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Child, caregiver, and family characteristics associated with emergency department use by children who remain at home after a child protective services investigation

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Abstract

Objectives—To examine emergency department (ED) use among children involved with child protective services (CPS) in the U.S. but who remain at home, and to determine if ED use is related to child, caregiver and family characteristics as well as receipt of *CPS* services.

Method—We analyzed data on 4,001 children in the National Survey of Child and Adolescent Well-being. Multivariate models compared rates of ED use for whether the family *received CPS services or did not receive CPS services* as well as child characteristics, caregiver characteristics and caregiver/family psychological variables.

Results—ED use among children who remained at home *receiving CPS services* was similar to that of children *who did not receive CPS services* (35.6% and 37.4%, respectively). In multivariate modeling, children with families who received CPS services, children six years or older, and children without a chronic *health problem* were less likely to use the ED. Children who remained at home in families identified with numerous stressors and, therefore, likely at high risk for future

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abuse and neglect were 1.73 times (95% CI, 1.14–2.63) more likely to have repeat ED use than children in low risk families.

Conclusion—Children who remain at home after a CPS evaluation are at high risk for ED use. Future research should focus on the health problems that precipitate an ED visit as well as the relationship between primary care and ED use.

Keywords

Emergency department; child abuse; foster care; child protective services; child welfare

INTRODUCTION

In 2007, child protective/child welfare services (CPS) agencies in the U.S. received approximately 3.2 million referrals for alleged maltreatment involving about 5.8 million children; 900,000 of the investigations determined that the child was a victim of maltreatment and 269,000 children were removed from their homes and placed in foster care (U.S. Department of Health and Human Services, 2008). In September of 2007, there were approximately 496,000 children in foster care (U.S. Department of Health and Human Services, Administration for Children and Families, 2008) but the vast majority of children served by CPS agencies remain in their homes and never enter foster care. In a national sample of low income families, 47.1% of children who had an initial maltreatment investigation had a rereport of child maltreatment after three years, thus CPS agencies in the U.S. often serve the same children repeatedly (Drake, Johnson-Reid, & Sapokaite, 2006). Studies have consistently found that children in foster care have higher rates of physical health problems (Rubin, Halfon, Raghavan, & Rosenbaum, 2005) and chronic health conditions, (Jee, Barth, Szilagyi, & Szilagyi, 2006) compared to U.S. children who are Medicaid-eligible (Hansen, Mawjee, Barton, Metcalf, & Joye, 2004). Recent evidence indicates that children who remain at home following contact with child welfare have rates of health problems comparable to those of children in foster care, particularly children ages 5 and under (Leslie, Gordon, Meneken, & Premji, 2005; Ringeisen, Casanueva, Urato, & Cross, 2008). However, unlike children who are placed in foster care, very little research on the use of health services has included the in-home population served by CPS. This study examines emergency department (ED) use of children who remain at home after a maltreatment investigation and explores the relationship of ED use to child, caregiver, and family variables and *receipt of CPS services*.

ED use has increasingly become the safety net for children who have difficulty accessing health services. In 1997, 19.9 % of children in the U.S. ages 0–18 years old had at least one visit to the ED (National Center for Health Statistics, 2008). In 2006, the percentage of children using the ED at least one time increased to 21.3% (National Center for Health Statistics, 2008). Use of EDs often occurs for routine and nonemergent care resulting in a burden on hospitals to provide services, collect commensurate payment for services, and to pay for uncompensated care for the uninsured (Derlet & Richards, 2000). For children, lack of primary health care access and poor continuity of care are related to more ED use for nonurgent conditions (Berry, Brousseau, Brotanek, Tomany-Korman, & Flores, 2008; Gregor et al., 2009). Increased ED use and ED recidivism for children is related to race (African-American and Hispanic), young age, and presence of a chronic health problem (Jee et al, 2005, LeDuc, Rosebrook, Rannie, & Gao, 2006; Rhodes & Iwashyna, 2007; Zandieh, Gershel, Briggs, Mancuso, & Kuder, 2009) *In addition, parental factors affecting home safety such as maternal depression and, exposure to domestic violence (Blumberg & O'Connor, 2004; Rhodes & Iwashyna, 2007) may decrease family attention to preventive activities.*

Some evidence suggests that the high prevalence of chronic and acute health problems of many children in foster care, and the difficulties around providing health services to children in foster care, contribute to unusually high levels of ED use in the foster care population. Jee et al (2005) found that 31% of children in long term foster care (out-of-home placement for at least one year) in a national sample used the ED or urgent care centers (hereafter called ED use) over the last year. In a sample of young maltreated children, home visiting by nurses decreased ED visits by 38% compared to maltreated children who did not receive home visiting (Olds et al, 1995). The challenges of accessing health services, though, may be greater for children remaining at home after a CPS investigation for a number of reasons. First, the majority of youth are reported to CPS for neglect, which often includes inadequate health care (American Humane Association, 2001; Committee on Child Abuse and Neglect, American Academy of Pediatrics, 2007). Second, many of their caregivers are involved with CPS due to substance use problems, domestic violence, or mental health issues and effective organization of primary care for their child(ren) may be more difficult to manage (Barth, 2009; Casanueva, Martin, & Runyan, 2009; Ornelas, Silverstein, & Tan, 2007). Third, these families are not uniformly covered by Medicaid (Allen, 2008). Last, for those youth with Medicaid coverage, identification of a primary care or pediatric subspecialist can be problematic (Berman, Dolins, Tang, & Yudkowsky, 2002). Therefore identifying risk factors of ED use for the in-home population is important to allow for targeted interventions by CPS caseworkers.

This paper uses data from the National Survey of Child and Adolescent Wellbeing (NSCAW) to broaden our understanding of ED use among children in contact with child welfare but who were not placed in foster care at the time of the initial interview. First, we examined rates of ED use in the much larger segment of children who remain at home following contact with child welfare, and compare use rates with those of children in long term foster care and with relevant national data in the discussion of the findings. We hypothesized that ED use among children remaining at home following contact with child welfare would be high and that key variables, including receipt of *CPS* services, *presence of a child's chronic health problem*, child age, and insurance, would be associated with ED use. We also hypothesized that psychosocial variables such as caregiver depression, domestic violence, and a constellation of family risk factors that would likely increase the risk for future child abuse and neglect would be related to ED use. Identifying family risk by counting the number of risks present in vulnerable families who have contact with CPS has been shown to be predictive of future placement changes (Horwitz, Hurlburt, Cohen, Zhang, & Landsverk, 2011), thus this risk assessment may also be predictive of ED use. We also examined rates of repeated ED use, which may be more indicative of ineffective health care utilization.

METHODS

Population and Sampling

NSCAW, the first national probability study of families and children involved with CPS, sampled 5,501 children reported for abuse and neglect from birth to 14 years old who had contact with CPS between October, 1999 and December, 2000. Of the 5,501 children, 4,001 children remained at home after the maltreatment investigation, had information on ED use and therefore constituted the sample for this study. Of the entire NSCAW sample, 11.3 % of children resided in foster care at Wave 1, 24% of children were living at home with some form of *CPS services*, and 64.7 % of children were living at home with no *CPS services*. Our sample of children who remained at home included 88.7% of the total NSCAW sample. We excluded children who were in foster care because foster caregivers were asked to report on ED use for a shorter time, on average five months, and could not be compared to the 12 month reports of ED use by caregivers of children who remained at home.

Sampling for the NSCAW study was conducted monthly over a 15-month period, and baseline data collection was completed in April of 2001. The sample included cases that received *CPS services* and cases that did not *receive 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 U.S. county. Children for whom a maltreatment investigation was initiated were sampled from within each PSU. All procedures for NSCAW were approved by the Research Triangle Institute's IRB and all analytic work on the NSCAW deidentified data was approved by the local Children's Hospital IRB. Data for these analyses were drawn from Wave 1 interviews conducted with caregivers and child welfare workers, which occurred approximately 5 months after contact with CPS. Interviews were completed by a computer-assisted interview session. CPS workers were instructed to refer to the case record as needed to answer questions about case histories. Further information on NSCAW methodology is published elsewhere (NSCAW Research Group, 2002).

Dependent Variable

Emergency Department Use. Caregivers of children remaining at home were asked "In the last 12 months, has your child gone to an emergency room or urgent care center for an illness or injury?" For repeat ED use, the question was "How many times has she/he gone to an emergency room or urgent care center (for an illness or injury)?" Children taken to the ED two or more times were categorized as repeat ED users. ED use and repeat ED use were categorized dichotomously.

Independent Variables

Characteristics potentially associated with ED use were derived from the extant literature and are described below.

Receipt of CPS services—Children and families were classified into two categories based on the Wave I interview, including: (1) children living at home where the family received some form of *CPS services*, and (2) children living at home with no *CPS services*.

Child Characteristics: Child characteristics measured included race/ethnicity, gender, age and chronic health problem as identified by the caregiver. Caregivers were asked if their child had health problem that "last a long time or come back again and again."

Caregiver Characteristics: 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, 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) (Kessler, Andrews, Mroczek, Ustun, & Wittchen, 1998). The CIDI-SF version used in NSCAW generated diagnoses of depression based on criteria from the Diagnostic and Statistical Manual of Mental disorders (American Psychiatric Association, 1994). Concordance with clinical diagnoses has ranged from 0.76 to 0.84 (Janca, Robins, Bucholz, Early, & Shayka, 1992) and comparison of the CIDI with the Schedules for Clinical Assessment in Neuropsychiatry was 0.69 for current diagnoses (Andrews, Peters, Guzman, & Bird, 1995).

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 being grabbed, pushed, shoved and slapped. Examples of “severe” violence include items such as being beaten up, choked, and threatened with a knife or gun. Three categories were used to characterize the caregiver’s experiences with intimate 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 (Straus, 1979).

Last, a cumulative family risk count for child abuse and neglect was based on fifteen indicators asked of child welfare workers during the Wave I interview. Specific items asked about (1) the presence of child major special needs/behavior problems; (2) active alcohol abuse by caregivers; (3) active drug use by caregivers; (4) caregiver arrests/detentions; (5) caregiver intellectual impairment; (6) caregiver physical impairment; (7) caregiver poor parenting skills; (8) caregiver unrealistic expectations of child; (9) caregiver use of inappropriate discipline (10) history of abuse/neglect of caregiver; (11) lack of reasonable caregiver cooperation with services; (12) lack of supportive caregiver in home; (13) high family stress; (14) low family social support; and (15) caregiver involvement in non-CPS services. Detailed item content is described by Horwitz and colleagues (Horwitz, Hurlburt, Cohen, Zhang, & Landsverk, 2011). 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+.

Statistical Analysis

Rates of ED use and repeat ED use were calculated by age group and compared with national statistics in the discussion (National Center for Health Statistics, 2008). Multivariate logistic regression analyses were used to examine characteristics related to ED use and repeat ED use. Multivariate models focused on comparing ED use across the two levels of receipt of CPS services, while controlling for other potentially associated variables, and on evaluating the unique relationship of caregiver/family psychosocial risk factors with ED use controlling for other statistically significant variables.

Variables were entered into multivariate models hierarchically. *Receipt of CPS services* and child-level variables, including *chronic health problem* and presence of insurance, were entered in an initial model step and were all retained in the final models presented. Subsequently, variables were entered in the following order: caregiver demographic variables, socioeconomic status, and finally psychosocial risk factors. Final multivariate models included only variables from the initial step (all retained) and those making a statistically significant contribution when added to the model. A threshold for significance was set at .01 for each variable entered to reduce the overall probability of Type I errors. All percentages reported are weighted to represent the national population.

RESULTS

Sample Characteristics

A majority of the children in the in-home sample were White (non-Hispanic) and 6 years old or older. There were an equal proportion of females to males in the child population. Eighty-eight percent of the children in the sample had health insurance. A majority of the caregivers were White (non-Hispanic), female, and under 35 years old. Thirty percent of the caregivers had exposure to intimate partner violence and 23 % caregivers scored positively for depression. Half the families had a low family risk score, and half had middle or high family risk score. ED use and repeat ED use

For all ages, the children who remained at home with or without *receipt of CPS services* had similar ED use (weighted %, se) (35.6% (2.3) and 37.4% (2.7), respectively). Repeat ED use for all ages of children was also similar for children with or without *receipt of CPS services* (16.4% (1.7) and 15.9% (1.8) respectively). Likewise, ED use and repeat ED use were also similar for children who remained at home with or without *receipt of CPS services* for the younger age group, 0–5 years old, (ED use: 42.4 (3.1), 47.2(2.8); repeat ED use: 23.4(2.8), 23.4(2.7)) and the older age group, 6–14 years old (ED use: 30.8(3.3), 31.2(3.0); Repeat ED use: 11.4(1.8), 11.1(1.6)). There were no differences by race/ethnicity for ED use or repeat ED use (see Table 1).

Unadjusted relationships of the independent variables to ED and repeat ED use are shown in Table 1. Multivariate models (see Table 2, Column 1) for ED use for the entire in-home population showed that children whose families received CPS services were less likely to use the ED than children whose families did not receive *CPS services* (OR=0.75; 95% CI, 0.57–0.99). Children six years or older were also less likely to use the ED than younger children (OR=0.51; 95% CI, 0.40–0.66). Children with a *chronic health problem* were 2.02 times more likely to use the ED than children without a *chronic health problem* (95% CI, 1.40 – 2.91). Insurance status did not predict ED use. Psychosocial variables, including caregiver depression, domestic violence, and family risk for future abuse and neglect were not associated with ED use.

Although families who received CPS services were less likely to have a child use the ED, receipt of CPS services was not predictive of repeat ED use. The same two variables (age of the child and presence of a *chronic health problem*) that predicted ED use for the in-home population also predicted repeat ED use (Table 2, Column 2). Insurance again did not predict repeat ED use. Of the psychological variables, family risk for future abuse and neglect was the only predictor of repeat ED use. Children with a high family risk count were 1.73 times more likely to have repeat ED use than children with a low family risk count (95% CI, 1.14–2.63) (Table 2, Column 2).

DISCUSSION

Although the emphasis in the extant literature has been on health care service use by children in foster care, our results demonstrate that children who remain at home after a CPS evaluation are also at high risk for ED use. Children in the NSCAW sample who remained in their homes following a CPS investigation used the ED more than the long term foster care population in Jee et al.'s (2005) study. Also, children in this study used the ED more compared to all U.S. children for the year 2000, including children with families below the 100% poverty level (National Center for Health Statistics, 2008). Repeat ED use also was higher for the in-home population compared to national statistics for the year 1997, including children with families below the 100% poverty level (National Center for Health Statistics, 2008). The increased use of the ED for the in-home population held for the two age groups, 0–5 years old and 6+ years old, compared to national statistics.

Receipt of CPS services decreased ED use which is similar to Old's (1995) home visiting findings. Repeat ED use was not related to receipt of CPS services and it may be that CPS services, which were effective at reducing one-time ED use, may need to be more sustained and intensive to affect more frequent ED use. Similar to previous research, *presence of a chronic health problem* in the child and younger age (5 years old or less) were related to increased ED and repeat ED use in the in-home population of the NSCAW sample (Jee et al., 2006; LeDuc et al., 2006). For younger children with a *chronic health problem*, CPS workers need to ascertain how caregivers obtain health care services and educate caregivers on the importance of using primary care. The assessment of access to health services and

health service use education is especially essential for children who are not receiving CPS services after the maltreatment investigation. The emphasis on addressing access and use of health care during the maltreatment investigation may help CPS meet one of their primary goals, the well-being of children (Downs, Moore, & McFadden, 2009). Surprisingly, contrary to previous findings, (Jee et al., 2006; LeDuc et al., 2006; Minkovitz, O'Campo, Chen, & Grason, 2002) race/ethnicity of the child and age of the caregiver were not related to ED use. Research has not found a clear relationship of health insurance to ED use for children, (Johnson, Rimsza, & Johnson, 2006; Luo, Liu, Frush, & Hey, 2003) and in this study health insurance was not related to ED use.

We also found that high family risk for future abuse and neglect, as identified by CPS caseworkers, was related to an increase in repeat ED use for children remaining at home compared to families with low family risk. Since the level of health problems for children who remain at home is similar to those who enter foster care, (Leslie et al., 2005; Ringeisen et al., 2008) the higher use of ED in the in-home population is not likely related to more health issues but to other factors. It is possible that children who remain at home have higher injury rates and/or medical complications related to neglect and that increased use of the ED is reasonable; conversely, it could be that the chaotic nature of life for families with many risks makes accessing primary pediatric care less likely and the ED becomes the source of care for non-urgent health concerns; or both could be contributing to high ED use. Future research should focus on understanding this issue. Different than previous studies (Blumberg & O'Connor, 2004; Rhodes & Iwashyna, 2007), the other psychosocial risk factors, caregiver depression and domestic violence, were not associated to ED use or repeat ED use. These individual psychosocial risk factors may not predict ED use as well as a compilation of family risk where numerous challenges make obtaining health care more difficult.

Limitations

First, pediatric provider information about the child's health status was not available, and assessment of the presence of a *chronic health problem* 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 ED use. All data from the caregivers, including the use and repeat use of the ED, was self reported with no attempt to verify the information provided. Second, we were unable to compare ED use of children who remained at home to children in foster care in the NSCAW sample, as foster caregivers were caring for the child in the CPS sample on average 5 months at the time of data collection and were asked to report about ED use over a shorter time frame. Also, the reason for the ED visit was not included in the dataset.

CONCLUSION

Children who remain at home after an investigation for maltreatment use the ED more than children in long-term foster care, yet the health care needs of this portion of the CPS population have been largely uninvestigated. Presently, children in foster care may have better access to primary care, and thus less ED use, as a result of the federal Fostering Connections to Success and Reducing Adoptions Act of 2008 (P.L. 110–351), which requires foster children's case plans to include the health care provider's names, child's medical history, medication records, and all relevant medical information (Fostering Connections Resource Center, n.d.). The American Academy of Pediatrics and the Child Welfare League of America policies on health care for children in foster care and their emphasis on providing a medical home for children in out-of-home care would be beneficial to children who remain at home, and expansion of these standards to the in-home population may help increase access and use of primary care for this population (Child Welfare League

of America, 2007; Task Force on Health Care for Children in Foster Care, 2005). Future research about ED use in CPS should address all children served by CPS (including children who remain at home) and should identify the types of health problems that bring children into the ED as well as the relationship of medical homes to ED use.

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Table 1

Rates of ED and repeat ED use and Characteristics of child protective services population

Variables	Total In-Home Population (n=4001)	Total In-Home Population (n=4001)	
	Column % (se)	ED use % (se)	Repeat ED Use % (se)
Child characteristics			
Race/Ethnicity			
Black, non-Hispanic	27.3 (2.8)	35.7 (2.5)	14.9 (2.2)
White, not Hispanic	47.0 (3.7)	39.4 (2.3) @	17.7 (1.9) @
Hispanic	18.8 (2.6)	32.0 (6.2)	13.3 (2.8)
Other	7.0 (0.9)	37.6 (6.2)	15.5 (4.2)
Gender			
Male	50.4 (1.9)	37.8 (2.8)	15.3 (1.6)
Female	49.6 (1.9)	36.0 (2.8) @	16.8 (2.0) @
Age			
0–5	39.5 (1.6)	45.9 (2.3) @	23.4 (2.1) @
6–16	60.5 (1.6)	31.1(2.7) ***	11.1 (1.3) ***
Insurance coverage			
Medicaid	59.0 (1.7)	37.6 (2.4)	18.1 (2.1)
Private & Champus	28.6 (1.5)	36.2 (3.7)	11.6 (1.8)
No insurance	12.4 (1.3)	35.4 (4.7) @	15.8 (3.5) @
<i>Chronic health problem</i>			
Yes	27.9 (1.4)	47.8 (3.3) ***	26.7 (2.6) ***
No	72.1 (1.4)	32.6 (2.6) @	11.8 (1.4) @
Caregiver characteristics			
Race/Ethnicity			
Black, non-Hispanic	24.7 (3.0)	34.7 (2.5)	15.8 (2.4)
White, not Hispanic	51.0 (3.7)	39.8 (2.2) @	17.6 (1.8) @
Hispanic	17.1 (3.1)	26.7 (7.0)	10.6 (2.9)
Other	7.2 (1.1)	48.3(5.4)	17.9 (4.4)
Gender			
Male	9.9 (1.2)	28.4 (6.1)	13.2 (3.9)
Female	90.1 (1.2)	37.8 (2.3) @	16.3 (1.4) @
Age			
<35	63.3 (1.6)	39.4 (2.5) @	17.4 (1.5) @
35–44	28.3 (1.5)	31.4 (3.0)	13.3 (2.2)
45–54	6.9 (0.9)	37.8 (7.0)	12.6(5.3)
>54	1.6 (0.3)	33.9 (13.3)	23.5(14.3)
Marital status			
Married	29.0 (1.4)	39.0 (3.4)	16.2 (2.2)
Separated/Divorced/Widowed/never married	71.0 (1.4)	36.1 (2.3) @	15.9 (1.5) @

Variables	Total In-Home Population (n=4001)	Total In-Home Population (n=4001)	
	Column % (se)	ED use % (se)	Repeat ED Use % (se)
CG education			
<High school	29.9 (1.7)	37.5 (2.4) @	17.8 (2.2) @
HS diploma/equivalent	45.1 (1.4)	36.5 (3.2)	14.4 (1.9)
>=High school	25.0 (1.4)	37.1 (3.3)	16.9 (2.6)
Income			
< \$10,000	26.2 (1.5)	41.0 (3.3) @	18.2 (2.5) @
\$10,000 – \$19,999	33.5 (1.7)	40.0 (3.8)	17.5 (2.7)
\$20,000 – \$39,999	26.2 (1.3)	31.8 (2.8)	12.4 (1.7)
>=\$40,000	14.1 (1.3)	31.8 (4.5)	12.8 (2.9)
Household members			
1–3	58.7 (1.6)	40.2 (2.4) **	17.8 (1.7)
4–10	41.3 (1.6)	32.2 (3.0) @	13.5 (1.9) @
Caregiver/family psychological variables			
Caregiver major depression			
Yes	23.0 (1.4)	43.6 (3.4) *	22.6 (3.1) *
No	77.0 (1.4)	34.6 (2.7) @	13.5 (1.6) @
Intimate partner violence			
No violence	71.0 (1.4)	36.3 (2.5) @	13.9 (1.3) @
Minor physical violence	11.9 (0.9)	42.6 (5.2)	19.7 (4.1)
Severe physical violence	17.1 (1.2)	41.6 (3.9)	24.4 (3.3) **
Family Risk Score			
Low	49.6 (1.9)	36.4 (2.8) @	14.0 (1.9) @
Middle	25.6 (1.5)	35.6 (3.2)	15.5 (2.0)
High	24.8 (1.3)	41.0 (3.3)	21.3 (2.9)

CPS= Child Protection/Child Welfare Services Agencies

Total In-home population: Children who remain in their homes with or without *receiving CPS services*

In bivariate analyses,

@ = reference group;

* p<0.05,

** p<0.01,

*** p<0.001

Table 2

Predictors of ED use and repeat ED use for the in-home population using Multivariate Logistic Models

Variables	In Home Population			
	ED Use (<i>n</i> =3624)		Repeat ED Use (<i>n</i> =3624)	
	OR	95% CI	OR	95% CI
Receipt of CPS Services				
IH without CPS services	1.00	--	1.00	--
IH with CPS services	0.75 *	[0.57, 0.99]	0.81	[0.56, 1.18]
Child Characteristics				
Race/Ethnicity				--
Black, non-Hispanic	1.06	[0.76, 1.48]	0.88	[0.54, 1.46]
White, not Hispanic	1.00	--	1.00	--
Hispanic	0.96	[0.57, 1.62]	0.81	[0.48, 1.38]
Other	1.12	[0.63, 2.00]	1.07	[0.51, 2.27]
Gender				
Male	1.04	[0.79, 1.36]	0.82	[0.59, 1.15]
Female	1.00	--	1.00	--
Age				
0–5	1.00	--	1.00	--
6–16	0.51 ***	[0.40, 0.66]	0.38 ***	[0.27, 0.52]
Insurance coverage				
Medicaid	0.94	[0.58, 1.52]	1.06	[0.55, 2.07]
Private & Champus	0.99	[0.56, 1.76]	0.68	[0.36, 1.26]
No insurance	1.00	--	1.00	--
Presence of a Chronic health problem				
Yes	2.02 ***	[1.40, 2.91]	2.97 ***	[2.07, 4.27]
No	1.00	--	1.00	--
Family Risk score				
Low	1.00	--	1.00	--
Middle	1.02	[0.74, 1.41]	1.14	[0.77, 1.69]
High	1.35	[0.98, 1.85]	1.73 **	[1.14, 2.63]

*
p<0.05,**
p<0.01,***
p<0.001

CPS= Child Protection/Child Welfare Services Agencies

IH with CPS = Children who remain at home who *receive CPS services*IH no CPS = Children who remain at home who do not *receive CPS services*IH population: Children who remain in their home with or without *CPS services*