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Unintentional Injuries among Youth with Developmental Disabilities in the United States, 2006-2007

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Abstract

We examined unintentional injury among youth with and without developmental disabilities. Our nationally representative sample included 6369 injured youth, aged 0-17 years, who were seen in one of 63 U.S. hospital emergency rooms that participated in the National Electronic Injury Surveillance System –All Injury Program (NEISS-AIP) in 2006-2007. Parents or guardians of injured youth were interviewed by telephone after the hospital visit to ascertain disability status. Denominator data were obtained from the National Health Interview Survey. Leading causes of injury were comparable for youth with and without disability. Injury rates (per 100 youth per year) were also comparable (10.4; 95% CI 7.8, 13.0 and 10.5; 95% CI 8.2, 12.9, for youth with and without disability, respectively). When examined by specific disability, the rate ratio for youth with learning disabilities versus youth without learning disability was 1.57 (95% CI 1.04, 2.10), which may represent a subgroup for targeted interventions.

Keywords

injury; developmental disability; learning disability

1. Introduction

Unintentional injuries are a leading cause of mortality and morbidity among U.S. children ≤17 years of age (Centers for Disease Control and Prevention, 2007; Mathews, Miniño, Osterman, Strobino & Guyer, 2011). In 2007, there were 7931 reported deaths due to unintentional injury and an estimated 7,692,554 injury-related emergency room visits (Centers for Disease Control and Prevention, 2007). Much of the research on unintentional injuries has focused on healthy populations of children with less attention paid to possible at risk subpopulations such as children with developmental disabilities.

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Developmental disabilities affect morbidity and mortality status of children (Boyle et al., 2011; Boyle, Decouflé & Yeargin-Allsopp, 1994; Decouflé & Autry, 2002; Newacheck & Halfon, 1998). Estimates of the number of people with developmental disabilities vary greatly depending upon which conditions are included in the definition. The Centers for Disease Control and Prevention broadly refers to developmental disabilities as "…a diverse group of severe chronic conditions that are due to mental and/or physical impairments" (Centers for Disease Control, 2011). A recent national study analyzed data from the National Health Interview Study and estimated that disabilities affected approximately 13.9% of U.S. children ages 3-17 years from 1997-2008 (Boyle et al., 2011). Included in this were youth with the following conditions: attention deficit hyperactivity disorder (ADHD), cerebral palsy, autism, seizures, stuttering or stammering, intellectual disability, moderate to profound hearing loss, blindness, learning disorders, and other developmental delays. Most common disabilities included ADHD and learning disabilities estimated to affect 6.7%, and 7.7% of children aged 3-17 years in the United States, respectively (Boyle et al., 2011).

Few injury research studies have access to information on disability status. Of the papers that have examined the relation between developmental disabilities and injury risk; many studies have not been population based or have focused on specific age groups, specific disabilities, or specific causes of injury (Chen, Smith, Ranbom, Sinclair & Xiang, 2007; Lee, Harrington, Chang & Connors, 2008; Mann, Zhou, McKee & McDermott, 2007; Petridou, et al., 2003; Sherrard, Tonge & Ozanne-Smith, 2001; Xiang, et al, 2006). A population-based study conducted by Xiang and colleagues reported an increased risk of nonfatal injuries among children, aged 5-17 years, with chronic asthma, vision/hearing disability and ADHD (Xiang, Stallones, Chen, Hostetler & Kelleher, 2005). A second study by Sinclair and Xiang found an increased risk of injury for any single disability (all single disabilities combined) and for emotional or behavioral problems (Sinclair & Xiang, 2008). An earlier study identified a statistically significant increase in injury rate among children with developmental disabilities but only among children aged 0-5 years, (Dunne, Asher & Rivara, 1995). All three of these studies analyzed data from the National Health Interview Survey with parent/self-report of both disabling conditions and injuries. The current study estimates injury rates for U.S. youth in relation to the presence/absence of developmental disabilities. Consistent with the National Health Interview Survey, medically determined disability is ascertained through parental report (National Center for Health Statistics, 2008). Injuries are based on a documented emergency department visit for the injury, thus reducing potential recall bias while focusing on injuries severe enough to result in an emergency department visit.

2. Methods

2.1 Study design

A cross-sectional design was used to ascertain information on injuries and developmental disabilities. Specifically, injuries were identified from the National Electronic Injury Surveillance System – All Injury Program (NEISS-AIP) registry operated by the U.S. Consumer Product Safety Commission (CPSC) in collaboration with the Centers for Disease Control and Prevention's National Center for Injury Prevention and Control (Schroeder & Ault, 2001). This database comprises a nationally representative probability sample of all U.S. hospitals (excluding psychiatric and penal institutions) with a minimum of 6 beds and a 24-hour emergency department stratified by size (small, medium, large, and very large) with an additional stratum of children's hospitals. As part of the routine procedures for NEISS-AIP, trained abstractors review all hospital emergency department records and abstract information for all injury-related visits. Information abstracted included: age, gender, race/ethnicity, principal diagnosis, affected body part(s), incident locale, injury intent, work-relatedness, and disposition of the injured person upon release from the emergency

department. Unintentional injuries are defined as all non-medical conditions resulting from external or environmental forces along with poisonings, insect bites and stings. We excluded injuries arising from medical procedures, medications or therapeutic biologics, and those manifesting as symptoms such as pain (6%) or injuries attributed to therapeutic drugs or medical care (2%) consistent with the public reporting of the NEISS-AIP data.

2.2 Study population and sample

Participants were selected from all unintentional non-work injuries captured in the NEISS-AIP registry among youth aged 0-19 years between December 2006 and November 2007. From this sampling framework, a stratified random sample of 8,000 youth stratified by four age groups (0-4, 5-9, 10-14, and 15-19 years) was selected. Sampling rates at the stratum and age group level varied to reach the target goal of 2,000 completed interviews for each age group.

2.3 Data collection

Data on injuries were ascertained from the NEISS-AIP registry and merged with interview data aimed at capturing information on developmental disabilities for the injured youth. Specifically, respondents were queried by CPSC interviewers about a number of factors including whether they had ever been told by a doctor or health professional that the index injured child had any of the following conditions: autism, blindness, cerebral palsy, deafness or trouble hearing, mental retardation (hereafter referred to as intellectual disability), or ADD or ADHD. They were also asked if a doctor, health professional, teacher, or school official had ever told them that the child had a learning disability. The standardized ≈20 minute interview was conducted within a median of 38 days following initial treatment for the injury, and was offered in both English and Spanish depending upon participant's preference. The design and conduct of the study was approved by the Institutional Review Board of the *Eunice Kennedy Shriver* National Institute of Child Health & Human Development. Prior to telephone contact, an opt-out letter was mailed to the parents/guardians. Study participants were allowed to opt out of the study by placing a toll free call to notify researchers of their unwillingness to participate. In addition, verbal informed consent was obtained over the phone prior to administration of the interview.

2.4 Data analysis

Injury rates were calculated by age, gender and race for the study sample, each of which has been associated with injury rates in previous studies. Specifically, rates were calculated using the population weighted number of injured persons from our subsample of the NEISS-AIP in the numerator and age, gender and race specific data from the 2006-2007 U.S. Census in the denominator (U.S. Census Bureau, 2011). The prevalence of developmental disabilities in the sample was estimated for any reported disability (yes/no) and by specific type of disability (i.e., autism, blindness, cerebral palsy, deafness or trouble hearing, intellectual disability, ADHD, and Learning disabilities). Injury rates were initially estimated for the overall sample and then by developmental disability status using data captured in the NEISS-AIP and supplemented by parental interviews. Rates of injury among children with disabilities were calculated using the weighted number of injured children with a particular reported disability as reported by parents as the numerator and the estimated number of children with the same disability noted in the 2007 National Health Interview Survey (NHIS) as the denominator (National Center for Health Statistics, 2008). Questions assessing disability were comparable in the two surveys. Briefly, the NHIS is the main source of cross-sectional data on the health of U.S. civilian non-institutionalized population utilizing a complex survey design to ensure representation of all racial/ethnic groups. Information about disabilities is collected within the Child component of the NHIS. Specifically, the NHIS asks if a doctor or other health professional had ever told the

respondent that the child had autism, attention deficit hyperactivity disorder (ADHD) or attention deficit disorder (ADD), cerebral palsy, or mental retardation now referred to as intellectual disability. The 2007 NHIS asked the respondent to select the statement that best described the child's hearing without a hearing aid - good, a little trouble, a lot of trouble or deaf – and whether the child was "blind or unable to see at all." Lastly, the NHIS asks if a representative from a school or a health professional has ever told the respondent that the child had a learning disability. Our survey used questions comparable to the NHIS with the exception of hearing. Specifically, we asked respondents if a doctor or heath professional ever told them the child was deaf or had trouble hearing. In analyses, we included children with any impairment of hearing, regardless of degree, in our calculations of hearing impaired.

Because the NHIS data on developmental disabilities are only available for youth through 17 years of age, we eliminated 18 and 19 year olds from our analyses. Additionally, the NHIS asks questions about ADD/ADHD for children aged 2-17 years and questions about learning disabilities for children ages 3-17 years. Thus, our analyses included only the relevant age groups for these two conditions. All estimated rates are expressed per 100 youth. For all rates, 95% confidence intervals (CIs) were estimated. Rate ratios were calculated to compare rates of injures when appropriate; 95% CIs exclusive of one were considered significant.

Injury rates for children with and without developmental disabilities were compared and, subsequently, assessed by the specific type of disability to identify subgroups at higher risk for injuries. All rates are statistically weighted per the sampling design allowing for the estimation of U.S. national rates. All analyses were conducted using SAS (version 9.1, SAS Institute Inc. Cary, NC).

2.5 Assembly of the Study Population

Among the 8,000 completed interviews, we excluded 652 (8%) youth aged 18-19 years, 308 (4%) youth whose injuries were coded only as pain or a symptom, 90 (1%) youth whose injuries were attributed to therapeutic drugs or medical care, resulting in a sample of 6,950 youth. From this group we restricted analysis to youth whose parent or guardian completed the phone interview resulting in a final sample of 6,369. The data were largely complete with the exception of income. Specifically, the percentage of missing data for variates (in descending order) is: income (31%), child's race (8%), and child's Hispanic ethnicity (1%). We had complete data on age, gender, and disability. Missing data did not differ substantially by disability status of the injured youth in the sample with the exception of a lower percentage of missing income data for youth with disabilities in comparison to youth without disabilities, i.e., 21% and 33%, respectively.

3. Results

The study population, estimated injury rates and 95% CIs by select socio-demographic characteristics, are described in Table 1. Overall, injury rates were higher for older youth aged 15-17 years (12.4; 95% CI 9.3-15.5), boys (12.2; 95% CI 9.5 -14.9), other races (14.2; 95% CI 11.0-17.3), and non-Hispanic ethnicity (11.4; 95% CI 8.8-14.0) than respective counterparts.

Nine hundred and fifty-seven children representing an estimated 1,102,605 injuries were reported to have one or more disabilities for an overall prevalence of ≈14% (Table 2). The distribution of developmental disabilities irrespective of the number of disabilities per child (not mutually exclusive categorization of disabilities) in descending prevalence is: learning disability (11.3%), ADHD (8.3%), deafness or trouble hearing (0.9%), autism (0.7%), intellectual disability (0. 4%), cerebral palsy (0.2%), and blindness (0.1%).

When examined with all disabilities grouped together, injury rates were comparable for youth with (10.4; 95% CI 7.8, 13.0) and without such disabilities (10.5; 95% CI 8.2-12.9) with a rate ratio (RR) of 0.98 (95% CI 0.65-1.32). However, injury rates varied by the specific type of disability and were significantly higher for children with learning disabilities (15.5; 95% CI 11.7-19.4). The RR of injury for children with learning disabilities was 1.57 (95% CI 1.04-2.10). The injury rate for children with learning disability in isolation (eliminating those with multiple disabilities) was higher at 19.8 (95%CI 14.0-25.5). Injury rates were lower for youth with hearing impairments (2.5; 95% CI 1.4-3.6) and cerebral palsy (1.1; 95% CI 0.5-1.8). The RR of injury for children with hearing impairment was 0.23 (95% CI 0.12- 0.35), and 0.11 (95% CI 0.04-0.17) for children with cerebral palsy. Stratified analyses reflected that disabled youth had lower rates of injury in the 0-4 year age group than unaffected youth (Table 3).

The most common causes of injury irrespective of disability status were falls and being struck by or striking an object (Table 4). Combined these causes accounted for 53% of injuries among youth with disabilities and 54% of injuries among youth without disabilities. These two leading causes of injuries remained for youth with learning disabilities accounting for 53% of injuries in this group.

4. Discussion

When combining all disabilities, affected youth did not have higher injury rates than unaffected youth. These findings were consistent by age, gender and race, except among 0-4 year olds, where children with a disability had a lower risk of injury than unaffected youth. When estimating injury rates by type of developmental disability, youth with learning disabilities had significantly higher rates than unaffected youth, with a rate ratio of 1.57 (95% CI 1.04 -2.10). In contrast, youth with cerebral palsy and hearing impairments had a lower risk of injury with rate ratios of 0.11 (95% CI .04-0.17) and 0.23 (95% CI 0.12-0.35), respectively.

Our data compare and contrast with the research conducted to date, possibly reflecting differences in sampling frameworks, referent and study populations, definitions of developmental disabilities, and use of either self-reported or medically validated injuries. Two relatively recent studies have analyzed data from the National Health Interview Survey, a cross sectional survey with a nationally representative sample of U.S. residents (Sinclair & Xiang, 2008; Xiang et al., 2005). These two studies identified an increased prevalence of injury among children with disabilities with prevalence ratios between 1.08-1.90. There are important differences between the NHIS and our study. Most notably the NHIS ascertained injuries by parental report and includes injuries resulting in a visit to any health care provider. In contrast, our study ascertained injuries through an emergency room surveillance system, thereby, eliminating the potential bias of differential recall of injuries for children with and without disabilities. Also, by including only those injuries that result in an emergency room visit, we focused on injuries that are potentially more severe. Higher rates of injury among children with disabilities in the NHIS could also reflect increased health provider visits in general for children with disabilities (Boulet, Boyle & Schieve, 2009). A study in Greece ascertained injuries through a large injury surveillance system that included four major hospitals in that country with weighting that allows for national estimates (Petridou et al., 2003). While the study examined only injured children, relevant findings included that falls and brain concussions were proportionally more common among children with disabilities. This is in contrast to our findings where the proportion of all injuries attributed to falls was not greater among children with disabilities.

We observed higher injury rates for males than for females among both the general population and among children with disabilities. This is in contrast to an earlier study that found no differences in injury rates for males versus females among the disabled population (defined in that study as cerebral palsy, a developmental delay or a learning disability) (Dunne, et al., 1995). Our findings are, however, consistent with more recent studies that do find gender differences in injury rates among disabled children (Sinclair & Xiang, 2008; Xiang et al., 2005).

In our study, young children (aged 0-4) with disabilities experienced lower rates of injury than did young children without disabilities. While speculative, this observation may reflect decreased mobility or decreased independence for youth with disabilities and, thus, fewer opportunities to become injured. Consistent with our study, Schwebel and Brezausek identified a decreased risk of injury among children with cerebral palsy (Schwebel & Brezausek, 2011). In contrast to the study by Sinclair and Xiang, in our study children with learning disabilities had higher injury rates than unaffected children. This was true whether or not we restricted our analysis to children with isolated learning disability. Of interest children with only learning disability had a higher rate of injury compared with all children with learning disability allowing for co-occurrence of other disabilities. We speculate that this may be because, among the latter group, the higher rate associated with learning disabilities is offset by lower injury rates associated with other disabilities. Finally, a number of studies have identified an increased risk of injury for children with ADD or ADHD (Bruce, Kirkland & Waschbusch, 2007; Pastor & Reuben, 2006; Shilon, Pollak, Aran, Shaked & Gross-Tsur, 2011). We also observed higher rates for children with ADD/ADHD compared with unaffected youth, but the difference did not achieve statistical significance (RR 1.41; 95% CI 0.88,1.95).

Strengths of our study include analyses of data from a nationally representative sample and the utilization of medically confirmed rather than parentally reported injuries. A key limitation is our reliance on parental reporting of developmental disability similar to methods used in national surveys. However, parental reporting for children's disability status has been found to be good for moderate to severe disability, but less so for mild disability (Glascoe, 2000; Glascoe & Dworkin, 1995). Additionally we analyzed data from two different surveys. In calculating injury rates for children with disabilities, numerator data were obtained from the NEISS follow back survey and denominator data from the National Health Interview Survey. While these are two separate surveys, both use nationally representative samples with sampling weights to estimate numbers in the general population. In analyses the two surveys are treated as being statistically independent, as they were administered separate from one another. Subsequently, the rates of injury have larger confidence intervals than would be expected if both numerator and denominator data came from the same survey. Although this is a limitation, many of our relative risks were close to 1.0 and we expect that their statistical significance would not have changed had both the numerator and denominator come from the same survey. The questions used to identify disabilities were comparable in the two surveys with the exception of hearing disabilities. Thus, our results for hearing disabilities should be viewed as preliminary and in need of corroboration. Another limitation is our small sample size in some disability subgroups, particularly when assessing specific cause of injury. Finally, definitions of conditions such as learning disability may vary across countries, thus some of our findings may not generalize to populations outside of the United States. (Fletcher, Lyon, Fuchs & Barnes, 2007)

In sum, medically documented injury rates were not higher for youth with reported developmental disabilities in comparison to unaffected youth save for children with learning disabilities. For both children with and without developmental disabilities, rates were

highest in males and in the 15-17 year age group. Finally, falls and being struck by or striking an object are the leading causes of injury among U.S. youth seeking medical treatment from emergency departments irrespective of developmental disability status underscoring the need for inclusion of all children in prevention oriented strategies. These findings suggest that injury risks are generally comparable for youth with and without disabilities, and that age-appropriate anticipatory guidance is relevant for both groups to minimize risk and reduce injury rates.

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Table 1

Description of study sample, injured children aged 0-17 years by select characteristics, 2006-2007 (n=6,369).

Characteristic	Number of injuries (Percent)[a]	Weighted Number (Percent)[b]	General Population (Percent)[c]	Weighted Rate (95% CI)[d]
Age (years):				
0-4	1,728 (27.1)	2,261,237 (29.2)	20,693,325 (28.1)	10.9 (8.3,13.5)
5-9	1,776 (27.9)	1,692,203 (21.8)	19,822,778 (26.9)	8.5 (6.8,10.3)
10-14	1,771 (27.8)	2,196,554 (28.4)	20,281,124 (27.5)	10.8 (8.2,13.4)
15-17	1,094 (17.2)	1,597,253 (20.6)	12,883,791 (17.5)	12.4 (9.3,15.5)
Gender:				
Male	3,897 (61.2)	4,608,819 (59.5)	37,663,271 (51.1)	12.2 (9.5,14.9)
Female	2,472 (38.8)	3,138,429 (40.5)	36,017,747 (48.9)	8.7 (6.7,10.7)
Race:				
White	4,362 (74.6)	5,642,282 (78.9)	56,042,915 (76.1)	10.1 (7.3,12.8)
Black or African American	1,036 (17.7)	966,614 (13.5)	11,203,256 (15.2)	8.6 (5.3,11.9)
American Indian or Alaska Native	45 (0.8)	59,218 (0.8)	925,673 (1.3)	6.4 (3.0,9.8)
Asian	126 (2.2)	132,778 (1.9)	3,017,521 (4.1)	4.4 (1.7,7.1)
Native Hawaiian or Pacific Islander	16 (0.3)	20,825 (0.3)	165,724 (0.2)	12.6 (3.7,21.5)
Other	261 (4.5)	329,338 (4.6)	2,325,929 (3.2)	14.2 (11.0,17.3)
Hispanic ethnicity:				
Yes	892 (14.2)	1,036,587 (13.6)	15,542,369 (21.1)	6.7 (4.5,8.8)
No	5,383 (85.8)	6,609,839 (86.4)	58,138,649 (78.9)	11.4 (8.8,14.0)

[a] Columns do not always total 6,369 due to missing values.

[b] National estimate of injuries treated in hospital emergency departments, December 2006 – November 2007. Weights based on the NEISS-AIP and study sample designs.

[c] Estimated U.S. Census population for children aged 0-17 years, December 2006 – November 2007.

[d] CI, denotes 95% confidence interval.

Table 2

Distribution of injury rates by disability, 2006-2007 (n=6,369).

Characteristic	Number of injuries (Percent)[a]	Weighted Number (Percent)[b]	General Population (Percent)[c]	Weighted Rate (95% CI[d])	RR[e] (95% CI[d])
Any disability:					
Yes	957 (15.0)	1,102,605 (14.2)	10,628,072 (14.4)	10.4 (7.8, 13.0)	0.98 (0.65,1.32)
No	5,412 (85.0)	6,644,642 (85.8)	63,052,946 (85.6)	10.5 (8.2, 12.9)	referent
All disabilities:					
Autism	72 (1.1)	51,234 (0.7)	496,645 (0.7)	10.3 (5.1, 15.5)	0.98 (0.44,1.52)
Deafness or trouble hearing	64 (1.0)	67,008 (0.9)	2,657,811 (3.6)	2.5 (1.4, 3.6)	0.23 (0.12,0.35)
Intellectual Disability	46 (0.7)	33,503 (0.4)	456,153 (0.6)	7.3 (3.8, 10.9)	0.70 (0.33,1.07)
Cerebral palsy	26 (0.4)	14,434 (0.2)	1,262,531 (1.7)	1.1 (0.5, 1.8)	0.11 (0.04,0.17)
Blindness	13 (0.2)	6,959 (0.1)	78,767 (0.1)	8.8 (0.0, 18.3)	0.84 (0.00,1.76)
ADD/ADHD[f]	490 (8.5)	579,137 (8.3)	4,457,991 (6.1)	13.0 (9.0,17.0)	1.41 (0.88,1.95)
Learning Disabilities[g]	622 (11.8)	717,936 (11.3)	4,620,868 (6.3)	15.5 (11.7,19.4)	1.57 (1.04,2.10)
Multiple Disabilities (vs no multiple)	321 (5.0)	322,891 (4.2)	2,821,054 (3.8)	11.4 (8.1,14.8)	1.1 (0.69,1.5)
Multiple Disabilities (vs no disability)	321 (5.6)	322,891 (4.6)	2,821,054 (4.3)	11.4 (8.1,14.8)	1.09 (0.68,1.49)

[a] Total >6,369 as child could have >1 disability.

[b] National estimate of injuries treated in hospital emergency departments, December 2006 – November 2007. Weights based on the NEISS-AIP and study sample designs.

[c] Population estimates for children with and without disabilities from the 2007 National Health Interview Survey adjusted to the estimated U.S. Census population for children aged 0-17 years, December 2006 – November 2007.

[d] CI, denotes 95% confidence interval.

[e] Referent population is youth without the named disability. For example rates of injury among youth with autism compared with rates of injury among youth without autism.

[f] Analyses of ADD/ADHD limited to youth aged 2-17 years

[g] Analyses of learning disabilities limited to youth aged 3-17 years

Table 3

Comparison of injury rates by select characteristics and developmental disability status, National Electronic Injury Surveillance System –All Injury Program, 2006-2007 (n=6,369).

Characteristic	Youth With Disabilities Weighted Rate[a] (95% CI[b])	Youth Without Disabilities Weighted Rate[a] (95% CI[b])
Age (in years):		
0-4	4.8 (2.6,6.9)	11.4 (8.6,14.1)
5-9	9.6 (7.1,12.0)	8.4 (6.5,10.3)
10-14	11.6 (8.4,14.8)	10.7 (7.9,13.4)
15-17	12.4 (8.0,16.8)	12.4 (9.2,15.6)
Sex:		
Male	11.5 (8.3, 14.7)	12.4 (9.6,15.2)
Female	8.5 (6.2, 10.8)	8.7 (6.7,10.8)
Race:		
White	10.2 (7.3,13.2)	10.0 (7.2-12.8)
Black/African American	8.2 (4.7,11.7)	8.7 (5.2,12.2)
Native American or Alaskan Native	6.0 (0.0,12.1)	6.5 (2.0,11.0)
Asian	5.9 (0.0,12.5)	4.3 (1.7,6.9)
Other	12.0 (4.9, 19.1)	14.6 (10.6,18.6)
Hispanic/Latino Ethnicity:		
Yes	7.5 (4.2,10.9)	6.5 (4.4,8.7)
No	10.8 (8.0,13.6)	11.5 (8.8,14.2)

[a] All rates per 100 youth per year

Numerator is the national estimate of injuries treated in hospital emergency departments, December 2006 – November 2007, while the denominator is the estimated number of children from the 2007 National Health Interview Survey adjusted to the estimated U.S. Census population for children aged 0-17 years, December 2006 – November 2007.

[b] CI, denotes 95% confidence interval.

Table 4

External cause-specific injury estimates for youth 0-17 years by development disability status, National Electronic Injury Surveillance System – All Injury Program, 2006-2007 (n=6,369).

Injury Type	Youth with Developmental Disabilities		Youth without Developmental Disabilities	
	Cases	Estimate (Percent)[a]	Cases	Estimate (Percent)[a]
Struck By	247	278,767 (25)	1,255	1,488,448 (22)
Fall	277	306,206 (28)	1,827	2,149,337 (32)
All Bites Stings[b]	55	59,438 (5)	292	397,639 (6)
Transportation[c]	116	147,428 (13)	568	768,042 (12)
Ingestion/Foreign Body / Poisoning	37	37,832 (3)	230	308,304 (5)
Overexertion	79	93,691 (9)	512	622,866 (9)
Cut/Pierce	59	68,705 (6)	291	360,519 (5)
Fire/Burn	11	14,280 (1)	87	109,672 (2)
Other[d]	76	96,259 (9)	350	439,815 (7)

[a]National estimate of injuries treated in hospital emergency departments, December 2006 – November 2007. Weighted based on the NEISS-AIP and study sample designs.

[b]Includes all bites and insect stings.

[c]Includes motor vehicles, motorcycles, bicyclists, and pedestrians struck by motor vehicles, and other transports such as all terrain vehicles, snowmobiles, golf carts, etc.

[d]Includes unintentional firearms/bb-guns, natural/environmental, and other or not stated external causes.