Published in final edited form as:

Child Youth Serv Rev. 2010 June ; 32(6): 790–797. doi:10.1016/j.chilyouth.2010.01.013.

Understanding service use and victim patterns associated with re-reports of alleged maltreatment perpetrators

Melissa Jonson-Reid^{a,*}, Sulki Chung^{b,1}, Ineke Way^{c,2}, and Jennifer Jolley^a

Melissa Jonson-Reid: jonsonrd@gwbmail.wustl.edu; Sulki Chung: chungs@cau.ac.kr; Ineke Way: ineke.way@wmich.edu; Jennifer Jolley: jjolley@gwbmail.wustl.edu

^aGeorge Warren Brown School of Social Work, One Brookings Dr., Washington University in St. Louis, St. Louis, MO 63130, United States

^bDepartment of Social Welfare, Chung-Ang University, 221 Heuksuk-Dong, Dongjak-Gu, Seoul 156-756, Republic of Korea

^cSchool of Social Work, 1903 W. Michigan, Western Michigan University, Kalamazoo, Michigan 49008-5354, United States

Abstract

Despite the fact that the goal of child welfare is to impact the caregiver's behavior rather than the child's, research on recurrence at the alleged perpetrator level is scant compared to research on child level recurrence. No prior studies both controlled for services participation by the caregiver and explored whether a recurrence happens with the same child. This study helps fill the gap by analyzing caregivers who are alleged perpetrators and later recurrence of abuse or neglect. In-home child welfare services were initially associated with lower recidivism but this effect moderates over time. Receipt of AFDC at study start did not impact likelihood of recidivism but receipt of AFDC (or later TANF) after the first report appears to lower the risk of recurrence. Among low income women, a history of mental health or substance abuse treatment was associated with higher recurrence. Among re-reports of alleged perpetrators, nearly 45% had at least one new child on the report. Caucasian and older perpetrators were less likely to have an alleged recurrence involving a new child. Women with mental health (but not substance abuse) treatment histories and those who had child welfare services after the first report were more likely to be re-reported for alleged maltreatment of a new child.

Keywords

Maltreatment perpetrators; Recidivism; Service use

1. Introduction

The primary goal of in-home child welfare intervention is to protect the child(ren) in the home from future maltreatment (Courtney, 2000). The focus of such services is, therefore, on changing the behavior of the perpetrator or guardian so that s/he may provide adequate care. In most reports, at least one alleged perpetrator is a parent or related caregiver (USDHHS, 2009; Way, Chung, Jonson-Reid, & Drake, 2001). Despite the primary focus of child welfare services on caregiver behavior, most studies of recurrence focus on the child or

case (family) level (DePanfilis & Zuravin, 2002; English, Marshall, Brummel, & Orme, 1999). This unit of analysis presumes that a given perpetrator has access only to children named in the initial report. This not only ignores the reality that siblings may not be named as “victims” on a report but may still be exposed to maltreatment (Hamilton-Giachritsis & Browne, 2005), but also the fact that adult caregivers in a family may change over time (Loman, 2006). This article distinguishes *recurrence*, defined as a subsequent report analyzed at the child/family level, from *recidivism*, defined as a subsequent report analyzed at the perpetrator level. The goal of the present paper was to build on an earlier descriptive study of perpetrator recidivism (Way et al., 2001) by focusing on parent perpetrators, services use, and changes in victims over time.

1.1. Perpetrators of child maltreatment

As aforementioned many alleged perpetrators are the parent or adult caregiver for the alleged victim. Extrafamilial perpetration is least common for neglect (USDHHS, 2009). Perpetrators are more frequently female (Way et al., 2001; USDHHS, 2009). Perpetrator age has been found to predict recidivism, with younger mothers having re-referrals at higher rates (Kotch, Browne, Ringwalt, & Stewart, 1995). Perpetrators of physical abuse and neglect have been found to have high rates of substance abuse (Kelleher, Chaffin, Hollenberg, & Fischer, 1994).

1.2. Perpetrators and maltreatment recidivism

Literature on child maltreatment perpetrators has focused primarily on sexual abuse. Perpetrators of sexual abuse have been found to be less likely to re-offend if the initial victim was not a biological child and if the initial abuse was prosecuted (Greenberg, Bradford, Firestone, & Curry, 2000). A three-year study of maltreatment recidivism found that perpetrators of sexual abuse who were substantiated had lower rates of recidivism than those whose allegation was not substantiated (Way et al., 2001). The perpetrator's prior maltreatment victimization has been found to predict perpetrator recidivism (Ferleger, Glenwick, Gaines, & Green, 1988; McDonald & Johnson, 1993; Rittner, 2002; Wood, 1997), as has maltreating a child under 5 years old (Ferleger et al., 1988). A prior study found that for neglecting families, female perpetrators had a higher likelihood of recidivism (Way et al., 2001). A few studies that have not controlled for services have found that chronic maltreatment is associated with parental mental health issues and alcohol abuse (Hamilton & Browne, 1999; Nelson, Saunders, & Landsman, 1993; Ney, Fung, & Wickett, 1992; Swanston et al., 2002). Studies of recurrent maltreatment at the child level have found that poverty, familial substance abuse, neglect, younger age at report, and prior maltreatment to be associated with recurrence (Connell, Bergeron, Katz, Saunders, & Tebes, 2007; Drake, Jonson-Reid, Way, & Chung, 2003; English et al., 1999; Hindley, Ramchandani, & Jones, 2006).

1.3. Perpetrator services

Few studies of recurrence have controlled for service use, and few of those studies were focused on perpetrators. Studies of recurrence, however, do contain information about service needs. Poverty has been associated with a higher likelihood of a report of abuse or neglect at the individual and community levels (Drake & Zuravin, 1998; Drake & Pandey, 1996). Poverty at the community and family levels is also associated with recidivism (Connell et al., 2007; Drake et al., 2003; English et al., 1999; Way et al., 2001). It is not known, however, if patterns of cash assistance might mediate this relationship. Familial substance abuse and mental health issues have been linked to recidivism in studies that did not control for services related to these issues (Hamilton & Browne, 1999; Nelson, Saunders, & Landsman, 1993; Ney, Fung, & Wickett, 1992). Fluke, Shusterman, Hollinshead, and Yuan (2008) controlled for child welfare services and reported the

caretaker's abuse of alcohol, the delivery of post-investigation services, and the placement of the child in foster care as being associated with an elevated risk of maltreatment re-report.

1.3.1. Child welfare services—Although many families reported for maltreatment may need some sort of service, relatively few families receive services through child welfare after a first report. About 20% of children who are reported for maltreatment reside in families that receive some sort of service following an investigation (Berrick, Needell, Barth, & Jonson-Reid, 1998; Jonson-Reid, 2002). In some states, only substantiated cases (called “victims” in national reports) receive intervention (Drake & Jonson-Reid, 2000). Models of in-home services vary from state to state, but generally include a form of intensive family preservation and less intensive family-centered or family-based services. Debate exists whether or not child welfare services are associated with an increase, or a decrease, or no change in recidivism (Bae, Solomon, & Gelles, 2007; Connell et al., 2007; Drake et al., 2003; Drake, Jonson-Reid, & Sapokaite, 2006; Fluke, Yuan, & Edwards, 1999; Fluke et al., 2008; Fuller, Wells, & Cotton, 2001). Prior findings are difficult to compare as studies vary by sample composition and definition of services. Further, these studies of maltreatment recurrence have not focused on perpetrator recidivism.

1.3.2. Change in victim over time—It is important to protect not only children who were maltreated previously, but also to protect children who might be maltreated in the future. None of the existing studies have examined how frequently subsequent reports include new child victims. To date, we were able to locate only two studies that examined the odds of multiple child maltreatment recurrence (Bae, Solomon, & Gelles, 2009; English et al., 1999). However, this study did not differentiate among the child victims within each family, but instead, operationalized multiple child maltreatment recurrence as the incidence of “one or more subsequent maltreatment reports on any child in the family reported to CPS agencies” (Bae et al., 2009, p. 618). Additionally, this study did not control for perpetrator characteristics or service delivery to address perpetrators' mental health, substance abuse, and/or income maintenance needs. English et al. (1999) found that among the 29% of families in the study with a recurrent report, about 42% of the subsequent reports included children in the family who had not been named on the prior report. Again, this study was at the family level rather than the perpetrator level. This study assessed caregiver risk factors, but not services, nor was it clear if the caregivers were the alleged perpetrators.

1.4. The present study

Thus far, no known published studies have assessed perpetrator recidivism by maltreatment type while controlling for service provision, poverty and mental health issues. Further, no work has been done to understand whether subsequently-reported perpetration is limited to the prior named victims. The current study helps fill this gap. Specifically, the study sought to add to our understanding of parental perpetrators, with a particular focus on low income families given the continued association of maltreatment reporting and poverty. This paper explores the following research questions:

1. Does risk of recidivism (as captured by official reporting) among perpetrators vary by child and perpetrator characteristics, community characteristics, maltreatment report characteristics, and service use? Does this differ among low income perpetrators?
2. Among low income perpetrators with at least one re-report, what factors predict re-reports with at least one new child?

2. Methodology

2.1. Data sources

This study builds on a study of maltreatment report recidivism, using statewide administrative data collected by child protection caseworkers in a Midwestern state. In the early 1980s, the state's child welfare agency established a computer-based system that tracked maltreatment reports, investigation, and child welfare service use. The system's unique identification number for each child and adult served also linked to AFDC and Medicaid systems (prior to managed care), allowing linkage across systems without probabilistic matching. These data include information on the alleged perpetrators associated with each report of a given child (or children). In addition, this study includes indicators of AFDC use and Medicaid-reimbursed mental health or substance abuse services at the time of the index event. These variables were obtained through a match of the study subjects to the income maintenance and Medicaid statewide data. These data were obtained through agency permission and analyses built on prior work funded by the Office of Child Abuse and Neglect (omitted for peer review). Data were geocoded and linked to census data and formatted for longitudinal analyses. All identifiers were removed prior to analyses and analyses were conducted with sufficient level of aggregation to avoid accidental identification.

2.2. Subjects

The sample for the current paper was selected from those perpetrators reported and investigated for a first report of alleged physical abuse, sexual abuse, or neglect (excluding fatalities) between 1/1/93 and 12/31/95. The decision to use all reports rather than only substantiated reports builds on the growing recognition that substantiated and unsubstantiated cases do not differ significantly in terms of future risk (Drake et al., 2003; Hussey et al., 2005; Kohl, Jonson-Reid, & Drake, 2009). There were a total of 60,477 of intrafamilial perpetrators over the age of 13 (adolescents who were the parents of the alleged victims were included), had no prior history of reports, and did not have all children removed into care following the first report. While perpetrators may be reported for multiple forms of abuse, a goal of the present analyses was to assess potential differences by type of initial report, thus cases with multiple report types at index or missing report types were omitted ($n=57,452$). Because it was possible to receive in-home or foster care services for what are termed "non-CAN" referrals in the area, these cases were excluded due to the desire to control for services following a first contact with child welfare ($n=55,710$). Cases with missing age or demographic information for the alleged victims or perpetrators, missing residence information needed to link census data ($n=33,487$). Nearly 97% of the cases excluded for missing data were excluded due to incomplete residence information that precluded the ability to geocode the data. Cases were also excluded if all the victims were 17 years or older (due to natural reduced likelihood of recurrence) or when the conclusion of the investigation was listed as "inappropriate referral" or "unknown" as this helps ensure we were not tracking cases that might be considered "harassment or not maltreatment related" ($n=30,677$). In-home child welfare services and AFDC services are provided to caregivers of alleged victims, making it unlikely that non-familial perpetrators would benefit from such services. Because the vast majority of the perpetrators were parents and because services use is most directly applicable to them for the purposes of child welfare, analyses for research questions were limited to parental perpetrators ($N=25,727$). While the large reduction in sample may bias the findings in unknown ways, the authors believe that clarifying the sample in this way outweighs retaining the larger pool. For research question two, which focused on low income, the sample was restricted to those families with a record of AFDC use prior to or during the sampling frame ($n=7876$). Because AFDC use was used as a proxy for low income, there were very few male parents in this group. It was therefore decided to

limit the examination of low income perpetrators to female parents ($n=7495$). Subjects were followed from time of index maltreatment report through a period of up to 10 years, through 2003.

2.3. Description of variables

The variables in this study included demographic characteristics of the perpetrator, selected census tract level descriptors, child abuse report and the age and number of children named in that report, child welfare service information, AFDC use, and history of Medicaid-reimbursed substance use or mental health services. *Perpetrator* was limited to someone designated as the biological, adoptive or step-parent at the first report of alleged maltreatment during the sampling frame. At the time of a subsequent report, if any, the perpetrator type might vary (i.e., a natural parent might later return as a step-parent if there were new victims on a subsequent report). For simplification, the term *perpetrator* rather than *alleged perpetrator* will be used in the remainder of this paper.

2.3.1. Demographic and community variables—*Perpetrator gender* was operationalized as male or female. *Perpetrator ethnicity* was operationalized as Caucasian, African American, or other ethnicity (ethnic groups other than Caucasian and African American were too small to be calculated separately, comprising less than 2%). *Perpetrator age* was calculated as the age in years at the time of the first report of abuse or neglect. Two census tract variables, proportion of single parents and census tract income level were used to control for neighborhood characteristics at study start. *Single parent head of household in census tract* was operationalized as the mean proportion of single parent heads of household for the census tract in which the incident occurred. *Census tract income level* was operationalized as median family income. Both provide somewhat different measures of poverty that did not present sufficient multi-collinearity to cause concern in multivariate models. Finally an indicator variable was used to designate whether or not the subject resided in counties that were largely urban in nature as compared to counties comprised only of rural or small town areas.

2.3.2. Maltreatment report characteristics—*Pure maltreatment type* at the index event was operationalized as a report of a single type of maltreatment across all children listed on the incident; this excluded perpetrators reported for multiple types of maltreatment at the index event. Comparisons of substantiated and unsubstantiated cases of maltreatment have found similar risks of maltreatment recidivism (English, Marshall, Coghlan, Brummel, & Orme, 2002; Jonson-Reid, Drake, Chung, & Way, 2003) as well as other outcomes for children (Hussey et al., 2005; Jonson-Reid, 2002; Leiter, Myers, & Zingraff, 1994). Thus both substantiated and unsubstantiated cases were included. *Substantiation* was taken from the perpetrator conclusion code identified by the CPS caseworker. Other variables taken from the maltreatment report included *age in years of the youngest child* mentioned on the index report and total number of children listed on the index report.

2.3.3. Services—AFDC (becoming TANF later in the study period) is income resources provided to poor (usually single head of household) families. *Initial AFDC status* was operationalized as having received AFDC at study onset (dichotomous variable). AFDC/TANF use was also examined in terms of single versus multiple spells before and after the index event. Child Welfare *service use* was operationalized as participation in: (a) only family-centered (prevention) services (FCS), (b) any type of in-home services (which included either family preservation or foster care in addition to FCS), or (c) having some but not all children placed into foster care. *Mental health service use* was operationalized as any participation in Medicaid-reimbursed mental health services from 1987 through 1995 (dichotomous variable). *Substance abuse service use* was operationalized as any

participation in Medicaid-reimbursed substance abuse services from 1987 through 1995 (dichotomous variable). The analysis of mental health and substance abuse service use was limited to the period extending through the initial sampling frame because the onset of managed care changes in billing for services made individual caregiver data unavailable to the original study. Because the services data were limited to Medicaid reimbursement, analyses controlling for this were limited to those families who were receiving AFDC prior to or during the sampling frame period. Because so few families receiving AFDC had male perpetrators listed the model was further restricted to female parental alleged perpetrators.

2.3.4. Dependent variables—*Recidivism* was operationalized as the first report of any maltreatment (sexual abuse, physical abuse, neglect, emotional abuse, other abuse, mixed maltreatment) at least 16 days following the index event. The period of the first 15 days following the index event report was excluded in order to avoid the confounding situation of additional maltreatment that may have been detected during the caseworker's initial investigation (DePanfilis & Zuravin, 1999). *New child victim at recidivism event* was operationalized as a child victim named on the alleged perpetrator's recidivism event, who was not previously included on the index event.

2.4. Analyses

Analyses were conducted using SAS 9.2. These analyses included bivariate descriptive analyses including survival curves, Cox regression models for multivariate analysis of recidivism (Allison, 1995), and logistic regression to assess the likelihood of repeat perpetration with a new child. Survival analysis techniques allow for control of time at risk for recidivism from the index event to a recidivism event or until the end of the study period. Event history analysis allows examination of a dichotomous outcome (presence/absence of recidivism). The bivariate survival analyses also allow for testing of the assumptions of proportionality required for the multivariate model. Plots of the $-\log$ (estimated survival function) against $\log$ (failure time) were inspected for the variables to determine if they reasonably satisfied the necessary assumption of proportional hazard rates over time. If a variable appeared to violate the proportionality assumption, a time-varying variable (an interaction term between the selected variable and time at risk) can be created.

For multivariate analyses, Cox regression models were constructed using the robust standard error estimates based on the sandwich estimator option to control for intercorrelations by census tract (Allison, 1996; Lee, Wei, & Amato, 1992). Variables were entered in blocks to examine model improvement according to perpetrator characteristics alone, family and community poverty indicators, index maltreatment report characteristics, and services. Model improvement was assessed using the common practice of comparing the difference in model chi-squares and degrees of freedom between nested models. This is then compared to the critical value for chi-square with the corresponding degrees of freedom (Garson, 2009).

For the logistic regression model of a second report involving a new child (yes/no), PROC Survey logistic was used, which allows for controlling for clustering in logistic regression models. A similar block approach was used with the logistic regression, but only the final model is reported as it was not possible to display significance and odds ratios for each model in a single table. The c statistic was reported as an indicator of the discriminative power of the model along with model fit (Garson, 2009). In interpreting the data, it is important to remember that in studies using large samples, the results may be statistically significant without being theoretically meaningful. The Discussion section accounts for this.

3. Results

3.1. Descriptive findings

The study sample ($N=25,727$) included parental perpetrators whose initial maltreatment perpetration report was for only sexual abuse ($n=1137$), only physical abuse ($n=7581$), or only neglect ($n=17,009$). Sixteen percent of the index reports were substantiated by the CPS worker. Overall, the rate of re-report including the same alleged perpetrator on a new report was 46.6%.

The alleged perpetrators were primarily female (nearly 74.3%) and Caucasian (72.1%) with a slight majority residing in the larger more urban counties (56.7%). The mean age of perpetrators was 30.1 years. The mean income for the census tract at study start was \$27,115 in 1990 dollars (range \$4K to \$121K). The average percentage of single head of household families in the tract was 34.8%. The mean number of children listed on the index report was 1.5 with a mean age of the youngest child listed being 6.3 years. In 66% of these cases only a single child was named on the first report.

While less than 24% of perpetrators had records of AFDC at study start, another 19.7% of the subjects began AFDC (or TANF after 1996) by the end of the study period. Because of the large sample size, nearly all variables were associated with recidivism and therefore statistical significance of bivariate relationships is not reported. Descriptive statistics for the full and restricted samples are provided in Table 1.

3.2. Survival analysis of any recidivism

Bivariate survival analyses (not shown) were used to assess for violations of proportionality. When found, interactions with time were created and tested in the model. If these terms were significant or there was a significant change in the overall model fit, the terms were retained. Variables were entered in blocks, beginning with perpetrator and community demographics, then adding maltreatment report variables, then adding child welfare service variables and change in AFDC status. Wald chi-square model fit statistics are reported and in each case the added block of variables significantly improved the model fit over the prior model (see Table 2). This was determined by subtracting the chi-square of prior model from current and also degrees of freedom and then examining results in a chi-square table. To conserve space only the final model is discussed.

Female and Caucasian perpetrators had a higher risk of recidivism, though the racial difference in the final model was only about 6%. Perpetrators who were older were less likely to return (about a 2% decrease per year of age). Perpetrators who resided in census tracts with higher median income (about a 1% decrease per \$1K increase) were less likely to be re-reported and higher percentage of single parent households was associated with a heightened risk of re-report. Risk of report increased about 10% per number of victims listed on the initial report (up to 11) and reports including older children were more likely to return, though this decreases slightly over time as indicated by a child age and time interaction. Perpetrators reported for physical abuse or sexual abuse only were less likely to have a subsequent report, controlling for substantiation and services. Initial receipt of child welfare services after the first report was associated with a decrease in risk of re-report but time interactions indicated that this effect attenuates over time.

3.3. Recidivism among low income perpetrators

Given prior research on the relationship between risk factors such as parental mental health problems, poverty and child maltreatment perpetration, the goal was to control for these factors in the multivariate analyses. Because data for mental health and substance abuse

services in this study was limited to services funded by Medicaid prior to managed care, only perpetrators with histories of AFDC use at index had sufficient likelihood of this form of reimbursement. Most families receiving AFDC (about 98%) were female headed households, so the data were further limited to female perpetrators. The same approach to analysis was used as in the prior full sample model. Again a comparison of the model chi-squares indicates that the addition of new variables significantly improved model fit compared to the prior model (see Table 3).

The recidivism rate for the poverty-only sample was 59.8%. Among low income perpetrators, census tract characteristics were no longer significant although residing in an urban area was associated with some decreased in risk. The age of the perpetrator was not significant and the higher risk of recidivism for Caucasian females was somewhat diminished. Number of victims alleged on the first report and age of youngest victim had similar relationships to recidivism as found in the full sample model, but maltreatment type was not significant.

Similar to the prior model, child welfare services following the first report were generally associated with decreased risk but this moderates over time at rates of between 1 and 4% (depending on service type) per month. Perpetrators with a substantiated first report were somewhat more likely to be re-reported but this effect was offset for any who received services after the initial report. A history of multiple spells on AFDC prior to the index report was associated with about 21% increase in risk of re-report, but repeat spells on AFDC or TANF following a first report but prior to end of risk period was associated with a decreased risk. Both history of drug treatment and mental health treatment were associated with recidivism.

3.4. Victim consistency

It is possible that the child victims related to a given perpetrator may change over time. Of those perpetrators with a recidivism event from Table 3 ($n=4482$), 38% went on to have 4 or more reports. For purposes of this study, only second reports were analyzed to explore the likelihood of a new victim being listed on the subsequent report. A significant number of second reports ($n=1988$; 44.4%) had at least one new victim listed at the recidivism event. About 14% had two or more new victims listed on the re-report. The perpetrator was the parent of the new victims in the vast majority (90%) of these cases, with the remainder a mixture of birth and step or paramour or grandparent. As shown in Table 1, the majority of these cases had a first report for neglect (78%) and most re-reports also included neglect (about 69%). Over 70% of the children listed in recurrent cases with new victims were younger than at least one of the victims named on the original report. Logistic regression was used to examine perpetrator and case characteristics associated with second reports that named new victims. While the model fit chi-square was significant (see Table 4), the max re-scaled R -square was only 16% and the c statistic indicates only average predictive utility. Thus, it is likely other variables are omitted that are important to explain this phenomenon.

Caucasian perpetrators, while more likely to have a second report (see prior models), were less likely to have a new victim named on a second report. Older perpetrators were less likely to have new victims named, as were those whose index reports had higher numbers of initial victims. Families in which the youngest victim listed on the first report was older, were less likely to have a new victim listed on the re-report. Similar to the model of recidivism, having a second episode of AFDC or TANF use after the first report was associated with lower likelihood of a new victim being named, while having a history of more than one episode of income maintenance prior to the index increased the likelihood of a new victim being named. While receiving child welfare services after a first report lessened the likelihood of recidivism (refer back to Table 3), among those with a second

report, those with services were more likely to have a new victim named on the report. History of mental health treatment for the alleged perpetrator prior to the first report was associated with greater likelihood of new victims, but prior drug treatment was not.

4. Discussion

Nearly half of the first-time perpetrators in this study had at least two reports over time and this proportion increased to nearly 60% when the sample was limited by initial receipt of AFDC. In all models, controlling for services provided to the perpetrator (income maintenance and child welfare) added to the predictive power of the models. In the model restricted to low income perpetrators, prior receipt of mental health or substance abuse services were associated with greater recidivism. Finally, perpetrators were relatively likely to be alleged as perpetrators on new children over time.

4.1. Perpetrator characteristics

Older caregivers were less likely to return, but those whose youngest child was older at the index report had a higher risk of return. The fact that older caregivers are less likely to return may be associated, in part, with a greater ability to access other resources. The fact that perpetrators with older children at index had higher rates of return appears inconsistent with Drake et al. (2003) and Fluke et al. (2008) findings that maltreatment report recurrence in children declined with age. On closer examination, however, re-reports with perpetrators who were natural parents included new victims who were frequently younger siblings. Except for the youngest cases who could not have been born at the time of the first report, it was not possible to examine whether or not a younger sibling reported at time two was in the home at time one. Nor was it possible to understand whether or not these children shared the same parent.

While poverty has been associated with both initial maltreatment and recurrence, in this study the measures of income and single parenthood in the census tract had a stronger effect size than receipt of AFDC in the full model. Community poverty measures, however, became non-significant in models restricted to families receiving AFDC at index. It may be that there is simply insufficient variation in community characteristics once a sample is restricted to a very low income population.

4.2. Services and recidivism

Generally, receipt of child welfare services following a first report was associated with an initial decrease in risk, but this decays in the months following the report. For example, the stronger effect for family-centered services becomes null by 32 months and by the end of the study period the effect changes direction. Child welfare services, with the exception of long-term foster care, are short-term interventions similar to crisis intervention models. Others have criticized the fit between the needs of the child welfare population which includes families facing multiple barriers and the idea that short-term services could result in long-term cessation of maltreatment (Staudt & Drake, 2002).

A history of mental health treatment was consistently found to be associated with greater recidivism. While this may seem counterintuitive, services as captured in these data may be a better proxy for severity than adequate services. Consistent with other research (Libby et al., 2006), relatively few parents had received services compared to studies indicating high prevalence of mental health needs. Those low income parents who did access services may be among those whose presenting behaviors were severe enough to require intervention, but not necessarily quality services.

Once other factors were controlled, families on AFDC in the full sample were at no greater risk of re-report than families not initially on AFDC. Given the relationship of reported maltreatment to poverty (Drake & Zuravin, 1998), it was somewhat surprising that episodes of AFDC (or later TANF) that occurred after a first report did not increase the risk of re-report. In this study it was not possible to examine whether or not a parent had access to income maintenance due to sanctions, thus meaning that those not on AFDC were potentially unable to access and thus more at risk. Nor was it possible to understand whether or not different services accompanied receipt of income maintenance after TANF was implemented. It is also possible that the ability to access aid as needed within this population helps alleviate income based crises.

Within the lower income sample, multiple episodes on AFDC that occurred prior to the index report were associated with higher risk, while multiple episodes after index were associated with lower risk. A new episode of AFDC or TANF use may be associated with a new child being born. It may be that multiple episodes prior to a first report were a proxy for early onset of child rearing.

4.3. Perpetrators and new victims

Nearly half of recidivism cases in this study involved at least one child not listed on a prior report. Given the long follow-up period, this is consistent with the rate of new children reported (42%) by English et al. (1999). These additional children may be born or added to a perpetrator's care due to children of new spouses or paramours. Indeed, in a child level study of recurrence, Loman (2006) found that changes in family structure impacted the likelihood of different types of maltreatment over time. Further, some children who do not face harm at one stage may become at risk as they get older due to behavioral issues or changes in family circumstances. Studies of foster care placement (James, Monn, Palinkas, & Leslie, 2007) and even child maltreatment fatalities (Jonson-Reid, Chance, & Drake, 2007) indicate that there can be children who are not removed or who have not perished remaining with the original caregiver.

Successful prevention of subsequent maltreatment is not only important for the children initially involved but for present and future siblings or step-siblings as well. In this low income subsample, the overwhelming majority of first reports as well as the majority of second reports included some form of neglect. It is particularly important that prevention programs be effective with this form of maltreatment. As discussed by Wilson and Horner (2005), however, much work remains to be done regarding program and policy development for families facing poverty and also neglecting their children. Work in this area is emerging (see Kaplan (Ed.) special issue of *Protecting Children*, 24), but this continues to be an area of pressing research and intervention need.

4.4. Limitations

While this study furthers our understanding of maltreatment perpetrators and recidivism, there were several limitations. The dependence on pre-existing administrative data limits the variables available. For example, it was not possible to assess the long-term changes in the family such as family structure changes (e.g., entry and exit of spouses or paramours, etc.) unless these accompanied a new report. It was also not possible to measure things such as the social support available to an alleged perpetrator or whether or not referrals to services outside child welfare were made and subsequently followed through. Other studies have found that client engagement is key to intervention in the family (Chaffin, 2007) and it is not possible to measure the child welfare worker's ability to engage with the caregiver in these data. Future research on alleged perpetrators should attempt to collect more data on characteristics of the individual, social supports available, and details of the interactions,

referrals and services plans. One limitation of this study is potential selection bias, in that these results describe perpetrators who were reported to CPS, and therefore the findings may not generalize to those who were never reported. Another limitation is that in an effort to clearly define the sample, multiple cases were lost due to missing data. This may bias results in unknown ways. Because the administrative data contained mental health/substance abuse treatment information only for those who were on Medicaid, the ensuing limited sample may bias the results. A last limitation is the recognition that the highest proportion of maltreatment type is neglect.

4.5. Conclusion

Despite the fact that the goal of child welfare is to impact the caregiver's behavior rather than the child's, research on perpetrators of maltreatment is scant compared to child level investigations. Research does suggest that efforts to improve the efficacy of child welfare intervention need to focus on more than the maltreatment per se. The study results indicate the importance of resolving larger systematic macro issues such as poverty, in addition to micro interventions with families. We need to understand how to address the particular issues associated with AFDC use such as lower education levels or concurrent problems with drugs or alcohol that place additional stress on the parenting relationship. Such an approach will require cross-agency research, communication, and collaborative intervention plans. Programs that address such multiple issues will require rigorous evaluation and replication to further the knowledge base and help prevent the ongoing victimization of children.

Acknowledgments

The original study from which data were used was funded in part by the Office of Child Abuse and Neglect (DHHS No 90CA159101). Points of view and opinions expressed in this article are the author's and do not necessarily express the views or opinions of the funding agency.

References

- Allison, P. Survival analysis using the SAS system: A practical guide. Cary, NC: SAS Institute Inc; 1996.
- Bae H-O, Solomon PL, Gelles RJ. Abuse type and substantiation status varying by recurrence. *Children and Youth Services Review*. 2007; 29:856–869.
- Bae H-O, Solomon PL, Gelles RJ. Multiple child maltreatment recurrence relative to single recurrence and no recurrence. *Children and Youth Services Review*. 2009; 31:617–624.
- Berrick, JD.; Needell, B.; Barth, RP.; Jonson-Reid, M. *The tender years: Toward developmentally sensitive child welfare services for very young children*. London: Oxford University Press; 1998.
- Chaffin, M. A motivational intervention can improve parenting program retention among deep-end child welfare cases, but it depends on the type of parenting program. Paper presented to the APA 115th Annual Convention; San Francisco, CA. 2007 Aug.
- Connell C, Bergeron N, Katz K, Saunders L, Tebes J. Re-referral to child protective services: The influence of child, family, and case characteristics on risk status. *Child Abuse and Neglect*. 2007; 31(5):573–588. [PubMed: 17537504]
- Courtney ME. Research needed to improve the prospects for children in out-of-home placement. *Children & Youth Services Review*. 2000; 22:743–761.
- DePanfilis D, Zuravin S. Predicting child maltreatment recurrences during treatment. *Child Abuse & Neglect*. 1999; 23:729–743. [PubMed: 10477234]
- DePanfilis D, Zuravin SJ. The effect of services on the recurrence of child maltreatment. *Child Abuse & Neglect*. 2002; 26:187–205. [PubMed: 11933989]
- Drake B, Pandey S. Understanding the Relationship Between Neighborhood Poverty and Child Maltreatment. *Child Abuse and Neglect*. 1996; 20(11):1003–1018. [PubMed: 8958452]

- Drake B, Zuravin S. Revisiting the myth of classlessness. *American Journal of Orthopsychiatry*. 1998; 68:295–304. [PubMed: 9589767]
- Drake B, Jonson-Reid M. Substantiation, risk assessment and involuntary versus voluntary services. *Child Maltreatment*. 2000; 5:227–235. [PubMed: 11232269]
- Drake B, Jonson-Reid M, Sapokaite L. Rereporting of child maltreatment: Does participation in other public sector services moderate the likelihood of a second maltreatment report? *Child Abuse & Neglect*. 2006; 30:1201–1226. [PubMed: 17112587]
- Drake B, Jonson-Reid M, Way I, Chung S. Substantiation and recidivism. *Child Maltreatment*. 2003; 8:248–260. [PubMed: 14604173]
- English DJ, Marshall DB, Brummel S, Orme M. Characteristics of repeated referrals to child protective services in Washington State. *Child Maltreatment*. 1999; 3:297–307.
- English D, Marshall DB, Coghlan L, Brummel S, Orme M. Causes and consequences of the substantiation decision in Washington State Child Protective Services. *Children & Youth Services Review*. 2002; 24:817–851.
- Ferleger N, Glenwick DS, Gaines RRW, Green AH. Identifying correlates of reabuse in maltreating parents. *Child Abuse & Neglect*. 1988; 12:41–49. [PubMed: 3365582]
- Fluke J, Yuan YY, Edwards M. Recurrence of maltreatment: An application of the National Child Abuse and Neglect Data System (NCANDS). *Child Abuse & Neglect*. 1999; 23:633–650. [PubMed: 10442829]
- Fluke JD, Shusterman GR, Hollinshead DM, Yuan Y-YT. Longitudinal analysis of repeated child abuse reporting and victimization: Multistate analysis of associated factors. *Child Maltreatment*. 2008; 13:76–88. [PubMed: 18174350]
- Fuller T, Wells S, Cotton E. Predictors of maltreatment recurrence at two milestones in the life of a case. *Children and Youth Services Review*. 2001; 23:49–78.
- Garson, GD. Logistic regression. 2009. Retrieved January 4, 2009 <http://faculty.chass.ncsu.edu/garson/PA765/logistic.htm>
- Greenberg D, Bradford J, Firestone P, Curry S. Recidivism of child molesters: A study of victim relationship with the perpetrator. *Child Abuse & Neglect*. 2000; 24:1485–1494. [PubMed: 11128179]
- Hamilton C, Browne K. Recurrent maltreatment during childhood: A survey of referrals to police protection units in England. *Child Maltreatment*. 1999; 4:275–286.
- Hamilton-Giachritsis C, Browne K. A retrospective study of risk to siblings in abusing families. *Journal of Family Psychology*. 2005; 19(4):619–624. [PubMed: 16402877]
- Hindley N, Ramchandani PG, Jones DPH. Risk factors for recurrence of maltreatment: A systematic review. *Archives of Disease in Childhood*. 2006; 91:744–752. [PubMed: 16840503]
- Hussey J, Marshall J, English D, Knight E, Lau A, Dubowitz H, et al. Defining maltreatment according to substantiation: Distinction without a difference? *Child Abuse and Neglect*. 2005; 29(5):479–492. [PubMed: 15970321]
- James S, Monn A, Palinkas L, Leslie L. Maintaining sibling relationships for children in foster and adoptive placements. *Children and Youth Services Review*. 2007; 30(1):90–106. [PubMed: 19122749]
- Jonson-Reid M. After a child abuse report: Early adolescents and the child welfare system. *Journal of Early Adolescence*. 2002; 22(1):24–48.
- Jonson-Reid M, Chance T, Drake B. Risk of death among children reported for non-fatal maltreatment. *Child Maltreatment*. 2007; 12:86–95. [PubMed: 17218650]
- Jonson-Reid M, Drake B, Chung S, Way I. Cross-type recidivism among child maltreatment victims and perpetrators. *Child Abuse & Neglect*. 2003; 27:899–917. [PubMed: 12951139]
- Kaplan, C., editor. *Protecting Children*. 2009. Special issue: Shining light on chronic neglect: Core issues facing our most vulnerable families; p. 24
- Kelleher K, Chaffin M, Hollenberg J, Fischer E. Alcohol and drug disorders among physically abusive and neglectful parents in a community-based sample. *American Journal of Public Health*. 1994; 84:1586–1590. [PubMed: 7943475]

- Kohl PL, Jonson-Reid M, Drake B. Time to leave substantiation behind: Findings from a national probability study. *Child Maltreatment*. 2009; 14:17–26. [PubMed: 18971346]
- Kotch JB, Browne DC, Ringwalt CL, Stewart PW. Risk of child abuse or neglect in a cohort of low-income children. *Child Abuse & Neglect*. 1995; 19:1115–1130. [PubMed: 8528817]
- Lee, E.; Wei, L.; Amato, D. *Survival Analysis: State of the Art*, NATO ASI Series. Vol. 211. Netherlands: Kluwer Academic Publishers; 1992. Cox-type regression analysis for large numbers of small groups of correlated failure time observations; p. 237–247.
- Leiter J, Myers KA, Zingraff MT. Substantiated and unsubstantiated cases of child maltreatment: Do their consequences differ? *Social Work Research*. 1994; 18:67–82.
- Libby A, Orton H, Barth R, Webb M, Burns B, Wood P, et al. Alcohol, drug, mental health specialty treatment services and race/ethnicity: A national study of children and families involved with child welfare. *American Journal of Public Health*. 2006; 96(4):628–631. [PubMed: 16507729]
- Loman, LA. *Families frequently encountered by child protection services: A report on chronic abuse and neglect*. St. Louis, Missouri: Institute of Applied Research; 2006.
- McDonald TP, Johnson W. Tracking reported sexual abuse cases. *Journal of Child Sexual Abuse*. 1993; 2:1–11.
- Nelson K, Saunders E, Landsman M. Chronic child neglect in perspective. *Social Work*. 1993; 48:661–671. [PubMed: 8256141]
- Ney P, Fung T, Wickett A. Causes of child abuse and neglect. *Canadian Journal of Psychiatry*. 1992; 37:401–405.
- Rittner B. The use of risk assessment instruments in child protective services case planning and closures. *Children and Youth Services Review*. 2002; 24:189–207.
- Staudt M, Drake B. Intensive family preservation services: Where's the crisis? *Children and Youth Services Review*. 2002; 24:777–795.
- Swanston HY, Parkinson PN, Oates RK, O'Toole BI, Plunkett AM, Shrimpton S. Further abuse of sexually abused children. *Child Abuse & Neglect*. 2002; 26:115–127. [PubMed: 11933984]
- U.S. Department of Health and Human Services, Administration on Children and Families. *Child maltreatment 2007*. Washington, DC: U.S. Government Printing Office; 2009.
- Way I, Chung S, Jonson-Reid M, Drake B. Maltreatment perpetrators: A 54-month analysis of recidivism. *Child Abuse & Neglect*. 2001; 25:1093–1108. [PubMed: 11601599]
- Wilson D, Horner W. Chronic child neglect: Needed developments in theory and practice. *Families in Society*. 2005; 86:471–481.
- Wood JM. Risk predictors for re-abuse or re-neglect in a predominantly Hispanic population. *Child Abuse & Neglect*. 1997; 21:379–389. [PubMed: 9134266]

Table 1

Descriptive characteristics of alleged perpetrator samples.

Characteristic	Total sample (N=25,727)	Low income female sample (n=7495)
Recidivism rate	46.6%	60%
Alleged perpetrator gender		
Female	74.3%	100%
Alleged perpetrator race		
Caucasian	72.1%	62.5%
Mean age of alleged perpetrator	30.9 years	27.9 years
Urban residence	56.8%	58.2%
Mean income in census tract (in \$1K)	27.1	24.8
Mean % single parent household in tract	34.8%	39.6%
First report characteristics		
Mean victim count	1.5	1.6
Mean age of youngest child in home	6.4 years	5.0 years
Index report substantiated	16.0%	15.8%
Index event maltreatment type		
Sexual abuse	4.4%	1.1%
Physical abuse	29.5%	20.9%
Neglect	66.1%	78.0%
Child welfare service after index		
Recommended but not served	4.7%	
FCS only	23.0%	27.9%
FCS and/or IIS	4.0%	4.9%
Foster care	1.5%	1.8%
Family poverty		
AFDC prior to or at 1995	30.6%	100%
AFDC/TANF start after 1995	19.7%	N/A
Two+spells on AFDC/TANF after 1995	N/A	21.1%
Medicaid service use prior to index event		
Mental health treatment	0.8	1.6
Substance abuse treatment	0.8	1.5

Table 2

Cox proportional hazards models likelihood of alleged perpetrator recidivism ($n=25,727$; recid=11,999).

	Wald chi-square	p value	Hazard ratio	Wald chi-square	p value	Hazard ratio	Wald chi-square	p value	Hazard ratio
Perpetrator									
Caucasian	3.09	0.079	1.06	30.77	<.0001	1.22	38.58	<.0001	1.26
Female	283.75	<.0001	1.51	179.77	<.0001	1.40	106.20	<.0001	1.31
Age in years	82.62	<.00001	0.99	36.47	<.0001	0.99	56.06	<.0001	0.99
Urban	10.88	0.001	0.93	1.88	0.17	0.96	1.95	0.16	0.96
Caucasian*time interaction	33.18	<.00001	0.99	33.37	<.0001	0.99	32.67	<.0001	0.99
	Wald chi-square=522.37, $df=5$, $p<.00001$								
Tract median income (by \$1K)				26.39	<.0001	0.99	21.79	<.0001	0.99
Tract % single parent household				6.97	0.008	1.31	7.11	0.008	1.32
AFDC at start				156.25	<.0001	1.29	153.37	<.0001	1.29
	Wald chi-square=862.03, $df=8$, $p<.00001$								
Victims									
Number of victims							100.79	<.0001	1.11
Age of youngest victim							72.60	<.0001	1.03
Age*time interaction							55.05	<.0001	0.99
Perpetrator substantiation (yes)							49.42	<.0001	1.19
Neglect (comparison)									
Physical							2.48	0.12	0.97
Sexual							38.90	<.0001	0.69
	Wald chi-square=1101.89, $df=14$, $p<.00001$								
Services not recommended(comparison)									
Recommended but not served									
Family-centered services (FCS) only							14.03	<.0001	1.18
Both FCS and intensive in-home service							118.78	<.0001	0.68
Foster care							148.78	<.0001	0.33
AFDC after study start							111.30	<.0001	0.14
Time interactions							1448.66	<.0001	0.12
AFDC after*time									
Age*time							1278.70	<.0001	1.03
							9.42	0.002	1.00

	Wald chi- square	p value	Hazard ratio	Wald chi- square	p value	Hazard ratio	Wald chi- square	p value	Hazard ratio
Family-centered services*time				579.94	<.0001	1.01			
Mixture*time				480.72	<.0001	1.03			
Foster care*time				273.14	<.0001	1.04			
				Wald chi-square=4094.41, df=22, p<0.0001					

Table 3

Cox proportional hazards models: likelihood of alleged perpetrator recidivism, poverty only (*n*=7495; recid=4482).

	Wald chi-square	<i>p</i> value	Hazard ratio	Wald chi-square	<i>p</i> value	Hazard ratio	Wald chi-square	<i>p</i> value	Hazard ratio
Caucasian	9.94	0.002	1.14	13.84	.0002	1.18	15.62	<.0001	1.19
Age in years	0.34	0.56	0.99	3.89	0.048	0.99	3.84	0.05	0.99
Census tract									
Median income (by \$1K)	0.74	0.39	0.99	0.54	0.46	0.99	2.39	0.12	0.99
% Single parent household	3.60	0.058	1.38	3.27	0.071	1.36	1.81	0.17	1.22
Urban	7.98	0.005	0.85	7.98	0.005	0.85	7.32	0.007	0.86
Time interaction									
Urban*time	15.15	<.0001	1.003	16.08	<.0001	1.00	14.37	0.0002	1.00
	Wald chi-square=35.35, <i>df</i> =6, <i>p</i> <0.0001								
Number of victims at index				25.87	<.0001	1.09	20.98	<.0001	1.08
Age of youngest victim				19.60	<.0001	1.03	15.63	<.0001	1.03
Perpetrator substantiated				27.16	<.0001	1.23	13.77	0.0002	1.20
Neglect (comparison)									
Physical				2.51	0.11	0.94	3.30	0.07	0.93
Sexual				2.06	0.15	0.81	2.76	0.09	0.77
	Wald chi-square=120.44, <i>df</i> =12, <i>p</i> < 0.0001								
Services not recommended									
Not served							1.91	.166	1.12
Family-centered services (FCS) only							129.96	<.0001	0.52
FCS and intensive in-home services (combo)							107.06	<.0001	0.21
Foster care							66.96	<.0001	0.12
Time interactions									
FCS*time							305.45	<.0001	1.02
Combo*time							238.55	<.0001	1.03
Foster care*time							146.34	<.0001	1.04
Age*time							15.43	<.0001	1.00
	Wald Chi-square=746.42, <i>df</i> =19, <i>p</i> < 0.0001								
Perpetrator AFDC or TANF use after index									
2nd AFDC or TANF episode							18.86	<.0001	0.82

	Wald chi- square	p value	Hazard ratio	Wald chi- square	p value	Hazard ratio	Wald chi- square	p value	Hazard ratio
3rd+AFDC or TANF episodes				21.36	<.0001	0.81			
Perpetrator AFDC use before index									
2nd AFDC episode				1.82	0.18	0.93			
3rd AFDC episode				17.05	<.0001	1.21			
Perpetrator history mental health treatment prior to index				24.15	<.0001	1.67			
Perpetrator history of substance abuse treatment prior to index				22.14	<.0001	1.60			
				Wald chi-square=875.84, df=25, p< .0.0001					

Table 4

Logistic regression: final model likelihood of new child listed on second report among alleged low income female perpetrators ($n=4482$; new child=1988).

	Odds ratio	p value	Odds ratio	p value	Odds ratio	p value
Caucasian	0.75	0.001	0.68	0.0001	0.67	<.0001
Age in years	0.97	0.0001	0.96	0.0001	0.96	<.0001
Urban residence	0.88	0.17	0.89	0.23	0.88	0.19
Tract median income (by \$1K)	0.99	0.84	0.99	0.30	0.99	0.30
% single mother household (tract)	1.44	0.30	1.33	0.43	1.29	0.50
Family AFDC or TANF use pattern						
2 episodes after index report	0.73	0.0002	0.72	0.0003	0.78	0.005
3+ episodes after index report	0.87	0.12	0.84	0.06	0.91	0.31
2 episodes before index report	1.30	0.02	1.36	0.009	1.34	0.01
3+ episodes before index report	1.05		1.12	0.23	1.08	0.44
	Wald chi-square=105.93, $df=9$, $p<0.0001$, $c=0.59$					
Number of victims			0.53	0.0001	0.51	<.0001
Age of youngest victim			1.04	0.001	1.04	.0003
Index type neglect (comparison)						
Sexual abuse			1.44	0.24	1.31	0.38
Physical abuse			1.16	0.06	1.13	0.13
Index substantiated			1.01	0.91	0.74	0.004
	Wald chi-square=366.15, $df=14$, $p<0.0001$					
Not served after first report (comparison)						
FCS only					1.56	<.0001
Mixture of service types					2.35	<.0001
Foster only					3.05	<.0001
Perpetrator history of mental health treatment prior to index					1.71	0.02
Perpetrator history of substance abuse treatment prior to index					0.92	0.71
	Wald chi-square=421.7, $df=19$, $p<0.0001$, $c=0.70$					