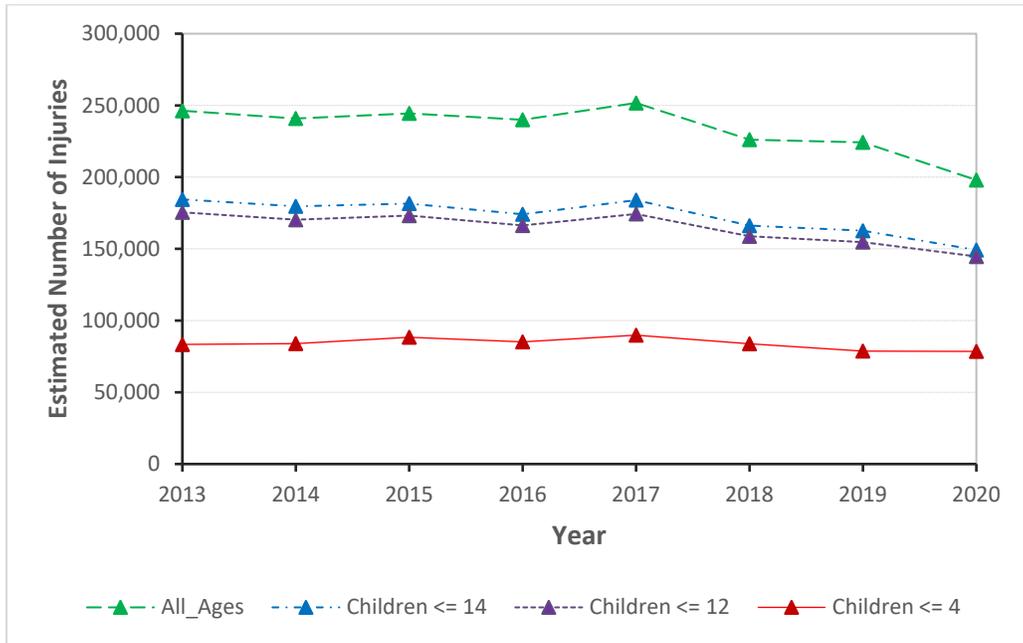
Calendar Year	All Ages			14 Years of Age or Younger			12 Years of Age or Younger			4 Years of Age or Younger		
	Injury Estimate	CV*	Injuries per 100,000 People	Injury Estimate	CV*	Injuries per 100,000 People	Injury Estimate	CV*	Injuries per 100,000 People	Injury Estimate	CV*	Injuries per 100,000 People
2013	246,300	0.0732	78	184,500	0.0815	302	175,500	0.0825	333	83,300	0.0947	420
2014	240,900	0.0839	76	179,700	0.0959	294	170,300	0.0965	323	84,000	0.1124	423
2015	244,400	0.0861	76	181,600	0.0985	298	173,200	0.1010	328	88,400	0.1171	444
2016	240,000	0.0945	74	174,100	0.1128	286	166,300	0.1152	315	85,200	0.1299	427
2017	251,700	0.0921	77	184,000	0.1098	302	174,300	0.1109	331	89,800	0.1314	452
2018	226,100	0.1069	69	166,200	0.1355	273	158,800	0.1343	302	83,800	0.1407	423
2019	224,200	0.1181	68	162,700	0.1454	269	154,700	0.1458	296	78,700	0.1519	402
2020	198,000	0.1178	60	149,200	0.1367	231	144,700	0.1378	279	78,500	0.1487	407

Source: NEISS, U.S. Consumer Product Safety Commission. Estimates are rounded to the nearest 100. Population estimates for 2013 to 2020 are from [Annual Estimates of the Resident Population by Single Year of Age and Sex: April 1, 2010 to July 1, 2020, U.S. Census Bureau, Population Division](#). Release Date: June 2021.

*Coefficient of variation (CV) is a measure of the dispersion of the data as a ratio of the standard deviation to the injury estimate. The higher the CV, the larger the dispersion is. The population estimates are assumed to be constant, and therefore the CVs for the estimated injuries per 100,000 people are equivalent to the CVs for the injury estimates.

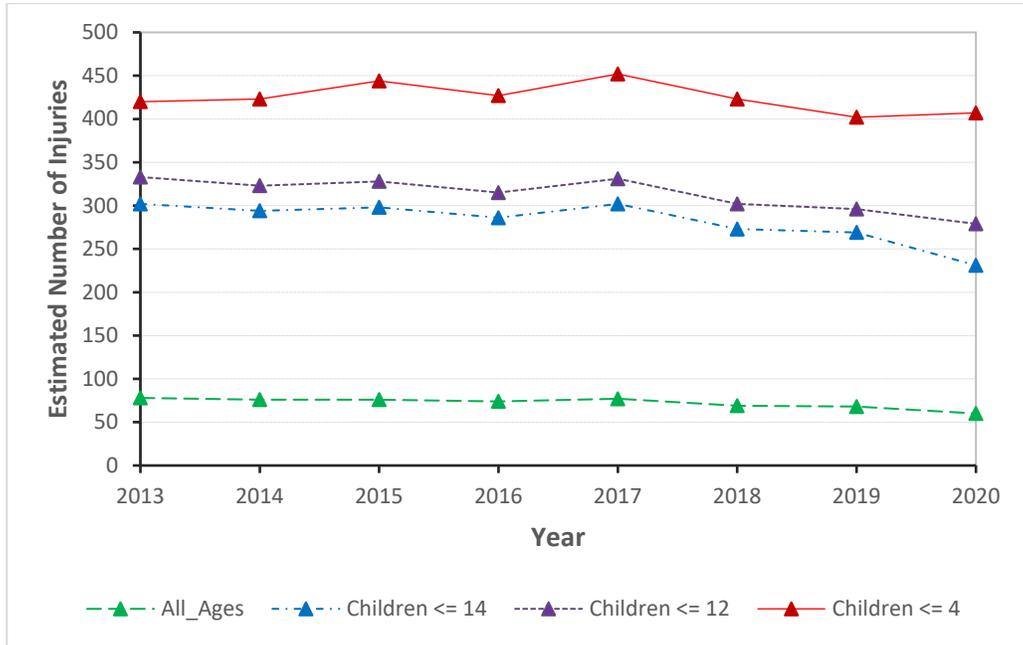
¹⁵ The p-value for 4 years of age or younger group is 0.51. The p-value for the other groups were 0.03, 0.02, 0.03.

**Figure 3: Toy-Related ED-Treated Injury Estimates for Different Age Groups
2013–2020**



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

Figure 4: Toy-Related ED-Treated Injury Rate (per 100,000 People) for Different Age Groups 2013–2020



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

Appendix B

NEISS Product Codes for Toys

Product Code	Toy Type
1301	Tricycles (Children's)
1309	Kites or Kite String
1310	Pogo Sticks
1314	Rocketry Sets
1319	Metal or Plastic Molding Sets
1322	Children's Play Tents, Play Tunnels, or Other Enclosures
1325	Inflatable Toys (Excluding Balls and Balloons)
1326	Blocks, Stacking Toys, or Pull Toys
1327	Non-Wheeled Riding Toys, Unpowered
1328	Wagons (Children's)
1329	Scooters, Unpowered
1330	Powered Riding Toys
1338	Toy Bows or Arrows
1342	Costumes or Masks
1344	Toy Musical Instruments
1345	Building Sets
1346	Clacker Balls
1347	Balloons (Toy)
1349	Stilts
1350	Squeeze or Squeaker Toys
1352	Slingshots or Sling-Propelled Toys
1353	Toy Boxes or Chests
1354	Marbles
1362	Wood-burning Kits
1365	Water Toys (Excluding Squeeze/Squeaker Toys and Inner Tubes or Similar Floating Equipment)
1376	Molding Compounds
1381	Toys, Not Elsewhere Classified
1389	Other Toy Weapons (Non-projectile)
1390	Toy Guns, Not Specified

Product Code	Toy Type
1392	Toy Sports Equipment
1393	Chemistry Sets or Science Kits
1394	Dolls, Plush Toys, and Action Figures
1395	Toys, Not Specified
1398	Wheeled Riding Toys, Unpowered (Excluding Bicycles and Tricycles)
1399	Toy Guns With Projectiles
1550	Infant and Toddler Play Centers (Excluding Jumpers, Bouncers, and Exercisers)
5001	Other Toy Weapons (Projectile)
5005	Riding Toys (Excluding Bicycles and Tricycles), Not Specified
5006	Other Toy Guns
5007	Toy Weapons, Not Specified
5010	Crayons Or Chalk (Excluding Billiard or Pool Chalk)
5013	Toy Make-Up Kits or Cosmetics (Excluding Mirrors)
5015	Toy Caps, Cap Toys, or Cap Guns
5016	Balls, Other or Not Specified
5017	Flying Discs and Boomerangs
5018	Doll Houses and Other Play Scenes
5019	Games or Game Parts (Excluding Marbles and Computer Games)
5020	Pretend Electronics, Tools, Housewares, and Appliances
5021	Toy Vehicles (Excluding Riding Toys)
5023	Scooters, Unpowered
5024	Scooters, Unspecified

NEISS 2020 Special Study

Prior to 2020, the NEISS product code 1329 (*Scooters, Unpowered*) was used to capture injuries related to unpowered (*i.e.*, nonmotorized) riding scooters as well as unknown-if-powered scooters. While it was understood and accepted that some proportion of the injuries associated with this code was not unpowered riding scooter, historically, it has been used to identify the riding scooter toys in the annual Toy reports.

In 2020, two new NEISS product codes 5023 (*Scooters, Unpowered*) and 5024 (*Scooters, Unspecified*) were implemented by the Division of Data Systems in the Directorate for Epidemiology (EPDS) to replace product code 1329. This allows staff to distinguish between the known unpowered scooters and unknown-if-powered scooters. During the same time, EPDS also launched a special study to follow up all NEISS injuries that were related to product code 5022 (*Scooters, Powered*) and 5024

(Scooters, Unspecified). While the purpose of the special study was to gain more in-depth knowledge about injuries related to powered or e-scooters, the study also identified the proportions of the code 5024 *(Scooters, Unspecified)* injuries that were actually related to powered scooters, unpowered scooters, as well as other types of scooters, respectively. Based on these results, EPHA staff was able to proportionally allocate the set of injuries under code 5024 *(Scooters Unspecified)* to unpowered/nonmotorized riding scooter toys for this analysis that were identified as unpowered. As such, the estimated injuries related to nonmotorized scooter toys in this annual report are based on both the product code 5023 for unpowered scooters as well as a proportion of the product code 5024 for unspecified scooters, as informed by the results of the special study.