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Longitudinal experiences of children remaining at home after a first-time investigation for suspected maltreatment

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Abstract

Objective—To describe longitudinal change in risk for children remaining at home following a first-time investigation for suspected maltreatment.

Study design—A retrospective cohort study of children remaining at home following first-time investigation for maltreatment using a nationally representative sample of households involved with Child Protective Services (CPS). Outcomes include poverty, social support, caregiver depression, intimate partner violence (IPV), drug/alcohol dependence, corporal punishment, and child behavior problems at baseline, 18, and 36 months following first-time CPS investigation. We present longitudinal models to 1) estimate prevalence of risk factors at each timepoint and 2) examine associations between risk-specific service referrals and longitudinal change in risk factor prevalence.

Results—Our sample represented 1,057,056 U.S. children remaining at home following first-time investigation for maltreatment. Almost 100,000 (9.2%) children experienced out-of-home placement within 36 months. The prevalence of poverty (44.3%), poor social support (36.3%), caregiver depression (24.4%), IPV (22.1%), and internalizing (30.0%) and externalizing (35.8%) child behavior problems was above general population prevalence at baseline and remained high over the next 36 months. Referral to risk-specific services occurred in a minority of cases, but was associated with significant longitudinal reductions in IPV, drug/alcohol dependence, and externalizing child behavior problems.

Conclusions—Children remaining at home following a first-time investigation for maltreatment live with persistent risk factors for repeat maltreatment. Appropriate service referrals are uncommon, but may be associated with meaningful reduction in risk over time. Pediatricians and

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policy makers may be able to improve outcomes in these families with appropriate service provision and referrals.

Keywords

Child abuse; Child protection; Risk factors

In 2009, Child Protective Services (CPS) became involved in the lives of more than 3 million children in the United States.[1] Only one-quarter of these children were substantiated as victims of maltreatment; less than one-tenth were placed in out of home care. Regardless of CPS substantiation or placement decision, research suggests that many CPS-involved children continue to experience significant adversities in the years to come. [2–5] These adversities are associated with poor emotional and physical health in adolescence and adulthood.[6–10] Research suggests a dose-response relationship between childhood adversities and negative outcomes, highlighting the importance of preventing future exposures to adversity for these children.[7]

Although federal child protection legislation balances the need for child abuse investigation and prevention, CPS involvement in a household is traditionally weighted towards investigation and substantiation of suspected abuse.[11, 12] Prior research suggests that CPS involvement with a family, regardless of substantiation, is not associated with improvements in household or caregiver risk factors for repeat maltreatment.[2] Children remaining at home are less likely to receive mental health services and less likely to have improvement in mental health problems than peers in foster care.[13–15] In follow-up of both U.S. and Israeli cohorts, children remaining at home have lower functioning and lower quality of life than children placed in foster care.[16, 17] With few exceptions, the effectiveness of interventions to prevent child abuse and improve outcomes in these families remains unknown.[18]

Many children living at home after CPS involvement remain at risk of repeat maltreatment and ongoing childhood adversities. They may remain in homes struggling with poverty, social isolation, family violence, caregiver depression, substance abuse, and child behavior problems. A first CPS investigation for suspected maltreatment, regardless of outcome, may present a window of opportunity for pediatricians to discuss and address unmet needs in these families and begin to reduce risks for future maltreatment. As a first step towards this goal, we undertook this study to describe the longitudinal experiences of a nationally representative sample of children remaining in the home following a first CPS investigation for suspected child maltreatment.

Methods

We conducted a retrospective cohort study of CPS-involved children remaining at home following a first-time investigation for suspected child maltreatment.

We drew our study sample from the CPS component of the National Survey of Child and Adolescent Well-Being (NSCAW). The CPS component of NSCAW is a longitudinal sample of 5,501 children aged 0 to 14 years followed prospectively after a CPS investigation for suspected abuse or neglect. NSCAW selected subjects from 92 social service agencies in 36 U.S. states, using a sampling strategy to provide national estimates of characteristics of the children and families involved with CPS.[19] Appropriate statistical techniques allow national estimates to be generated for selected subpopulations within the sample.[20] For this analysis, we restricted the NSCAW sample to 2,017 subjects remaining at home following a first-time CPS investigation for suspected abuse or neglect.

The NSCAW data were made available by the National Data Archive on Child Abuse and Neglect, Cornell University, Ithaca, NY and are used with Archive permission. The University of Utah Institutional Review Board granted IRB exemption for analysis of deidentified NSCAW data.

NSCAW enrolled subjects 2–6 months after closure of a CPS investigation occurring between October 1999 and December 2000. Investigators followed these subjects prospectively over 5 waves of data collection.[19] For this study, we relied on survey data obtained during face-to-face interviews with caregivers and caseworkers at baseline, 18 months, and 36 months following CPS case closure.

We selected measures of household, caregiver, and child risk to capture the longitudinal experiences of children remaining at home following a first-time CPS investigation.[18, 21–24] These measures are described in Table I. Where possible, we identified prevalence estimates for these same risks in the general U.S. population for comparison.[23, 25–29]

To describe CPS involvement with these households, we identified the primary type of maltreatment (physical or sexual abuse, neglect, or other) and the outcome of CPS investigation (substantiated or not). To assess the association between services provided or offered by CPS caseworkers, we identified one risk-specific service for each of the outcomes of interest (Table I). For each subject, we noted whether the CPS caseworker provided, arranged, or referred families to these risk-specific services during the course of the investigation. Finally, we identified those children who were removed from the home at any point over the 36 months after first-time CPS involvement based on caregiver or caseworker report at the 18 and 36 month interviews.

All multivariate models included potential confounding variables including child and caregiver age, child and caregiver sex, child race (minority vs majority) and ethnicity (Hispanic or non-Hispanic), caregiver education (high school diploma or not), and parent status (single or partnered).

There are three levels of missing data in the NSCAW dataset: wave-based non-response (drop-out), design-based non-response, and item-based non-response. Wave-specific probability weights developed by NSCAW investigators were used to adjust for wave-based non-response.[20] Design-based non-response was identified as a potential limitation to our findings. Bivariate comparisons of item-based non-response for outcomes of interest were conducted to identify potential bias.

Analysis

We examined demographics and CPS case information for each subject at baseline, generating national estimates to describe children remaining in the home following first-time CPS investigation for suspected child maltreatment. For each outcome, we created 2 longitudinal logistic models to describe the experiences of children over 36 months following CPS involvement in the home. For our base model, we included all significant demographic covariates, primary maltreatment type, and CPS investigation outcome. In the second model, we retained all base model covariates and added an interaction between time and CPS referral to risk-specific services. For each model, we calculated marginal probabilities to reflect the adjusted proportion of children living with the outcome of interest at each NSCAW survey point. We compared the prevalence of each outcome at 18 and 36 months to baseline prevalence, and compared differences in longitudinal change in prevalence in each outcome associated with CPS interventions offered at baseline.

All analyses were conducted with the svy analysis package in STATA 12.0 (Statacorp, College Station, TX), using subpopulation commands to assure appropriate weighting for our selected sample. This provides robust standard errors to account for stratification, clustering, and weighting in the NSCAW sampling design.[20] All results are presented as estimates of frequencies, means, and proportions based on NSCAW wave-specific probability weights to reflect the national population of children remaining at home following a first-time CPS investigation.

Results

From the full NSCAW CPS sample, 2,017 NSCAW subjects remained at home following a first-time CPS investigation for suspected abuse or neglect. These subjects represented 1,057,056 U.S. children with CPS involvement between October 1999 and December 2000.

Outcome variables were missing in less than 5% of subjects with an expected response with the exception of household income. At the baseline interview, 159 (7.9%) cases were missing data related to household poverty levels. Missingness for this variable was associated with younger child age, child minority race, and younger caregiver age ($p<0.05$).

Baseline demographics and CPS involvement

Where possible, we contrasted our sample demographics to comparable data from the 2000 U.S. Census (Table II).[30] Younger children were over-represented in the CPS-involved population compared with the general population (22.9% vs. 18.9%), and older children tended to be under-represented (20.4% vs. 27.0%). Black, American Indian, and Hispanic children made up a higher proportion of children entering the CPS system than in the general population. Primary caregivers were predominately female and single; over one-quarter had no high school degree at the baseline NSCAW survey.

Child neglect was the primary form of suspected maltreatment for almost half (47.0%) of the children in our sample; physical abuse and sexual abuse made up 28.9% and 10.0% of the sample, respectively. CPS investigation substantiated concerns of abuse or neglect in 27.8%. Caseworkers reported providing or arranging for at least one risk-specific service, such as income assistance, parenting classes, or counseling programs, to 38.0% of caregivers during the course of the investigation. Services were associated with CPS substantiation, offered to 65.7% of caregivers in substantiated cases compared with 27.2% of caregivers in unsubstantiated cases ($p<0.001$).

Among children remaining at home following a first-time CPS investigation for suspected maltreatment, 9.2% were removed from the home on at least one occasion over the following 36 months. Externalizing child behavior problems were present at baseline in 55.3% of children with subsequent out of home placement compared with 33.8% of children remaining in the home over the same time period ($p=0.001$). No other baseline risk factors were associated with subsequent out of home placement.

Household, caregiver, and child risks

Risk factors at baseline survey—In unadjusted analyses, more than one-quarter of CPS-involved families reported living with poverty (45.9%), low social support (36.3%), and child behavior problems (29.0 – 35.7%) (Table III). Twenty-four percent of caregivers acknowledged a clinically significant episode of depression, but very few (4.2%) endorsed drug or alcohol dependence. Twenty-two percent (22%) of caregivers described physical assault by a partner in the preceding year, and two-thirds (65.9%) of caregivers acknowledged using corporal punishment on the child investigated for suspected

maltreatment. Compared with general population samples, CPS-involved households had higher levels of poverty, depression, IPV, and internalizing and externalizing child behavior problems, but lower levels of drug or alcohol dependence. CPS referral for risk-specific services when a risk was present ranged from 7.7% (income assistance for households below 100% federal poverty level) to 25.5% (mental health services for children with externalizing child behavior problems).

Risk factors over time—We created a base model for each outcome by adjusting risk at each timepoint for demographic covariates, primary maltreatment type, and CPS investigation outcome (Figure). Outcomes at 18 and 36 months were compared to baseline risk. We observed no significant differences over time in the adjusted proportion of CPS-involved families reporting poverty (44.3%, 45.5%, and 39.9%), low social support (36.3%, 32.5%, and 41.9%), caregiver depression (24.4%, 21.5%, and 24.2%), corporal punishment (66.2%, 64.1%, and 61.9%), or externalizing child behavior problems (35.8%, 35.9%, and 31.5%). We observed a steady decrease in the 12-month prevalence of IPV at the 18 and 36 month interviews (22.1%, 17.4%, and 13.7%, $p=0.07$ and $p=0.001$). Internalizing child behaviors dropped between baseline and 18 months, and stabilized by 36 months (30.0%, 24.3%, and 23.7%, $p=0.02$ and $p=0.01$). Caregiver drug or alcohol dependence dropped initially but returned to near-baseline levels by 36 months (4.3%, 1.7%, and 3.2%, $p=0.02$ and $p=0.55$).

To understand referral patterns for specific risk factors, and the association between these referrals and risk factors over time, we added an interaction between time and risk-specific services offered to families as a result of CPS involvement. This interaction term provided information regarding referral patterns for particular risk factors, and the association between change in risk and referrals made during CPS involvement in a household. At baseline, households living below the poverty level had twice the odds of being referred for emergency cash or income assistance (AOR 2.0, 95% CI 1.1, 3.7). Caregivers with drug or alcohol dependence were almost 9 times as likely to receive a referral for drug or alcohol treatment (AOR 8.9, 95% CI 3.9–20.2), and those reporting IPV were almost 5 times as likely to receive a IPV services referrals (AOR 5.0, 95% CI 2.8–9.0). In cases involving children identified with externalizing behavior problems, caseworkers were twice as likely to make referrals for child mental health or counseling services (AOR 2.0, 95% CI 1.2–3.4). We observed no significant difference in service referral patterns for households with and without low social support, caregivers with and without a history of depression, caregivers with and without reports of corporal punishment, and children with and without internalizing behavior problems.

We identified improvements over time associated with CPS referrals to IPV services, drug and alcohol treatment, and child mental health interventions. For subjects receiving these risk-specific referrals, we observed significant reductions over time for IPV (54.1%, 15.5%, and 6.0%, $p=0.01$ and $p<0.01$), drug or alcohol dependence (23.0%, 4.2%, and 3.7%, $p=0.14$ and $p=0.01$), and child externalizing behavior problems (47.5%, 33.7%, and 29.4%, $p=0.02$ and $p=0.02$). Although rates of caregiver depression did decline with referral to mental health services, this did not reach statistical significance (32.0%, 20.1%, and 23.6%, $p=0.09$ and $p=0.1$). We observed no change in caregiver reports of corporal punishment associated with referrals to parenting classes or in child internalizing behavior problems associated with referrals for mental health services. Households referred for family support services identified significantly less social support over time compared with those not referred.

Discussion

In all 50 states, professionals providing care for children are mandated to report suspicions of child maltreatment to state child protection agencies. Every year, these reports result in CPS investigation for millions of households.[1] Although only one-quarter of these investigations are substantiated, and less than one-tenth of these investigations result in out-of-home placement of a child, prior research demonstrates that reported children remain at high risk for violence and for poor health over the coming years.[2, 3, 6–10, 18] Multiple studies find that the strongest predictor of CPS involvement in a household is prior CPS involvement in the household, suggesting that the first episode of CPS involvement in a household may be a critical window of opportunity to shift this negative trajectory for these families.[31, 32] The NSCAW database used in this analysis provides a nationally representative description of the experiences of over one million children and caregivers during the years following first-time CPS involvement.

Our analysis suggests that regardless of the outcome of the CPS investigation, children remaining in the home following a first-time CPS investigation live with poverty, family violence, and mental health problems well above national levels. CPS involvement in a household does not always result in provision of or referral to appropriate services even when risk factors are present, particularly when concerns of child maltreatment are unsubstantiated. In general, these risk factors persist at high levels over the years following initial CPS involvement in the home.

Exceptions to these general trends are encouraging, and may challenge common negative assumptions regarding families with CPS involvement. At baseline, primary caregivers remaining at home after a first-time CPS investigation report less drug and alcohol dependence than seen in a general U.S. population. When substance abuse is present, CPS referral for treatment is associated with a reduction in dependence over time. Despite questions regarding the effectiveness of IPV screening and intervention in the general population, referral for IPV services in this high-risk population is associated with a dramatic reduction in 12-month prevalence of IPV.[33] Mental health service referrals for children are associated with reductions in aggressive and oppositional behavior problems. Similarly, caregivers with depression referred for mental health therapy show an encouraging though non-significant reduction in depression over time. Although we cannot assume a causal relationship between the observed reduction in risk and these referrals, our results should encourage professionals working with these families to continue to screen and refer for these risks when appropriate.

In contrast to these relative successes, the persistence of several risk factors despite appropriate referrals is disappointing. The high prevalence of corporal punishment in the CPS-involved population mirrors this practice in the general U.S. population.[23, 24] In this high-risk population, however, efforts to train parents in non-violent discipline techniques have been found to improve child outcomes and reduce subsequent maltreatment.[34, 35] Our results may support increased attention to these parent-training programs for CPS-involved families. The persistence of child internalizing behavior problems despite effective mental health therapy for these disorders is also concerning. For children remaining in the home, caregivers may be more motivated to seek help for aggressive and disruptive behavior problems than for depressive behaviors. Identification of barriers to effective mental health treatment for children in this population should receive attention in future research.

The results of our analysis must be viewed in light of several limitations. Missing data in the NSCAW dataset may introduce bias to our results; however, the missing data likely resulted in underestimates of the risk factors. Our risk measures rely upon caregiver response, which

introduces the potential of response bias and underestimation of the prevalence of risks such as IPV and substance abuse. Similar response bias would be expected in the general population data used for comparison; moreover, NSCAW reduced the likelihood of this bias through the use of an audio-computer assisted self-interview. Our reliance on caseworker referrals to risk-specific services is limited because it does not represent actual service utilization by caregivers. This limitation, however, also reflects practical reality. Professionals working with CPS-involved families are often only able to provide referrals and recommendations. Understanding that these actions are associated with longitudinal improvement is both encouraging and important.

We recognize additional limitations in assessing repeat CPS involvement after a first-time investigation of child maltreatment. NSCAW investigators did not gather data on household income, social support, caregiver mental health or intimate partner violence on children out of the home, so we cannot generalize conclusions regarding these household and caregiver characteristics to children in out-of-home placements at a given wave. Excluding risk outcomes for subjects with subsequent out-of-home placement would likely result in an underestimation of the prevalence of these risks at any given timepoint, and an overestimation of any change over time observed. NSCAW did not systematically collect data on repeat CPS involvement in households, making estimates of recidivism in this dataset unreliable.[36] To address this, we relied upon a combination of caseworker and caregiver reports to determine whether a child was placed in out of home care over subsequent survey waves. These reports may be limited, as caseworkers may not have access to full records, and caregivers may have had variable understanding of questions related to out of home placement. This bias may result in an overestimate or underestimate of the true rate of removal over this study's time horizon. Finally, NSCAW data is now 10 years old, and changes in CPS practice over the past decade may not be reflected in these cases. As data from the second NSCAW study is released in the coming years, comparison of our findings with more recent subjects will be needed.

Despite these limitations, the results of this analysis have practical implications for physicians and policymakers. Pediatricians working with families with a history of CPS involvement should be aware that these are children at risk, regardless of the outcome of CPS investigation or placement decision. Almost one in ten of children remaining at home after a first CPS investigation will enter foster care within 3 years. CPS case closure does not mean that household, caregiver, or child risks have been resolved—or even addressed—during the course of the investigation. Our findings suggest, however, that referral to risk-specific services at the time of CPS involvement may be associated with improvements over time in IPV, substance abuse, and child behavior problems. Pediatricians may be able to support CPS-involved families with close follow-up and careful referrals to appropriate services in the community. Policymakers should be aware of the risks that remain unchanged in these families after CPS closes these investigations, as well as the risk for future out-of-home placement among these children. Investments in providing effective interventions where available, and in developing new interventions where required, are needed to improve outcomes for children and caregivers living together after a first investigation for suspected child maltreatment.

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ABBREVIATIONS

CPS	Child Protective Services
IPV	Intimate Partner Violence
NSCAW	National Survey of Child and Adolescent Well-Being

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Figure.

Prevalence of household, child, and caregiver risk factor at baseline, 18 months, and 36 months following first-time investigation for suspect child abuse or neglect. Each panel reflects national estimates of risk factor prevalence adjusted for demographic covariates, primary maltreatment type, and investigation outcome. Error bars reflect 95% confidence intervals. Table I has specific services and comparison populations used for this analysis.

———— NSCAW subjects remaining in home after a first-time investigation for suspected child abuse or neglect

■■■■■■■■■■ NSCAW subjects referred for risk-specific services after first-time investigation for suspected abuse or neglect (see Table 1 for services selected)

— — — — — General population comparison, not available for social support (see Table 1 for comparison populations used)

Household, caregiver, and child risk factors measured at baseline, 18 months, and 36 months after first-time CPS investigation for suspected maltreatment

Table 1

Risk factor	Instrument	Measurement details	High risk population	Risk specific services	Comparison population
Household *					
Poverty	Federal Poverty Level (FPL)	Reported income in \$10,000 increments, household size and year adjusted	<100% FPL	Income assistance or emergency cash	U.S. households with children, 1999–2004[25]
Social support	Social Support Questionnaire (SSQ)	Average number of supportive persons over 7 domains of support	<2 supportive persons	Family support services	None available
Caregiver *					
Depression	Composite International Diagnostic Interview-Short Form (CIDI-SF)	Depression subscale, A-CASI**	Anhedonic or dysthymic depression in past 12 months	Caregiver counseling or mental health services	National Comorbidity Survey Replication, 2001–2002[27]
Drug and/or alcohol dependence		Drug or alcohol dependence subscales, A-CASI	Drug or alcohol dependence in past 12 months	Drug or alcohol treatment services	National Household Survey on Drug Abuse, 2001[26]
Intimate partner violence	Conflict Tactics Scales-1 (CTS1)	Physical assault subscales, A-CASI	Physical assault by partner in past 12 months	IPV services	National Violence Against Women Survey, 1995–96[29]
Corporal punishment	Conflict Tactics Scales-Parent Child (CTS-PC)	Total physical assault subscales, A-CASI	Any corporal punishment used in past 12 months	Parenting classes	Gallup Organization Survey #765, 1995[23]
Child ***					
Withdrawn or depressive behavior problems	Child Behavior Checklist (CBCL)	Internalizing behaviors subscale, caregiver response	Borderline or clinical behavior problem, t-score >60	Child counseling or mental health services	New Jersey school survey, 1987–88[28]
Aggressive or destructive behavior problems		Externalizing behaviors subscale, caregiver response			

* Instrument administered only if child in home with permanent caregiver

** A-CASI: Audio-computer assisted self-interview

*** Instrument administered only if child 2 years of age

Table 2

Children remaining at home following a first-time CPS investigation for suspected child maltreatment

Demographics	Weighted total (estimate)	Estimated proportion % (95% CI)	2000 U.S Census (%)
Child sex			
Male	523,214	49.5 (44.3, 54.6)	51.2
Female	533,843	50.5 (43.4, 55.7)	48.8
Child age			
0–2 y	241,719	22.9 (19.8, 25.9)	18.9
3–5 y	209,700	19.8 (16.3, 23.3)	19.5
6–10 y	390,346	36.9 (31.3, 42.6)	34.6
>11 y	215,291	20.4 (16.9, 23.8)	27.0
Child race			
White	591,560	56.0 (48.3, 63.7)	68.3
Black	285,561	27.0 (20.6, 33.4)	17.5
American Indian	69,494	6.6 (4.1, 9.0)	1.2
Asian/Pacific Islander	26,528	2.5 (1.0, 4.0)	3.6
Other	83,913	7.9 (3.4, 12.4)	9.5
Child ethnicity			
Non-Hispanic	837,559	79.2 (72.5, 85.9)	82.6
Hispanic	219,487	20.8 (14.1, 27.5)	17.4
Caregiver age			
<20 y	53,071	5.0 (3.5, 6.6)	n/a
20–29 y	434,658	41.3 (37.3, 45.2)	
30–39 y	392,733	37.3 (33.6, 41.0)	
>40 y	173,121	16.4 (12.8, 20.1)	
Caregiver sex			
Male	92,207	8.7 (6.4, 11.1)	n/a
Female	962,596	91.3 (88.9, 93.6)	
Caregiver status			
Single	560,620	53.0 (49.2, 56.8)	30.3
Partnered	496,436	47.0 (49.2, 56.8)	69.7
Caregiver education			
No high school degree	294,490	28.0 (23.6, 32.3)	20.3
High school degree	757,690	72.0 (67.7, 76.4)	79.7

Table 3

Unadjusted prevalence of household, caregiver, and child risks among children remaining at home following a first-time CPS investigation for suspected child abuse or neglect

Risk factor of interest <i>Comparison population prevalence</i> Outcomes among children with risk factor at baseline	NSCAW estimate (95% CI)
Poverty: Household income below 100% FPL <i>US Census Data (2000–2004): 9.5%</i>	45.9 (41.6, 50.3)
Referred for income assistance or emergency cash	7.7 (4.8, 10.6)
Substantiated maltreatment	26.3 (21.3, 31.4)
Out of home placement within 36 months	9.5 (6.2, 12.7)
Low social support: Less than 2 people identified as social support <i>No comparison population available</i>	36.3 (32.1, 40.5)
Referred for family support services	8.0 (4.4, 11.5)
Substantiated maltreatment	27.5 (22.1, 32.8)
Out of home placement within 36 months	8.2 (4.9, 11.4)
Caregiver depression: Anhedonic or dysthymic depression in past year <i>National Co-morbidity Study (2001–2002): 7.6%</i>	24.0 (19.6, 28.3)
Referred for caregiver mental health services	20.6 (13.2, 28.1)
Substantiated maltreatment	32.6 (24.6, 40.5)
Out of home placement within 36 months	12.7 (7.7, 17.7)
Intimate partner violence: Physical assault by partner in past year <i>National Violence Against Women Study (1995–1996): 1.3%</i>	22.3 (19.1, 25.4)
Referred for IPV services	13.3 (6.1, 20.5) *
Substantiated maltreatment	37.3 (29.0, 45.7) *
Out of home placement within 36 months	10.2 (6.3, 14.)
Corporal punishment: Physical discipline/assault of child by caregiver in past year <i>Gallup Organization Survey #765 (1995): 61.5%</i>	65.9 (60.7, 71.1)
Referred for parenting classes	9.0 (5.8, 12.3)
Substantiated maltreatment	26.5 (21.5, 31.4)
Out of home placement within 36 months	7.9 (5.3, 10.5)
Caregiver substance abuse: Drug/alcohol dependence in past year <i>National Household Survey on Drug Abuse (2000): 4.3%</i>	4.3 (2.5, 6.1)
Referred for substance abuse treatment services	18.7 (7.3, 30.0) *
Substantiated maltreatment	24.5 (12.5, 36.5)
Out of home placement within 36 months	13.3 (2.5, 24.1)
Withdrawn child behavior problem: Internalizing behavior problem <i>New Jersey school sample (1987–1988): 20.2%</i>	29.0 (25.1, 33.0)
Referred for child mental health services	20.3 (13.7, 26.9)
Substantiated maltreatment	26.0 (18.6, 33.4)
Out of home placement within 36 months	6.9 (3.7, 10.1)
Aggressive child behavior problem: Externalizing behavior problem <i>New Jersey school sample (1987–1988): 16.5%</i>	35.7 (29.4, 42.0)
Referred for child mental health services	25.5 (17.6, 33.3) *

Risk factor of interest <i>Comparison population prevalence</i> Outcomes among children with risk factor at baseline	NSCAW estimate (95% CI)
Substantiated maltreatment	25.0 (18.3, 31.7)
Out of home placement within 36 months	13.3 (7.9, 18.6)*

* more common ($p < 0.05$) among children with risk factor than children without risk factor