

Life After Welfare: Child Abuse & Neglect Reports among Early & Later Leavers

PAMELA CAUDILL OVWIGHO, PH.D.
RESEARCH DIRECTOR

KATHARINE LEAVITT, M. A.
RESEARCH ANALYST

CATHERINE E. BORN, PHD
PRINCIPAL INVESTIGATOR

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UNIVERSITY OF MARYLAND
SCHOOL OF SOCIAL WORK
425 WEST REDWOOD STREET
BALTIMORE, MD 21201

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For additional about the report or the study, please contact Dr. Catherine Born (410.706.5134, cborn@ssw.umaryland.edu) or Dr. Pamela Ovwigho (410.706.2479, pcaudill@ssw.umaryland.edu). For more information about welfare reform in Maryland, please contact Mr. Richard Larson at the Department of Human Resource (410.767.7150, rlarson@dhr.state.md.us or welfare reformer@prodigy.net).

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Executive Summary

Several of the most recent *Life After Welfare* reports (Born, Ovwigho, Leavitt, & Cordero, 2001; Ovwigho, Born, Ruck, Srivastava, & Owens, 2002; Welfare and Child Support Research and Training Group [WCSRTG], 1999b, 2000) have revealed that, consistent with the predictions of many authors (Brookings Institution, 1999; Brown, 1997; Heinrich, 1999; Loprest and Zedlewski, 1999; Meckler, 1999), later leavers are not faring as well as those in the earlier cohorts on a number of important post-exit outcome measures. One difference of particular concern is the finding that rates of substantiated or indicated child abuse or neglect reports are higher among children in the later cohorts (Born, et al., 2001).

This report presents multivariate analyses of post-exit child abuse and neglect reports among children in families leaving TANF. These analyses address two research questions:

- 1) What child, casehead, and case characteristics and post-exit circumstances increase a child's risk of experiencing a substantiated or indicated child abuse and neglect report in the first 12 months after leaving welfare?
- 2) Do cohort differences in risk of a child abuse and neglect report remain, after differences in child, casehead, and case characteristics are taken into account?

Analyses are based on administrative data for 17,441 children from 8,900 cases that exited TANF between October 1996 and March 2001. Of these children, 7.3% (n = 1,269) experienced a child protective services investigation, during the follow up period, in which abuse or neglect was substantiated or indicated. The following bullets summarize our findings.

- Descriptive analyses reveal significant differences on six variables between those who experienced an event and those that did not: child's age; number of children per case; historical involvement in the child welfare system; the case head's cash assistance receipt history over the five years before the exit which brought them into the sample; jurisdiction (Baltimore City versus the rest of the State); and exiting cohort.

Children experiencing a post-exit child protective services event were slightly older, had more children in their cash assistance case, more often had a history of child welfare involvement, had a case head with a longer history of cash assistance receipt, and were more likely to reside in Baltimore City than in the rest of the State. As mentioned previously, children from later leaving cohorts had higher rates of post-exit child protective services events than children from earlier cohorts. For example, children whose families exited TANF in the first year of reform (October 1996 to September 1997) comprised 21.8% of the entire sample, but only 16.9% of those experiencing a substantiated CPS report. In contrast, children whose families exited the rolls in the third year of reform (October 1998 to September 1999) are the plurality among those experiencing a post-exit child welfare event (37.5%), although they are only 27.7% of the total sample.

- The discrete-time event history analysis reveals thirteen variables that predict a post-exit child protective services event in the year after the welfare case closing. By far the strongest predictor is a pre-exit history of child welfare involvement.

Children who experienced a child welfare event before their families exited the TANF rolls were 446% more likely to experience a post-exit child abuse or neglect investigation, than children without a previous child welfare event. While this finding is consistent with previous studies, the size of the effect is striking. These results suggest

that, all else being equal, the best predictor of future child welfare involvement is past child welfare involvement.

- In terms of child, case, and casehead characteristics, child's age, case head's age, number of children, jurisdiction, and time to event are significant predictors of post-TCA child welfare involvement.

Consistent with the univariate analyses, the survival analysis demonstrates that a number of child, case and casehead characteristics are associated with risk of experiencing a post-TCA child abuse or neglect investigation, in which abuse or neglect is confirmed or indicated. However, the direction of these relationships is somewhat different, once other factors are controlled. As a child matures, his/her risk of child welfare involvement decreases, approximately 3% each year. Similarly, for each additional year of age for the casehead, risk decreases by 1.2%. There is a slight, but statistically significant relationship between the casehead's welfare history and the child's risk of post-exit child welfare involvement, with risk increasing 0.4% for each additional month of cash assistance receipt.

Likelihood of having a substantiated or indicated child abuse or neglect investigation is higher for children from larger families (7.4% for each additional child in the family) and those who reside in Baltimore City (25.1% higher risk). We also find that child welfare risk increases over time, 3.3% for each additional post-exit month.

- Children whose families left TANF because they had higher income, they did not reapply, or they requested their case be closed experience a lower risk for post-exit child welfare involvement than children whose families were sanctioned or who left for other reasons. Families' post-exit resources are also significant predictors of child welfare risk.

Despite the inherent limitations of administrative case closing reasons, we find they do have some predictive power. We find three case closing reasons associated with

decreased risk of a post-exit child welfare event: no reapplication (19% decreased risk); higher income/started work (30% decreased risk); and requested closure (25% decreased risk).

As expected, higher post-exit earnings for the casehead are related to decreased child welfare risk for the child. For each additional \$100 in quarterly earnings, risk decreases by 2.3%. Somewhat contrary to expectations, risk is approximately 20% higher for children whose families receive Food Stamps after their welfare exit, relative to children whose families do not receive Food Stamps.

- In answer to our original research question, we find that, even after controlling for a variety of background characteristics and post-exit variables, later leavers still experience a higher risk of child welfare involvement than earlier leavers.

All else equal, children whose families exited the welfare rolls in the more recent months are more likely to experience a post-exit child abuse or neglect investigation than children whose families exited earlier. Risk increases 12% for each year between the beginning of welfare reform and the exit that brought the case into the sample.

In sum, this study provides important empirical information about a critical public policy issue that has not been addressed in the literature. For researchers, policy makers, and program managers, our findings indicate that, most broadly, we must be cautious in assuming that results from early welfare leavers studies are still the reality for those exiting the rolls today. The findings from the 70+ leavers studies conducted during the first few years of welfare reform have been remarkably consistent in showing that most families leave welfare for work, only a minority return to the welfare rolls, and rates of post-exit foster care entry are low. However, our results, combined with those from other recent leavers studies, demonstrate that later leavers do appear to be

experiencing more difficulty, including problems which can culminate in substantiated or indicated child abuse and neglect. Thus, at a time when the reauthorization of TANF is being debated, it is critical that we not limit our focus to the initial successes of caseload decline and positive research findings for early leavers. We must take into account the needs and realities of families transitioning from TANF today.

While the results presented here indicate an increased risk of substantiated or indicated child abuse and neglect investigations among later welfare leavers, they also demonstrate that unequivocally the strongest single predictor of post-exit risk is a history of child welfare involvement. Together these results suggest that policy makers, program managers, and front-line staff may wish to pay particular attention to those families with a child welfare history who are exiting the welfare rolls in the later years of reform. These families may need extra supports and services in order to safely and successfully make the transition from welfare to work and to insure the safety and well-being of their children.

Introduction

Maryland's longitudinal study of Temporary Assistance to Needy Families (TANF) leavers, begun in 1996, has revealed a number of differences between those who left in the early years of reform and those leaving in more recent years. One important difference, noted in our sixth *Life After Welfare* report (Born, Ovwigho, Leavitt, & Cordero, 2001), is in the area of post-exit child welfare involvement. Specifically, that report showed that although comparatively few children entered Intensive Family Services (0.9%), kinship care (1.2%), or foster care (1.8%) in the first year after leaving welfare, a larger percent were involved in substantiated or indicated child abuse or neglect investigations (8.0%). There were also cohort differences in child welfare involvement among the exiters - both pre- and post-exit (Ovwigho, Leavitt, & Born, 2001). Significantly more children whose cases closed later in welfare reform (e.g., 1999 or 2000) experienced substantiated or indicated child abuse or neglect investigations than children whose cases closed earlier (e.g., 1996 or 1997).

In some respects, the observed differences between cohorts are not surprising. Several authors predicted that families with the fewest barriers to employment would exit the welfare rolls first, leaving those with more personal and family challenges behind (Brookings Institution, 1999; Brown, 1997; Heinrich, 1999; Loprest and Zedlewski, 1999; Meckler, 1999). Also, our own leavers study as well as results reported by others are beginning to demonstrate that later leavers differ from their earlier-exiting peers in terms of background characteristics and post-exit employment outcomes (Acs, Loprest, and Roberts, 2001; Born, et al., 2001; Research Forum on

Children, Families and the New Federalism, 2001; Welfare and Child Support Research and Training Group [WCSRTG], 1999b, 2000).

Although the finding that child welfare involvement is higher among children in later-leaving families may not be surprising, it is of concern because children continue to represent the majority of welfare recipients (and thus welfare leavers) in our state and nationally. In addition, Maryland has made concerted, bi-partisan efforts to craft a welfare reform program that would work efficiently and effectively for the state and its families, while not having an adverse effect on either. Through the Joint Committee on Welfare Reform and our ongoing research projects, the state has continued to pay close attention to the evolution and outcomes of reform, and since the program's inception in 1996, "as needed" enhancements have been made through a series of Welfare Innovation Acts.

Consistent with Maryland's long-established tradition of using empirical data to monitor program outcomes and provide policymakers with reliable information about emerging trends, this paper takes a closer look at the trend of increased Child Protective Services (CPS) involvement among later-leaving TCA youngsters. Specifically, the study uses multivariate analyses to determine if the observed trend is due to differences among cohorts in risk factors or is independent of these baseline family differences. The next chapter provides a more in-depth review of the current policy context as well as the empirical literature on risk factors for child abuse and neglect.

Background

As debate over reauthorization of the Temporary Assistance to Needy Families (TANF) program continues, many are pausing to assess the outcomes of welfare reform and to reflect upon future directions. Two broad questions concern child maltreatment and welfare reform. First, how has welfare reform affected the child welfare system? Second, how has welfare reform affected the well-being of children whose families are or were involved with the TANF program?

A number of researchers have addressed these questions over the past few years. Several studies document the significant overlap between the traditional child welfare and cash assistance populations and examine trends in child welfare caseloads over the past decade (Geen, Fender, Leos-Urbel, and Markowitz, 2001; Paxson and Waldfogel, 2001). Other studies have described rates of child welfare involvement among cash assistance populations, including AFDC applicants (Needell, Cuccaro-Alamin, Brookhart, and Lee, 1999), AFDC recipients (Shook, 1999), AFDC exiters (Owigho, Leavitt, and Born, 2001), TANF applicants (Courtney, Piliavin, and Power, 2001), and TANF exiters (Born, Owigho, Leavitt, and Cordero, 2001; Cummings and Nelson, 2000). A final set of studies uses multivariate analyses to identify risk factors and possible pathways between cash assistance and the child welfare system (Courtney, et al., 2001; Needell, et al., 1999; Shook, 1999).

The present study builds on the research literature by utilizing data from a large-scale, longitudinal study of TANF exiters to examine risk factors for child maltreatment among this population. This work differs from previous studies in that in addition to

examining traditional risk factors, differences in post-exit child welfare involvement among early and later TANF leavers are analyzed.

The Current Policy Context

When the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) was passed in 1996, some authors hypothesized that it would negatively affect the well-being of poor and near-poor children (Courtney, 1997; Geen, et al., 2001; Zedlewski, Clark, Meier, and Watson, 1996). Researchers speculated that PRWORA, and its revision of the cash assistance system in particular, could affect family and child well-being in several ways (Hutson, 2001). First, PRWORA could increase (through work and work-related supports) or decrease (through time-limits and sanctions) families' material resources. The change in material resources might then increase or decrease children's risk of abuse, neglect, or out-of-home placement.

Second, TANF's more stringent work requirements could increase parental stress and, therefore, decrease parents' abilities to care for their children properly. The strong emphasis on employment could also decrease parental supervision of young children.

On the other hand, by moving families from welfare to work, TANF could result in an increase in parental self-esteem and subsequent increases in family and child well-being. Finally, TANF could increase or decrease the supports available to families in dealing with financial and related crises.

A second prediction regarding welfare reform was that those who exited TANF in the later years of reform would encounter more personal and familial challenges in moving

from welfare to work than their counterparts who exited in the earlier years of reform (Brookings Institution, 1999; Brown, 1997; Heinrich, 1999; Loprest and Zedlewski, 1999; Meckler, 1999). In fact, recent “leavers” studies have begun to indicate that later TANF exiters may not be faring as well as those who exited earlier (Acs, Loprest, and Roberts, 2001; Born, et al., 2001; Research Forum on Children, Families and the New Federalism, 2001; Welfare and Child Support Research and Training Group [WCSRTG], 1999b, 2000). Because of the close link between a family’s economic circumstances and their risk of child welfare involvement, it should not be surprising to find that post-TANF child welfare entries are also higher among later TANF leavers (Born, et al., 2001; WCSRTG, 1999b, 2000). It is not known, however, the extent to which the higher entry rate can be explained by a higher concentration of family, demographic, and economic risk factors among the later-leaving population. In other words, the published research literature has begun to consistently document increased child welfare involvement among later-leaving TANF children, but the reasons for those differences have not been explored systematically.

Child Welfare Trends Since Welfare Reform

In their analysis of state child welfare caseloads since welfare reform, Geen and colleagues (2001) found that abuse and neglect allegations and substantiated reports have remained stable or declined. Although these results are encouraging, they are not conclusive in that a number of factors affect abuse and neglect reporting and allegations. Multivariate analyses by Paxson and Waldfogel (2001) reveal that state-

level increases in reported child maltreatment are associated with increased rates of child poverty, lower welfare benefits, more children living with employed single mothers, and full-family sanction policies.

Case-level analyses of the relationship between cash assistance and child welfare risk reveal high rates of child welfare involvement among cash assistance recipients. Needell and colleagues (1999), in their analysis of child welfare entries among children whose families began receiving AFDC between 1990 and 1995, found that 27% experienced a child maltreatment event within 5 years and over half of these occurred within the first two years of the AFDC entry. Increased risk for child welfare events was found among Caucasian children, those who entered AFDC during infancy, those from single-parent families, and third or later born children.

Another study of AFDC recipients showed that grant reductions, in the absence of employment, were associated with increased risk for a child maltreatment report or a child welfare case opening (Shook, 1999). Results suggest that income instability may be an important risk variable to examine in future studies.

An emerging body of literature documents rates of child welfare involvement among TANF and former TANF recipients (U.S. General Accounting Office, 1999). For example, among families exiting Kentucky's TANF program, 1.3% had a substantiated child neglect report within the six months preceding their exit and 1.2% had such a report within the six months after the exit. For substantiated abuse reports, the rates were 1.3% during the pre-exit period and 0.9% in the post-exit period (Cummings and Nelson, 2000).

An important limitation of this literature is that typically the sample is limited to cases which exited in a particular, relatively narrow time period. As mentioned previously, many theorize that those who exit TANF later will have more difficulty attaining self-sufficiency than those who exited earlier. Indeed, the literature on outcomes such as employment and welfare recidivism is beginning to confirm this hypothesis (Acs, et al., 2001; Born, et al., 2001; Research Forum on Children, Families and the New Federalism, 2001; WCSRTG, 1999b, 2000). However, the prediction has yet to be assessed adequately in reference to child welfare outcomes. Maryland's longitudinal TANF leavers study allows for such an assessment.

Risk Factors for Child Maltreatment

Independent of welfare reform, certain characteristics tend to be correlated with abuse and neglect. In order to segregate the effects of these characteristics from the possible effects of welfare reform, several variables describing three categories of characteristics (child, adult case head, and case) were included in the present analyses. These predictors were chosen based on theory and a review of the child maltreatment risk factor literature. The following sections summarize the relevant theory and research for each set of predictors.

Child Characteristics.

Within child characteristics, child age, gender and history of child welfare involvement were included. Most research indicates that younger children are maltreated more often than older children (e.g. U.S. Department of Health and Human Services [USDHHS], 2001), although there are a few exceptions to this in the available literature (Courtney, et al., 2001; Straus & Gelles, 1986).

In terms of child gender, the differences in rates of child abuse and neglect between girls and boys are often not reported or are non-significant. One recent meta-analysis indicated that rates were comparable between boys and girls, except for sexual abuse (USDHHS, 2001). Another analysis indicated that boys are more often victims in certain circumstances (Rutter, 1987).

A history of being maltreated is known to be a significant risk factor for additional maltreatment. Many studies have shown that children who have been maltreated in the past are at greater risk than non-maltreated peers to experience abuse or neglect (Courtney, et al., 2001; Dodge, Bates, & Pettit, 1990; Sroufe, 1983; USDHHS, 2001).

Adult Case Head Characteristics.

Certain adult case head or caregiver characteristics are also relevant to a discussion of the incidence of child abuse or neglect. Included in our model are caregiver's age and historical use of cash assistance, as well as employment, earnings, and benefits receipt after cash assistance exit.

Concerning caregiver age, the literature is inconsistent. Often, younger caregivers are reported as more likely to abuse or neglect their children than older caregivers (e.g. Lee and Goerge, 1999). However, several reports contradict this (e.g., Courtney, et al., 2001).

Given the strong correlation between poverty and child welfare involvement, it is not surprising that the literature supports that caregivers with longer histories of relying on public cash assistance are more often found to be abusive or neglectful of their children than caregivers with shorter or no histories of assistance reliance (Jones and McCurdy, 1992; Needell, et al., 1999). However, the pathways from welfare to child welfare involvement are not well-understood.

Caregiver employment is also an important predictor of child maltreatment risk. As mentioned previously, Shook (1999) found that caregivers who lost their cash assistance grant and did not replace that income with earnings from a job experienced increased child abuse and neglect investigations. Another study indicated that when caregivers worked and had earnings, child abuse and neglect reports decreased (Courtney, et al., 2001). A third indicated that abusive parents were more likely to be unemployed than nonabusive parents (Holden, Willis, & Corcoran, 1992).

It is also plausible to hypothesize that, all else equal, additional resources gained through support services such as Food Stamps and Medical Assistance would lower the risk of child maltreatment. Alternatively, utilization of support services could increase risk of substantiated or indicated child maltreatment reports, because the family would be more likely to come in contact with mandated, professional reporters, such as caseworkers or doctors. There is a paucity of literature in this area, perhaps due to the

difficulty of obtaining usable data on cash assistance, Medical Assistance, and Food Stamps receipt in sufficient detail and frequency (e.g., monthly) to correlate with child welfare events.

Case Characteristics.

Certain case-level characteristics may also have an effect on child welfare entries after TCA exit. A number of studies have linked greater numbers of children in a family with increased involvement with the child welfare system (Belsky, 1992; Courtney, et al., 2001; Creighton, 1985; Needell, et al., 1999; Polansky, Chalmers, Bittenweiser, & Williams, 1981).

Cash assistance cases differ as to whether or not the adult caregiver receives benefits. Child-only cases, where the adult caregiver is not a member of the assistance unit (i.e., is not receiving benefits for him/herself), are an increasing proportion of the TANF caseload as the number of traditional single parent cases has dramatically declined (Ovwigbo, 2001; U.S. House of Representatives, 2000) A recent study of Maryland's non-traditional cases indicates that child-only cases often exclude the adult caregiver because he/she is a non-needy caretaker relative (Ruck, Ovwigbo, and Born, 2001).¹

To our knowledge, case type has not been examined as a child maltreatment risk factor in previous studies. We include it in our analyses because, in Maryland at least, the large majority of children in child-only cases are already living apart from their

¹ In Maryland, the majority of child only cases are not a result of the use of partial sanctions. Full family sanctions (or elimination of the entire cash assistance grant) are applied for non-compliance with work or child support cooperation requirements.

parents' homes, in at least some cases because of abuse or neglect. Therefore, we hypothesize child-only cases will be at decreased risk of post-welfare child protective services involvement compared with other cases. For similar reasons, we also include the relationship of the child to the TANF case head as a variable in our models.

The jurisdiction in which a family resides can also be an important predictor of child maltreatment risk. Several studies indicate that public scrutiny and surveillance systems are biased against the poor, especially in certain neighborhoods (Drake & Pandey, 1996; Garbarino & Kostelny, 1992; O'Toole, Turbett, & Nalpeka, 1983; Zellman, 1992). One study does not support this hypothesis (Paxson & Waldfogel, 1999). In Maryland, Baltimore City differs markedly from the state's 23 counties on a number of dimensions, most notably in that it has the highest concentration of the state's low-income population. For these reasons, we include Baltimore City residence as a predictor in the models.

In addition, the reason for a cash assistance case closing may provide important information about child maltreatment risk. Previous studies have not dealt with this variable directly, although Shook (1999) does address the effect of grant reductions related to sanctions. In Maryland, as elsewhere, administrative closing codes are assigned to cash assistance cases when they exit. Although these codes do not fully capture the often complex reality of families' departures from welfare (WCSRTG, 1998), they are an approximate measure of how or why a case was closed. Five codes traditionally account for 85% of Maryland's exiting TANF cases (Born, et al., 2001): failed to reapply/complete redetermination; income above limit/started work; eligibility information/verification not provided; work sanction; and client requested closure. For

the analyses reported here, we combined *failure to reapply* with *information not provided* into a single category and leave the other three separate. Our prediction is that child maltreatment risk would be higher for sanctioned cases and lower for cases closed due to income above limit/started work.

Methods

Sample

Every month since October 1996, a 5% random sample of all cases exiting cash assistance (TANF) in Maryland has been and continues to be drawn for the *Life After Welfare* series. The sample includes all types of case situations - for example, families who left welfare for work, families who were terminated for non-compliance with program rules, and families who left welfare but returned after as little as a one-day break. The sample for this paper includes cases that exited between October 1996 and March 2001. There are 17,441 children in this sample from 8,900 cases. Of these children, 7.3% (n = 1,269) experienced a child protective services investigation, during the follow up period, in which abuse or neglect was substantiated or indicated.²

Data

Findings presented in this paper are based on analyses of administrative data retrieved from computerized management information systems maintained by the State of Maryland. Demographic and program participation data, including child welfare information, were extracted from two administrative data systems: the Automated Information Management System/Automated Master File (AIMS/AMF) and the Client

² These numbers differ from the numbers reported in the previous section, because the *Life After Welfare* figures exclude children without 12 full-months of follow up data. The survival analysis method used in the present analysis allows us to include all children for this study. However, 78 children had to be excluded because of missing data.

Automated Resources and Eligibility System (CARES). Employment and earnings data were obtained from the Maryland Automated Benefits System (MABS).

AIMS/AMF.

AIMS/AMF was the statewide data system for programs under the purview of the Maryland Department of Human Resources (DHR) from 1987 through 1993. AIMS contains a participation history for each person who applied for cash assistance (AFDC and/or TCA), Food Stamps, Medical Assistance, or Social Services. In addition to providing basic demographic data (name, date of birth, gender, ethnicity, etc.), the system includes the type of program, application and disposition (denial or closure) date for each service episode, and a relationship code indicating the relationship of the individual to the head of the assistance unit.

In late 1993, the state began converting to a new system, CARES. The final jurisdiction (Baltimore City) converted to CARES in March 1998; since that time, no new data have been added to AIMS, although the system is still accessible for program management and research purposes.

CARES.

As of March 1998, CARES became the statewide automated data system for programs under the purview of DHR. Similar to AIMS, CARES provides individual and

case level program participation data for cash assistance, Food Stamps, Medical Assistance and Social Services.

MABS.

Quarterly employment and earnings data were obtained from the Maryland Automated Benefits System (MABS).³ MABS includes quarterly data on employment and earnings from all employers (approximately 93% of Maryland jobs) covered by the state's Unemployment Insurance (UI) law. Workers such as independent contractors, sales people on commission only, some farm workers, federal government employees (civilian and military), and other individuals are not covered. "Off the books" or "under the table" employment is not included, nor are jobs located in other states. According to the 1990 census, in some Maryland counties, more than one of every three employed residents worked outside the State. Our lack of access to other states' data and to federal employment data is a limitation that depresses our employment rates.

Analyses

Discrete-time event history analysis, also called survival analysis, is used in the present study to identify predictors of having a CPS report in which abuse or neglect is substantiated or indicated. Survival analysis is a statistical technique used to predict the occurrence of an event over time. Advantages of using this technique include the

³Although "month" is our unit of time for the analysis, the employment and earnings data are recorded quarterly. To compensate for this, the quarterly data are forced into a monthly format where the assumption is that if a person worked at all in a given quarter, then she worked all three months in the quarter, and that the earnings for the quarter were exactly the same in each month during the quarter. For ease of interpretation, we entered wages in the model so that the coefficient represents a \$100 unit change in quarterly earnings, rather than a \$1 unit change.

ability to include censored cases (that is, cases in which the event of interest has not occurred before the end of the follow up period) and to include predictors which vary over time (such as post-exit Food Stamp participation).

Outcome Variable.

In our event history analysis, the odds of experiencing a child protective services investigation in which abuse or neglect is substantiated or indicated is the outcome of interest. We use the term “child protective services event” throughout the rest of this paper to refer to this outcome. The study period includes the month the cash assistance case closed through twelve months after the cash assistance case closing that brought the child(ren) into the sample. Children who have less than 12 months of data are right censored at the end of their follow up data, as are children who turn 18 during the study period.

Predictor Variables.

Table 1 details the predictor variables included in the analysis and their sources. The flexibility of discrete-time survival analysis allows us to include both time-constant predictors (such as gender) and time-varying predictors such as cash assistance receipt status.

Table 1. Predictor Variables.

Variable	Coding	Source
Child's age	Age in years; time varying	CARES
Child sex	0 = male; 1 = female	CARES
Case head age	Age in years; time varying	CARES
Number of children	Number of children in the assistance unit	CARES
Time to event	Number of months from TCA exit to follow up month; time varying	CARES & SERVICES
Relationship to case head	0 = biological or adopted child; 1 = other relationship	CARES
Child-only case status	0 = not a child only case; 1 = child only case	CARES
Child welfare history	0 = child had no child welfare events before the TCA exit; 1 = child had experienced one or more child welfare events before the TCA exit	SERVICES
Case head AFDC/TCA history	Number of months caregiver had received assistance in the 60 before the TCA exit	CARES
Jurisdiction	0 = not Baltimore City; 1 = Baltimore City	CARES
Cohort	0 = exit between 10/96-9/97; 1 = exit between 10/97-9/98; 2 = exit between 10/98-9/99; 3 = exit between 10/99-9/00; 4 = exit between 10/00-3/01	CARES
Closing code: No reapplication	0 = other reason; 1 = no reapplication/information not provided	CARES
Closing code: Income/work	0 = other reason; 1 = income above limit or started work	CARES
Closing code: Sanction	0 = other reason; 1 = work sanction	CARES
Closing code: Requested closure	0 = other reason; 1 = requested closure	CARES
Employment	0 = not employed in that month; 1 = employed in that month; time varying	MABS
Earnings	Earnings in that month; time varying	MABS
Food Stamps	0 = did not receive FS in this month; 1 = received FS in this month; time varying	CARES
Medical Assistance	0 = did not receive MA in this month; 1 = received MA in this month; time varying	CARES
TCA	0 = did not receive TCA in this month; 1 = received TCA in this month; time varying	CARES

Procedure.

In the present study, the event of interest is modeled using the logistic regression technique for discrete-time data developed by Allison (1984). First, person-month records are created for each sample member. In this case, each child contributes as many records as he/she has months between his/her family's TANF exit and the first

substantiated child maltreatment report or end of the follow up period, whichever comes first. Each record contains all of the values for the predictors and a dichotomous dependent variable coded as 0 if the child did not have a substantiated maltreatment report that month or coded 1 if the child did have a report that month. Then, using logistic regression, the dichotomous dependent variable is regressed on the predictors.

Theory guided the order in which the variables were entered into the model. First, four case and child demographic variables were entered, along with the time variable. In the second model, the two variables measuring the relationship of the child to the casehead (child only case and relationship code) were entered. Child welfare history and cash assistance receipt history were added in the third model. The fourth model included three welfare-related variables: jurisdiction; exiting cohort; and case closing reason. In the fifth and final model, five variables related to the families' post-exit financial situations were entered: employment; earnings; Food Stamps receipt; Medical Assistance receipt; and cash assistance receipt.

Findings

Descriptive Statistics

This section describes the whole sample, and the differences between the children who experienced a child welfare event and the children who did not. There are 17,441 children in this sample, with 200,590 person-months of data. A substantiated or indicated child abuse or neglect report was received for 7.3% of the children (n = 1,269) during the follow up period, or within 12 months of their exit from cash assistance. Table 2, following, displays descriptive data on the characteristics of the sample

Table 2. Description of the Sample.

Characteristic	Total Sample	Child Welfare Event	No Event
Child's age † Mean (S.D.)	7.6 years (4.8)	7.7 years (4.5)	7.6 years (4.9)
Child sex % (n)			
Girl	50.0% (8,685)	50.7% (643)	49.9% (8042)
Boy	50.0% (8,699)	49.3% (624)	50.1% (8075)
Case head age Mean (S.D.)	32.7 years (9.4)	32.8 years (8.9)	32.7 years (9.5)
Number of Children† Mean (S.D.)	2.4 (1.4)	2.7 (1.4)	2.4 (1.4)
Child-only % (n)	14.1% (2,456)	14.7% (187)	14.0% (2,269)
Not Child-only	85.9% (14,985)	85.3% (1,082)	86.0% (13,903)
Relationship to Case head			
Child % (n)	88.9% (15,501)	88.3% (1,120)	89.0% (14,381)
Other	11.1% (1,929)	11.7% (149)	11.0% (1,780)
Child Welfare History†			
Yes, prior event(s)	27.0% (4,708)	59.8% (759)	24.4% (3,949)
No	73.0% (12,733)	40.2% (510)	75.6% (12,223)
Case head TCA History† Mean (S.D.)	32.8 mos (19.7)	36.9 mos (19.3)	32.5 mos (19.7)
Cohort % (n) †			
10/96-9/97	21.8% (3,794)	16.9% (214)	22.1% (3,580)
10/97-9/98	25.6% (4,457)	23.2% (295)	25.7% (4,162)
10/98-9/99	27.7% (4,824)	37.5% (476)	26.9% (4,348)
10/99-9/00	17.0% (2,970)	19.1% (242)	16.9% (2,728)
10/00-3/01	8.0% (1,396)	3.3% (42)	8.4% (1,354)
Jurisdiction †			
Baltimore City	49.5% (8,627)	57.8% (734)	48.8% (7,893)
Rest of Maryland	50.5% (8,804)	42.2% (535)	51.2% (8,269)
Case Closing Code			
No redet/ verification	43.9% (7,654)	43.0% (546)	44.0% (7,108)
Income/Work	25.0% (4,365)	18.0% (229)	25.6% (4,136)
Work Sanction	11.9% (2,069)	17.1% (217)	11.5% (1,852)
Requested Closure	5.7% (993)	4.5% (57)	5.8% (936)
Other	13.5% (2,360)	17.3% (220)	13.2% (2,140)

Note: N does not always equal 17,441 due to missing data. * p < .05; ** p < .01; †p < .001

Significant differences between those who experienced an event and those that did not were found on six variables: child's age; number of children per case; historical involvement in the child welfare system; the case head's cash assistance receipt history over the five years before the exit which brought them into the sample; jurisdiction (Baltimore City versus the rest of the State); and exiting cohort. As shown in Table 2, children experiencing a post-exit child protective services event were slightly older, had

more children in their cash assistance case, more often had a history of child welfare experience, had a case head with a longer history of cash assistance receipt, and were more likely to reside in Baltimore City than in the rest of the State. As mentioned previously, children from later leaving cohorts had higher rates of post-exit child protective services events than children from earlier cohorts.

Event History Analysis

Table 3 displays the results of the event history analysis predicting post-exit child protective services events. In Model 1, where only basic demographic information and time are entered, two variables were found to be significant predictors. Number of children in the family and number of months between cash assistance exit and child welfare event both help predict a post-exit child protective services event. Each additional child in the family increased the odds of experiencing the event by approximately 16.2%. For every month after exit without an event, the risk decreases by approximately 2.4%.

The second model added the child's relationship to the cash assistance case head and whether the case was child-only or not, but these did not add any predictive value. Number of children and time to event are again significant. For each additional child in the family, the risk of a substantiated, post-exit child protective services event increases approximately 17.0%, and each additional month after cash assistance exit decreases the risk by 2.1%.

Model 3 added child welfare history and case head's cash assistance history variables. In this model, number of children and time to event are again significant, but child's age, the case head's age, as well as the two new variables, are also statistically

significant. For each year older, the child’s risk for a post-exit child protective services event decreases by 3.6%. For each additional year of age for the case head, the risk decreases by .9%. For each added child in the family, the risk increases by 7.7%. Each passing month after cash assistance exit increases the risk by 2.8%, changing direction from the earlier two models. Each additional month of historical case head TCA receipt increases the risk of an event by .7%. Most notably, having been in contact with the child welfare system prior to the cash assistance exit increases the risk of a child welfare event by 480.5%.

Table 3. Survival Analysis Predicting Odds of Child Welfare Entry.

Predictors	Risk Ratios				
	Model 1	Model 2	Model 3	Model 4	Model 5
Child’s age	1.002	1.004	0.964†	0.965†	0.967†
Child sex	0.966	0.968	0.961	0.970	0.968
Case Head age	1.000	.995	0.991*	0.989*	0.988**
Number of Children	1.162†	1.170†	1.077†	1.078†	1.074†
Time To Event	.976*	0.979*	1.028**	1.036**	1.033**
Relationship to Case head		1.107	0.881	0.860	0.976
Child-only		1.183	1.086	1.110	1.159
Child Welfare History			4.805†	4.579†	4.460†
Case head TCA history			1.007†	1.005**	1.004*
Jurisdiction				1.217**	1.251†
Cohort				1.142†	1.120†
Closing Code: No Reapp				0.795**	0.811*
Closing Code: Income/Work				0.688†	0.705**
Closing Code: Work Sanction				1.147	1.105
Closing Code: Request Closure				0.732*	0.741*
Employment					1.033
Earnings					0.987†
Food Stamps					1.201*
Medical Assistance					1.125
TCA					0.881
-2 log likelihood	15272.1	15266.5	14569.7	14487.3	14428.4
Model Chi-Square	72.2†	77.8†	774.6†	857.0†	915.9†

Note: Discrete Time Logit Models. For Closing Code, “other reason” is the excluded category. * p < .05; ** p < .01; †p < .001

Model 4 adds six variables, including the reason for case closure and exiting cohort, five of which significantly predict a child welfare event. Child's age, case head's age, number of children, time to event, case head cash assistance history, and the child's child welfare history all retain significance. New in this model, jurisdiction of the case was also significant with children from Baltimore City cases at 21.7% higher risk than children from the rest of the state. Three of the closing codes predicted a decreased risk for a child welfare event: no reapplication (20.5% decreased risk); income/work (31.2% decreased risk); and client requested closure (26.8% decreased risk).

Also in Model 4, cohort, or the year of exit after welfare reform, is a statistically significant predictor of a post-exit child protective services event. Even controlling for a number of background factors, children from cases exiting in the second year of welfare reform have a 14.2% greater risk of experiencing an event than the children who exited during the first year of welfare reform. Children in cases exiting during the third year of welfare reform have a 28.4% greater risk than those who exited during reform's first year.

The final model adds information about families' post-exit resources including earnings from case head employment and receipt of Temporary Cash Assistance, Food Stamps and Medical Assistance. This model contains thirteen variables that predict a post-exit child protective services event in the year after the welfare case closing. Child's age, case head's age, number of children, time to event, case head TCA history, child welfare history, and living in Baltimore City remain significant predictors. Three case closing reasons also retain significance: no reapplication (19.9% decrease); increased income/work (29.5% decrease); and client requested closure (25.9%

decrease). Each increase in earnings of \$100 decreased the risk of the event by 1.3%. Post-exit receipt of Food Stamps increased risk by 20.1%. Finally, we find that cohort also remains significant, with a 12.0% increased risk for each year between the beginning of welfare reform and the exit that brought the case into the sample.

In sum, the survival analyses using the full sample reveal a number of significant predictors of experiencing a post-exit child protective services event. In answer to our initial research question, we find that later welfare leavers experience higher levels of risk than earlier leavers, even after controlling for a number of background characteristics and post-exit experiences. However, while intriguing and consistent with some authors' predictions, it is also possible that the cohorts may differ on other characteristics, which we did not measure, but which would explain their different risk levels. This phenomenon, termed unobserved heterogeneity, may be producing the observed cohort effects. To test this possibility, we constructed separate discrete-time logit models for each of the first four-year exiting cohorts. These results are displayed in Table 4.

Table 4. Survival Analysis Predicting Odds of Child Welfare Entry by Cohort.

Predictors	Risk Ratios			
	Year 1	Year 2	Year 3	Year 4
Child's age	0.981	0.968*	0.965**	0.951**
Child sex	0.885	0.990	0.994	0.936
Case Head age	0.970**	0.984	1.002	0.978*
Number of Children	1.048	1.140**	1.003	1.165**
Time To Event	0.987	1.008	1.046**	1.074**
Relationship to Case head	1.740*	1.046	0.679*	0.797
Child-only	1.356	0.907	1.271	1.558
Child Welfare History	5.059†	4.819†	4.414†	4.204†
Case head TCA history	1.004	1.005	1.005	1.008*
Jurisdiction	1.430*	1.634†	1.342**	0.932
Closing Code: No Reapp	0.768	0.763	0.946	0.891
Closing Code: Income/Work	0.980	0.327†	0.786	1.255
Closing Code: Work Sanction	0.922	0.679	1.895†	0.901
Closing Code: Request Closure	0.462*	0.821	0.640	1.298
Employment	1.132	0.859	1.027	1.247
Earnings	0.985*	0.990	0.987**	0.984**
Food Stamps	1.449*	2.354†	1.091	0.641**
Medical Assistance	1.259	0.866	1.198	0.870
TCA	1.201	0.546†	0.848	1.113
-2 log likelihood	2533.6	3365.2	5197.4	2696.2
Model Chi-Square	203.3†	314.2†	330.2†	150.3†

Note: Discrete Time Logit Models * p < .05; ** p < .01; †p < .001

We find somewhat different predictors for each cohort, suggesting that indeed the groups differ on some unobserved variable or variables that also relate to post-exit child protective services risk. For those who exited in the first year of welfare reform (October 1996 to September 1997), decreased risk is associated with older case head age, case closure at the request of the client, and higher earnings. Children who are not the son or daughter of the case head, those who have a history of child welfare system involvement, those from Baltimore City and those whose families receive Food Stamps after they leave welfare have a higher risk of experiencing a child abuse or neglect event.

Among families which exited the cash assistance rolls in the second year of reform (October 1997 to September 1998), seven significant predictors are found. Younger

children, those from larger families, Baltimore City children, those with a history of child welfare involvement, and those whose families receive Food Stamps after their welfare exit are at higher risk. Children who live in families which left welfare because of “income or work” and those whose families did not receive cash assistance after the welfare exit which brought them into the sample are at lower risk.

The predictors again change somewhat when only cases which left welfare in the third year of reform (October 1998 to September 1999) are included. Consistent with the model for Year 2 leavers, risk is higher for younger children, Baltimore City residents, and children with a child welfare history. The model for Year 3 leavers also reveals that time since the cash assistance exit, being the son or daughter of the case head, having left welfare because of a work sanction, and low earnings are all associated with increased risk.

In the final model for cases which exited in the fourth year of reform (October 1999 to September 2000), eight significant predictors are identified. Increased risk of experiencing a child abuse or neglect investigation is found among younger children, children of younger case heads, children from larger families, and those with a child welfare history. In addition, risk increases with time since exit and for children whose case heads have longer welfare histories. Finally, higher earnings and not receiving Food Stamps after the TCA exit are associated with decreased risk.

In sum, the analyses presented in Table 4 indicate considerable variability in child welfare predictors among the four exiting cohorts. Child welfare history is the only predictor that is statistically significant and consistent in all four models.

Discussion

The descriptive analyses supported what was found in previous reports, and in most cases, the literature and hypotheses. Children who had a post-exit child protective services event within twelve months of their cash assistance case closing were roughly the same age as those without, although the difference was statistically significant. There were, on average, more children in the cases with an event than those without. The children with a post-exit child protective services event were significantly more likely to have had a historical child welfare event and to live with a caregiver with a longer cash assistance history than those without an event. Finally, Baltimore City children experienced post-exit child protective services event at higher rates than their counterparts living elsewhere in Maryland.

Similar to the descriptive results, the multi-variate analyses also revealed information consistent with previous reports, the literature, and our hypotheses. Child's age is a predictor in the anticipated direction, with younger children at increased risk of experiencing a post-exit child protective services investigation in which abuse or neglect is substantiated or indicated. The age of the case head predictor also goes in the hypothesized direction, with younger case heads at increased risk. Consistent with the literature, larger families were also at increased risk for a post-exit child protective services event.

As hypothesized, risk increases over time. In the individual cohort models, however, the direction of this predictor changes, which could be related to the differences in the cohorts. In cohort 1, the correlation is negative, although not significant: the longer the time since cash-assistance exit, the lower the risk of a child protective services event. In

contrast, in the models for cohorts 2 through 4, the longer the time, the greater the risk. Moreover, risk increases between the cohorts, such that the risk for a child welfare event during the 12-month follow-up period in cohort 4 (the most recent welfare leavers) is larger than for cohort 2 (see Table 4).

As anticipated, children with historical involvement with the child welfare system were at increased risk for a post-exit child protective services event. What was not anticipated was the strength of the relationship. In the final full-sample model, children with a previous child welfare history were at 446% increased risk of experiencing a post-exit event.

Also as anticipated, longer histories of cash assistance receipt for the case head were associated with increased child protective services risk for the child. Living in Baltimore City was also associated with increased risk.

Children from cash assistance cases which closed because of no reapplication, income/started work, and client requested closure are at less risk for a post-exit child protective services event. Similarly, amount of post-exit earnings are a predictor of decreased risk. However, the casehead's employment status was not a statistically significant predictor.

As noted earlier, there was no directional hypothesis for post-exit receipt of Medical Assistance, Food Stamps, and TCA. Findings reveal that Food Stamp receipt is a significant predictor of increased risk, but Medical Assistance and TCA are not. It is unclear why the receipt of a benefit that increases resources and does not put the clients in added contact with mandated reporters would increase the risk of a substantiated or indicated child abuse or neglect investigation. One hypothesis is that

Food Stamp receipt is an indicator of financial hardship. While it is beyond the scope of this study to determine the exact nature of this relationship, this is an area worthy of future research.

Finally, in reference to our primary research question concerning greater post-exit child protective services involvement among later welfare leavers, we find that cohort, or year of exit, is indeed a significant predictor in the anticipated direction. This effect holds even after we control for a number of background characteristics and post-exit experiences. Our analyses by cohort suggest that unobserved heterogeneity among the cohorts at least partially explains this effect.

Before considering the policy implications of these findings, it is important to note that this study has several limitations. First, data were not available on a number of important family characteristics associated with child abuse and neglect, such as substance abuse and family emotional functioning. Exclusion of these important variables limits our predictive models and may at least partially account for the cohort differences observed.

A second study limitation is that our analyses only include child abuse and neglect investigations that were substantiated or indicated in the first 12 months after the welfare exit. Advocates and other researchers suggest that a 24-month follow up period would be preferable, as families who leave welfare may initially be able to patch resources together, but these arrangements will likely fall through over time (Hutson, 2001). Future research should expand on the analyses presented here by including a richer set of predictor variables and a longer follow up period.

Despite these limitations, this study provides important empirical information about a critical public policy issue which has not been addressed in the literature. For researchers, policy makers, and program managers, our findings indicate that we must be cautious in assuming that results from early welfare leavers studies are still the reality for those exiting the rolls today. The findings from the 70+ leavers studies conducted during the first few years of welfare reform have been remarkably consistent in showing that most families leave welfare for work, only a minority return to the welfare rolls, and rates of post-exit foster care entry are low. However, our results, combined with those from other recent leavers studies, demonstrate that later leavers are experiencing more difficulty, including problems which can culminate in substantiated or indicated child abuse and neglect. Thus, at a time when the reauthorization of TANF is being debated, it is critical that we not limit our focus to the initial successes of caseload decline and positive research findings for early leavers, but also take into account the needs and realities of families transitioning from TANF today.

While the results presented here indicate an increased risk of substantiated or indicated child abuse and neglect investigations among later welfare leavers, they also demonstrate that the strongest single predictor of post-exit risk is a history of child welfare involvement. Together these results suggest that policy makers, program managers, and front-line staff may wish to pay particular attention to those families with a child welfare history who are exiting the rolls in the later years of reform. These families may need extra supports and services in order to safely and successfully make the transition from welfare to work and to insure the safety and well-being of their children.

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