



UNITED STATES  
CONSUMER PRODUCT SAFETY COMMISSION  
WASHINGTON, DC 20207

**Memorandum**

DATE: September 29, 1999

TO: N.J. Scheers, Ph.D., Director  
Office of Planning and Evaluation

THROUGH: Susan W. Ahmed, Ph.D., AED *swa*  
Directorate for Epidemiology

FROM: Susan B. Kyle, Ph.D. *sbk*  
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SUBJECT: Children's Head Injuries: 1998 Injuries

This memorandum provides information on head injuries to children under 15 years of age for the calendar year 1998, and presents trends including the 1998 data and data previously reported. <sup>(1)</sup>

The rate of head injury to children associated with all types of consumer products rose in 1998 and is projected to continue to rise in 1999. Based on 1998 National Electronic Injury Surveillance System (NEISS) reports, there were an estimated 654,900 (sample size 21,374; c.v.=0.07) head injuries to children under the age of 15 associated with all consumer products, a population-based rate of 112.7 injuries per 10,000 children. This represents an increase of 8 injuries per 10,000 children above the 1997 estimated rate of 104.7. Based on NEISS head injuries reported in the first six months of 1999, there will be an estimated 661,700 head injuries to children associated with all consumer products in 1999, a projected population-based rate of 113.3 injuries per 10,000 children.

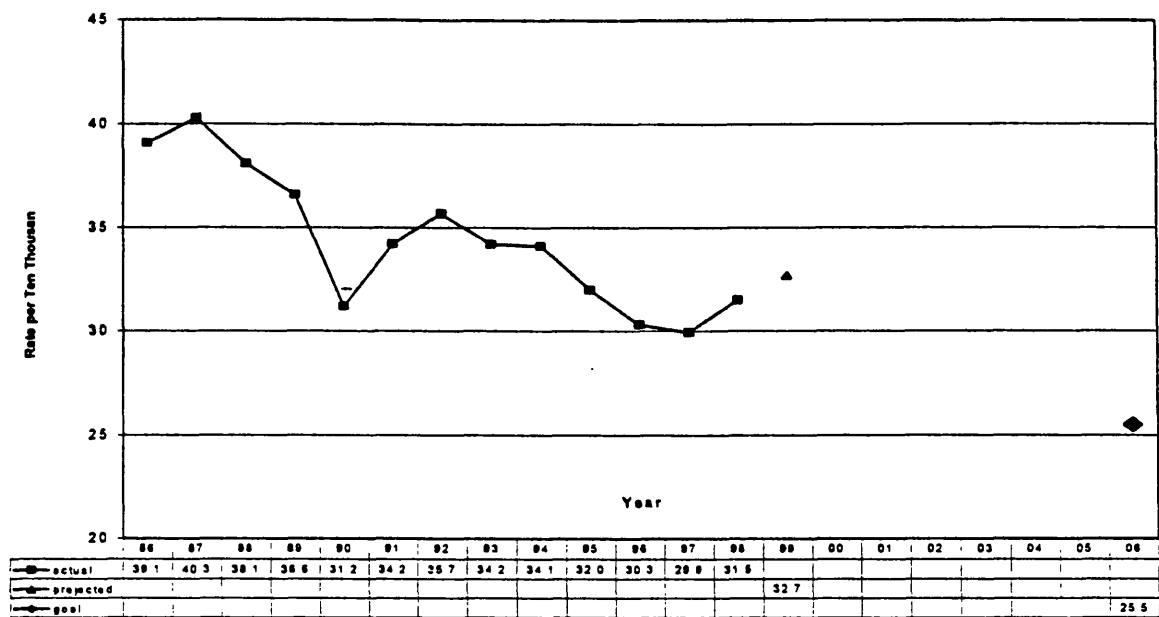
For strategic planning purposes, an inventory of about 40 product categories involving some 71 product codes was selected to be used for baseline information, injury estimate projection, and future project selection for the purpose of reducing head injuries to children. For 1998, there were a NEISS-estimated 183,100 (sample size 5,973; c.v.=0.06) head injuries to children under 15 associated with this group of products, or a population-based rate of 31.5 head injuries per 10,000 children. The 1997 reported rate was 29.8. Based on NEISS head injuries reported in the first six months of 1999, there will be an estimated 190,700 head injuries to children associated with this group of products in 1999 with a projected rate of 32.7 head injuries per 10,000 children.

<sup>1</sup> Memorandum from Prowpit Adler and Michael Greene to N.J. Scheers "Update and Projections of Head Injuries to Children Under 15 Years Old, 1986-1997 and 1997-2006", August 31, 1998, U.S. CPSC, Washington, D.C. 20202.

CPSA 6 (b)(1) Cleared  
*[Signature]*  
No Mfrs/PrvtLbrs  
Products Identified

Figure 1 below presents the historical head injury rates associated with the selected group of products, as well as the 1999 projection, and the 2006 goal as stated in the 2000 Annual Performance Plan.

Figure 1.  
Head Injury Rates, Children Under 15  
71 Selected Products



Source: National Electronic Injury Surveillance System  
US Consumer Product Safety Commission

Information on the 71 selected products is presented in the tables which are attached. Table 1 presents the products in the groupings which were used in the 1997 report. Injury estimates for 1999 were developed using these groupings and are included. The projected increases occur primarily in the Sports grouping and the Playground Equipment grouping.

Table 2 presents the products ranked by the number of head injuries which occurred in 1998. Bicycles, swings and swing sets, baseball and softball, grocery and shopping carts, and monkeybars and climbing playground equipment all had approximately 10,000 or more injuries in 1998, with bicycles having more than 43,000.

Considering only the number of head injuries associated with a given product may miss information about changes in head injury distribution patterns. Therefore, information on the total number of injuries to children under age 15 for 1997 and 1998 is provided in the last three columns of the table. This allows comparison between the percent change in total injuries to children associated with each product and the percent change in head injuries.

Table 3 presents the products ranked by the amount of the difference between the 1998 number of head injuries and the 1997 number. Bicycles, carriers and carseats, swings and swing sets, monkey bars and climbing playground equipment, and exercise equipment and activity were the products associated with increases of more than 1,000 head injuries. Baby walkers showed the greatest decrease in number of head injuries. Again, the percent change in total injuries to children associated with each product is presented for comparison with the percent change in head injuries.

Table 4 presents the injuries ranked by the difference between the percent change in head injuries and the percent change in total injuries. A positive number indicates that head injuries increased more than total injuries increased for the given product(s), or that head injuries decreased less than overall injuries for the product(s). The top five products in this ranking had very small sample sizes, so that a difference of a few reported cases had an extremely large effect.

Table 1.  
Children's Head Injuries: Selected Products  
1997 Groupings

<i>Product Codes</i>	<i>Products</i>	<i>Hd Inj 1997</i>	<i>Hd Inj 1998</i>	<i>% Diff 1998-1997</i>	<i>Projected Inj 1999</i>
<i>Baby Furniture, Products, Accessories</i>					
1508	BabyWlkr	8092	5529	-31.67%	
1519/27/31/34/48/49	CarriersCarseats	6414	8292	29.28%	
1522	Strollers	5443	5581	2.54%	
1555	High Chairs	3679	3124	-15.09%	
1529/43/45	Cribs, all	3060	3566	16.54%	
1353	ToyBoxesChests	707	944	33.52%	
1502	Chng Tables	955	1190	24.61%	
1506	Gates,Barriers	594	840	41.41%	
1553	Portable Swings	471	308	-34.61%	
1518	Youth Chairs	149	221	48.32%	
1556	HiChrs, Attachable	543	395	-27.26%	
1513	Playpens	324	564	74.07%	
1505	Carriages	386	359	-6.99%	
1537	Bassinets,Crdles	246	56	-77.24%	
1536	Rails,YthBd,CrbXs	19	790	4057.89%	
1526	CribMobiles&Gym	111	0	-100.00%	
		31193	31759	1.81%	28907
Projected 1999-1998					-8.98%
<i>Product Codes</i>	<i>Products</i>	<i>Hd Inj 1997</i>	<i>Hd Inj 1998</i>	<i>% Diff 1998-1997</i>	<i>Projected Inj 1999</i>
<i>Sports, Activities, Apparel or Equipment</i>					
5041 5034	Base/Softball	13883	13779	-0.75%	
1267	Soccer	3697	4097	10.82%	
12/79/95 3245/72	Hockey	2681	2807	4.70%	
5033/40	Bicycles	41236	43281	4.96%	
3216/17/55/97	Skating,all	6661	6965	4.56%	
1217 1299	Sleds,Snowtubing	1829	1180	-35.48%	
1233	Trampolines	3178	3809	19.86%	
3285/86/87	ATVs	2955	3170	7.28%	
1239	Horseback Riding	2323	2787	19.97%	
3277/99	ExEquip&Activity	1470	2479	68.64%	
3283 5031	SnowSki&Boarding	2280	1847	-18.99%	
1333	Skateboarding	2097	2130	1.57%	
3259	Go-Carts	752	1537	104.39%	
3215	MiniBk,Tribk,Moped	67	256	282.09%	
		85109	90483	6.31%	100817
Projected 1999-1998					11.42%

Table 1. (con't.)  
 Children's Head Injuries: Selected Products  
 1997 Groupings

<i>Product Codes</i>	<i>Products</i>	<i>Hd Inj 1997</i>	<i>Hd Inj 1998</i>	<i>% Diff 1998-1997</i>	<i>Projected Inj 1999</i>
<i>Playground Equipment and Amusement Attractions</i>					
3246	Swings/SwingSets	15156	16582	9.41%	
1244	MnkyBrS/PlgdClimb	8380	9730	16.11%	
1242	Slides/SlidingBrds	7501	6812	-9.19%	
3219/72	PlgdEquip	3786	3950	4.33%	
1293	AmusementRds/Attr	1052	1182	12.36%	
1243	Seesaws/TeeterBds	850	603	-29.06%	
		36725	38859	5.81%	40664
Projected 1999-1998					4.64%
<i>Toy Guns</i>					
1237	Gas,Air,Sprng Guns	812	1268	56.16%	
1936	BB/Pellet Guns	730	1099	50.55%	
		1542	2367	53.50%	1463
Projected 1998-1998					-38.19%
<i>Other</i>					
1679	Groc/Shop Carts	12709	12729	0.16%	
0661	Bunk Beds	8327	8773	5.36%	
0137/8	GarageDoor Ops	256	224	-12.50%	
		21292	21726	2.04%	21043
Projected 1999-1998					-3.14%

Table 2.  
 Children's Head Injuries: Selected Products  
 Ranked by 1998 Number of Head Injuries  
 (Information on Total Injuries Presented for Comparison)

<i>Product Codes</i>	<i>Products</i>	<i>Hd Inj 1997</i>	<i>Hd Inj 1998</i>	<i>Num Diff 98-97</i>	<i>% Diff Hd Inj 98-97</i>	<i>% Diff Tot Inj 98-97</i>	<i>Tot Inj Children 1997</i>	<i>Tot Inj Children 1998</i>
5033/40	Bicycles	41236	43281	2045	5%	4%	347282	362327
3246	Swings/SwingSets	15156	16582	1426	9%	10%	65629	73218
5034/41	Base/Softball	13883	13779	-104	-1%	-5%	131714	125103
1679	Groc/Shop Carts	12709	12729	20	0%	0%	25526	25591
1244	MnkyBrs/PlgdClimb	8380	9730	1350	16%	8%	70477	76297
0661	Bunk Beds	8327	8773	446	5%	8%	31445	34297
1519/27/31/34/48/49	CarriersCarseats	6414	8292	1878	29%	-31%	13619	10403
3216/17/55/97	Skating,all	6661	6965	304	5%	10%	122270	136160
1242	Slides/SidingBrds	7501	6812	-689	-9%	6%	44104	46882
1522	Strollers	5443	5581	138	3%	1%	13422	13543
1508	BabyWikrs	8092	5529	-2563	-32%	-27%	16352	12888
1267	Soccer	3697	4097	400	11%	8%	71747	78328
3219/72	PlgdEquip	3786	3950	164	4%	-6%	28090	26539
1233	Trampolines	3178	3809	631	20%	15%	64147	75397
1529/43/45	Cribs, all	3060	3566	506	17%	15%	8358	9838
3285/86/87	ATVs	2955	3170	215	7%	16%	20072	23920
1555	High Chairs	3679	3124	-555	-15%	5%	7178	7536
1279/95 3245/72	Hockey	2681	2807	126	5%	2%	27927	28568
1239	Horseback Riding	2323	2787	464	20%	5%	13327	14061
3277/99	ExEquip&Activity	1470	2479	1009	69%	21%	25235	31971
1333	Skateboarding	2097	2130	33	2%	13%	25243	29136
3283 5031	SnowSki&Boarding	2280	1847	-433	-19%	4%	22333	23150
3259	Go-Carts	752	1537	785	104%	-2%	12568	12267
1237	Gas,Air,Sprmg Guns	812	1268	456	56%	14%	10699	12387
1502	Chng Tables	955	1190	235	25%	23%	1652	2136
1293	AmusementRds/Attr	1052	1182	130	12%	15%	5729	6716
1217/99	Sleds,Snowtubing	1829	1180	-649	-35%	-76%	17218	9759
1936	BB/Pellet Guns	730	1099	369	51%	3%	10243	10614
1353	ToyBoxesChests	707	944	237	34%	0%	4944	4948
1506	Gates,Barriers	594	840	246	41%	10%	2181	2428
1536	Rails,YthBd,CrbXs	19	790	771	4058%	91%	177	1986
1243	Seesaws/TeeterBds	850	603	-247	-29%	-34%	6972	5191
1513	Playpens	324	564	240	74%	-18%	2058	1739
1556	HiChrs, Attachable	543	395	-148	-27%	-15%	1239	1081
1505	Carriages	386	359	-27	-7%	1%	793	803
1553	Portable Swings	471	308	-163	-35%	35%	718	1102
3215	MiniBk,Trlbk,Moped	67	256	189	282%	-1%	1909	1886
0137/38	GarageDoor Ops	256	224	-32	-13%	1%	1413	1434
1518	Youth Chairs	149	221	72	48%	17%	998	1209
1537	Bassinets,Crdles	246	66	-190	-77%	-25%	545	436
1526	CribMobiles&Gyms	111	0	-111	-100%	-1850%	117	6

Table 3.  
 Children's Head Injuries: Selected Products  
 Ranked by 1998-1997 Difference in Number of Head Injuries  
 (Information on Total Injuries Presented for Comparison)

<i>Product Codes</i>	<i>Products</i>	<i>Hd Inj 1997</i>	<i>Hd Inj 1998</i>	<i>Num Diff 98-97</i>	<i>% Diff Hd Inj 98-97</i>	<i>% Diff Tot Inj 98-97</i>	<i>Tot Inj Children 1997</i>	<i>Tot Inj Children 1998</i>
5033/40	Bicycles	41236	43281	2045	5%	4%	347282	362327
1519/27/31/40/48	CarriersCarseats	6414	8292	1878	29%	-31%	13619	10403
3246	Swings/SwingSets	15156	16582	1426	9%	10%	65629	73218
1244	MnkyBrvs/PlgdClimb	8380	9730	1350	16%	8%	70477	76297
3277/99	ExEquip&Activity	1470	2479	1009	69%	21%	25235	31971
3259	Go-Carts	752	1537	785	104%	-2%	12568	12267
1536	Rails,YthBd,CrbXs	19	790	771	4058%	91%	177	1986
1233	Trampolines	3178	3809	631	20%	15%	64147	75397
1529/43/45	Cribs, all	3060	3566	506	17%	15%	8358	9838
1239	Horseback Riding	2323	2787	464	20%	5%	13327	14061
1237	Gas,Air,Sprmg Guns	812	1268	456	56%	14%	10699	12387
0661	Bunk Beds	8327	8773	446	5%	8%	31445	34297
1267	Soccer	3697	4097	400	11%	8%	71747	78328
1936	BB/Pellet Guns	730	1099	369	51%	3%	10243	10614
3216/17/55/97	Skating,all	6661	6965	304	5%	10%	122270	136160
1506	Gates,Barriers	594	840	246	41%	10%	2181	2428
1513	Playpens	324	564	240	74%	-18%	2058	1739
1353	ToyBoxesChests	707	944	237	34%	0%	4944	4948
1502	Chng Tables	955	1190	235	25%	23%	1652	2136
3285/6/7	ATVs	2955	3170	215	7%	16%	20072	23920
3215	MiniBk,Trlbrk,Moped	67	256	189	282%	-1%	1909	1886
3219/72	PlgdEquip	3786	3950	164	4%	-6%	28090	26539
1522	Strollers	5443	5581	138	3%	1%	13422	13543
1293	AmusementRds/Attr	1052	1182	130	12%	15%	5729	6716
1279/95 3245/72	Hockey	2681	2807	126	5%	2%	27927	28568
1518	Youth Chairs	149	221	72	48%	17%	998	1209
1333	Skateboarding	2097	2130	33	2%	13%	25243	29136
1679	Groc/Shop Carts	12709	12729	20	0%	0%	25526	25591
1505	Carriages	386	359	-27	-7%	1%	793	803
0137/8	GarageDoor Ops	256	224	-32	-13%	1%	1413	1434
5034/41	Base/Softball	13883	13779	-104	-1%	-5%	131714	125103
1526	CribMobiles&Gyms	111	0	-111	-100%	-1850%	117	6
1556	HiChrs, Attachable	543	395	-148	-27%	-15%	1239	1081
1553	Portable Swings	471	308	-163	-35%	35%	718	1102
1537	Bassinets,Crdles	246	56	-190	-77%	-25%	545	436
1243	Seesaws/TeeterBds	850	603	-247	-29%	-34%	6972	5191
3283 5031	SnowSki&Boarding	2280	1847	-433	-19%	4%	22333	23150
1555	High Chairs	3679	3124	-555	-15%	5%	7178	7536
1217/99	Sleds,Snowtubing	1829	1180	-649	-35%	-76%	17218	9759
1242	Slides/SlidingBrds	7501	6812	-689	-9%	6%	44104	46882
1508	BabyWlkr	8092	5529	-2563	-32%	-27%	16352	12888

Table 4.  
Children's Head Injuries  
Ranked by Difference between  
Percent Change in Head Injuries and  
Percent Change in Total Injuries to Children

<i>Product Codes</i>	<i>Products</i>	<i>Hd Inj 1997</i>	<i>Hd Inj 1998</i>	<i>Num Diff 98-97</i>	<i>% Diff Hd Inj 98-97</i>	<i>% Diff Tot Inj 98-97</i>	<i>%Diff Head -% Diff Tot Inj</i>
1536	Rails, YthBd, CrbXs	19	790	771	4058%	91%	3967%
1526	CribMobiles&Gyms	111	0	-111	-100%	-1850%	1750%
3215	MiniBk, Tribk, Moped	67	256	189	282%	-1%	283%
3259	Go-Carts	752	1537	785	104%	-2%	107%
1513	Playpens	324	564	240	74%	-18%	92%
1519/27/31/34/48/49	CarriersCarseats	6414	8292	1878	29%	-31%	60%
3277/99	ExEquip&Activity	1470	2479	1009	69%	21%	48%
1936	BB/Pellet Guns	730	1099	369	51%	3%	47%
1237	Gas, Air, Sprng Guns	812	1268	456	56%	14%	43%
1217/99	Sleds, Snowtubing	1829	1180	-649	-35%	-76%	41%
1353	ToyBoxesChests	707	944	237	34%	0%	33%
1506	Gates, Barriers	594	840	246	41%	10%	31%
1518	Youth Chairs	149	221	72	48%	17%	31%
1239	Horseback Riding	2323	2787	464	20%	5%	15%
3219/72	PlgdEquip	3786	3950	164	4%	-6%	10%
1244	MnkyBrs/PlgdClimb	8380	9730	1350	16%	8%	8%
1243	Seesaws/TeeterBds	850	603	-247	-29%	-34%	5%
1233	Trampolines	3178	3809	631	20%	15%	5%
5034/41	Base/Softball	13883	13779	-104	-1%	-5%	5%
1279/95 3245/72	Hockey	2681	2807	126	5%	2%	2%
1267	Soccer	3697	4097	400	11%	8%	2%
1502	Chng Tables	955	1190	235	25%	23%	2%
1522	Strollers	5443	5581	138	3%	1%	2%
1529/43/45	Cribs, all	3060	3566	506	17%	15%	1%
5033/40	Bicycles	41236	43281	2045	5%	4%	1%
1679	Groc/Shop Carts	12709	12729	20	0%	0%	0%
3246	Swings/SwingSets	15156	16582	1426	9%	10%	-1%
1293	AmusementRds/Attr	1052	1182	130	12%	15%	-2%
0661	Bunk Beds	8327	8773	446	5%	8%	-3%
1508	BabyWlkr	8092	5529	-2563	-32%	-27%	-5%
3216/17/55/97	Skating, all	6661	6965	304	5%	10%	-6%
1505	Carriages	386	359	-27	-7%	1%	-8%
3285/86/87	ATVs	2955	3170	215	7%	16%	-9%
1333	Skateboarding	2097	2130	33	2%	13%	-12%
1556	HiChrs, Attachable	543	395	-148	-27%	-15%	-13%
0137/38	GarageDoor Ops	256	224	-32	-13%	1%	-14%
1242	Slides/SlidingBrds	7501	6812	-689	-9%	6%	-15%
1555	High Chairs	3679	3124	-555	-15%	5%	-20%
3283 5031	SnowSki&Boarding	2280	1847	-433	-19%	4%	-23%
1537	Bassinets, Crdles	246	56	-190	-77%	-25%	-52%
1553	Portable Swings	471	308	-163	-35%	35%	-69%