



Hazard Screening Report

Home Furnishings and Fixtures

(601, 604, 609 - 613, 617 - 620, 627, 628, 638, 648 - 654, 657, 661 - 663, 666, 667, 669 - 672, 676, 679, 680, 684, 685, 687 - 689, 692, 693, 694, 698, 699, 701, 702, 704, 706, 707, 709 - 713, 4002, 4003, 4008 - 4011, 4013 - 4026, 4030, 4032, 4033, 4039, 4041, 4042, 4045, 4050 - 4055, 4057, 4061 - 4064, 4070 - 4080)

This report and all others in this series are general overviews, which use data taken directly from the CPSC data files for the purpose of comparison among the products. No recoding or adjusting of the data is performed. For this reason, estimates of injuries provided in this report will differ from estimates presented in other documents produced by Epidemiology staff working in specific program areas. The figures presented here are not intended to compare to other reports outside this series of hazard screening reports.

The views expressed in this report are those of CPSC staff, have not been reviewed or approved by, and may not reflect the views of, the Commission.

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The Hazard Screening Project

As an aid in setting priorities, U.S. Consumer Product Safety Commission (CPSC) staff is preparing this series of Hazard Screening Reports. Each report covers a group of related products, such as nursery equipment, housewares, etc.

These reports follow a common format that allows readers to compare the risk for different types of products within a given category. Significantly, CPSC staff has also developed a measurement tool that allows comparisons of risks from products in different categories. This feature, called “Maximum Addressable Cost Estimates,” is explained more fully below. CPSC managers plan to use this information to set priorities for efficient use of resources.

Each Hazard Screening Report contains information on the estimated number of injuries and deaths associated with the types of products covered in that report. A graph shows the frequency of emergency-room treated injuries over time. This is followed by a pie chart showing the distribution of injuries by the source of the hazard, such as mechanical, fire, electrical, chemical and other. CPSC staff also estimates the total “cost” to society for each type of product. This includes the cost of injuries, deaths and property damage associated with the products.

To facilitate comparisons of risk between different types of products, CPSC staff has developed Maximum Addressable Cost Estimates. These build on the concept of “addressable” cost. Simply put, the “addressable” cost is the portion of the total cost that could possibly be reduced by some action that CPSC could take. Many consumer injuries are not addressable. For example, if a boy trips over a rake in the driveway, any injury he suffers could be associated with the category of Yard and Garden Equipment. But it is very unlikely that such injuries could be prevented by changing the design of rakes. By eliminating these unaddressable costs from consideration, we are able to focus on what’s left -- the costs that we might be able to do something about. The name “Maximum Addressable Cost Estimates” is intended to emphasize that these estimates are upper limits of the cost that might be successfully addressed. It should also be stressed that the term does not necessarily mean that there is any existing method or technology for reducing the costs. For a more detailed explanation of this subject, please refer to the individual Hazard Screening Reports.

CPSC staff plans to complete 18 reports by the end of 2005. The 18 reports that will comprise the complete set are:

- Home Workshop Apparatus, Tools and Attachments
- Yard and Garden Equipment
- Toys
- Nursery Products
- Children’s Outdoor Activities and Equipment
- Major Team Sports
- Injuries to Persons 65 and Older
- Housewares and Kitchen Appliances
- Recreational Cooking and Camping Products

Home Communication, Entertainment and Hobby Products
General Household Appliances
Home Furnishings and Fixtures & Home Alarm,
Escape and Protection Devices
Sports (minus major team sports)
Personal Use Items
Heating, Cooling and Ventilating Equipment
Packaging and Containers for Household Products
Miscellaneous Products
Home and Family Maintenance Products – Household Chemicals

These reports may be useful to individuals and organizations who are seeking reliable information about estimated deaths, injuries, and costs associated with consumer products, and to CPSC's staff and Commissioners who need objective data to identify candidates for future activities to reduce deaths and injuries.

CAVEAT!

This report addresses the question of addressability of injuries by attempting to identify those injuries which are incidental and not addressable by mandatory or voluntary standards or by other action which the U.S. Consumer Product Safety Commission (CPSC) could take. Those injuries that remain are referred to as maximum addressable.

To know the actual addressability of the hazards associated with a product usually requires a detailed study of the problem and the product. This level of study is not feasible for this type of overview report. What we do instead is try to eliminate those injuries and deaths which involve the product only marginally or incidentally. An estimate of *maximum* addressable costs is then generated using CPSC's Injury Cost Model.

The maximum addressable cost estimate does not necessarily represent the injury and death costs that the CPSC might actually be able to prevent each year through some type of action. It represents only a target population from which any successful prevention will have to come.

For example: If a person is hit by a falling lamp, but we have no information about whether the individual accidentally knocked the lamp over, or if the lamp fell because of poor stability or strength related to the design of the lamp, we would count that injury in the maximum addressable category. It may not be addressable. We just don't have enough information to rule it out.

Maximum addressable injury estimates include every case that we could not clearly rule out as incidental. They do not represent the number or percent of injuries that could actually be prevented.

In addition, addressability definitions are based on review by Epidemiology staff using information available at the time each report is prepared. These determinations should be considered general estimates for agency planning purposes, not definitive staff evaluations of whether a specific type of hazard might be prevented. The fact that a given hazard associated with a product was not considered potentially addressable in one of these reports should not be construed as indicating that that hazard should never be reconsidered or addressed.

Introduction

This report provides overall injury and death figures associated with the category of Home Furnishings and Fixtures. The first information presented is a summary of the injury, death and cost data for the entire class of products. A trend graphic (figure 1) is presented which shows the frequency of estimated emergency room-treated injuries since 1997. This is followed by a chart (figure 2) showing the distribution of the injuries for this class of products by energy source of the hazard, i.e., mechanical, fire, electrical, chemical, or other. There is also a summary table, which shows the injuries, deaths, and costs associated with each product group. This overview is one of a series of hazard screening reports. Each report provides information in a similar format to allow product and hazard comparisons, both within and among the reports.

Home Fixtures and Furnishings

Individual Product Categories

General Furniture

Beds

Bathtubs and Showers

Ladders and Step Stools

Rugs and Carpets

Lighting Equipment and Electrical Cords

Electrical Systems

Spas

Window Dressings

Miscellaneous Furniture and Fixtures

Household Cloth Items

Alarms or Fire Suppression Equipment

Safety and Security Equipment

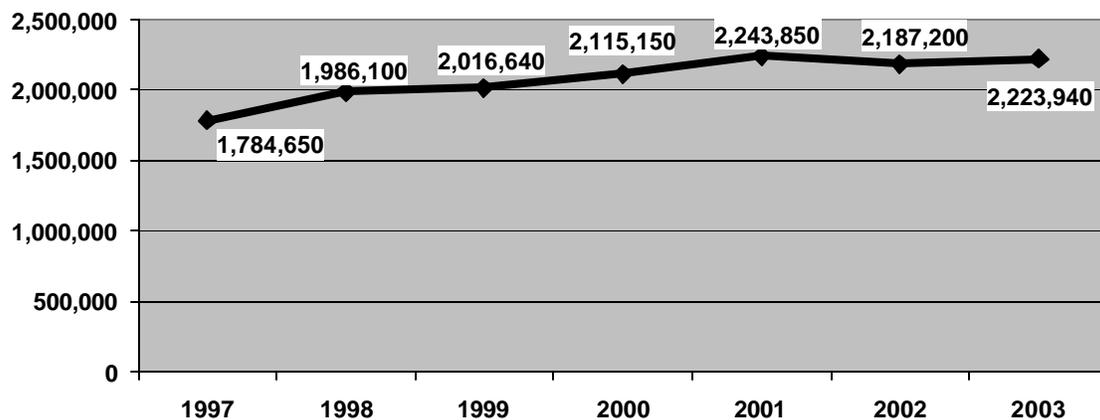
Fireplace Equipment

Overview: Home Furnishings and Fixtures

(601, 604, 609 - 613, 617 - 620, 627, 628, 638, 648 - 654, 657, 661 - 663, 666, 667, 669 - 672, 676, 679, 680, 684, 685, 687 - 689, 692, 693, 694, 698, 699, 701, 702, 704, 706, 707, 709 - 713, 4002, 4003, 4008 - 4011, 4013 - 4026, 4030, 4032, 4033, 4039, 4041, 4042, 4045, 4050 - 4055, 4057, 4061 - 4064, 4070 - 4080)

ER Treated Injuries 2003	2,223,940	Percent of Households	n/a
Medically Treated Injuries 2003	5,836,960	Number of Products in Use	n/a
Percent of ER Treated Hospitalized	6.8%	Estimated Useful Life	n/a
Deaths 2000	2,176	Estimated Retail Price Range	n/a
Number of Incident Reports 2003	4,403	Death Costs (Millions)	\$10,880
Cost of Medically Treated Injuries (Millions)	\$130,765.5	Total Known Costs (Millions) ¹	\$141,645.5

Figure 1: Estimated Emergency Room-Treated Injuries Associated with Home Furnishings and Fixtures, 1997 - 2003

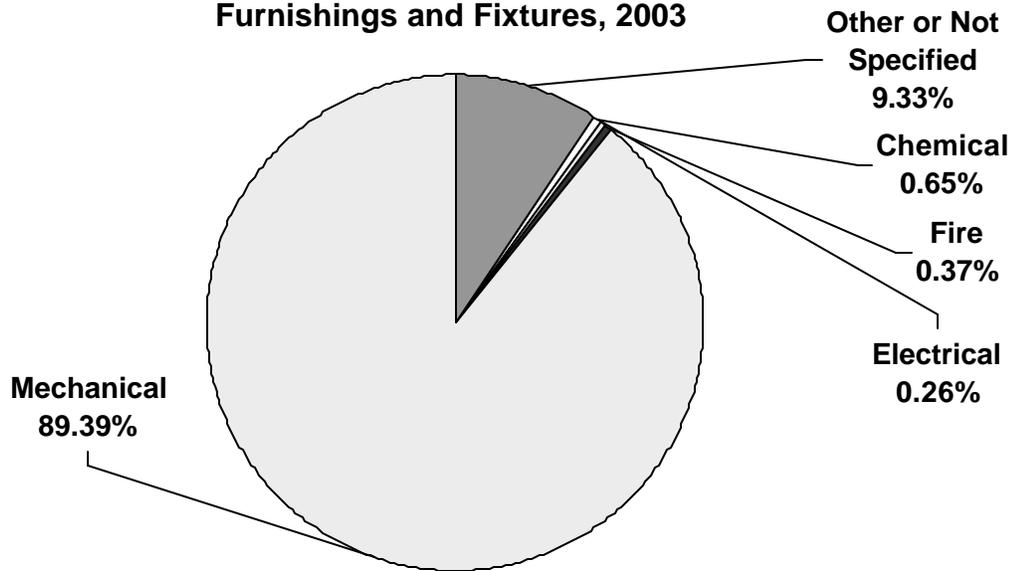


Source: National Electronic Injury Surveillance System (NEISS), 2005

From 1997 to 2003, the estimated number of emergency room-treated injuries increased by 439,290. This is a statistically significant change ($P = 0.0008$).

¹ This total represents an index rather than an actual single year estimate of costs, because injury costs are based on 2003 and death costs are based on 2000. These are the most recent years for which each of these cost items was available.

Figure 2. Distribution of Emergency Room-Treated Injuries by Energy Source of the Hazard for Home Furnishings and Fixtures, 2003



Source: National Electronic Injury Surveillance System (NEISS), 2005

Deaths

For 2000, CPSC has reports of 2,176 deaths associated with these products. One-thousand-two-hundred-fifty-five of the deaths were included in the maximum addressable category (see page 17 for description of this category). Hazard patterns accounting for more than 100 maximum addressable deaths were children under the age of five drowning (121), individuals over 65 years of age falling out of bed (126), suffocations from being trapped between mattresses and walls or other pieces of furniture (150), fires caused by cigarettes igniting furniture (159), falls from ladders (153), smotherings of infants (112) and overlayings of infants (109). Other sources of more than ten deaths in the maximum addressable category were fire alarm failures (12), electrical fires (59), overheating electrical systems (13), hot water scalds (59), fires from electrical shorts (18), products starting fires in an unspecified manner (40), children under five strangled by blind cords (12), and falls in the bathtub (45). Hazard patterns with ten or fewer deaths in the maximum addressable category included ladders collapsing (four), bed-related strangulations (six), children under five strangled by electrical cords (two), drownings resulting from falls in the bathtub (ten), ladders moving (three), products falling on consumers (seven), electrocutions from products (seven), slips on rugs (three), drownings involving suction entrapment (two), suffocations involving bean bag chairs (five), and falls from the toilet (eight). Hazards that accounted for one maximum addressable death each were shocks from appliances, flotation devices failing, falls from bunk beds, and lacerations from sharp edges. Finally, there were six deaths included in the maximum addressable category where the hazard pattern was not clear. See Table 2 for the number of deaths in each product category included in the maximum addressable category.

Overview

The increase of 439,290 injuries over the seven-year period 1997 – 2003 was a statistically significant increase ($p = 0.0008$).

Table 1 provides a summary of all the product groups examined for this report. This table provides information on the estimated number of emergency room-treated injuries, the estimated number of medically-treated injuries, the percentage of the estimated emergency room-treated injuries that resulted in admission to the hospital, the number of incident reports received, the number of deaths reported, the costs associated with deaths and medically-treated injuries, and the total of these two cost estimates.

Addressability

While it is useful to know the number of injuries, deaths, and related costs associated with a product, it is also important to have an estimate of how much of the associated social cost might actually be addressed through some action. Many of the injuries treated in emergency rooms that were related to miscellaneous products may not be addressable because the injury had only incidental product involvement. To know the actual addressability of the hazards associated with a product usually requires detailed study of the problem and the product. This level of study is not feasible for this type of overview report. What we have done is identify through case-by-case review that portion of the injury and death costs that is not addressable. Maximum addressable costs were then generated by the Injury Cost Model² using the remaining injuries.

The maximum addressable cost estimate does not necessarily represent the injury and death costs that the CPSC might actually be able to prevent each year through some type of action. It represents only a target population from which any successful prevention will have to come.

The reason for doing this kind of review is to identify situations such as the following example and allow us to focus on the areas where CPSC action could have some effect.

For instance, the general furniture category ranks first on total costs but fourth in maximum addressable costs. Most of the injuries in this category are falls from, over, or into chairs. There is very little action CPSC could take to reduce these types of injuries, so they are not included in the maximum addressable category.

The staff reviewed the narratives included in National Electronic Injury Surveillance System (NEISS) injury reports, and also reviewed the death reports.² Because the NEISS narratives are brief and often do not provide much detail, a case was categorized as “not addressable” only if it was clear that the injury was incidental or not related to the product. If, for example, a person is hit by a falling lamp, but we have no information about whether the individual accidentally knocked the lamp over, or if the lamp fell because of poor stability or strength related to the design of the lamp, we would count that injury in the maximum addressable category. The death reports often had more information, allowing for better determination of addressability.

² See methodology section for a description of these databases.

To control for the possibility that there may be a difference between costs associated with addressable injuries and costs associated with non-addressable injuries, the addressable injuries were processed using the Injury Cost Model. This provides both maximum addressable cost estimates for emergency room-treated injuries and medically-attended injuries. Deaths were also reviewed and determined to be in either the not-addressable or maximum addressable category, and were valued at \$5 million each. This value of \$5 million for each death is consistent with current economic literature, which usually expresses the value as ranging from \$3 million to \$7 million. For ease of tabulation, we have used the midpoint of this range. The maximum addressable cost estimate for medically-attended injuries is added to the maximum addressable cost estimate for the deaths to obtain the total maximum addressable cost estimate. Table 2 shows the percentage of medically-attended injuries included in the maximum addressable category for each product group. It also shows how many of the deaths reported were included in the maximum addressable category.

Overall, after applying this process of review of the data to the entire category of home furnishings and fixtures, we find that the total maximum addressable injury and death cost is \$44.4 billion, out of a total cost associated with these products of \$141.6 billion, which is about 34%³ maximum addressable. Note that the percentage of addressable injuries is different than the percentage of addressable costs. The cost estimates are derived from a number of variables associated with each injury,⁴ so two cases may have the same weight but different cost estimates. Thus, the cost estimates do not have a one-to-one relationship with the injury estimates.

Figure 3 shows the index⁵ of estimated injury and death costs for each of the product categories and the estimated maximum addressability of those costs.

³ Based on the more precise totals provided in Table 3.

⁴ See methodology section for more description of how the cost estimates are computed.

⁵ This total represents an index rather than an actual single year estimate of costs, because injury costs are based on 2003 and the death costs are based on 2000. These are the most recent years for which each of these cost items was available.

Table 1: Product Summary Table – Injury, Death, and Cost Estimates

Product	Codes	ER Injuries 2003	All Medically Treated Injuries 2003	Hosp.% 2003	Incident reports 2003	DTHS 2000	Death Costs (millions)	Med. Trtd. Injury Costs (millions)	Total Known Costs (millions)
General Furniture	604, 654, 670-672, 679, 680, 687, 692, 693, 4003, 4013-4026, 4052-4053, 4057, 4064, 4074, 4079-4080	1,039,660	2,687,080	4.3%	840	385	\$1,925	\$53,759.6	\$55,684.6
Beds	601, 661, 662, 667, 689, 694, 4002, 4008-4010, 4050, 4051, 4054, 4072, 4073, 4075, 4076	526,370	1,330,270	8.8%	931	713	\$3,565	\$32,825.0	\$36,390.0
Bathtubs and Showers	609-611, 648, 649, 657, 699, 4030	304,880	832,550	9.0%	338	482	\$2,410	\$19,323.8	\$21,733.8
Ladders and Step Stools	618-620, 688, 4032, 4033, 4077, 4078	187,260	558,840	8.6%	224	194	\$970	\$15,740.2	\$16,710.2
Rugs and Carpets	612, 613, 676	125,080	330,880	13.3%	172	26	\$130	\$8,301.7	\$8,431.7
Lighting and Electrical Cords	627, 628, 684, 685, 4039, 4041, 4042, 4070, 4071	39,340	88,900	5.8%	796	95	\$475	\$1,688.5	\$2,163.5
Electrical Systems	4061, 4062, 4063	14,080	36,030	5.9%	913	176	\$880	\$636.3	\$1,516.3
Spas	698	5,720	15,590	6.2%	78	71	\$355	\$291.3	\$646.3
Window Dressings	617, 638	7,070	19,030	8.0%	95	19	\$95	\$510.6	\$605.6
Miscellaneous Furniture and Fixtures	652, 653, 669, 4011, 4055	19,120	42,690	1.9%	8	4	\$20	\$560.6	\$580.6
Household Cloth Items	650, 651, 666, 4045	7,380	21,230	6.1%	52	7	\$35	\$375.4	\$410.4
Alarms and Fire Suppression Equipment	701, 702, 704, 712, 713	4,770	12,450	3.1%	175	50	\$250	\$157.4	\$407.4
Safety and Security Equipment	706, 707, 709, 710, 711	5,170	13,020	4.6%	20	8	\$40	\$235.6	\$275.6
Fireplace Equipment	663	1,030	2,360	**	12	1	\$5	\$25.4	\$30.4
Total ⁶		2,223,940	5,836,960	6.8%	4,403	2,176	\$10,880	\$130,765.5	\$141,645.5

** Sample size is too small to report percentage.

Descriptions of how these estimates were derived can be found in the Methodology Section. Costs are in 2002 dollars.

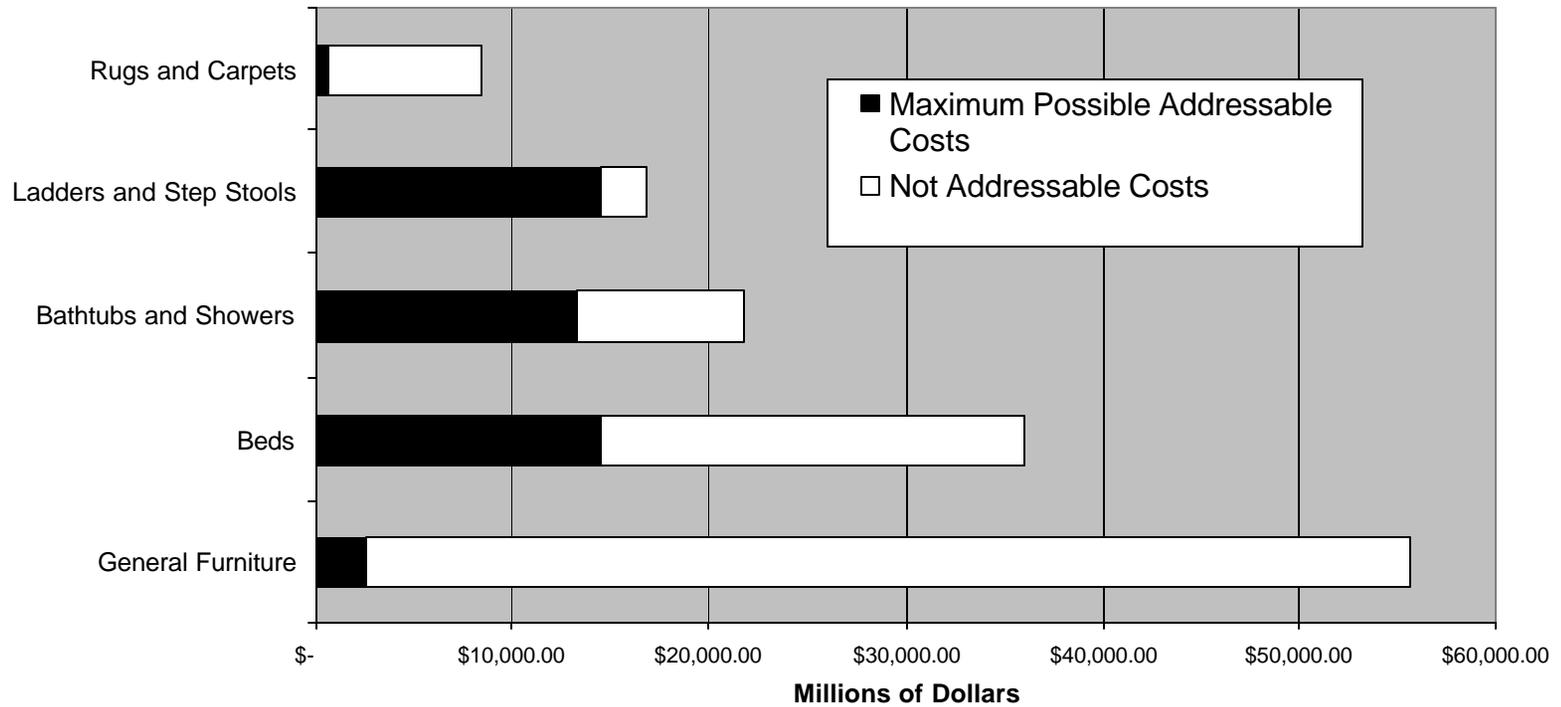
⁶ Some cases appear in more than one category. Thus, numbers may not add to totals.

Table 3 lists the product groups ranked in descending order by the total injury and death costs index. This table also shows the total maximum addressable cost for each product group. For those product groups where there was an estimate of number of products in use, the maximum addressable cost per unit was calculated by dividing the maximum addressable cost estimate by the number of products in use. Rankings of the product groups on total costs, maximum addressable costs, and maximum addressable cost per unit are also provided.

There are four product categories that have a hazard pattern that is noteworthy:

- **General Furniture:** We continue to see infant suffocations related to these products.
- **Beds:** We continue to see infant suffocations related to these products.
- **Ladders:** We continue to see deaths and injuries associated with falls from ladders. When resources allow, staff recommends consideration of a special study of falls from ladders to determine hazard patterns.
- **Bathtubs and Showers:** We continue to see child drownings associated with bathtubs.

Figure 3. Estimated Cost Index, in Millions of Dollars, Home Fixtures and Furnishings, by Total Costs (Groups with Total Cost over \$5 Billion)



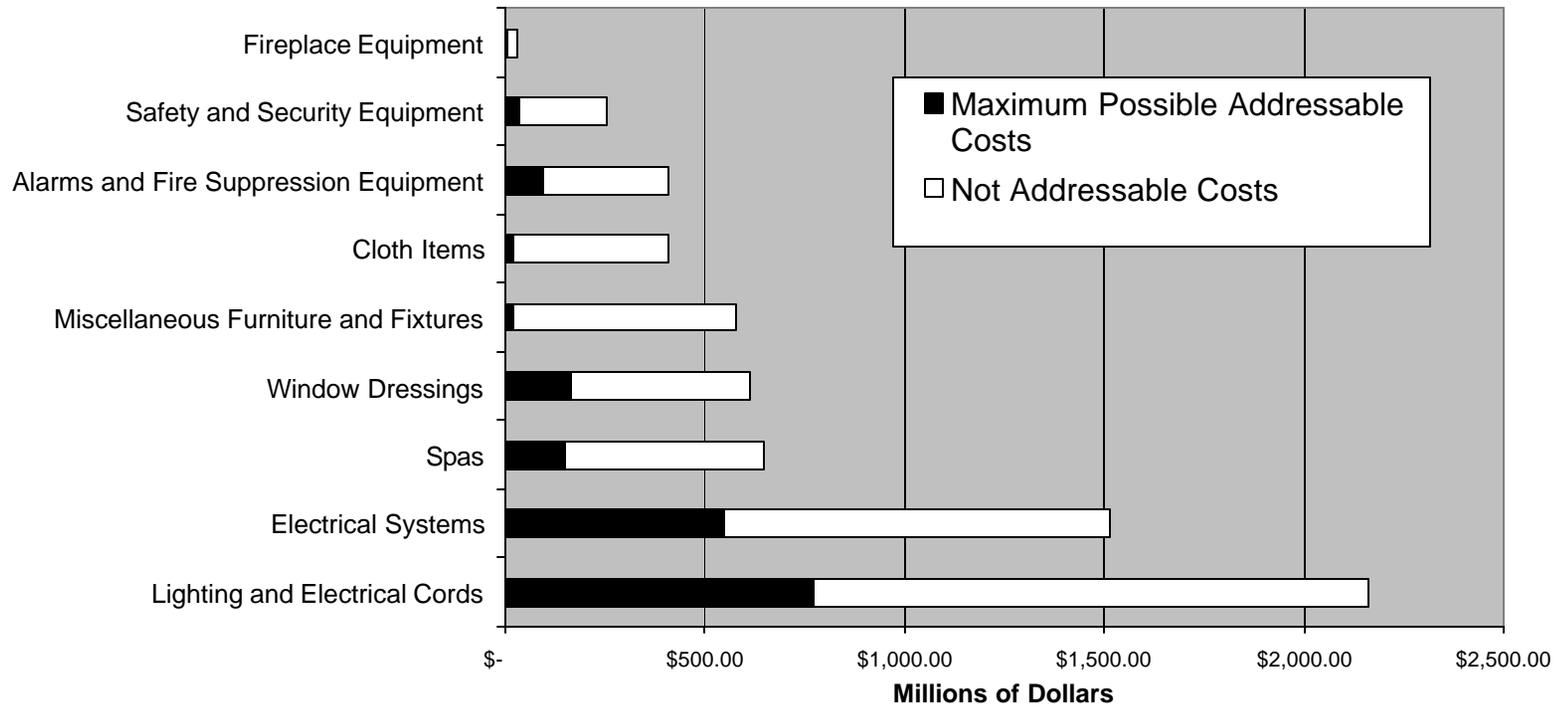
Note that Figures 3 and 4 use different scales. The data were separated into two graphs, as the disparities in costs obscured information when both sets of data were put on the same scale. Figure 3 contains all product groups with a total cost estimate of over \$5 billion, while Figure 4 contains all product groups with a total cost estimate of less than \$5 billion.

Source: National Electronic Injury Surveillance System (NEISS), Death Certificate database (DTHS), Injury Cost Model (ICM), 2005

NOTE: This estimate of maximum addressability does not necessarily represent the number of injuries or deaths or costs that the CPSC might actually be able to prevent each year through some type of action. It represents only a target population from which any successful prevention will have to come.

The data presented in this graphic are also contained in Table 3 under the headings “Total injury and death costs” and “Total maximum addressable costs”

Figure 4. Estimated Cost Index, in Millions of Dollars, Home Fixtures and Furnishings, by Total Costs (Groups with Total Cost under \$5 Billion)



Source: National Electronic Injury Surveillance System (NEISS), Death Certificate database (DTHS), Injury Cost Model (ICM), 2005

NOTE: This estimate of maximum addressability does not necessarily represent the number of injuries or deaths or costs that the CPSC might actually be able to prevent each year through some type of action. It represents only a target population from which any successful prevention will have to come.

The data presented in this graphic are also contained in Table 3 under the headings “Total injury and death costs” and “Total maximum addressable costs”

Table 2: Product Hazard Addressability

Product	Codes	Percentage of Injuries Included in Maximum Addressable	Maximum Number of Addressable Deaths/ Total Deaths Reported
General Furniture	604, 654, 670-672, 679, 680, 687, 692, 693, 4003, 4013-4026, 4052-4053, 4057, 4064, 4074, 4079-4080	6%	157/385
Beds	601, 661, 662, 667, 689, 694, 4002, 4008-4010, 4050, 4051, 4054, 4072, 4073, 4075, 4076	38%	534/713
Bathtubs and Showers	609-611, 648, 649, 657, 699, 4030	57%	229/482
Ladders and Step Stools	618-620, 648, 649, 657, 699, 4030	83%	163/194
Rugs and Carpets	612, 613, 676	6%	4/26
Lighting Equipment and Electrical Cords	627, 628, 684, 685, 4039, 4041, 4070, 4071	32%	65/95
Electrical Systems	4061, 4062, 4063	21%	80/176
Spas	698	31%	18/71
Window Dressings	617, 638	30%	9/19
Miscellaneous Furniture and Fixtures	652, 653, 669, 4055	4%	2/4
Household Cloth Items	650, 651, 666, 4045	5%	0/7
Alarms and Fire Suppression Equipment	701, 702, 704, 712, 713	20%	14/50
Safety and Security Equipment	706, 707, 709, 710, 711	12%	4/8
Fireplace Equipment	663	1%	1/1
Total		26%	1,255/2,176⁷

The percentages presented in this table are the percentages of injuries, not costs, included in the maximum addressable category. These percentages cannot be directly compared to maximum addressable costs because the costs, while deriving from the same cases, take into account a number of variables, not just case weight. For more information on how these cost estimates are derived, refer to the methodology section at the end of this report.

In the two pages that follow, the maximum addressable definitions for each product category are presented. While reading the injury/death narratives to determine addressability, hazard patterns were also coded. The hazard patterns determined to be not addressable were identified and those that remained make up the maximum addressable definitions.

⁷ Some cases appear in more than one category. Thus, numbers may not add to totals.

Maximum Addressability Definitions Used for Each Class of Products - Injuries

General Furnishings: collapsing furniture, entrapment, product falls, lacerations from sharp edges.

Beds: children falling out of bed, elderly individuals falling out of bed, lacerations from sharp edges, fires caused by smoking materials, beds falling over.

Bathtubs and Showers: breaking shower doors, children nearly drowning, falls while in showers or bathtubs, product falls, falling off toilets, scalds.

Rugs and Carpets: lacerations from sharp edges, slips on carpets.

Ladders and Step Stools: getting caught in ladder, falls off ladders, ladders collapsing under weight, ladders sliding or tipping over, pinched by ladder.

Lighting Equipment and Electrical Cords: electric shocks, explosions, products falling over, lacerations from sharp edges, fume release.

Alarms and Fire Suppression Equipment: alarm failure, product falls, lacerations from sharp edges.

Window Dressing: caught fire, near strangulation by blind cords, trapped in blinds, product falls, cuts from sharp edges.

Miscellaneous Furniture and Fixtures: product falls, lacerations from sharp edges.

Household Cloth Items: caught fire.

Spas: children nearly drowning, entrapments, cuts from sharp edges, falls while in the hot tub, scalds, trapped by suction.

Safety and Security Equipment: cuts from sharp edges.

Fireplace Equipment: product falls.

Electrical Systems: electrical fire, explosion, outlet shock, poked socket, product falls, lacerations from sharp edges, unspecified shocks.

Maximum Addressability Definitions Used for Each Class of Products – Deaths

General Furnishings: entrapment, product falls, caught on fire by cigarette/candle, infants smothered, infants overlain.

Beds: bedding or mattress ignited by open flame or cigarette, elderly individuals falling out of bed, entrapment between mattress and railing or wall, beds falling on victims, fire alarm failures, electrical fires, unknown cause of death in bed, infants smothered in adult bedding, infants overlain, strangulations.

Bathtubs and Showers: child drownings, drownings from falls in bathtubs, adult bath chairs tipping over, lacerations from sharp edges, falling off toilets, falling in the bath or shower, scalds.

Rugs and Carpets: slipping on carpet.

Ladders and Step Stools: ladders collapsing under weight, ladders sliding out from under, falls from ladders.

Lighting Equipment and Electrical Cords: electrical shocks from product, overheating, electrical short, started fire (not specified).

Alarms and Fire Suppression Equipment: alarm failure.

Window Dressings: strangled by blind cords, caught fire.

Spas: child drownings, drownings from falls, drownings from suction entrapment, scalds.

Miscellaneous Furniture and Fixtures: strangled by cords.

Household Cloth Items: no addressable deaths.

Safety and Security Equipment: no addressable hazard patterns.

Fireplace Equipment: product falls.

Electrical Systems: alarm failure (electrical system caused fire), appliance electric shock, child cord strangulation, electrical fire, overheated, electrical short, started fire (not specified).

Table 3 - Calculation of Indices Using Cost Estimates from Injury Cost Model, Death Certificates File, and Estimates of Number of Products in Use.

Title	Medically Attended Injury Costs (Millions)	Total Death Costs (Millions)	Total Injury and Death Costs (Millions)	Total Maximum Addressable Costs (Millions)	Rank on Total Costs	Rank on Maximum Addressable Costs	Products in Use (Millions)	Maximum Addressable Costs per Unit	Rank on Maximum Addressable Costs per Unit
General Furniture	\$53,759.6	\$1,925	\$55,684.6	\$2,494.7	1	4	n/a	n/a	n/a
Beds	\$32,825.0	\$3,565	\$36,390.0	\$14,677.2	2	1	260 to 350	\$48.12	2
Bathtubs and Showers	\$19,323.8	\$2,410	\$21,733.8	\$13,340.3	3	3	690	\$19.33	3
Ladders and Step Stools	\$15,740.2	\$970	\$16,710.2	\$14,566.0	4	2	131	\$111.19	1
Rugs and Carpets	\$8,301.7	\$130	\$8,431.7	\$571.1	5	6	n/a	n/a	n/a
Lighting Equipment and Electrical Cords	\$1,688.5	\$475	\$2,163.5	\$770.8	6	5	n/a	n/a	n/a
Electrical Systems	\$636.3	\$880	\$1,516.3	\$547.8	7	7	n/a	n/a	n/a
Spas	\$291.3	\$355	\$646.3	\$148.9	8	9	n/a	n/a	n/a
Window Dressings	\$510.6	\$95	\$605.6	\$164.8	9	8	n/a	n/a	n/a
Miscellaneous Fixtures	\$560.6	\$20	\$580.6	\$22.6	10	12	n/a	n/a	n/a
Household Cloth Items	\$375.4	\$35	\$410.4	\$20.5	11	13	n/a	n/a	n/a
Alarms or Fire Suppression Equipment	\$157.4	\$250	\$407.4	\$94.7	12	10	136	\$0.70	5
Safety and Security Equipment	\$235.6	\$40	\$275.6	\$34.3	13	11	20	\$1.72	4
Fireplace Equipment	\$25.4	\$5	\$30.4	\$5.5	14	14	n/a	n/a	n/a
Total ⁸	\$130,765.5	\$10,880	\$141,645.5	\$44,448.5					

These “total injury and death costs” estimates and “total maximum addressable costs” estimates are indices, not actual estimates of cost and expected injury cost reduction. This is because injury cost estimates and addressability estimates are based on 2003 emergency room-treated injury reports, and death cost estimates are based on deaths reported which occurred in 2000. Estimates of number of products in use are also imprecise estimates. These cost figures were developed, using the data available, to provide indices for the purpose of comparison. They do not represent an actual estimate of the costs associated with any of the product groups for a specific year. Costs are in 2002 dollars.

⁸ Some cases appear in more than one category. Thus, numbers may not add to totals.

Methodology

NEISS

The Commission operates the National Electronic Injury Surveillance System (NEISS), a probability sample of 98 U.S. hospitals with 24-hour emergency rooms (ERs) with more than six beds. These hospitals provide CPSC with data on all consumer product-related injury victims seeking treatment in the hospitals' ERs. Injury and victim characteristics, along with a short description of the incident, are coded at the hospital and sent electronically to CPSC.

Because NEISS is a probability sample, each case collected represents a number of cases (the case's *weight*) of the total estimate of injuries in the U.S. The weight that a case from a particular hospital carries is associated with the number of hospitals in the U.S. of a similar size. NEISS hospitals are stratified by size based on the number of annual emergency-room visits. NEISS comprises small, medium, large and very large hospitals, and includes a special stratum for children's hospitals.⁹

CPSC's Death Certificate Database

CPSC purchases death certificates from all 50 states, New York City, the District of Columbia and some territories. Only those certificates in certain E-codes (based on the World Health Organization's International Classification of Diseases ICD-10 system) are purchased. These are then examined for product involvement before being entered into CPSC's death certificate database. This is not a statistical sample and therefore cannot be used to estimate the number of deaths in the U.S. associated with each product. The number of deaths for each product is at least a minimum count. To obtain a count of fatalities associated with each product category, the death certificate data was combined with the deaths found in the IPII database (discussed below). The cases were then reviewed to eliminate duplicates and determine addressability.

Death certificate collection from the states takes time. Data for 2001 through 2003 were not complete when this report was prepared.

CPSC's Injury or Potential Injury Incident File (IPII)

IPII is a CPSC database containing reports of injuries or potential injuries made to the Commission. These reports come from news clips, consumer complaints received by mail or through CPSC's telephone hotline or web site, Medical Examiners and Coroners Alert Program (MECAP) reports, letters from lawyers, and similar sources. While the IPII database does not constitute a statistical sample, it can provide CPSC staff with guidance or direction in investigating potential hazards. Since cases in this database may come from a variety of sources, some cases may be listed multiple times. To obtain a more accurate count of the number of reported incidents associated with each product, the cases were reviewed to eliminate duplicates.

⁹ Kessler, Eileen and Schroeder, Tom. The NEISS Sample (Design and Implementation). U.S. Consumer Product Safety Commission. October 1999.

CPSC's Injury Cost Model

The Injury Cost Model (ICM) is a computerized analytical tool designed to measure the direct and indirect costs associated with consumer product-related injuries. In addition to providing a descriptive measure of injury hazards in monetary terms, the ICM is also used to estimate the benefits of regulatory actions designed to reduce consumer product injuries and to assist the Commission in planning, budgeting, and evaluating projects.

The ICM is structured to measure the four basic categories of injury costs: medical costs, work losses, pain and suffering, and product liability and legal costs. Medical costs include doctor and hospital-related costs as well as costs for diagnostic procedures, prescription drugs, equipment, supplies, emergency transportation, follow-up care, and administrative costs. Both the initial treatment costs and the costs of long term care are included in the medically-treated injury costs.

Work-related losses represent the value of lost productivity, the time spent away from normal work activities as the result of an injury. Work-related losses include both the short-term losses resulting from being absent from work and the long-term losses resulting from permanent partial or total disability and their impact on lifetime earnings. They also include the value of work lost as a result of caring for injured children, the value of housework lost due to an injury, and the loss to the employer resulting from the disruption of the workplace.

Pain and suffering represent the intangible costs of injury, and are based on jury verdicts for consumer product-related injuries. Product liability and legal costs represent the resources expended in product liability litigation. These costs include the costs of administering the product liability insurance system (including the plaintiff's legal costs and the costs of defending the insured manufacturer or seller), the costs of claims investigation and payment, and general underwriting and administrative expenses; however, medical, work loss, and pain and suffering compensation paid to injury victims and their families is excluded, thus avoiding double counting.

The ICM estimates the costs of injuries reported through the NEISS, a national probability sample of hospital emergency departments. The injury cost estimates depend on a number of factors, and vary by the age and sex of the injured person, the type of injury suffered, the body part affected, and whether or not the victim was hospitalized, held for observation, transferred, or treated and released. The ICM also uses empirically derived relationships between emergency department injuries and those treated in other settings (e.g., doctor's offices, clinics) to estimate the number of injuries treated outside hospital emergency departments and the costs of those injuries.

A number of databases are used to calculate the four cost categories. National discharge data and discharge data from six states are used to estimate the costs of hospitalized injuries. Data from the Department of Defense and several National Center for Health Statistics surveys dealing with costs of treatment in different medical settings are used to calculate medical costs for injuries where the victim is treated and released from the emergency department or treated in a clinic or doctor's office. Other major data sources include the Annual Survey of Occupational Illnesses and Injuries and the Detailed Claims Information (DCI) database for work loss estimates; and the Jury Verdicts Research data for pain and suffering estimates. Product liability and legal costs are derived analytically from insurance industry information and several studies of product liability.

To determine the maximum addressable cost estimate, the injury narratives were read to determine which would not be addressable.¹⁰ Maximum addressable costs were then generated by the Injury Cost Model using the remaining injuries.

Variables Associated with Products in Use Estimates

Inputs needed for number of products in use estimates include: annual sales, expected useful life, and expected number in use.

Annual Sales: The annual sales data are from trade sources, from published information and association estimates. Economic Analysis staff used the average of unit sales as reported by appropriate industry sources.

Expected Useful Life: The useful life was reported by industry sources for some products. Available studies were also used, if no industry sources were found. In some cases, Human Factors staff was consulted to determine appropriate age groups, and thus, the length of time a product may remain in use.

Expected Number in Use: There is often not sufficient data available to conduct a product population estimate for a class of products. As a surrogate in these cases, Economic Analysis staff used average sales multiplied by the useful life estimate. This will understate the number of products in use for products that have seen substantial growth in sales, and overstate the number in use for products that have seen substantial decreases in sales in recent years.

¹⁰ See page 9, the discussion on addressability for more information on this process.