Published in final edited form as:
Matern Child Health J. 2012 February ; 16(2): 328–335. doi:10.1007/s10995-010-0714-4.

Caregiver Reports of Serious Injuries in Children Who Remain at Home After a Child Protective Services Investigation

Janet U. Schneiderman,
School of Social Work, University of Southern California, 669 West 34th Street, Los Angeles, CA 90089-0411, USA juschnei@usc.edu

Laurel K. Leslie,
Tufts Medical Center/Floating Hospital for Children and Aligning Researchers and Communities for Health, 800 Washington Street, MC 345, Boston, MA 02111, USA LLeslie@tuftsmedicalcenter.org

Michael S. Hurlburt,
School of Social Work, University of Southern California, 669 West 34th Street, Los Angeles, CA 90089-0411, USA hurlburt@usc.edu

Jinjin Zhang, and
Child and Adolescent Services Research Center, Rady Children's Hospital, 3020 Children's Way, MC 5033, San Diego, CA 92123, USA jzhang@casrc.org

Sarah McCue Horwitz
Department of Pediatrics and Stanford Health Policy, Stanford University, 117 Encina Commons, Stanford, CA 94305-6019, USA sarah.horwitz@stanford.edu

Abstract

The study objectives were to examine serious injuries requiring medical attention among children who remain at home after a child welfare/child protective services (CPS) maltreatment investigation in the US and to determine whether child/caregiver characteristics and ongoing CPS involvement are related to injuries requiring medical attention. Using the National Survey of Child and Adolescent Well-being, we analyzed data on the subsample of children who remained at home (N = 3,440). A multivariate logistic regression model included child characteristics, chronic illness and disability in the child, level of CPS involvement, subsequent foster care placement, caregiver characteristics, and caregiver/family psychological variables. Injuries requiring medical attention were identified in 10.6% of the in-home population over a15-month period, with no differences in rates by age. Children with a chronic medical condition (OR = 2.07; 95% CI, 1.20–3.58) and children with depressed caregivers (OR = 2.28; 95% CI, 1.45–3.58) were more likely to have an injury that required medical care. Older caregivers (>54 years) were less likely (OR = 0.15; 95% CI, 0.03–0.69) to have a child with an injury requiring care. Injuries were not related to further involvement with CPS after the initial maltreatment investigation. Children with chronic medical conditions who remained in their biological homes or whose caregivers were depressed were likely to experience an injury requiring medical attention. Older caregivers were less likely to report a child injury. Extending existing health policies for foster children to children who remain at home following referral to CPS may encourage more comprehensive injury prevention for this population.

Correspondence to: Janet U. Schneiderman.

Keywords

Child welfare; Child protective services; Child injuries; Child maltreatment; Child abuse and neglect

Introduction

Injuries are under-recognized causes of death and disability for children worldwide [1,2]. In the US, child injury deaths are usually the result of traffic-related accidents, highest for males, and more frequent in children of American Indian or Alaska Native descent [1]. Injuries differ by disability status as children with asthma, attention deficit/hyperactivity disorder, and vision disability have more injuries than children without a disabling condition that limits a child's age appropriate activity [3].

Childhood injuries occur in part because of dangerous behaviors by children themselves or their family members, and can be related to lack of supervision or safety instruction given to children [4]. However, it is often difficult to determine whether injuries are accidental, the result of poor supervision, or the result of maltreatment [5]. Some caregiver factors that are associated with injuries include exposure to interpersonal violence, depression, and single parenting [5,6].

Historically, safety has been the focus of child welfare/child protective services (CPS) and, in 1997, safety was reaffirmed as one of the three areas of concentration for CPS in the US [7]. Injury prevention is an important component of child safety and interventions to decrease injuries have led to reductions in the frequency and seriousness of childhood injuries [8,9]. In CPS, caseworkers visit foster homes to assure the safety of children in out-of-home placements. Caseworkers also visit families of children who remain in their homes receiving CPS services, although case management services are more intensive for children in foster care [10]. Constant surveillance of children following an investigated report of maltreatment is not routine given the numbers of children investigated yearly. However, injuries in children after a maltreatment investigation may reflect potential for reabuse, continued neglect, or other risk factors although no known studies have investigated injuries in this population of children.

This paper uses data from the National Survey of Child and Adolescent Wellbeing (NSCAW) to broaden our understanding of injuries that require medical attention among children who remain at home after contact with CPS. We examined the rates of injuries reported by care-givers for children who remained at home during the 15 months after the CPS investigation, although it was not identified in NSCAW as to whether injuries were unintentional or the result of child abuse or neglect. The injury rate included serious injuries, accidents or poisoning that required the care of a doctor or nurse. We hypothesized that key child characteristics including chronic conditions, gender, and disability status, caregiver psychosocial variables including depression and domestic violence, and further CPS involvement including receipt of services and subsequent placement into foster care would be related the occurrence of an injury severe enough to warrant medical care.

Methods

Setting and Selection of Participants

NSCAW, the first national probability survey of families and children involved with CPS, sampled 5,501 children reported for abuse and neglect from birth to 14 years old, for whom a CPS investigation occurred between October, 1999 and December, 2000. Sampling was

conducted monthly over a 15-month period, and baseline data collection was completed in April of 2001. The sample included cases that did and did not receive on-going CPS services, either because the child abuse and neglect report was not substantiated or because it was determined that no services were warranted. A two-stage cluster sampling strategy was used, with children selected from within 92 primary sampling units (PSU), which in most cases were a single US county. Children for whom a maltreatment investigation was initiated were sampled from within each PSU. From the total sample (5,501), we identified all cases (4,034) in which the child remained at home after the CPS investigation. Of those 4,034 cases, 3,440 cases had care-givers who answered the question about serious injuries and constituted our sample for this study, whereas 594 cases were excluded because they lacked answers to the question about injuries.

Data for these analyses were drawn from interviews conducted at Waves 1, 2, and 3 with caregivers and child welfare workers. Wave 1 interviews occurred approximately 5 months after contact with CPS. Wave 2 interviews occurred approximately 8 months after Wave 1, and Wave 3 interviews occurred approximately 7 months after the Wave 2 interviews (see Table 1). Interviews with CPS workers were conducted in English and completed by a computer-assisted interview session. CPS workers were instructed to refer to the case record as needed to answer the questions. Further information on NSCAW methodology is published elsewhere [11].

Methods of Measurement

Dependent Variable—Injury. In wave 2 and 3 interviews, caregivers were asked the following question about injuries: “Since the date of the last interview, has your child had a serious injury, accident or poisoning that needed the care of a doctor or nurse?” The possible responses were yes/no.

Independent Variables—Injury predictors were derived from the extant literature and are described below.

Level of CPS Involvement—Children and families were classified into two categories based on the Wave I interviews, including: (1) children living at home where the family received some form of child welfare services, and (2) children living at home with no further child welfare services. Also, we identified whether the child had any placement(s) in foster care between Wave 1 and Wave 3. Foster care placement was categorized dichotomously.

Child Characteristics—Child characteristics measured included race/ethnicity, gender, age and chronic medical conditions and disabilities as identified by the caregiver in Wave 1. Age categories were determined by the standard divisions in the injury literature: birth to less than 1 year, 1–4, 5–9, 10+ years. To determine the presence of chronic illnesses, caregivers were asked if their child had health problems that “last a long time or come back again and again.” The presence of a disability was determined by the caregiver's answer to: “Did your child need services for a learning or developmental disability?”

Caregiver Characteristics—All caregiver characteristics were determined from the caregiver's Wave 1 interview. Caregiver socioeconomic status was measured with two variables, education and annual household income. Other characteristics measured included race/ethnicity, gender, age, marital status, and number of household members.

Psychosocial Risk Factors—Several psychosocial risk factors were measured in Wave 1 interviews, including caregiver depression, interpersonal violence, and a composite measure of family risk factors. Caregiver depression (yes/no) was assessed using the World

Health Organization Composite International Diagnostic Interview Short-Form (CIDI-SF) [12]. The CIDI-SF version used in NSCAW generated diagnoses of depression based on criteria from the Diagnostic and Statistical Manual of Mental Disorders [13]. Concordance with clinical diagnoses has ranged from 0.76 to 0.84 [14] and comparison of the CIDI with the Schedules for Clinical Assessment in Neuropsychiatry was 0.69 for current diagnoses [15].

Interpersonal violence experiences were identified using the Conflict Tactics Scales (CTSI) physical violence scale. The CTSI categorizes “minor” and “severe” experiences with violence. “Minor” violence includes events such as being grabbed, pushed, shoved and slapped. Examples of “severe” violence include events such as being beaten up, choked, and threatened with a knife or gun. Three categories were used to characterize the caregiver's experiences with interpersonal partner violence in the previous year: minor physical violence only, severe physical violence (which may also include minor violence), and no violence. Psychometric testing of the CTSI supports the reliability and validity of the instrument [16].

Last, a cumulative family risk count was created, based on fifteen indicators of risk for child abuse and neglect asked of the caseworkers at Wave I. These included: the presence of child major special needs/behavior problems; active substance abuse by caregivers; caregiver arrests/detentions; caregiver intellectual impairment; caregiver physical impairment; caregiver parenting skills and behaviors; history of abuse/neglect of caregiver; lack of reasonable caregiver cooperation with services; high family stress; low family social support; and caregiver involvement in non-CPS services. Detailed item content is described by Horwitz and colleagues [17]. For analyses, the risk factor composite was categorized based on the number of risk factors present: low 0–2, middle 3–4, and high 5+.

Data Analysis

Population characteristics of children with an injury and without any injury were calculated. A multivariate logistic regression approach was utilized to predict injuries. The multivariate model for the in-home CPS population focused on identifying predictive variables while controlling for other explanatory variables including child characteristics, chronic illness and/or disability in the child, CPS involvement, caregiver characteristics, and caregiver/family psychological variables. All variables were entered in the model simultaneously. For data presentation, all child characteristics and receipt of CPS services were included in the table, and only significant caregiver characteristics and caregiver/family psychological variables were included. A threshold for significance was set at 0.05 for each variable. All percentages reported are weighted to represent the national population.

Results

Characteristics of Study Subjects with an Injury

Of the total sample, 88.7% of caregivers interviewed in Wave 1 had children who remained in their homes after the maltreatment investigation. Of those, 84% of caregivers answered the question about injuries and constituted the sample for this study. Injuries were identified in 10.6% (SE, 1.0) of the in-home population over a 15-month period, with no differences between age groups (data not shown). Unadjusted relationships of the independent variables to injuries are shown in the third column of Table 2. Boys were more likely to have an injury than girls and children with chronic illnesses were more likely to have an injury than children without chronic illnesses (see Table 2). Caregivers with depression were more likely to report a child injury than caregivers without depression. Both children and

caregivers who were White, non-Hispanic were more likely to have a child injury identified by the caregiver than children and caregivers who were non-Hispanic Blacks.

Predictors of Injuries

Multivariate models (see Table 3) for injuries showed that one child variable predicted injuries in the in-home population. Children with chronic illnesses were 2.07 times more likely to have an injury than children without chronic illnesses (95% CI, 1.20–3.58). Several caregiver variables predicted subsequent injuries. Older caregivers (greater than 54 years old) were less likely to have a child with an injury than caregivers who were under 35 years old (OR = 0.15, 95% CI, 0.03–0.69). Caregivers with depression were 2.28 times more likely to have a child with an injury than caregivers without depression (95% CI, 1.45–3.58). There were no differences in the reporting of injuries for children who received CPS services and those who did not receive CPS services. There were also no differences between children who had at least one foster care placement and children who did not have a foster care placement ($P = 0.90$; data not shown).

Discussion

Over ten percent of children who remained at home after a maltreatment investigation had caregivers who reported a serious injury that required medical attention during the subsequent 15-month period. Specifically, children who had a chronic illness or had a caregiver with depression were at highest risk for an injury. Children with caregivers who were older had lower risk of a reported injury when compared to children with younger caregivers. The population of children in this study may reflect other low-income, high risk populations in the US and thus, the findings of this study could be more widely applied to families with comparable risk factors.

Similar to previous research findings in the general pediatric population, children in this study with chronic illness were more likely to have injuries requiring medical attention [1,3,18]. The relationship of a child's chronic illness to injuries is complicated since it may be that caregivers are more likely to seek medical attention for injuries when their child already has a medical problem. Alternatively, it could be that children with certain chronic illnesses, e.g. asthma, are more prone to injuries in general [3,19]. Also, the tendency to seek medical care for an injury may depend on the caregiver's access to medical care, tolerance for medical risk, concern about how a potential injury and the lack of seeking care may be viewed by CPS, and perception about what types of injuries require medical care. In addition, the literature suggests that children with health conditions are more likely to be the victims of maltreatment [20].

Several child and caregiver/family characteristics were not related to injuries in this population, contrary to findings in the general pediatric population. Interpersonal violence, single parenting and child disability were not related to injuries [3,5,6,21]. In this study, injuries were also not related to receiving CPS services after the initial maltreatment investigation. Although injuries can be a sign of maltreatment [5], in this study injuries were not related to movement from home to a foster care placement.

Several caregiver factors were related to injuries. Older caregivers were less likely to report child injuries than younger caregivers. This may reflect older caregivers' experience or maturity resulting in fewer injuries or the home management of those injuries, a higher threshold for seeking medical advice, or competing medical problems they themselves have. Also, caregiver depression was associated with injuries in children who remained at home, similar to findings in the general pediatric population [22]. Pediatric clinicians are less likely

to provide anticipatory guidance to parents who are depressed [21], yet in this study the caregivers who were depressed were in the most need of such guidance.

The American Academy of Pediatrics has published a time-table and specific age-appropriate suggestions for injury prevention counseling for in-office pediatric clinicians [23,24]; these strategies are an effective method of increasing specific family safety practices such as motor vehicle restraint use and employment of smoke detectors in homes [25]. In pediatric primary health care, injury prevention has been successfully incorporated into the developmental assessment [26]. Urgent care and emergency pediatric clinicians can utilize the Centers for Disease Control and Prevention's child injury prevention fact sheets, which can be given to caregivers for education and to connect caregivers to on-line resources [27].

The standards for health care of children in foster care adopted by the Child Welfare League of America and the American Academy of Pediatrics detail the requirements for frequent anticipatory guidance/health promotion, including injury prevention [28,29]. Unfortunately, these standards do not apply to children who remain at home after a CPS investigation. Extending these health policy guidelines to children involved with CPS regardless of their placement might encourage more frequent anticipatory guidance on accident prevention.

In addition, identifying caregivers' depression is important to enable pediatric clinicians to target at-risk families for injury prevention. Pediatric clinicians can screen for caregivers' depression using the 2-item version of the Patient Health Questionnaire depression module (PHQ-2) [30]. These two questions are easy to use in busy clinical settings, such as clinics and urgent care facilities, and may encourage pediatric clinicians to refer caregivers who screened positively for depression to adult mental health clinics or the caregiver's primary care provider.

Limitations

The primary limitation of this study is that the only measure of injuries is caregiver report of injuries. In addition, pediatric provider information about a child's health status was not available, and assessment of the presence of chronic illness and use of services for disabilities also was made by the caregiver. NSCAW also collected only limited data on pediatric services and we were unable to examine whether use of primary care services was related to injuries. Also, we anticipate some underreporting of injuries if the child changed placements or caregivers at home changed. Finally, all data on caregiver characteristics were self reported.

Conclusion

This study employed data from the first national sample of children reported for abuse and neglect in the US. It also it the first comprehensive sample; that is, it includes children who remained in their homes after a CPS investigation (which represent the largest proportion of children served by CPS). The results of this study suggest that injuries requiring medical care in the in-home population are not uncommon, especially for children whose caregivers are depressed or for children who have chronic illnesses. Also, older caregivers reported fewer injuries than younger caregivers. Future research needs to investigate the mechanisms by which these caregiver and child characteristics increase the risk of care-giver report of injury and develop interventions to decrease the risk of injuries, perhaps through targeted caseworker services. Finally, it is important to understand the relationship of injuries to re-reports of maltreatment and changes in the level of CPS involvement. Injuries may be an early warning of escalating problems in a family that may be amenable to early intervention.

Acknowledgments

The authors want to acknowledge National Institute of Health for two grants which supported this research: The Eunice Kennedy Shriver National Institute of Child Health & Human Development (K01-HD05798 PI Schneiderman) and the National Institute of Mental Health (P30-MH074678 PI Landsverk). We would also like to acknowledge the W.T. Grant Foundation (#9443 PI Leslie).

References

1. Borse, NN.; Gilchrist, J.; Dellinger, AM.; Rudd, RA.; Ballesteros, MF.; Sleet, DA. CDC childhood injury report: Patterns of unintentional injuries among 0–19 year olds in the United States, 2000–2006. Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; Atlanta, GA: 2008. Available from: http://www.cdc.gov/safechild/images/CDC-childhoodinjury.pdf
2. Towner E, Towner J. Child injury in a changing world. Global Public Health. 2009; 4(4):402–413. [PubMed: 19513912]
3. Xiang H, Stallones L, Chen G, Hostetler SG, Kelleher K. Nonfatal injuries among US children with disabling conditions. American Journal of Public Health. 2005; 95(11):1970. [PubMed: 16195515]
4. Tymchuk AJ, Lang CM, Dolyniuk CA, Berney-Ficklin K, Spitz R. The home inventory of dangers and safety precautions-2: Addressing critical needs for prescriptive assessment devices in child maltreatment and in healthcare. Child Abuse and Neglect. 1999; 23(1):1–14. [PubMed: 10075189]
5. Chester DL, Jose RM, Aldlyami E, King H, Moiemen NS. Non-accidental burns in children—Are we neglecting neglect? Burns. 2006; 32(2):222–228. [PubMed: 16448766]
6. Schnitzer PG, Ewigman BG. Household composition and fatal unintentional injuries related to child maltreatment. Journal of Nursing Scholarship. 2008; 40(1):91–97. [PubMed: 18302597]
7. Brenner E, Freundlich M. Enhancing the safety of children in foster care and family support programs: Automated critical incident reporting. Child Welfare. 2006; 85(3):611. [PubMed: 16999387]
8. Harvey A, Towner E, Peden M, Soori H, Bartolomeos K. Injury prevention and the attainment of child and adolescent health. Bulletin of the World Health Organization. 2009; 87(5):390–394. [PubMed: 19551258]
9. Mello MJ, Getz MA, Lapidus G, Moss J, Soulos P. Innovations in injury prevention education. The Journal of Trauma. 2007; 63(3 Suppl):S7–S9. [PubMed: 17823592]
10. Downs, SW.; Moore, E.; McFadden, EJ. Child welfare and family services: Policies and practice. 8th ed.. Pearson Education, Inc.; Boston: 2009.
11. Methodological lessons from the National Survey of Child and Adolescent Well-Being. The first three years of the USA's first national probability study of children and families investigated for abuse and neglect. Children and Youth Services Review. 2002; 24(6–7):513–541.
12. Kessler RC, Andrews G, Mroczek D, Ustun B, Wittchen H. The World Health Organization Composite International Diagnostic Interview short-form (CIDI-SF). International Journal of Methods in Psychiatric Research. 1998; 7(4):171–185.
13. American Psychiatric Association. Diagnostic and statistical manual of mental disorders: DSM-IV. 4th ed.. American Psychiatric Association; Washington DC: 1994.
14. Janca A, Robins LN, Bucholz KK, Early TS, Shayka JJ. Comparison of Composite International Diagnostic Interview and clinical DSM-III-R criteria checklist diagnoses. Acta Psychiatrica Scandinavica. 1992; 85(6):440–443. [PubMed: 1642126]
15. Andrews G, Peters L, Guzman AM, Bird K. A comparison of two structured diagnostic interviews: CIDI and SCAN. The Australian and New Zealand Journal of Psychiatry. 1995; 29(1):124–132. [PubMed: 7625961]
16. Straus MA. Measuring intrafamily conflict and violence: The conflict tactics (CT) Scales. Journal of Marriage and the Family. 1979; 41(1):75–88.
17. Horwitz SM, Hurlburt MS, Cohen SD, Zhang J, Landsverk J. Predictors of placement for children who initially remained in their homes after an investigation for abuse or neglect. Child Abuse and Neglect. under review.

18. Danseco ER, Miller TR, Spicer RS. Incidence and costs of 1987–1994 childhood injuries: Demographic breakdowns. Pediatrics. 2000; 105(2):E27. [PubMed: 10654987]
19. Schwebel D, Brezausek C. Language acculturation and pediatric injury risk. Journal of Immigrant and Minority Health. 2009; 11(3):168. [PubMed: 18536989]
20. Kools S, Kennedy C. Foster child health and development: Implications for primary care. Pediatric Nursing. 2003; 29(1):39–44. [PubMed: 12630505]
21. Rhodes KV, Iwashyna TJ. Child injury risks are close to home: Parent psychosocial factors associated with child safety. Maternal and Child Health Journal. 2007; 11(3):269–275. [PubMed: 17216351]
22. Minkovitz CS, Strobino D, Scharfstein D, et al. Maternal depressive symptoms and children's receipt of health care in the first 3 years of life. Pediatrics. 2005; 115(2):306–314. [PubMed: 15687437]
23. American Academy of Pediatrics. Tipp injury prevention program. 2010 [April 19, 2010]. Available at: http://www.aap.org/family/tippmain.htm.
24. Gardner HG. Office-based counseling for unintentional injury prevention. Pediatrics. 2007; 119(1): 202. [PubMed: 17200289]
25. DiGuiseppi C, Roberts IG. Individual-level injury prevention strategies in the clinical setting. The Future of Children. 2000; 10(1):53. [PubMed: 10911688]
26. Agran PF, Anderson C, Winn D, Trent R, Walton-Haynes L, Thayer S. Rates of pediatric injuries by 3-month intervals for children 0 to 3 years of age. Pediatrics. 2003; 111(6):E683. [PubMed: 12777586]
27. Centers for Disease Control and Prevention. Injury prevention & control: Home and recreational safety. 2010 [April 19, 2010]. Available at: http://www.cdc.gov/HomeandRecreationalSafety/index.html.
28. Child Welfare League of America. CWLA standards of excellence for health care service for children in out-of-home care. Child Welfare League of America, Inc.; Washington DC: 2007. Revised ed.
29. Task Force on Health Care for Children in Foster Care. Fostering Health: Health care for children and adolescents in foster care. 2nd ed.. American Academy of Pediatrics; District II, New York State: 2005.
30. Kroenke K, Spitzer RL, Williams JB. The Patient Health Questionnaire-2: Validity of a two-item depression screener. Medical Care. 2003; 41(11):1284–1292. [PubMed: 14583691]

Table 1

Timing of data sources on caregiver/child characteristics and injuries

Study activities	Time intervals	Data collection
Maltreatment investigation	Subject contact date	Enumeration
Phase 1 interviews	5 months after investigation	Data collected on caregiver/child characteristics
Phase 2 interviews	8 months after Phase 1	Data collected on injury
Phase 3 interviews	7 months after Phase 2	Data collected on injury

Table 2

Characteristics of in-home population with an injury and in-home population without an injury and rates of injuries in total sample

	Any injury (N = 366) Column % (se)	No injury (N = 3,074) Column % (se)	Injuries in total sample (N = 3,440) Column % (se)
Child characteristics			
Race/ethnicity			
Black, non-Hispanic	19.8 (5.1)	28.8 (3.0)	7.4 (2.1)*
White, not Hispanic	60.4 (5.6)	44.3 (3.9)	14.8 (1.5)®
Hispanic	15.1 (3.9)	19.9 (3.0)	8.0 (2.1)
Other	4.6 (2.5)	7.0 (0.9)	3.6 (3.7)
Gender			
Male	62.3 (5.6)	48.3 (1.9)	14.1 (1.9)*
Female	37.7 (5.6)	51.7 (1.9)	8.3 (1.4)®
Age			
0	4.0 (1.0)	4.9 (0.5)	9.0 (1.8)®
1–4	26.4 (4.4)	28.6 (1.8)	10.9 (1.8)
5–9	31.8 (4.8)	36.2 (2.1)	9.8 (2.0)
10+	37.8 (4.7)	30.3 (1.3)	13.5 (2.0)
Insurance coverage			
Medicaid	55.1 (6.4)	61.9 (2.0)	9.7 (1.3)
Private & champus	33.7 (5.8)	27.3 (1.8)	13.3 (3.0)
No insurance	11.3 (3.0)	10.8 (1.2)	13.8 (4.0)®
Chronic disease			
Yes	45.4 (6.0)	25.2 (1.7)	18.5 (3.0)**
No	54.6 (6.0)	74.8 (1.7)	8.5 (1.2)®
Disabilities			
Yes	24.3 (4.1)	22.4 (1.7)	11.8 (2.2)
No	75.7 (4.1)	77.6 (1.7)	11.1 (1.3)®
Caregiver characteristics			
Race/ethnicity			
Black, non-Hispanic	15.4 (5.0)	26.1 (3.2)	6.3 (2.0)**
White, not Hispanic	64.0 (6.0)	48.9 (3.9)	14.7 (1.4)®
Hispanic	12.8 (3.2)	17.9 (3.7)	7.7 (2.4)
Other	7.8 (3.1)	7.1 (1.0)	11.4 (3.9)
Gender			
Male	10.8 (3.4)	9.0 (0.9)	15.7 (4.8)
Female	89.2 (3.4)	91.0 (0.9)	10.8 (1.1)®
Age			
<35	69.0 (4.4)	63.3 (1.7)	12.2 (1.4)®
35–44	25.5 (4.1)	27.8 (1.5)	10.4 (1.9)

	Any injury (N = 366) Column % (se)	No injury (N = 3,074) Column % (se)	Injuries in total sample (N = 3,440) Column % (se)
45–54	5.2 (1.5)	7.2 (1.0)	7.9 (2.3)
>54	0.3 (0.2)	1.7 (0.4)	2.1 (1.4)
Marital status			
Married	37.8 (4.6)	29.2 (1.7)	13.2 (2.1)
Separated/Divorced Widowed/never married	62.2 (4.6)	70.8 (1.7)	10.4 (1.2)®
CG education			
<High school	29.1 (5.8)	31.1 (2.0)	10.7 (2.5)®
HS diploma/equivalent	43.9 (5.2)	44.7 (1.6)	11.0 (1.5)
≥High school	27.0 (4.7)	24.2 (1.6)	12.3 (2.6)
Income			
<$10,000	26.2 (5.6)	27.1 (1.7)	10.1 (2.2)®
$10,000–$19,000	25.2 (4.3)	34.3 (2.0)	8.8 (1.7)
$20,000–$39,000	29.0 (5.0)	25.8 (1.6)	12.0 (2.8)
≥$40,000	19.5 (5.2)	12.9 (1.4)	16.0 (4.9)
Household members			
1–3	59.8 (5.4)	58.0 (1.9)	11.7 (1.5)®
4–10	40.2 (5.4)	42.0 (1.9)	10.6 (1.7)
Caregiver/family psychological variables			
Caregiver major depression			
Yes	41.8 (5.1)	21.6 (1.7)	20.6 (3.1)**
No	58.2 (5.1)	78.4 (1.7)	8.4 (1.0)®
Intimate partner violence			
No violence	69.6 (6.1)	69.7 (1.9)	10.9 (1.4)®
Minor physical violence	15.3 (4.9)	12.1 (1.1)	14.0 (4.6)
Severe physical violence	15.1 (4.8)	18.2 (1.5)	8.8 (3.3)
Family risk score			
Low (0–2)	47.6 (5.3)	49.0 (2.0)	11.4 (1.9)®
Middle (3–4)	24.4 (4.0)	26.4 (1.5)	9.2 (1.7)
High (5+)	28.5 (5.1)	24.6 (1.7)	12.1 (2.1)

In bivariate analyses

*** $P < 0.001$

® reference group

* $P < 0.05$

** $P < 0.01$

Table 3

Multivariate logistic model of injury for the in-home population

N = 3,186	OR	95% CI
Child characteristics		
Placement		
IH no CWS	1.00	1.00, 1.00
IH CWS	1.01	0.61, 1.65
Race/ethnicity		
Black, non-Hispanic	0.57	0.30, 1.09
White, not Hispanic	1.00	1.00, 1.00
Hispanic	0.65	0.35, 1.21
Other	0.59	0.19, 1.84
Gender		
Male	1.70	0.97, 2.98
Female	1.00	1.00, 1.00
Age		
0	1.00	1.00, 1.00
1–4	0.94	0.49, 1.79
5–9	0.97	0.49, 1.90
10+	1.72	0.87, 3.37
Insurance coverage		
Medicaid	0.63	0.29, 1.37
Private & champus	0.93	0.42, 2.09
No insurance	1.00	1.00, 1.00
Chronic disease		
Yes	2.07	1.20, 3.58**
No	1.00	1.00, 1.00
Disability		
Yes	0.82	0.45, 1.48
No	1.00	1.00, 1.00
Caregiver characteristics		
Caregiver age		
<35	1.00	1.00, 1.00
35–44	0.68	0.39, 1.16
45–54	0.54	0.23, 1.24
>54	0.15	0.03, 0.69*
Caregiver major depression		
Yes	2.28	1.45, 3.58***
No	1.00	1.00, 1.00

* $P < 0.05$

** $P < 0.01$

*** $P < 0.001$