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Executive Summary

This report contains information on instability of televisions, furniture, and appliances. An estimate of emergency department-treated instability injuries is presented. This is followed by the counts of reported fatalities. The death incidents are from 2000 through 2010, and the injury estimates are for 2006 through 2010. Appendix A gives the methodology. The statistics presented in this report are not comparable to statistics released previously due to refinement of the conventions for determining in-scope National Electronic Injury Surveillance System (NEISS) injuries (see Appendix B).

Of the estimated annual average of 43,400 emergency department-treated injuries (2008–2010) and the 293 reported fatalities occurring between 2000 and 2010, staff noted the following:

- Victims
 - Estimated emergency department-treated injuries:
 - 25,300 (58%) involved children, under age 18 years;
 - 15,100 (35%) involved adults, ages 18 through 59 years; and
 - 3,000 (7%) involved seniors, ages 60 years and older.
 - Reported fatalities:
 - 245 (84%) involved children, victim ages 1 month to 8 years;
 - 13 (4%) involved adults, victim ages 31 years to 59 years; and
 - 35 (12%) involved seniors, victim ages 61 years to 96 years.
- What fell?
 - Estimated emergency department-treated injuries:
 - 19,200 (44%) involved televisions (or TV + furniture) falling;
 - 22,500 (52%) involved only furniture falling; and
 - 1,700 (4%) involved appliances falling.
 - Reported fatalities:
 - 176 (60%) involved televisions falling (36% only TV, 24% TV + furniture);
 - Largest category after TV only was TV + chest, bureau, or dresser.
 - 92 (31%) involved only furniture falling;
 - Largest category was chest, bureau, or dresser.
 - 25 (9%) involved appliances falling.
- Where?
 - Estimated emergency department-treated injuries:
 - 71% in residential settings, 4% in public settings, and 24% in locations not specified.
 - Reported fatalities:
 - 74% in residential settings, 5% in public settings, and 20% in locations not specified.
 - 40% in bedrooms and 18% in living/family rooms.
- Injury Characterization (main injury type and body area affected)
 - Estimated emergency department-treated injuries:
 - 40% contusions/abrasions, 15% lacerations, 14% internal organ injury, and 13% fractures.
 - Head (39%); legs, feet, and toes (34%); and arms, hands, and fingers (17%).
 - Reported fatalities:
 - 55% were crushed and remained under product(s); 13% were hit/struck by product(s) but not crushed under product(s); and 19% were positional asphyxia.
 - Head (55% head only; 4% head and torso) and torso (27%).

Emergency Department-Treated Injuries

For 2008 through 2010, an estimated annual average of 43,400 people were treated in U.S. hospital emergency departments for injuries related to instability of televisions, furniture, and appliances. The furniture category had the largest number of injuries among the three product categories, with a national annual average estimate of 22,500 injuries associated with instability. This was followed by the national injury estimate of 19,200 injuries involving instability associated with televisions. A television falling in combination with furniture falling is counted only in the television category. The appliance category had the lowest estimate of the three categories, with 1,700 injuries associated with instability. Estimates are shown in Table 1.

For the estimates in Table 1 for 2006 through 2010, there is no significant trend statistically for the total television, furniture, and appliance estimates or any of the subcategory estimates (televisions, only furniture, or appliances).¹ Yearly pairwise difference testing² suggests that the number of emergency department-treated injuries for the television, furniture, and appliance totals were higher in 2009, compared to 2007, and in 2010 compared to 2007. However, 2007 is not different from 2006 or 2008.

¹ The threshold for determining statistical significance is a value less than 0.05.

² For example, the 2010 estimate was compared to each other year (2010 and 2009, 2010 and 2008, 2010 and 2007, 2010 and 2006) to check for a statistical difference. This was done for each yearly estimate. Pairwise differences have not been adjusted to control for multiple comparisons.

Table 1
Estimated Annual Average Emergency Department-Treated Injuries
Associated with Product Instability by Year, 2006–2010

Year ³	Estimated Emergency Department-Treated Injuries ⁴			
	Televisions ⁵	Only Furniture ⁶	Appliances ⁷	Television, Furniture, and Appliance Total ⁸
Annual Avg (2008–2010)	19,200	22,500	1,700	43,400
Avg 95% Confidence Interval (CI)	(16,500, 21,900)	(19,000, 26,000)	(1,300, 2,200)	(37,300, 49,500)
2010	20,000	23,600	1,700	45,300
2009	19,700	23,500	1,200	44,400
2008	17,800	20,400	2,300	40,600
2007	16,400	20,100	1,300	37,900
2006	15,900	21,800	1,500	39,200

Source: U.S. Consumer Product Safety Commission: National Electronic Injury Surveillance System (NEISS). NEISS is a probability sample of U.S. hospitals that have emergency departments. The estimates include cases for appliance, furniture, and television product codes, as described in Appendix B.

³ The 2008, 2007, and 2006 estimates reported here differ from estimates reported previously because these revised estimates reflect the updated criteria described in Appendix B.

⁴ The estimates are rounded to the nearest hundred. Estimates may not sum to total, due to rounding.

⁵ The television Coefficients of Variation (CVs) are 0.0910, 0.0936, 0.0820, 0.0803, and 0.0962 for 2010, 2009, 2008, 2007, and 2006, respectively. The CV for the television total estimate (57,500) for 2008 through 2010 is 0.0720.

⁶ The furniture CVs are 0.1015, 0.0885, 0.0772, 0.0717, and 0.0959 for 2010, 2009, 2008, 2007, and 2006, respectively. The CV for the furniture total estimate (67,500) for 2008 through 2010 is 0.0792.

⁷ The appliance CVs are 0.2120, 0.2051, 0.1922, 0.2125, and 0.2319 for 2010, 2009, 2008, 2007, and 2006, respectively. The CV for the appliance total estimate (5,200) for 2008 through 2010 is 0.1314.

⁸ The combined TV, furniture, and appliance CVs are 0.0876, 0.0790, 0.0715, 0.0646, and 0.0811 for 2010, 2009, 2008, 2007, and 2006, respectively. The CV for the total estimate (130,271) for 2008 through 2010 is 0.0714.

Table 2 records the annual average estimated injuries by victim age category. Notice that the category, younger than 10 years of age, is the largest age category (53 percent) associated with instability of televisions, furniture, and appliances.

Table 2
Estimated Annual Average Emergency Department-Treated Injuries
Associated with Product Instability by Victim Age Category, 2008–2010

Victim Age Category (years)	Estimated Emergency Department-Treated Injuries	
	Estimate ⁹	Percent of Total ¹⁰
<1 through 9	22,800	53%
10 through 19	3,400	8%
20 through 29	4,900	11%
30 through 39	3,600	8%
40 through 49	3,300	8%
50 through 59	2,500	6%
≥ 60	3,000	7%

Source: U.S. Consumer Product Safety Commission: National Electronic Injury Surveillance System (NEISS). NEISS is a probability sample of U.S. hospitals that have emergency departments. The estimates include cases for appliance, furniture, or television product codes, as described in Appendix B.

⁹ The estimates are rounded to the nearest hundred. The CVs for the total estimates for 2008–2010 are 0.0847 (total est. 68,400) for 0–9, 0.1035 (total est. 10,100) for 10–19, 0.0876 (total est. 14,600) for 20–29, 0.0987 (total est. 10,700) for 30–39, 0.1247 (total est. 9,900) for 40–49, 0.01141 (total est. 7,500) for 50–59, 0.1114 (total est. 9,000) for 60-plus age categories.

¹⁰ Percentages may not sum to 100 percent, due to rounding.

For the remainder of the estimated injuries' section, the age categories of child (less than 18 years), adult (18 years to younger than 60 years), and senior (60 years or older) will be used when discussing instability of televisions, furniture, and appliances. Children account for 58 percent of the appliance, furniture, and television instability, emergency department-treated injury estimate (43,400). Adults and seniors account for 35 percent and 7 percent, respectively. Table 3 gives the estimated number of emergency department-treated injuries. A statistical difference is suggested because the confidence intervals for each victim age category do not overlap.

The 43,400 injury estimate can be refined by product categories in many cases. Table 3 presents these estimates. Children experience the most injuries with televisions (estimated 13,700) and furniture (estimated 11,500 injuries). Adults and seniors experience the most injuries with furniture (estimated 9,300 and 1,800 injuries, respectively). Children had the highest rates annually for televisions, with 18 emergency department-treated injuries per 100,000 children, followed by furniture, with 15 emergency department-treated injuries per 100,000 children.

Table 3
Estimated Annual Average Total Number of Emergency Department-Treated Injuries
Associated with Product Instability by Victim Age Category, 2008–2010

Annual Average	Estimated Emergency Department-Treated Injuries ¹¹ (Emergency Department Injuries Per 100,000 Population ¹²)		
	Children ¹³ (<1 to 17 years)	Adults ¹⁴ (18 to 59 years)	Seniors ¹⁵ (60+ years)
Televisions, Furniture, and Appliances Total	25,300 (34)	15,100 (9)	3,000 (5)
Avg 95% Confidence Interval (CI)	(21,100, 29,500) (28, 40)	(12,900, 17,400) (7, 10)	(2,400, 3,700) (4, 7)
Televisions	13,700 (18)	4,400 (3)	–
Only Furniture	11,500 (15)	9,300 (5)	1,800 (3)
Appliances	–	1,400 (1)	–

Source: U.S. Consumer Product Safety Commission: National Electronic Injury Surveillance System (NEISS). NEISS is a probability sample of U.S. hospitals that have emergency departments. The estimates include cases for appliance, furniture, or television product codes, as described in Appendix B.

¹¹ The estimates are rounded to the nearest hundred, and dashes indicate instances where estimates did not occur with high enough frequencies to support reliable statistical estimates.

¹² U. S. population for children, adults, and seniors is an average of 2008, 2009, and 2010 data for each age category for the month of July from Census data (<http://www.census.gov/popest/national/asrh/2009-nat-res.html>).

¹³ For children, the CVs for the estimates (2008–2010) are 0.0857 and 0.0928 for televisions and furniture, respectively. The CV for the total estimate for children (2008–2010) is 0.0844.

¹⁴ For adults, the CVs for the estimates (2008–2010) are 0.0883, 0.0873, and 0.1455 for televisions, furniture, and appliances, respectively. The CV for the total estimates for adults (2008–2010) is 0.0750.

¹⁵ For seniors, the CV for the estimate (2008–2010) is 0.1131 for furniture. The CV for the total estimate for seniors (2008–2010) is 0.1114.

The furniture estimates can be refined further by furniture subtypes. For the furniture instability estimate for children (11,500), tables accounted for 3,900 injuries; chests, bureaus, and dressers for 3,200 injuries; and shelves, shelving units, and bookcases for 2,200 injuries. Looking at the furniture instability estimate for adults (9,300), tables were associated with 2,600 injuries; shelves, shelving units, and bookcases with 2,500 injuries; chests, bureaus, and dressers with 1,500 injuries; and cabinets with 1,400 injuries. The remaining (2,200 for children and 1,300 for adults) estimated injuries were associated with a range of furniture subcategories, but they did not occur with high enough frequencies to support reliable statistical estimates.¹⁶ Estimates for furniture subcategories for seniors could not be generated for this reason as well. Table 4 shows the estimate details.

Table 4
Estimated Annual Average Emergency Department-Treated Injuries
Associated with Product Instability by Furniture Subcategories, 2008–2010

Furniture Subtype	Estimated Emergency Department-Treated Injuries ¹⁷	
	Children ¹⁸ (<1 to 17 years)	Adults ¹⁹ (18 to 59 years)
Tables	3,900	2,600
Chests, Bureaus, and Dressers (CBD)	3,200	1,500
Shelving, Shelving Units, and Bookcases (Shelf)	2,200	2,500
Cabinets	–	1,400

Source: U.S. Consumer Product Safety Commission: National Electronic Injury Surveillance System (NEISS). NEISS is a probability sample of U.S. hospitals that have emergency departments. The estimates include cases for appliance, furniture, and television product codes, as described in Appendix B.

¹⁶ The criteria for estimates are discussed in Appendix A.

¹⁷ The estimates are rounded to the nearest hundred, and dashes indicate instances where estimates did not occur with high enough frequencies to support reliable statistical estimates.

¹⁸ For children, the CVs for the total estimates (2008–2010) are 0.1330 for tables; 0.1267 for CBDs; and 0.0965 for shelves.

¹⁹ For adults, the CVs for the total estimates (2008–2010) are 0.1370 for tables; 0.1244 for CBDs; 0.1358 for shelves; and 0.1564 for cabinets.

Table 5 gives the estimates for each victim age category by product and gender. Seniors are not included in this table because there were not high enough frequencies to support reliable statistical estimates.²⁰ For adults, the estimates suggest a difference by gender for television²¹ and furniture²² subcategories.

Table 5
Estimated Annual Average Emergency Department-Treated Injuries
Associated with Product Instability by Gender, 2008–2010

Product Category	Estimated Emergency Department-Treated Injuries ²³			
	Children (<1 to 17 years)		Adults (18 to 59 years)	
	Male ²⁴	Female ²⁵	Male ²⁶	Female ²⁷
Televisions	7,600	6,100	1,500	2,900
Only Furniture	6,500	5,000	3,600	5,700

Source: U.S. Consumer Product Safety Commission: National Electronic Injury Surveillance System (NEISS). NEISS is a probability sample of U.S. hospitals that have emergency departments. The estimates include cases for appliance, furniture, and television product codes, as described in Appendix B.

For location, 71 percent of the estimated 43,400 injuries occurred in a residential location. There were 4 percent in public locations, and the remaining 24 percent did not record the location.²⁸ These percentages are similar for children (76 percent residential and 4 percent public) and adults (66 percent residential and 3 percent public).

²⁰ The criteria for estimates are discussed in Appendix A.

²¹ For adults and televisions, avg 95% CI is (1,200, 1,900) for males, and (2,300, 3,500) for females.

²² For adults and furniture, avg 95% CI is (2,800, 4,400) for males, and (4,600, 6,800) for females.

²³ The estimates are rounded to the nearest hundred.

²⁴ For male children, the CVs for the total estimates (2008–2010) are 0.0875 for televisions, and 0.1003 for furniture.

²⁵ For female children, the CVs for the total estimates (2008–2010) are 0.0959 for televisions, and 0.0957 for furniture.

²⁶ For male adults, the CVs for the total estimates (2008–2010) are 0.1209 for televisions, and 0.1149 for furniture.

²⁷ For female adults, the CVs for the total estimates (2008–2010) are 0.1059 for televisions, and 0.0976 for furniture.

²⁸ Percentages may not sum to 100 percent, due to rounding.

The majority of victims (94 percent for children, 97 percent for adults, and 87 percent for seniors) of these emergency department-treated injuries were treated and released, or examined and released without treatment. The diagnoses, which are independent of the disposition, such as treated and released, could be examined for children and adults only.²⁹ Children had their largest diagnosis with contusions/abrasions (9,800). This is followed by internal organ injuries (4,900), lacerations (4,000), and fractures (3,200). Adults had their largest injury diagnosis with contusions and abrasions (6,300), as well. This is followed by fractures (2,200), lacerations (1,900), and strains/sprains (1,400). Table 6 illustrates the estimates, where applicable.

Table 6
Estimated Annual Average Emergency Department-Treated Injuries
Associated with Product Instability by Diagnosis, 2008–2010

Diagnosis	Estimated Emergency Department-Treated Injuries ³⁰	
	Children ³¹ (<1 to 17 years)	Adults ³² (18 to 59 years)
Contusions, Abrasions	9,800	6,300
Internal Organ Injury	4,900	–
Lacerations	4,000	1,900
Fractures	3,200	2,200
Strains or Sprains	–	1,400

Source: U.S. Consumer Product Safety Commission: National Electronic Injury Surveillance System (NEISS). NEISS is a probability sample of U.S. hospitals that have emergency departments. The estimates include cases for appliance, furniture, and television product codes, as described in Appendix B.

²⁹ Seniors are not included in this because there were not high enough frequencies to support reliable statistical estimates. Refer to Appendix A for criteria for estimates.

³⁰ The estimates are rounded to the nearest hundred, and dashes indicate instances where estimates did not occur with high enough frequencies to support reliable statistical estimates.

³¹ For children, the CVs for the total estimates (2008–2010) are 0.0878 for contusions/abrasions; 0.1215 for internal organ injury; 0.0928 for lacerations; and 0.1325 for fractures.

³² For adults, the CVs for the total estimates (2008–2010) are 0.0798 for contusions/abrasions; 0.1184 for lacerations; 0.1214 for fractures; and 0.1238 for strains/sprains.

For the primary area of the body affected in these injuries, Table 7 shows the estimate by victim age category, where possible. Children had the most injuries affecting the head (13,200), while adults had the most injuries affecting the legs, feet, and toes (6,400). Seniors are not included in this table because there were not high enough frequencies to support reliable statistical estimates.³³

Table 7
Estimated Annual Average Emergency Department-Treated Injuries
Associated with Product Instability by Area of Body, 2008–2010

Primary Area of Body Affected	Estimated Emergency Department-Treated Injuries ³⁴	
	Children ³⁵ (<1 to 17 years)	Adults ³⁶ (18 to 59 years)
Head	13,200	3,000
Legs, Feet, and Toes (Legs)	7,300	6,400
Arms, Hands, and Fingers (Arms)	2,700	4,200
Torso	1,900	1,600

Source: U.S. Consumer Product Safety Commission: National Electronic Injury Surveillance System (NEISS). NEISS is a probability sample of U.S. hospitals that have emergency departments. The estimates include cases for appliance, furniture, and television product codes, as described in Appendix B.

³³ The criteria for estimates are discussed in Appendix A.

³⁴ The estimates are rounded to the nearest hundred.

³⁵ For children, the CVs for the total estimates (2008–2010) are 0.0836 for head; 0.1000 for legs; 0.1329 for arms; and 0.1161 for torso.

³⁶ For adults, the CVs for the total estimates (2008–2010) are 0.1151 for head; 0.0897 for legs; 0.0795 for arms; and 0.1308 for torso.

Reported Fatalities

CPSC staff has received 293 reports of fatalities that occurred between 2000 and 2010, and that are related to appliance, furniture, or television instability. Of these 293 reported fatalities, 60 percent (176 deaths) involved televisions falling, with 71 of the 176 fatalities associated with televisions along with the furniture in/on which the television was resting falling as well. Thirty-one percent (92 deaths) of the 293 reported fatalities were associated with only furniture falling. The remaining 9 percent (25 deaths) involved appliances falling. Table 8 presents the instability data for televisions, furniture, and appliances by year of incident.

Table 8
Fatalities Reported to CPSC Staff Associated with Product Instability
by Year, 2000–2010

Year	Televisions (TV + Furniture) ³⁷	Only Furniture	Appliances	Television, Furniture, and Appliance Total	Percent of Total (n = 293) ³⁸
2010*	16 (3)	3	2	21	7%
2009*	19 (11)	6	1	26	9%
2008*	26 (10)	10	0	36	12%
2007	25 (14)	6	0	31	11%
2006	23 (7)	5	3	31	11%
2005	18 (10)	10	2	30	10%
2004	11 (2)	13	1	25	9%
2003	9 (1)	6	4	19	6%
2002	10 (4)	10	3	23	8%
2001	12 (5)	19	6	37	13%
2000	7 (4)	4	3	14	5%
Product Category Total	176 (71)	92	25	293	
Percent of Total (n = 293)	60% (24%)	31%	9%		

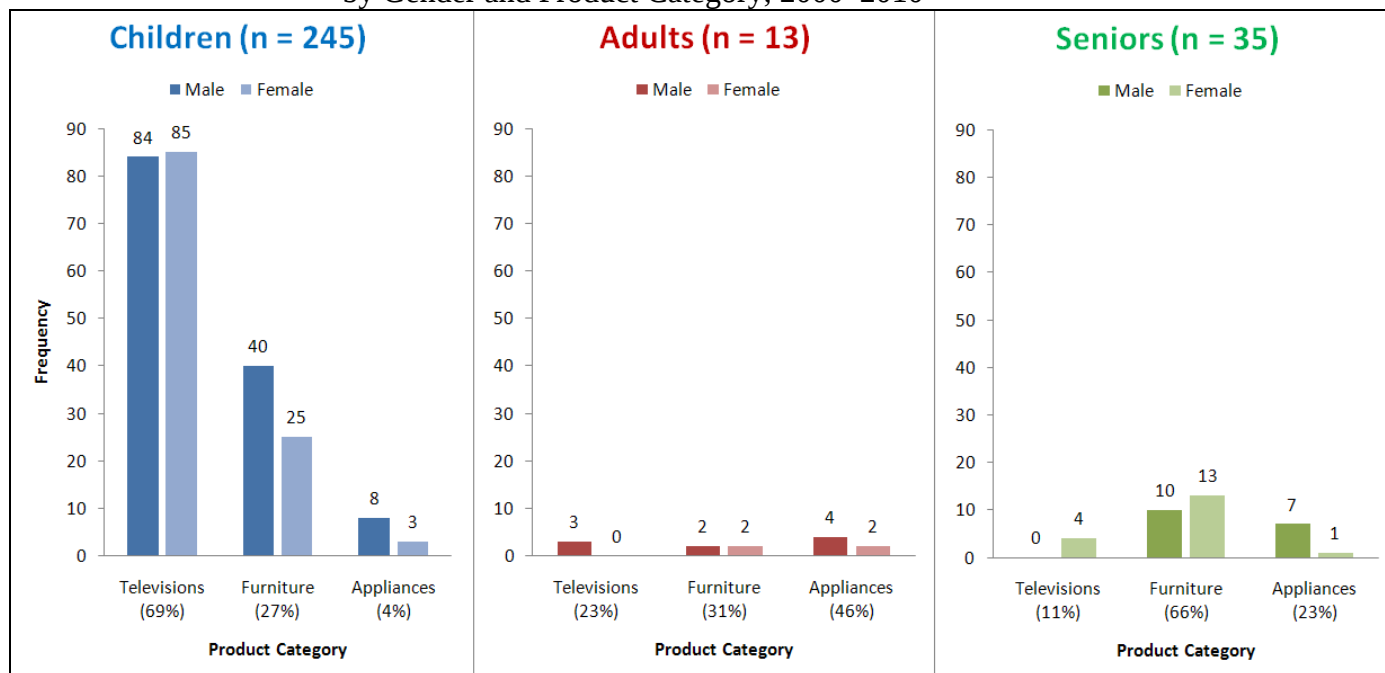
Source: CPSC databases, including NEISS (National Electronic Injury Surveillance System), IPII (Injury and Potential Injury Incidents), DTHS (Deaths), and INDP (In-depth Investigations). Asterisks (*) indicate ongoing reporting.

³⁷ Numbers within parentheses represent the subset of televisions falling, where both the television and furniture fell.

³⁸ Percentages may not sum to 100 percent, due to rounding.

The fatalities were separated into three distinct age categories: (1) children (younger than 18 years of age); (2) adults (18 years of age or older, but less than 60 years); and (3) seniors (60 years of age or older). Eighty-four percent (245 deaths) of these fatalities were children. This is followed by seniors with 12 percent (35 deaths); and the remaining victims were adults (4 percent; 13 deaths). Of the 245 child fatalities, 69 percent (169 deaths) involved falling televisions, and 27 percent (65 deaths) involved only furniture falling. Examining the 35 senior fatalities, 66 percent (23 deaths) involved only furniture falling, and 23 percent (8 deaths) involved appliances falling. Child fatalities involving televisions do not appear to differ according to gender (50 percent male versus 50 percent female). The fatalities involving children and furniture suggest differences based on gender (62 percent male, versus 38 percent female). For other fatalities, it is harder to examine differences, due to small counts. Graph 1 illustrates these frequencies by gender, product, and victim age category.

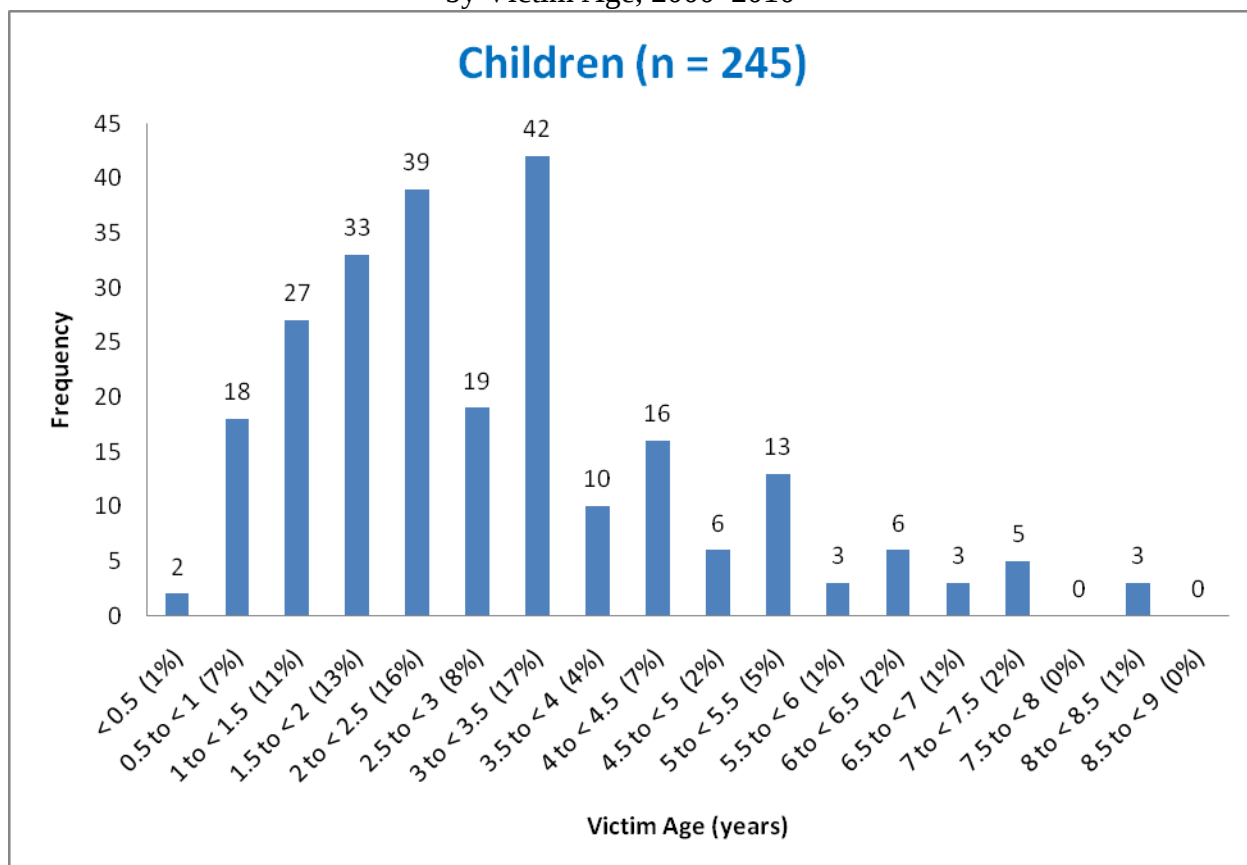
Graph 1
Fatalities Reported to CPSC Staff Associated with Product Instability
by Gender and Product Category, 2000–2010



Source: CPSC databases, including NEISS (National Electronic Injury Surveillance System), IPII (Injury and Potential Injury Incidents), DTHS (Deaths), and INDP (In-depth Investigations).

Counts by victim age categories for the 245 fatalities involving children are presented in Graph 2. Children ranged in age from 1 month to 8 years. Sixty-five percent (160 deaths) of the children were at least 1 year of age and less than 3 ½ years of age.

Graph 2
Child Fatalities Reported to CPSC Staff Associated with Product Instability
by Victim Age, 2000–2010³⁹

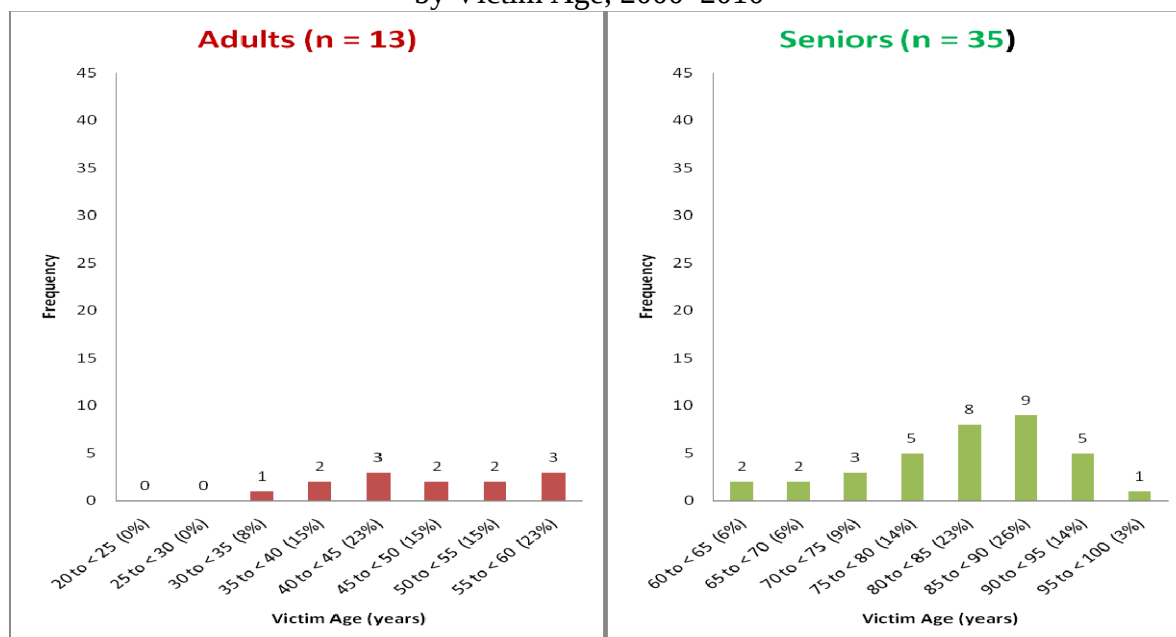


Source: CPSC databases, including NEISS (National Electronic Injury Surveillance System), IPII (Injury and Potential Injury Incidents), DTHS (Deaths), and INDP (In-depth Investigations).

³⁹ Percentages may not sum to 100 percent, due to rounding.

Adults and seniors account for 48 fatalities. The adults ranged in age from 31 years to 59 years, and the seniors ranged in age from 61 years to 96 years. Fifty-eight percent (28 deaths) of the fatalities happened to seniors who were 75 years of age or older. Graph 3 illustrates the ages for these two groups.

Graph 3
Adult & Senior Fatalities Reported to CPSC Staff Associated with Product Instability
by Victim Age, 2000–2010⁴⁰

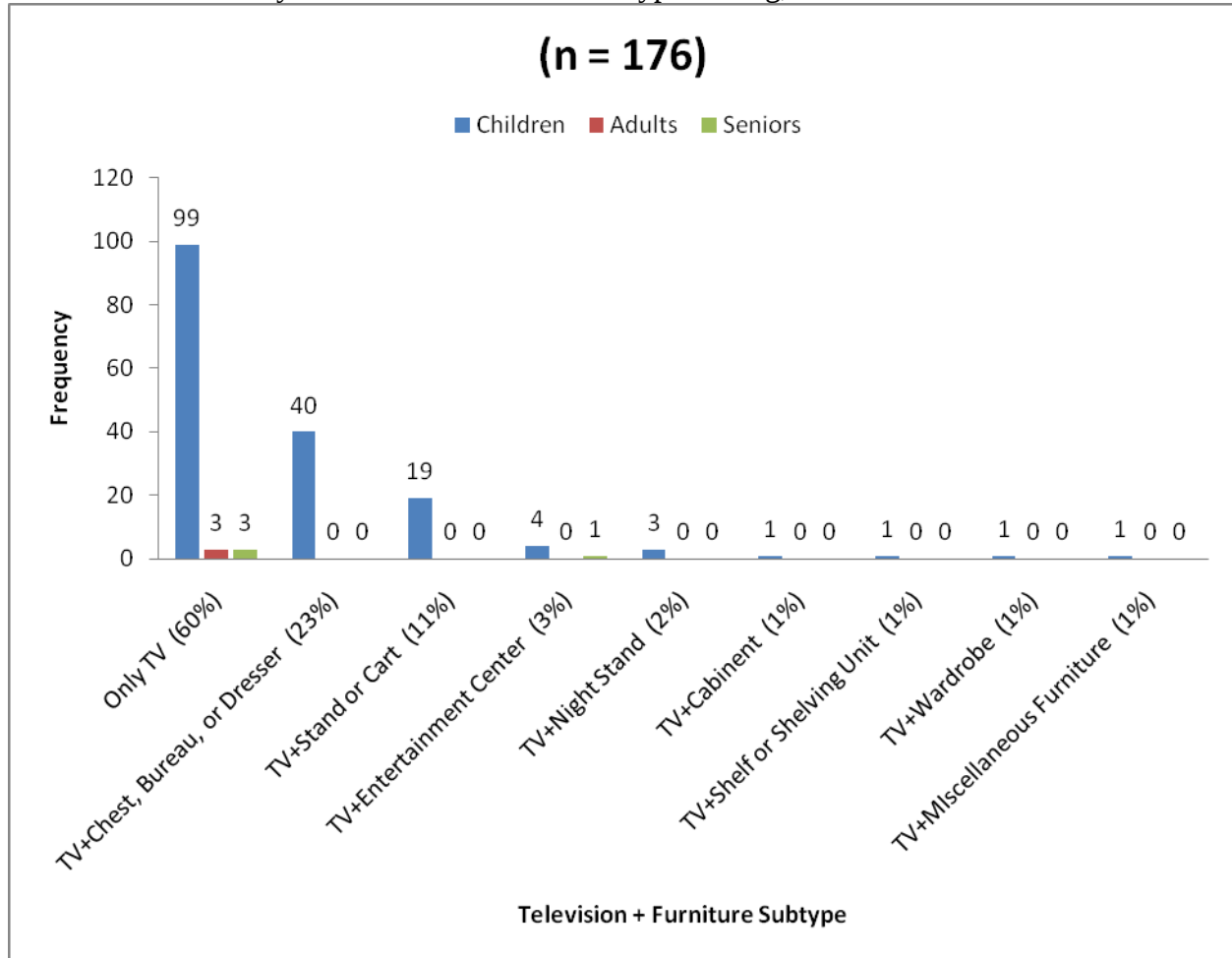


Source: CPSC databases, including NEISS (National Electronic Injury Surveillance System), IPII (Injury and Potential Injury Incidents), DTHS (Deaths), and INDP (In-depth Investigations).

⁴⁰ Percentages may not sum to 100 percent, due to rounding.

Sixty percent (176 deaths) of the 293 fatalities involved televisions. Of these 176 deaths, 96 percent (169 fatalities) were children; 2 percent (3 fatalities) were adults; and 2 percent (4 fatalities) were seniors. In 60 percent (105 deaths) of the 176 television-related fatalities, only the television fell without furniture also falling. This is followed by a television plus a chest, bureau, or dresser falling (23 percent; 40 deaths), and a television plus a cart/stand (11 percent; 19 deaths). Graph 4 shows the frequencies.

Graph 4
Fatalities Reported to CPSC Staff Associated with Product Instability
by Television and Furniture Type Falling,⁴¹ 2000–2010⁴²



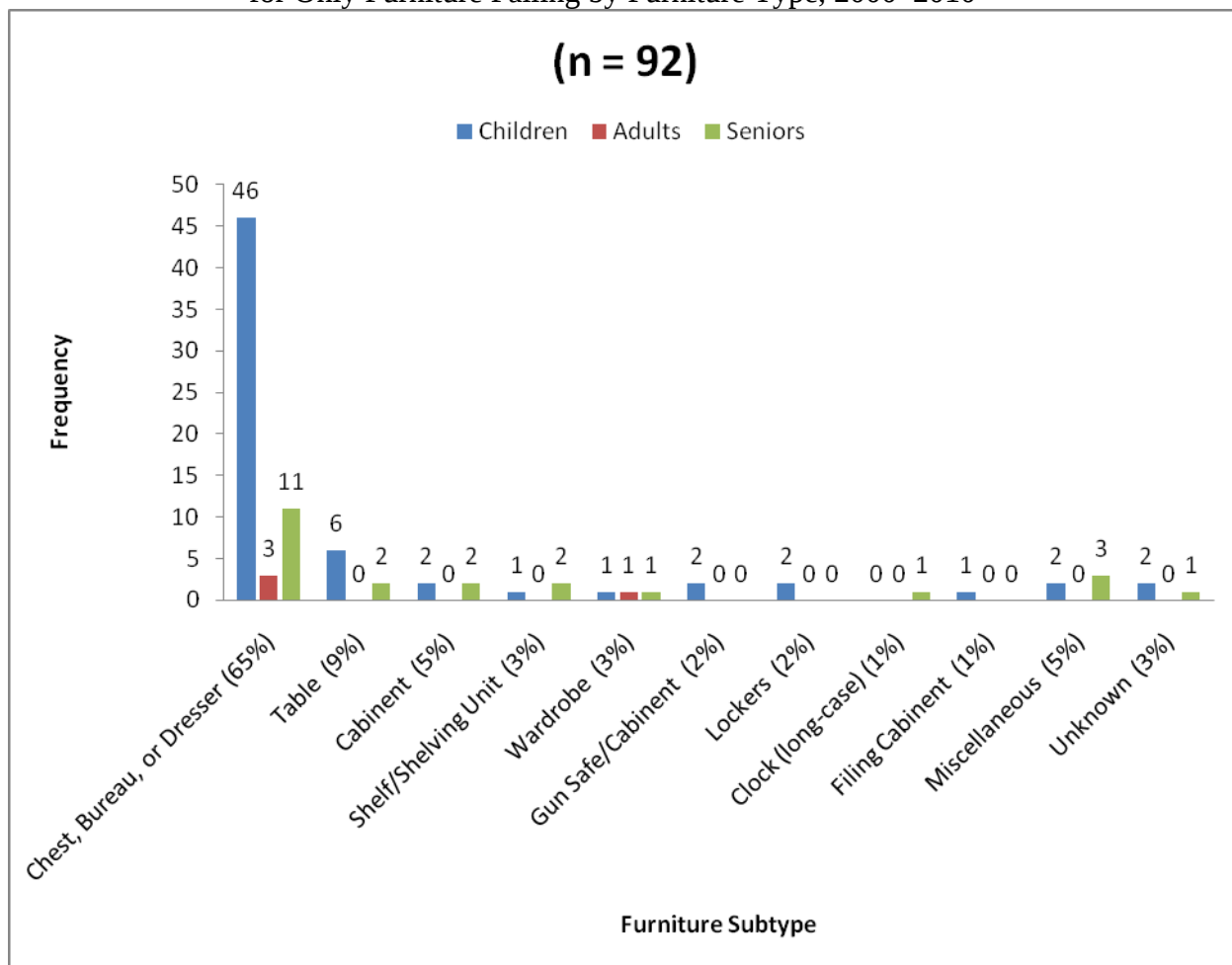
Source: CPSC databases, including NEISS (National Electronic Injury Surveillance System), IPII (Injury and Potential Injury Incidents), DTHS (Deaths), and INDP (In-depth Investigations).

⁴¹ Fatalities where it could not be determined if the furniture fell are counted as only the TV falling.

⁴² Percentages may not sum to 100, due to rounding.

Of the 293 fatalities, 31 percent (92 deaths) involved only furniture falling. For these 92 deaths, 71 percent (65 fatalities) were children; 25 percent (23 fatalities) were seniors; and 4 percent (4 fatalities) were adults. Graph 5 gives the frequencies for deaths by furniture type and victim age involving only furniture falling as a result of instability. Notice that the chest, bureau, or dresser category has the largest count (65 percent; 60 deaths).

Graph 5
Fatalities Reported to CPSC Staff Associated with Product Instability
for Only Furniture Falling by Furniture Type, 2000–2010⁴³

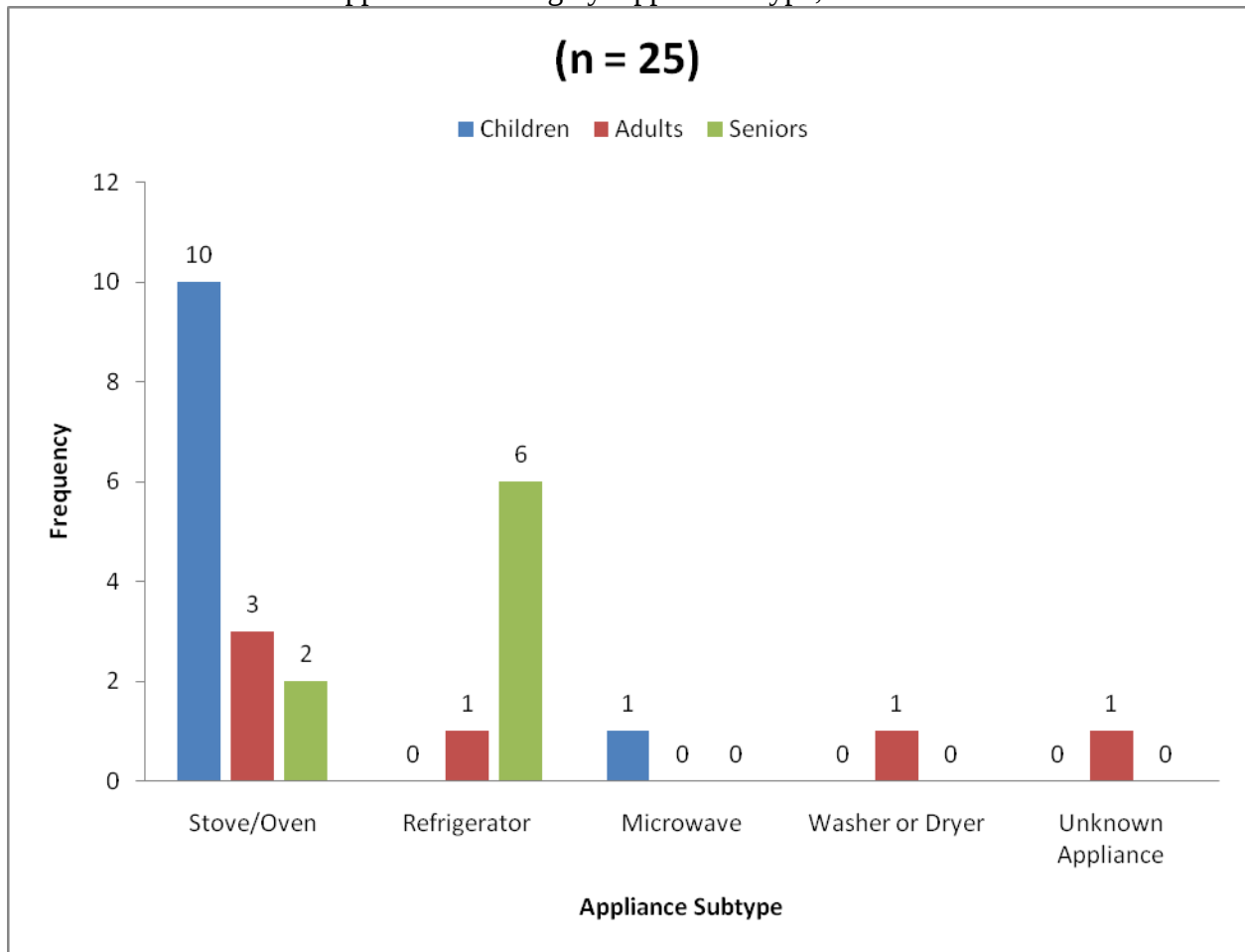


Source: CPSC databases, including NEISS (National Electronic Injury Surveillance System), IPII (Injury and Potential Injury Incidents), DTHS (Deaths), and INDP (In-depth Investigations).

⁴³ Percentages may not sum to 100, due to rounding.

The remaining 9 percent (25 deaths) of the 293 fatalities involved appliances falling. For these 25 deaths, 11 fatalities were children; 8 were seniors; and 6 were adults. Percentages are not given for appliances, due to the small number of deaths. For appliances, the stove category included the largest number of fatalities (15 deaths). Graph 6 presents these frequencies.

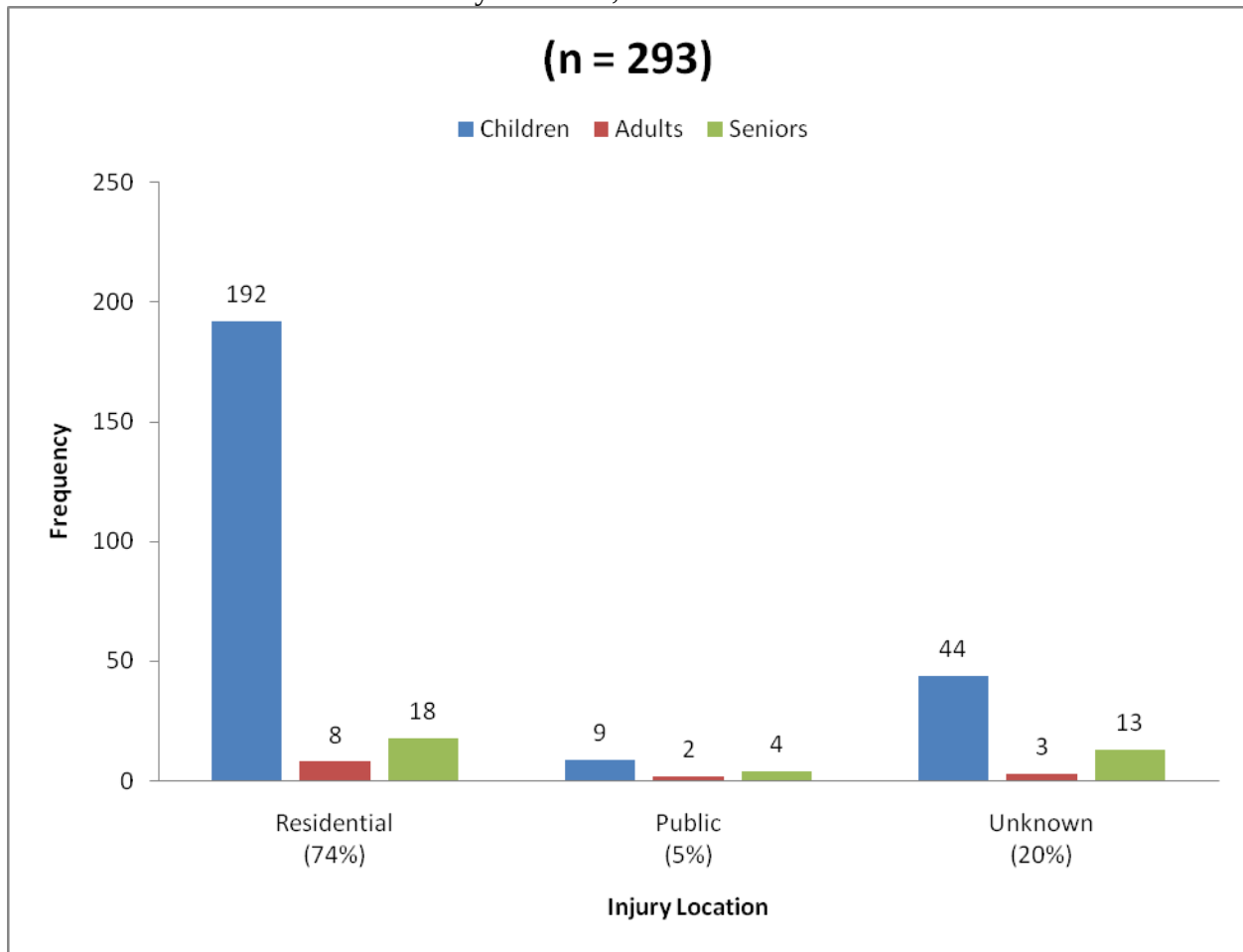
Graph 6
Fatalities Reported to CPSC Staff Associated with Product Instability
for Appliances Falling by Appliance Type, 2000–2010



Source: CPSC databases, including NEISS (National Electronic Injury Surveillance System), IPII (Injury and Potential Injury Incidents), DTHS (Deaths), and INDP (In-depth Investigations).

Residential locations account for 74 percent (218 deaths) of the fatalities. Five percent occurred in public locations (15 deaths); and 20 percent (60 deaths) did not provide enough information to determine the location. Fatalities of children had a similar distribution by location (78 percent residential, 4 percent public, and 18 percent unknown). Graph 7 lists these details.

Graph 7
Fatalities Reported to CPSC Staff Associated with Product Instability
by Location, 2000–2010⁴⁴

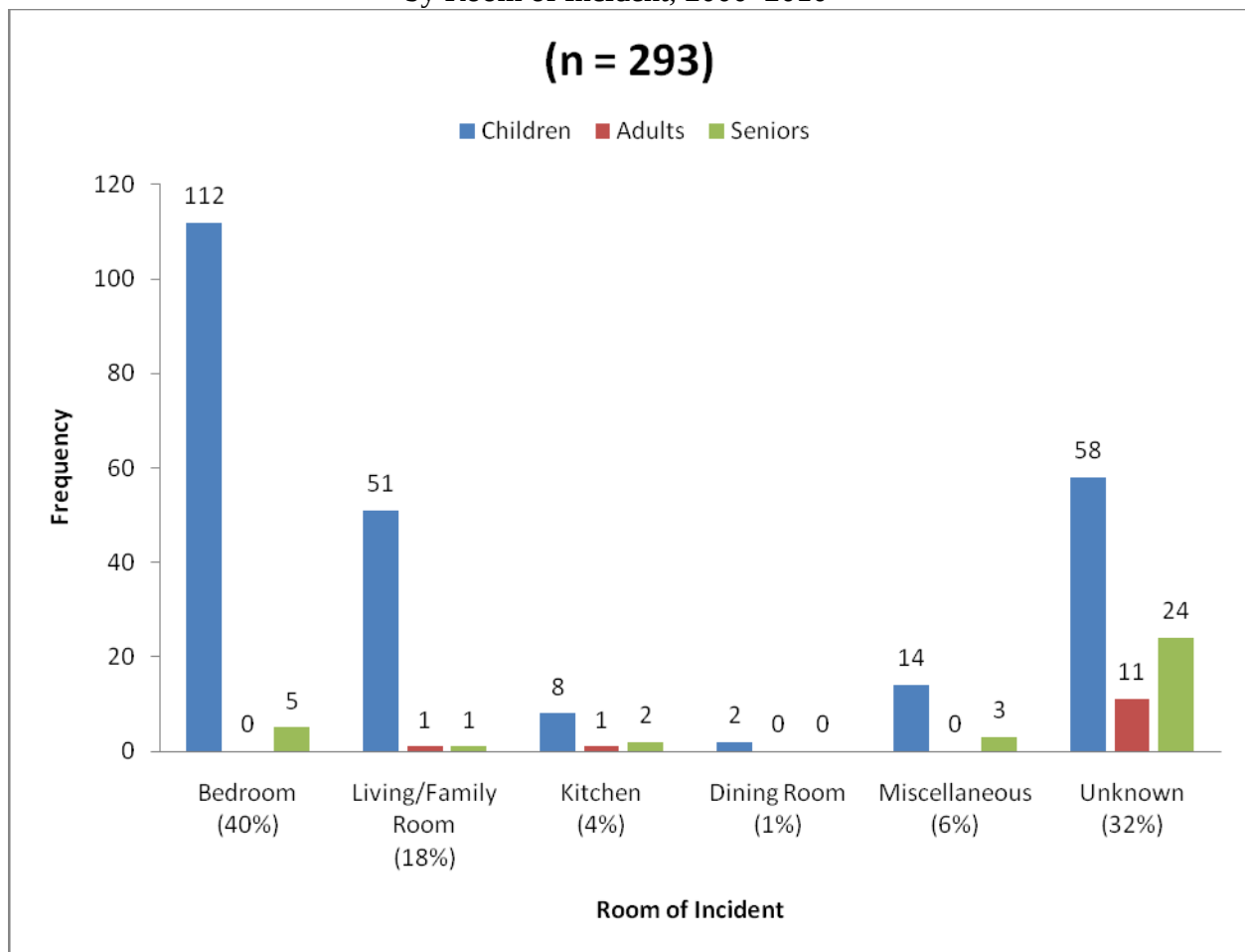


Source: CPSC databases, including NEISS (National Electronic Injury Surveillance System), IPII (Injury and Potential Injury Incidents), DTHS (Deaths), and INDP (In-depth Investigations).

⁴⁴ Percentages may not sum to 100 percent, due to rounding.

For the room where the incident occurred, the bedroom had the largest number of fatalities, with 40 percent (117 deaths). This is followed by the living/family room, with 18 percent (53 deaths). There is also a large portion of unknown locations (32 percent; 93 deaths) for this room-of-incident variable. Of the fatalities involving children (245 deaths), 46 percent occurred in bedrooms, and 21 percent happened in living/family rooms. For adults and seniors (13 adult deaths; 35 senior deaths), there were many unknown locations (85 percent for adults, and 69 percent for seniors). Graph 8 details this characteristic.

Graph 8
Fatalities Reported to CPSC Staff Associated with Product Instability
by Room of Incident, 2000–2010⁴⁵

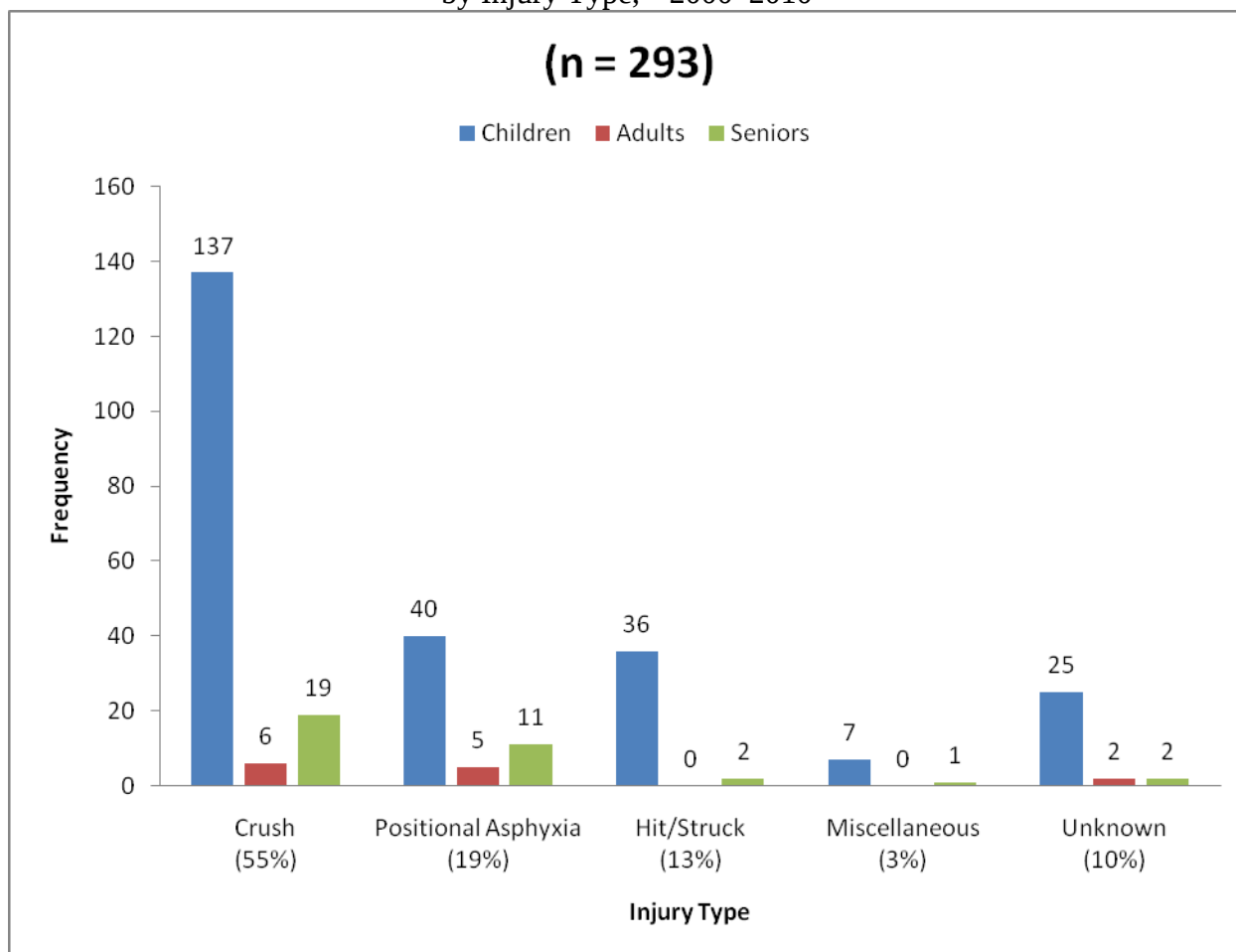


Source: CPSC databases, including NEISS (National Electronic Injury Surveillance System), IPII (Injury and Potential Injury Incidents), DTHS (Deaths), and INDP (In-depth Investigations).

⁴⁵ Percentages may not sum to 100, due to rounding.

The types of injuries seen in these reported fatalities were crushing injuries⁴⁶ mostly (55 percent). This is followed by positional asphyxia⁴⁷ (19 percent) and being hit/struck⁴⁸ (13 percent) by product(s). Crushing injuries accounted for the largest number of fatalities in each victim age category. Graph 9 details these frequencies by victim age and injury type.

Graph 9
Fatalities Reported to CPSC Staff Associated with Product Instability
by Injury Type,⁴⁹ 2000–2010



Source: CPSC databases, including NEISS (National Electronic Injury Surveillance System), IPII (Injury and Potential Injury Incidents), DTHS (Deaths), and INDP (In-depth Investigations).

⁴⁶ Crushing injuries are events in which it was clear that the product(s) fell on the victim and the victim remained under the product(s).

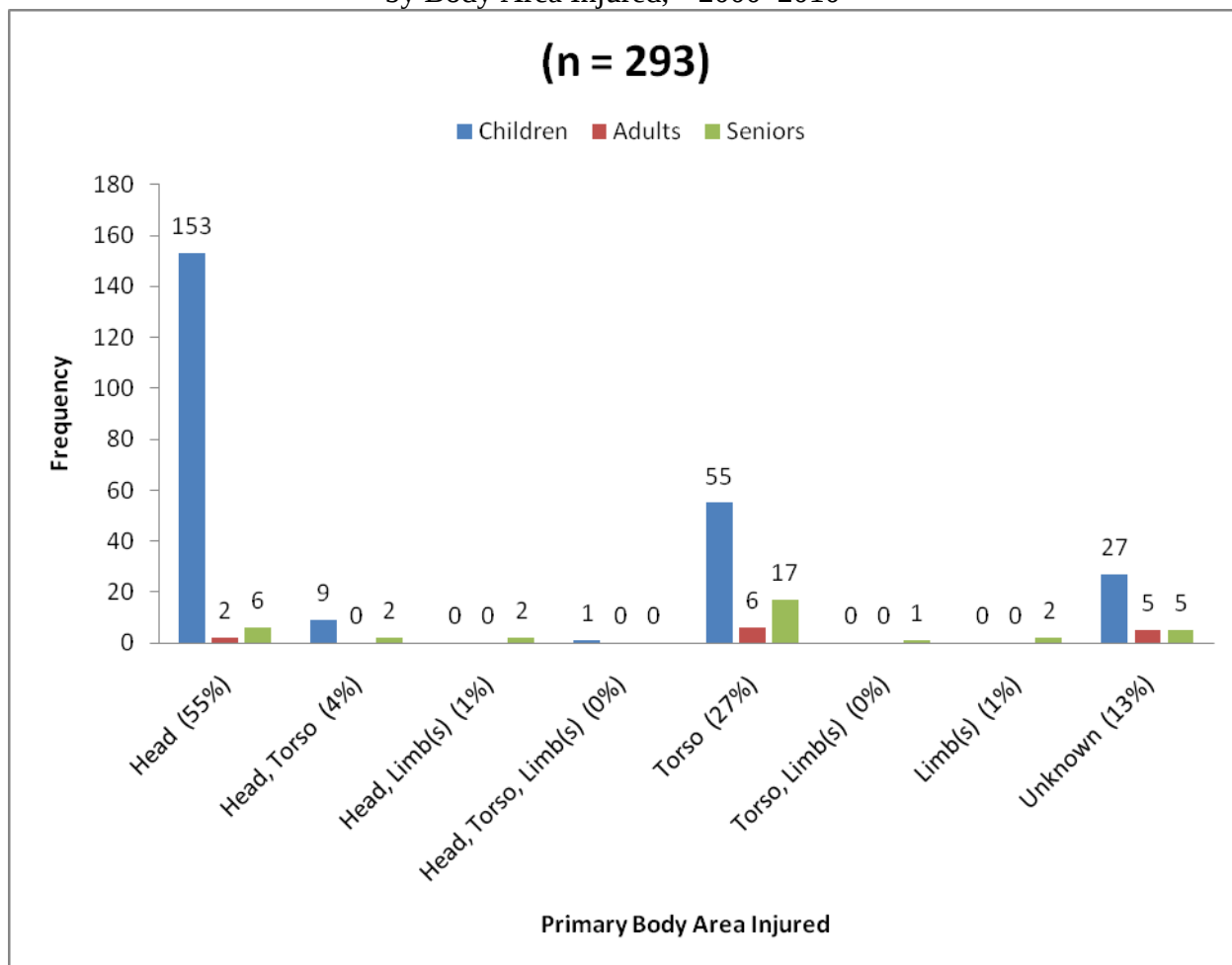
⁴⁷ Positional asphyxia is a form of asphyxia that occurs when the body position prevents adequate oxygen supply to the lungs, such as an upper airway obstruction or a limitation in chest wall expansion.

⁴⁸ Hit/struck by injuries are events in which it was clear the product(s) fell on the victim, but did not land or remain on the victim.

⁴⁹ CPSC Directorate for Health Sciences staff coded each fatality by injury type.

The head was the area of the body injured most frequently (55 percent head only; 4 percent head and torso; 1 percent head and limb(s)) in these reported fatalities; and this is followed by the torso (27 percent) only. Children had the most head injuries, compared to adults and seniors, who had more torso injuries. Graph 10 illustrates these frequencies by victim age and body area injured.

Graph 10
Fatalities Reported to CPSC Staff Associated with Product Instability
by Body Area Injured,⁵⁰ 2000–2010⁵¹



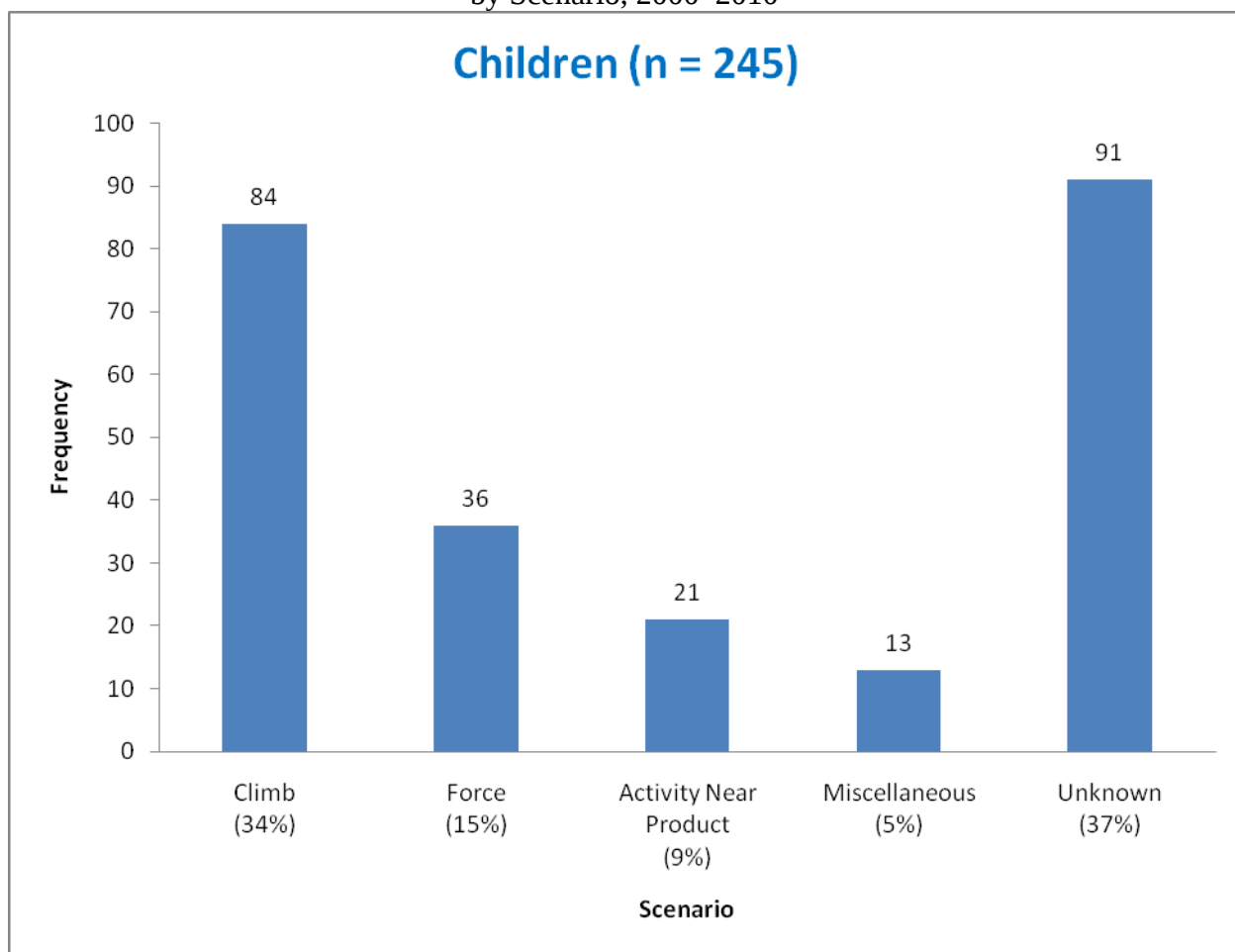
Source: CPSC databases, including NEISS (National Electronic Injury Surveillance System), IPII (Injury and Potential Injury Incidents), DTHS (Deaths), and INDP (In-depth Investigations).

⁵⁰ CPSC Directorate for Health Sciences staff coded the body area injured each fatality.

⁵¹ Percentages may not sum to 100, due to rounding.

The hazard scenarios were classified, where possible. The scenarios for the 48 deaths involving adults and seniors did not have enough details in most cases to be classified. Accordingly, Graph 11 gives frequencies for children only. Of the 245 deaths involving children, there is also a large set of unknown scenarios (37 percent; 91 deaths). In 34 percent (84 deaths) of the child fatalities, the victim or someone else was climbing on the furniture and/or television. This is followed by scenarios in which force was being applied to the furniture and/or television, such as hitting, pulling, or kicking (15 percent; 36 deaths). In 9 percent (21 deaths), the victim was involved in some activity near the product, such as playing nearby or adjusting the controls on a TV or electronic device connected to the TV. The remaining 5 percent (13 deaths) have known scenarios that do not fit into the other categories. Graph 11 gives the counts.

Graph 11
Child Fatalities Reported to CPSC Staff Associated with Product Instability
by Scenario, 2000–2010



Source: CPSC databases, including NEISS (National Electronic Injury Surveillance System), IPII (Injury and Potential Injury Incidents), DTHS (Deaths), and INDP (In-depth Investigations).

Appendix A

Methodology for Instability of Televisions, Furniture, and Appliances Estimated Injuries and Reported Fatalities

A multidisciplinary team of CPSC staff met to discuss terminology, the types of products of interest, and what types of incidents should be counted for product-associated instability. Instability leads to a product falling as a result of some issue with the product's center of gravity changing. This could be the result of some issue with the product itself, the placement of the product, or the interaction(s) of individual(s) with the product. For the purpose of this report, instability can concern heavy objects that fall on an individual as a result of some type of interaction, such as climbing or exerting a force on the object while it is in one of its positions of normal use. This interaction with the product results in the center of gravity of the product changing. When the product falls on an individual, the injuries typically are crushing or compressing in nature. The instability definition helps to set the criteria for the types of scenarios and products that have been included in the data.

In examining the types of products, staff considered whether the product was heavy and whether it potentially could inflict crushing or compressing injuries. The additional criterion of the potential interaction of the individual with the product was also important. The categories of televisions, furniture, and appliances fit these criteria. The individual product codes were chosen based on the product's potential to fall, the product's size, and its weight. Other products, such as chairs, couches, and beds were also excluded, due to the emphasis on products that are more upright and those that were not meant to sit, stand, or lie upon.

The potential product codes were determined from categories associated with televisions, furniture, and appliances. These product codes were updated from previous years, and six new codes were added (557, 709, 1260, 280, 1823, and 3233); and container codes (1107, 1112, 1123, and 1125) used in previous years were removed from the potential product codes to examine. Table 9 identifies the potential product codes used to extract the instability of televisions, furniture, and appliance data. The product codes in bold are new in the table.

Table 9
Potential Television, Furniture, and Appliance Product Codes
Associated with Instability⁵²

Product Category	NEISS Product Code	Description
Television	557	Computers (equipment and electronic games)
Television	572	Televisions
Furniture	519	Television tables or stands
Furniture	604	Desks, chests, bureaus, or buffets
Furniture	693	Footlockers
Furniture	709	Safes
Furniture	1260	Billards or pool (activity, apparel or equipment)
Furniture	1684	Carts, other, or not specified
Furniture	1726	Lockers
Furniture	4013	Other furniture
Furniture	4014	Furniture, not specified
Furniture	4056	Cabinets, racks, room dividers, and shelves
Furniture	4057	Tables (excl. baby changing tables, billiard tables, or pool tables)
Furniture	4065	Clocks, electric or battery operated
Furniture	4067	Clocks, not electric or battery operated or not specified
Appliance	101	Washing machines without wringers or other dryers
Appliance	102	Wringer washing machines
Appliance	106	Electric clothes dryers without washers
Appliance	107	Gas clothes dryers without washers
Appliance	126	Washing machines, not specified
Appliance	127	Clothes dryers, not specified
Appliance	135	Washer-Dryer combinations (within one frame)
Appliance	140	Washing machines, other or not specified
Appliance	214	Dishwashers
Appliance	252	Trash compactors
Appliance	259	Electric ranges (with ovens)
Appliance	260	Gas ranges (with ovens)
Appliance	263	Freezers (separate from refrigerators)
Appliance	264	Microwave ovens
Appliance	266	Ovens, not specified
Appliance	267	Other ranges (with ovens)
Appliance	273	Ranges, not specified
Appliance	276	Refrigerators
Appliance	278	Electric ranges or ovens (excl. counter-top ovens)
Appliance	279	Gas ranges or ovens
Appliance	280	Other ranges or ovens
Appliance	281	Ranges or ovens, not specified
Appliance	482	Appliances, other and not specified
Appliance	1821	Clothelines or clothes drying racks (excluding poles)
Appliance	3233	Other grills or stoves

⁵² Source for product codes and descriptions is the NEISS Coding Manual (updated January 2011).

After the set of potential product codes was established, the next step was to determine what types of scenarios to look for in the narratives. Narrative key word searches were used with caution when extracting a potential set of data because the narrative field descriptions have so many possible word choices and sentence structures. Also, National Electronic Injury Surveillance System (NEISS) and Death Certificate (DTHS) narratives are often very terse and provide only basic information. For these reasons, the product codes and the time period were the criteria used to extract the data sets, and then the narratives were examined to determine if the incident met the definition(s) for instability. The incident was not included if only a part of the product fell, such as a door on an entertainment center. Cases involving adults moving products or people dropping products were removed because the product was not in its normal state of use. Products that were hanging on the wall and fell were also excluded. Appendix B gives more details about the conventions that were applied to the reported incidents to determine in-scope cases.

Injury estimates came from NEISS data extracted on June 27, 2011, for the years 2006 through 2010. The NEISS product codes used for the data were the television, furniture, and appliance codes mentioned above. Very detailed heuristics were used when examining the NEISS narratives due to the terse nature of the narratives. Appendix B gives the details for what was considered in scope. Since reports in NEISS are unique, there were no duplicates. NEISS data is a weighted sample from which national estimates can be produced, provided the sample count is greater than 20, the estimate is greater than 1,200, and the coefficient of variation (CV) is less than 33.

Data was extracted on June 8, 2011, from NEISS, Injury and Potential Injury Incidents (IPII), DTHS, and In-depth Investigations (INDP) for fatalities involving the appliance, furniture, and television codes mentioned above, covering the years 2000 through 2010. The data were merged with the data used in the last report (March 2011). It should be noted that, for a given year, incidents are included on an ongoing basis for IPII and DTHS. In particular, additional reports generally are received for the most recent years. Information from these cases was extracted into an Excel spreadsheet and sorted by incident state and date. Source documents were checked to eliminate duplicate incident reports. As fatal incidents are notable events in the community where they occur, often there were multiple news reports (IPII), a medical examiner's report (IPII), a death certificate (DTHS), an in-depth investigation (INDP), and less frequently, a hospital emergency department report (NEISS) for a single incident. IPII is a mixture of various types of information, including newspaper clippings, consumer complaints, and reports from other government agencies, such as medical examiners/coroners. Information is submitted voluntarily to IPII, so that staff cannot be sure that information on all of the deaths has been received. Once the incident set was established, the incidents were examined to code additional scenario characteristics.

All numbers in this report are rounded to the nearest integer, except for injury estimates, which are rounded to the nearest hundred. Because NEISS is a weighted sample, injury estimate category percentages were based on the category-weighted estimate, divided by the total weighted estimate. Injury count category percentages were based on the category sample size observed, divided by the total sample size. Death category percentages were based on the category count observed, divided by the total count.

Appendix B

Conventions for Determining In-Scope NEISS Incidents

NEISS incidents often have a terse narrative; accordingly, a more stringent set of rules was used when examining this NEISS set of potential instability incidents compared to fatalities extracted from the other CPSC epidemiological databases (IPII, DTHS, and INDP). This appendix lists the types of products included in the NEISS instability incidents associated with televisions, furniture, and appliances. Some of the rules were revised from the last NEISS data extraction and resulted in changes to the 2006, 2007, and 2008 NEISS estimates.

Unstable items included in the count:

1. Furniture:

- a. Armoire
- b. Bookcase
- c. Bureau
- d. Cabinet (Exclude: kitchen and medicine)
- e. Cart (Include only: microwave and TV)
- f. Chest (Exclude: jewelry and falling off shelf)
- g. Cupboard
- h. Desk (Exclude: at schools)
- i. Display case (Include only: in-home locations)
- j. Dresser
- k. Clocks, long case (Exclude: all other clocks)
- l. Locker (Include only: in-home locations)
- m. Pedestal
- n. Plant stand
- o. Rack (Include only: coat rack)
- p. Room divider
- q. Safe (Exclude: falling off shelf)
- r. Safety strap (Include: tethering in-scope items to a wall)
- s. Shelf (Exclude: mounting items on a wall)
- t. Stand (Exclude: in closets and in stores)
- u. Table (Include only: microwave, night, and TV)
- v. Vanity
- w. Wall unit

2. Appliances:

- a. Dishwasher
- b. Dryer
- c. Freezer
- d. Microwave
- e. Refrigerator (Include: mini fridge)
- f. Stove/Oven
- g. Trash compactor

h. Washing machine

Note: If the type of furniture or appliance is not specified in the narrative, then the incident is not included. Examples include the item that caused the injury being described by only the terms “furniture” or “appliance” in the narrative.

3. Electronics:

a. Computer screen/monitor (Exclude: “computer” and laptop)

b. Television

Note: All other electronics are not included in the count.

4. Locations:

a. Store (Exclude: cart, display case, rack, and shelf)

b. School (Exclude: desk and locker)

c. Other public locations (Exclude: locker)

5. Situation examples which caused an injury:

a. “tried to catch”

Ex: The patient tried to catch a falling TV and injured foot.

Ex: While at school the patient tried to stop a room divider from falling over and injured head.

b. “found under” (Exclude: desk and table)

Ex: Mom heard a loud crash, and she found her son lying under a dresser.

c. “pulled on self”

Ex: The infant pulled a TV down onto herself.

Ex: Grandma started to fall when she pulled a dresser onto herself in order to stop from falling.

Note: These incident types are counted when a narrative implies instability of an item occurred and is the reason for the hospital visit.

Unstable items not included in the count:

1. Anything falling from/off of/out of a wall, or attached/connected to a wall.

2. Ambiguity in the narrative:

a. What is the item that fell?

Ex: The patient was sitting next to an unstable table while leaning back in her chair when it fell over and landed on her.

(It is unclear to what ‘it’ is referenced. Does ‘it’ refer to the table or the chair?)

b. Which event caused the patient to seek treatment at the hospital?

Ex: The patient has a skull fracture. Either the patient bumped his head on a cabinet today, or yesterday a TV fell off a dresser onto his head.

(It is unclear for which incident the patient is being treated at the hospital)

3. Action verbs alone that do not describe instability, such as assemble, brake, collapse, drop, fix, hit, struck, and move.
Note: If a child 9 years old or younger “dropped” or “moved” an unstable item, or tipped over an item, causing the child to go to the hospital to seek treatment, then the incident is counted.
4. Components of furniture such as a door, drawer, handle, knob, panel, table leaf, and table top.
5. Furniture intended to be sat upon or laid on, such as a bed, bench, bleacher, chair, couch, futon, glider, love seat, recliner, and seat.
6. Appliance (examples): air conditioner, blender, boiler, broiler, crock pot, fan, food processor, fryer, heater (electric or gas), rice cooker, stove hood/fan, toaster, toaster oven, and vacuum.
7. Electronics (examples): cable box, DVD/VCR player, video game system, radio, and speaker.
8. Storage furniture (examples): barrel, box, cage, cans, case, container, crate, hutch, tank, and trunk.
9. Other furniture (examples): all baby furniture, all power tools, aquarium, book, candle, candleholder, figurine, fireplace, mantel, mirror, newspaper box, podium, pot, pan, railing, skillet, slot machine, statue, toolbox, vase, and yard compactor.