

Housing Problems Experienced by Recipients of Child Welfare Services

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This study uses data on the experiences of families involved with child welfare services to examine the nature of housing problems and needs among these families and whether housing status affects case outcomes. First, the article describes the housing difficulties faced by two distinct child welfare service populations: families receiving voluntary in-home services and families with children in court-ordered out-of-home care. Second, the study demonstrates the relationship between housing problems and the likelihood of family reunification for children in out-of-home care. The findings have implications for the delivery of child welfare services and the provision of housing assistance to low-income families with children.

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Poverty is a well-documented risk factor for family involvement with child protective services and other elements of the child welfare system. This is partly because people are more likely to report poor families than affluent ones to child welfare authorities, but problems caused by poverty are also associated with a higher real incidence of various forms of child maltreatment (Sedlak & Broadhurst, 1996). Housing problems are both corollaries of poverty and threats to child and family well-being, yet child welfare research has a spotty record of including housing variables in analyses of case progress and case outcomes. This gap may be increasingly problematic given what many observers have termed a developing crisis in access to adequate housing on the part of low- and middle-income families.

The National Low Income Housing Coalition (NLIHC, 2003) uses the term *housing wage* to describe earnings needed by workers in varying-size households to afford adequate housing while keeping the cost to no more than 30% of gross income. In a 2003 report, NLIHC noted that nationally in 2003, the housing wage was \$15.21 per hour, or more than one-third higher than only four years earlier. At this level, no household in the bottom fifth of annual earnings could afford a two-bedroom home at fair-market rental rates in any state in the country. In addition, a report by the Joint Center for Housing Studies (2003) at Harvard University noted that "between 1997 and 2001, the number of lower-middle and middle-income households spending more than half their incomes on housing surged by more than 700,000" (p. 7).

According to the NLIHC (2003) report, the housing wage in 2003 was more than three times the minimum wage in 11 states, and many poor families struggled with steady access to even minimum-wage jobs. In addition, only 34% of households in the lowest fifth of annual income levels received any form of government housing assistance in 2001, and "the already scarce supply of smaller, less costly housing is shrinking, with especially sharp losses among two- to four-unit apartment buildings" (Joint Center for Housing Studies, 2003, p. 7).

Also of potential concern to child welfare agencies is the issue of high residential mobility. Moves are common in low-income families because of pressures to share housing, be near family members, be near temporary employment, and avoid creditors, among other factors (Crowley, 2003). Considerable evidence suggests, however, that rapid mobility can adversely affect child well-being, especially in poor families that suffer from disrupted access to social and material supports caused by frequent moves and that lack resources that might buffer the effects of these disruptions on their children (Scanlon & Devine, 2001). Residential instability also increases the difficulties service providers face in maintaining service continuity.

Few studies have addressed issues such as the nature of housing problems and needs among families involved with the child welfare system, whether housing variables are associated with the likelihood of system involvement, and whether the provision of housing-related services affects case outcomes. This study is intended to help further clarify the importance of housing problems among families receiving child welfare services. First, this article describes the housing status of two distinct child welfare service populations: families receiving voluntary in-home services and families with one or more children in court-ordered out-of-home care. Second, it analyzes the relationship between housing problems and the likelihood of family reunification for children in out-of-home care.

Literature Review

Housing Problems and Child Welfare System Involvement

Housing issues manifest themselves in different ways and to various degrees. The most serious housing problem is homelessness, of course, and researchers have linked this to various forms of involvement with child welfare services. Culhane, Webb, Grim, Metraux, and Culhane (2003) examined a cohort of women who

gave birth within a one-year period from 1993 to 1994 in Philadelphia. Combining birth, housing, and child welfare records, they analyzed the risk to the women's children of involvement in child welfare services across three groups: (1) those who had made requests to stay in public homeless shelters since the child's birth, (2) those with no shelter requests but whose addresses indicated residence in low-income areas, and (3) a reference group of those who met neither of the first two criteria.

Culhane et al.'s (2003) results indicated that ever-homeless women had a 6.89 times greater risk of involvement with the child welfare system than did those in the reference group, whereas those in the low-income but never-homeless group had only a 1.52 times greater risk for system involvement. With respect to placement of one or more children in out-of-home care, the risk for ever-homeless women rose to 8.82 times that of reference-group women, whereas low-income, never-homeless women had only a 1.59 times greater risk of having a child placed.

A study in Britain found a similar relationship between involvement in the child welfare system and problems relating to income and housing (Sidebotham, Heron, Golding, & ALSPAC Study Team, 2002). Families in which the primary adult wage earner was unemployed were 2.33 times more likely to be involved in the system than were others, but those with housing and income problems severe enough to necessitate placement in public housing were 7.65 times likelier to have system involvement—more than three times the risk associated with parental unemployment. In addition, families in overcrowded housing had a risk factor for child welfare system involvement 2.16 times greater than others.

Other studies have also documented an increased risk of out-of-home placement for children of families who experience homelessness. In a study of families in Massachusetts, those living in homeless shelters had almost double the incidence of placement of children in out-of-home-care (19% versus 8%) compared with

those in a sample of similarly low-income housed families (Bassuk, Weinreb, Dawson, Perloff, & Buckner, 1997). Workers were significantly more likely to have investigated children in the homeless sample for alleged maltreatment. Similar results were found in a study of 543 low-income families, of whom 251 had at least one spell of homelessness within the past five years (Cowal, Shinn, Weitzman, Stojanovic, & Labay, 2002). Mothers who had experienced homelessness were more than five times likelier to have one or more children placed in out-of-home care than never-homeless mothers.

Housing problems short of actual homelessness may also be associated with elevated risk of system involvement. In an evaluation of a Massachusetts program to prevent the need for protective services, Kowal et al. (1989) identified housing difficulties in 30% of families identified as high risk for case opening. Shook (1999), in a study of families receiving welfare benefits in Chicago, found that sample members who had been sanctioned for some failure of compliance with eligibility requirements "were more likely to experience child welfare involvement if they lived in subsidized housing at the onset of the study period" (p. 803).

Housing Problems and Family Preservation

During the past 15 to 20 years, planners have developed many programs throughout the country to provide intensive family preservation services to avoid the occurrence of out-of-home placements in families reported for child safety concerns. Given the apparent link between housing problems and risk of system involvement, one would expect that evaluative studies conducted with family preservation programs would report results regarding the effect of housing-related services in these programs. Few studies have done so, however, and, as Stiffman, Staudt, and Baker (1996) noted, "Important feedback concerning the impact of particular forms of services or the appropriateness for particular kinds of clients is still largely unavailable" (p. 57).

One exception is Illinois's Family First program, one of the largest and most extensively documented family preservation efforts. In a report using data from their evaluation of the program, Littell and Schuerman (2002) analyzed a sample of 1,911 families, which they divided into five groups based on the primary presenting problem. Families in one of these groups were those in which the referring caseworker identified "homelessness, overcrowding, or dangerous housing conditions" (p. 683).

Members of this group tended to be African American, young in terms of both child and parental ages, single-parent-headed, and likely to have entered the system due to child neglect rather than abuse. About one-fifth also had problems with cocaine use in the family. Results showed that these families were more likely than those in the other groups to receive concrete services and additional worker contact time, but neither these services nor the presenting problems of the families differentiated them in multivariate outcome analyses. As Littell and Schuerman noted, "Caseworkers lament the fact that inadequate housing is an increasingly common and thorny problem in child welfare cases...but families with housing problems are not a distinct group" for which particular interventions can be linked to specific outcomes (p. 691).

In one of the few other studies to examine the housing variable, Stiffman et al. (1996) reviewed records of 143 families from two family preservation programs in the St. Louis, Missouri, area. Their results were inconclusive because data on housing adequacy were unavailable for almost half the sample, and families with identified housing problems were too small in number to analyze effectively. Perhaps tellingly, however, Stiffman et al. mentioned that "approximately one-third of those who had inadequate housing or who lack housing had a child placed [in out-of-home care]" (p. 63).

Researchers have also assessed the success of preventive services using the rate of recurrence of substantiated maltreatment allegations following completion of services as an outcome mea-

sure. Levy, Markovic, Chaudhry, Ahart, and Torres (1995) examined factors affecting this rate in a study of 304 children served by a hospital-based abuse prevention program. Quality of housing on the part of the children's family was included as one of the factors addressed, and the results indicated that "reabuse occurred more frequently when...children were residents of public housing/apartments versus single family dwellings," although the magnitude of this relationship was not statistically significant (p. 1375).

Housing Issues and Family Reunification

In cases in which out-of-home placement cannot be prevented, the most common case plan is the timely reunification of the child with his or her family once the family has addressed safety concerns in the home. Considerable research has focused on factors associated with successful reunification, but many of the most comprehensive studies have not included housing in the list of variables examined (Courtney, 1993; Davis, Landsverk, & Newton, 1997; Goerge, 1990; Wells & Guo, 1999).

An ambitious effort in Utah, the Family Reunification Project, featured an array of intensive in-home services offered to parents of children in out-of-home care, and Walton (1998) noted that "concrete needs for food, housing, [and] employment" were among the problems addressed (p. 206). Results indicated that families in the treatment group were significantly more likely to achieve desirable outcomes (e.g., more child days in the home following reunification, reduced supervision by the child welfare agency, etc.) than those in the control group (Fraser, Walton, Lewis, Pecora, & Walton, 1996; Walton, 1998), but in an article that attempted to measure the effect of specific components of the project, housing-related interventions were not included in the list of services whose effects were isolated (Lewis, Walton, & Fraser, 1995). Similarly, Fein and Staff (1993), in their report of a successful New England reunification program, noted the frequency of housing problems as a barrier to the child's return, but

did not link services to address these problems with completed reunifications.

One study of reunification efforts that addressed housing problems was a project by Jones (1998) that examined case-record data on 445 children in out-of-home care in San Diego County, California, who were reunited with their parents. Analyses compared children who were re-referred for alleged maltreatment within nine months following reunification with those not re-referred. The study found inadequate housing at the time the child was originally removed from the home to be a statistically significant predictor of re-referral. Also, housing problems were significantly associated with an increased risk for unsuccessful reunifications, in which the child re-entered out-of-home care within nine months after returning home. These associations persisted for both re-referral and reentry even when holding constant the effects of other predictive factors in a multivariate model.

Hoffman and Rosenheck (2001) examined factors associated with child separation and reunification among 1,542 mothers sampled from participants in an 18-site program for homeless people with mental illnesses in the Northeast. Not quite half (698) of the women in the sample were separated from their children when baseline measurements were taken, and mothers with children placed out of their care were significantly less likely to have received housing assistance than those whose children remained with them. At the time of follow-up observations one year later, about one-fifth of the women (118) had been reunited with their children. Controlling for other variables in the model, including factors that had been predictive of separation at baseline, receipt of housing assistance was found to be significantly predictive of reunification at follow-up. Finally, in a qualitative study of 14 families in which reunification had lasted at least six months, Kauffman (1997) found that adults in the family singled out housing assistance as one of the services they perceived to be most useful for enabling and maintaining the reunification.

Available research thus suggests a meaningful link between housing problems, including homelessness, and involvement in the child welfare system or the likelihood of achieving desirable outcomes from preventive and reunification services. Little is known, however, of the exact nature of this relationship or the degree of problems families face in trying to obtain and keep housing. This study turns now to an empirical analysis of the nature and magnitude of housing problems among families receiving child welfare services and the effect of housing problems on the likelihood of family reunification for children placed in out-of-home care.*

Method

Sample

Participants in this study were, as of the date of selection, residents of Milwaukee County, Wisconsin, and all were clients of the Bureau of Milwaukee Child Welfare, the state entity responsible for child welfare services in the county. Participants were served by one of the bureau's two main programs operating out of five sites in the county: safety services or ongoing services. Workers offer safety services to families having a substantiated referral for some form of child maltreatment. The program is voluntary, generally lasts from three to five months, and consists of intensive in-home family-support services designed to strengthen the family, reduce risks to children, and prevent out-of-home placements. Workers provide ongoing services to children in out-

* The description of housing problems facing families receiving child welfare services extends to the entire population (i.e., those receiving in-home services and those with children in out-of-home care). In contrast, the multivariate analysis is restricted to families with children in care. This restriction reflects the fact that the case status outcomes of interest for an in-home services population (e.g., repeated child maltreatment or placement of a child in out-of-home care) are distinct from the outcomes of interest for an in-home service population. Analysis of these outcomes requires different analytic models than the one the authors use to study family reunification. These methods and the results of the analysis of predictors of outcomes of in-home services will be reported elsewhere.

of-home care and their families. They are intended to facilitate reunification of the child with the family, or, if that cannot be achieved, to achieve alternative permanent placements.

The researchers included 100 cases from each of the five sites in the safety services sample and another 100 cases from each site in the ongoing services sample, totaling 500 from each type of service. They took cases into each sample as they opened for services, beginning in late 2000, and reached the desired sample size after 10 months in safety services and after 22 months in ongoing services. The researchers excluded cases from the safety services sample if they were closed in less than 30 days. Exclusions occurred in the ongoing services sample if the original reason for placement involved a voluntary rather than court-ordered placement or if the target child remained in out-of-home care less than 30 days. After completion of the sample selection process, a small number of cases in each group did not meet these criteria. When they were dropped, the final sample size was 480 cases in safety services and 494 in the ongoing services sample.

For families in the safety services sample that had more than one child, the researchers selected a target child at random from among all children in each household. In ongoing service cases in which more than one child from a family was placed in out-of-home care, the researchers used a similar random selection procedure to identify a target child from among all those removed.

Data Sources

The researchers gathered data on cases in each sample from three sources:

- surveys completed by the principal caseworker or, in about 8% of cases, the attending supervisor;
- telephone or in-person interviews with the parent or other adult in the home identified as the primary child caregiver; and
- records contained in the state's computerized case-information system.

Workers and primary caregivers completed surveys in both groups at two time points. Time 1 surveys occurred within 30 days of case opening, and Time 2 surveys occurred within 30 days of case closure or, for ongoing services cases in which out-of-home care was continuing, within 30 days of the one-year anniversary of the child's original placement.

For the safety services sample, completion rates for the case manager surveys were 93.8% (450 surveys) at Time 1 and 85.6% (411 surveys) at Time 2. For ongoing services, worker survey completion rates were 85.6% (423 surveys) at Time 1 and 93.7% (463 surveys) at Time 2. Workers completed all surveys using an online form.

Workers identified an adult as the primary caregiver in the home at the time of case opening and informed him or her of the study by a handout, which was distributed by workers and also sent by surface mail. Participation was voluntary, and results were kept confidential and deidentified after completion of Time 2 data collection. The researchers conducted initial contacts as well as the interviews themselves by telephone, unless they could not reach the respondent by phone or the respondent preferred an in-person interview. After obtaining informed consent and a completed survey, the researchers paid respondents \$25 for Time 1 interviews and another \$25 at Time 2.

For the purposes of the description of housing problems among families receiving child welfare services and the examination of the predictors of family reunification, the authors have restricted their analyses to those caregivers whom they were able to interview, because detailed information on a variety of caregiver and child characteristics was only available from caregivers. The response rate for the survey of caregivers receiving safety services was 67.5% (324 of 480 families). In contrast, the researchers interviewed 58.5% of the overall sample of caregivers receiving ongoing services (289 of 494 families). A more accurate sense of the relevant survey response rate for the study

of family reunification, however, is gained by dropping from the sample those caregivers who were not interviewed because they were deceased, incarcerated, or otherwise institutionalized at the time of the study ($n = 12$), those who were no longer involved in the child's case because family reunification had been ruled out ($n = 17$), and those who did not speak English and could not participate in the interview ($n = 10$). Thus, the response rate for English-speaking caregivers who were able to engage in family reunification services provided by ongoing services agencies in Milwaukee was 63.5% (289 of 455).

Effect of Housing Problems on Family Reunification

Prevalence of Housing Problems

A first step in the study was to determine the prevalence of housing problems in the two populations under study. The researchers asked parents a series of questions about problems they might have experienced during the 12 months prior to their first interview shortly after they became involved with the bureau. Specifically, the researchers asked them if at any time in the previous 12 months they had (a) not had enough money to pay their rent or mortgage, (b) been evicted, (c) had to move in with family or friends, or (d) been homeless for at least one night, using the respondent's own definition of "homeless."

Table 1 shows the distribution of yes responses to these questions and whether the responses differed between the safety services and ongoing services populations. Housing-related problems are disturbingly common for both populations, but generally are much more common for parents whose children have been placed in out-of-home care than for those receiving in-home services. Parents whose children have been removed were almost twice as likely as parents receiving in-home safety services to have been evicted, almost twice as likely to have been doubled up in housing with family or friends, and nearly three times as likely to

TABLE 1

Comparison of Housing-Related Problems Experienced in the Prior 12 Months by Families Served by Safety or Ongoing Services in Milwaukee County

<i>Housing-Related Problem</i>	<i>Safety Services</i> (n = 324)		<i>Ongoing Services</i> (n = 289)	
	n	Percentage	n	Percentage
Not enough money for rent or mortgage	131	40.4	132	45.7
Evicted***	44	13.6	75	26.0
Had to move in with family or friends***	70	21.6	121	41.9
Homeless***	33	10.2	84	29.1

*** $p < .01$.

have been homeless. Interestingly, similar percentages of both groups reported not having enough money to pay the rent or mortgage.

Extent of Family Reunification

In addition to data from parents, the authors also collected data from case managers on permanency outcomes for children one year after they had been placed in out-of-home care. A total of 336 children (68.0%) remained in care after one year, whereas 118 (23.9%) had been reunified with their parents, 25 (5.1%) had been adopted or discharged to a legal guardian, and the remaining 15 (3.0%) had exited care for other reasons. Among the 289 caregivers the researchers were able to interview, 77 (26.6%) reported that the target child in their family had been reunified with them within one year of entering care.

Preliminary analysis of the relationship between housing problems and the likelihood of family reunification for this sample showed that the measures of housing problems were highly correlated (e.g., those who reported having been evicted were also very likely to report having been homeless). This made inclusion of more than one of these measures in the model inappropriate, and subsequent analyses showed that homelessness was the best predictor of reunification. Therefore, the authors decided

to include self-reported homelessness in the past year as the sole housing-problem variable in the multivariate model.

Key Characteristics of Children and Families

To determine the unique contribution of housing problems to the likelihood of family reunification, the researchers needed to identify and control for a variety of indicators of family and child functioning that prior research has found to be related to family reunification. Although these variables are not the focus of this study, housing problems may simply be a proxy for other problems faced by families involved with child welfare services. Table 2 provides descriptive statistics on the variables used in the multivariate model for the sample included in the analysis of predictors of family reunification ($n = 289$). Each of these domains of variables are described in the following.

Parent Demographics and Family Structure. Table 2 shows that most of the primary caregivers of these children are in their 20s or 30s, are nearly always female, and are predominantly African American. Most of these families ($n = 206$; 71.3%) have self-reported incomes below the federal poverty line, and many are living in extreme poverty. Half of the parents do not have a high school diploma or general equivalency degree. In about half of these homes, an adult other than the primary caregiver provides some child care. The families are fairly large, with an average of more than three children per family.

Parent Health and Disability. The researchers focused on disabilities and behavioral health, including substance abuse and mental health problems. More than one-fourth of primary caregivers reported that they had a disability that interfered with their ability to carry out activities of daily living. The key measure of mental or behavioral health disorders, the CIDI-Short Form (CIDI-SF), is an abbreviated version of the World Health Organization's Composite International Diagnostic Interview. The researchers used four "modules" of the interview to screen caregivers for major depression, anxiety, and alcohol and drug disorders.

TABLE 2

Descriptive Statistics on Children in Out-of-Home Care in Milwaukee and Their Primary Caregivers (*n* = 289)

<i>Variable</i>	<i>Frequency</i>	<i>Percentage</i>	<i>M</i>	<i>SD</i>
<i>Parent/Family Demographics</i>				
Primary caregiver's age (in years)			31.95	9.95
Primary caregiver is female	283	97.9		
African American	178	61.6		
White	79	27.3		
Hispanic	20	6.9		
Other race/ethnicity	13	4.5		
Parental income (in thousands of dollars)			11.60	12.30
Secondary caregiver in the home	148	51.2		
Number of children in the home			3.56	2.34
<i>Parenting/Parent Health and Disability</i>				
Has a disability	75	26.0		
High likelihood of alcohol/drugs (CIDI)	48	16.6		
High likelihood of affective disorder (CIDI)	103	35.6		
Parent neglected child (CTS)	90	31.1		
Parent physically aggressive				
against child (moderate; CTS)	23	8.0		
Parent sexually abused child (CTS)	9	3.1		
Psychological aggression (severe; CTS)	91	31.5		
Parental stress			1.91	0.99
Parental disposition				
(CWBS; from case manager survey)			71.11	15.73
Child or sibling previously in				
out-of-home care	74	25.6		
<i>Environmental Supports</i>				
Positive social support			1.77	0.66
Years lived in neighborhood			3.21	5.90
Rating of neighborhood			3.29	0.92
Ever homeless in the past 12 months	86	29.3		
<i>Child Characteristics</i>				
Target child's age			7.10	5.75
Target child is female	151	52.2		
Target child has a disability	57	19.7		
Child social development (percentile)		57.78	35.27	
Child Behavior Checklist percentile			56.74	35.35
Motor and social development percentile			32.18	35.18

Note: CIDI = Composite International Diagnostic Interview; CTS = Conflict Tactics Scale; CWBS = Child Well-Being Scales.

From the depression section of CIDI-SF, each respondent receives a score indicating the probability that completion of the full CIDI measure would lead to a diagnosis of depression, expressed as a probability of the respondent being a "CIDI case." CIDI-SF provides a direct diagnosis of generalized anxiety disorder. Table 2 shows that more than one-third of the caregivers in our sample had a high probability (.8 or greater) of having experienced an affective disorder (i.e., depression or generalized anxiety disorder).

CIDI-SF also assesses the likelihood that a respondent would receive a diagnosis of alcohol or drug dependence. Table 2 shows that about one-sixth of the caregivers had at least a very high likelihood (.75 or greater) of being alcohol or drug dependent. These results most likely provide a lower-bound estimate of substance dependence in this population, because many respondents may not be completely forthcoming about their substance use and abuse.

Parenting. The researchers collected a variety of data from caregivers on parenting. The Parent-Child Conflict Tactics Scale is designed to measure parent reports of specific instances of psychological aggression, physical aggression, or neglect (Straus, Hamby, Boney-McCoy, & Sugarman, 1996). It also asks parents if their child has been sexually abused, although it does not ask if the parent was the perpetrator. Table 2 shows the percentage of parents whom the scale classified by their self-report as physically abusive, neglectful, or severely psychologically abusive, as well as whether they reported that the child had been sexually abused. Some caregivers may have been reluctant to provide responses that would cast them in a negative light, so the percentages in the table should be seen as a lower-bound estimates of abuse and neglect. One indication that caregivers may not have answered candidly is that those interviewed by telephone reported more abusive behavior than those interviewed in person.

The researchers also administered a modified version of a measure of parenting stress that several other studies of low-income populations have used (Quint, Bos, & Polit, 1997). The scale assesses the extent to which the parent feels troubled by various aspects of parenting, with higher scores on the scale indicating greater parental stress associated with caring for a particular child.

To assess the overall quality of parental functioning, case managers responded to selected items from the Child Well-Being Scales (CWBS; Magura and Moses, 1986). Researchers designed CWBS specifically for use in child welfare services as a means of both initial assessment and monitoring of progress over time. Response options vary from scale to scale, ranging from three to six categories. This analysis used 14 of the original CWBS scales that comprise an overall measure that Magura and Moses (1986) referred to as "Parental Disposition" (14 items focusing on parenting skills, disabilities, problem recognition, motivation, and the primary caregiver's relationship to the target child). Higher scores are indicative of poorer parental functioning.

About one-quarter of the families had previously had a child placed in out-of-home care. The researchers included this variable in our model as a proxy for past parenting problems.

Environmental Supports. Because environmental supports may affect the likelihood that parents will regain custody of their children, the researchers included some indicators of these supports in the model (see Table 2). The Medical Outcomes Study Social Support Survey (Sherbourne & Stewart, 1991) is a brief, multidimensional measure containing four functional support scales: emotional/informational, tangible, affectionate, and positive social interaction. The study asked parents to indicate on a five-point, Likert-type scale how often each type of support was available to them (1 = *none of the time*, 5 = *all of the time*). The mean of 1.77 shown in Table 2 suggests that perceived levels of functional support for these parents are low.

Each family's neighborhood is another potential source of environmental support. The study asked caregivers to assess their neighborhoods on three dimensions. The first, cohesiveness, indicated how much caregivers believed they could rely on other people in the neighborhood to help to raise their children and the extent to which the neighborhood offered positive role models for children. The second, negative effects, measured issues such as whether neighbors often asked too much and whether neighbors tended to take advantage if the respondent was too friendly. A third, overall neighborhood rating dimension combined elements such as barriers to services, extent to which the neighborhood was seen as a good place for children, and whether it was considered a safe place to live. Scores ranged from zero to five, with higher scores indicating more negative attitudes toward the neighborhood. Table 2 shows that the caregivers had generally negative views of their neighborhoods.

Child Characteristics. Table 2 shows that the children in these families were, on average, fairly young and were about evenly divided by gender. About one-fifth of the children were reported by their caregivers to have one or more disabilities.

Because child functioning has been shown to be related to the likelihood of family reunification, our multivariate model includes a "hybrid" parental self-report measure of child development and behavior created from scores of two different measures for children in two age ranges. The first, a measure of physical and cognitive development of young children from birth through age 3, was the Motor and Social Development scale (MSD). The researchers derived items in the scale from several existing measures of child development, including the Bayley, Gessel, and Denver Development scales, and national norms are available from the 1981 Child Health Supplement to the National Health Interview Survey. The researchers used the second measure, the Achenbach Child Behavior Checklist (CBCL), to assess problem behaviors among children older than 3. CBCL asks re-

spondents (parents or other individuals who know the child well) to rate how frequently a child exhibits problem behaviors. Although CBCL can assess problem behavior across several dimensions, the authors used the Total Problems score for the analyses reported here, with higher scores indicating more problematic behavior.

The researchers converted scores from both child functioning measures into percentile ranks to provide a common metric for assessing child functioning across age ranges. Scores less than the 50th percentile on MSD indicate children with less than normal development, whereas those greater than the 50th percentile on CBCL indicate children with greater than normal behavior problems. Results in Table 2 indicate that very young children in the sample are behind in terms of motor and social development, whereas older children exhibit more behavior problems than average.*

Analytic Model

The researchers used a piecewise linear spline hazard model to estimate the relationship between parent and child characteristics (including homelessness) and the likelihood of family reunification for the 289 target children in out-of-home care whose families were receiving ongoing services in Milwaukee County (Wu, 2001). The model estimates the effect of explanatory variables on the likelihood that a child in the sample will exit care via family reunification at any given time during the study period, given that the child has not yet exited for another reason. This method takes into account that some children exited care faster than others, and many children remained in care beyond the observation period (one year after placement), but that we do not know what happened to them after that point in time. Appendix A provides

* For the multivariate model, the authors reversed the scoring of the motor and social development measure for the purpose of combining it with Child Behavior Checklist scores of older children. Thus, in the model, higher scores imply lower child functioning.

a description of the piecewise linear spline hazard model and a justification for its use in the study.

Factors Associated with Reunification

Table 3 shows the findings of the multivariate statistical model of family reunification. The parameter estimates show the relationship between each variable and the child's likelihood of being reunified with family, while controlling for the effects of the other variables.* Numbers in the odds ratio (OR) column vary around a value of one, with a value of one signifying that a variable has no effect on the estimated reunification rate. OR values greater than one indicate that a variable increases the likelihood of family reunification, whereas values less than one suggest the opposite. When subtracted from one and multiplied by 100, ORs indicate the percentage by which the likelihood of reunification is increased or decreased by a unit change in each variable listed.

It should be noted that the measure of social support in the model used standardized values.** In these cases, OR refers to the change in likelihood of reunification associated with a change of one standard deviation in the measure of social support. For some categorical variables such as gender or race/ethnicity, the researchers have chosen one category as the reference group, and the parameter estimate shows the effect of being in another category compared with the reference group. With respect to gender, for example, males are used as the reference group, whereas white is the category against which cases from other racial or ethnic groups are compared (as indicated in parentheses). Values in the *p* column at the far right of the table show the probability that a result equal to or greater than that shown could have occurred

* Preliminary analyses showed parental age to be correlated with other variables in the model, but not related to family reunification, so the authors dropped the age variable from the multivariate model.

** A standardized score is a measure of "relative standing" in a group computed by transforming raw scores or values in such a way as to allow comparison across groups. For standardized variables, Table 3 shows the effect of a change of one standard deviation in the value of the variable on the hazard of reunification. Parental income was also transformed prior to entry into the model. The authors used the natural logarithm of the ratio of parental income to the federal poverty level for the family, based on family size.

TABLE 3
Hazard Model of Family Reunification

<i>Variable</i>	<i>Odds Ratio</i>	<i>p Value</i>
<i>Parent/Family Demographics</i>		
Gender (vs. male)	0.719	0.725
Race/ethnicity (vs. white)		
African American	1.048	0.870
Other race/ethnicity (mostly Latino)	1.014	0.977
Parental income (needs-adjusted)	1.086	0.361
Secondary caregiver in the home	0.880	0.645
Number of children in household and in out-of-home care	0.958	0.561
<i>Parenting/Parent Health and Disability</i>		
Caregiver disabled	0.765	0.465
Affective disorder	1.136	0.690
Substance abuse disorder	0.916	0.830
Conflict Tactics Scales		
Neglect of child	**0.427	0.011
Sexual abuse of child	2.330	0.189
Physical aggression against child (moderate)	0.361	0.164
Psychological aggression against child (severe)	**1.987	0.045
Parenting stress score ^a	0.908	0.610
Child Well-Being Scale Parental Disposition percentile score	***1.048	0.000
Prior out-of-home care on the part of any child	1.036	0.911
<i>Environmental Supports</i>		
Social support (positive aspects) ^a	1.185	0.237
Caregiver rating of quality of neighborhood	*1.309	0.075
Years in neighborhood	1.009	0.698
Ever homeless in the past 12 months	**0.537	0.047
<i>Child Characteristics</i>		
Age	1.022	0.438
Gender (vs. male)	1.185	0.553
Presence of a disability	1.446	0.359
Child Behavior Checklist Motor and Social Development percentile score	*0.992	0.066
<i>n = 289</i>		
<i>Events = 77</i>		

^a Variable has been standardized.

* $p \leq .1$. ** $p \leq .05$. *** $p \leq .01$.

by chance alone. The following discusses effects that are statistically significant at $p < .10$.

With regard to findings about the effect of homelessness on family reunification, OR for a caregiver report of an episode of homelessness in the 12 months prior to the first interview is 0.537. Subtracting this from one and multiplying it by 100 yields a value of 46.3. This means, all else being equal, that children in the ongoing services sample whose caregivers reported homelessness episodes in the previous year exited care to family reunification at a rate that was 46.3% lower than that of children whose caregivers did not report a recent episode of homelessness.

Five other variables were statistically significant predictors of family reunification at $p < .1$ or lower, with all but one exhibiting the expected relationship. OR for the CWBS Parental Disposition composite scale is 1.048, meaning that each one-unit increase in the case manager's rating of caregivers' functioning increased the predicted likelihood of reunification by 4.8%. A one-standard deviation increase in CWBS increases the OR for family reunification by a factor of 2.12. On the Parent-Child version of the Conflict Tactics Scale, responses by caregivers that indicated the presence of neglectful behaviors in the home were associated with an estimated 57.3% decrease in the reunification rate, whereas the presence of severe psychological aggression was associated with a 98.7% increase in the likelihood of reunification.

This latter result is a counterintuitive finding for which the authors have no explanation, only speculation that in some way psychological aggression may be more amenable to ameliorative services or less a barrier to reunification than other problems. Finally, increased caregiver ratings of the quality of their neighborhoods (which may relate to housing to some degree) corresponded to increased rates of reunification, whereas lower child functioning, as measured by percentile scores from the CBCL and MSD scales, was associated with lower reunification rates. Both of these effects, however, were only marginally statistically significant.

Discussion

This study of families involved with Milwaukee's child welfare system provides support for the belief that child welfare agencies should pay more attention to the housing needs of their clients. The examination of housing problems among a population receiving child welfare services confirms prior research about the frequency with which families struggling to parent also struggle to maintain stable housing. Housing problems were common among both the families that were referred for in-home safety services and those whose children were placed in out-of-home care, although the latter group experienced more problems.

Lack of housing *per se* is not grounds for placing a child in out-of-home care in Milwaukee. Moreover, the data do not provide any direct evidence that housing played a role in either the child maltreatment that led both of these groups of parents to be involved with the child welfare authorities in Milwaukee, or for the parents involved with ongoing services to have had their children placed in out-of-home care. Nevertheless, the level of housing problems reported by these parents, as shown in Table 1, particularly those whose children have been removed, calls into question the effectiveness of either family preservation or family reunification services that are not designed to assist families in finding and maintaining stable and adequate housing.

The researchers are not yet able to assess whether housing problems are predictive of child placement among families provided in-home family preservation services, because to date, the sample has experienced too few child placements to allow them to estimate predictive models; however, the fact that families whose children had been removed experienced much higher rates of homelessness in the year prior to becoming involved with the child welfare agency than those who were provided in-home supports suggests that severity of housing problems may distinguish families whose children require placement from those that do not.

The findings with respect to predictors of family reunification are clearer: Homelessness in the year prior to having a child placed cut a family's chance of regaining custody of a child by almost half, even after controlling for a variety of other measures of parent and child functioning.

This study has its limitations, which should be taken into account. Response rates, although consistent with the best research on these difficult-to-engage populations, are still less than ideal. The authors do not know how frequently the families they did not interview experience housing problems, but they do know that the reunification rate at one year for these families was lower (20%) than it was for the families in the sample. Thus, the families that the study missed are likely worse off than those it found. This sample is restricted to Milwaukee, and housing problems may be more or less related to child welfare case status outcomes in other jurisdictions.

Perhaps most important, the measures of housing problems are retrospective in nature and may not be good proxies for the experiences of families after their children are placed. In the future, the researchers hope to use data from follow-up interviews with parents of children placed in out-of-home care to get a better sense of how housing problems change over time for this population. In spite of these limitations, the authors believe that the data provide strong evidence that housing problems plague the population that comes to the attention of child welfare agencies and that these problems ought to be a continuing focus of services and supports for this population.

Indeed, additional data from these surveys suggest that caregivers see housing as a major source of concern, but that child welfare workers are less attentive to this concern. The authors asked both case managers and parents and caregivers about caregivers' perceived needs. Case managers reported that families needed help finding housing less than one-third of the time (26.7% of safety service cases and 31.7% of ongoing services cases).

In contrast, nearly half of caregivers (46%) receiving in-home safety services reported that they needed help finding a place to live, as did nearly three-fifths of caregivers (58.5%) receiving ongoing services pursuant to having a child placed.* Nearly identical percentages of both groups (47.5% for safety services and 47.6% for ongoing services) reported that they needed help with repairs or maintenance of their current dwellings. Of the caregivers in the ongoing service group who had a need for housing assistance as indicated by self-report or case manager's assessment, only 21.2% were actually provided such help or referred to housing services by the case manager.

The data cannot speak to the reasons for this mismatch between parents' expressed needs for housing assistance and case managers' perceptions and actions. Perhaps child welfare workers in Milwaukee are more focused on parental functioning and less attentive to concrete needs such as housing because of the principles guiding agency practice and the workers' education and training. Alternatively, workers may simply not be in a position to provide assistance with housing due to a lack of resources. If this is true, they may tend to ignore housing as a problem rather than deal with the cognitive dissonance caused by the recognition that they cannot help their clients with this important need. It is also far from clear that child welfare agencies should be seen as a primary housing resource for families. Families should not need to become involved with child protection authorities to obtain housing that allows them to safely care for their children.

Nevertheless, the fact that housing needs are so common among families coming to the attention of child welfare authorities and appear to be related to the desired outcomes of the child welfare system is good reason for the child welfare field to pay more attention to housing. Family assessment protocols should take housing into account. Child welfare workers should be aware

* These percentage differences between worker reports and parent self-reports of parental difficulty finding housing are statistically significant at $p < .05$.

of the various forms of housing assistance that might be available to their clients. Last, child welfare agencies should develop partnerships with other institutions, such as public welfare departments and public housing authorities. These kinds of partnerships are essential to ensuring that families have priority access to housing assistance when such access can allow families to continue to be a safe place for their children.

Appendix A: Description of the Piecewise Linear Spline Hazard Model

When modeling relationships between hypothesized predictors and the occurrence of an outcome like family reunification—for which the timing of the event under study is of substantive interest—it is generally recommended that the response variable be specified as the rate of event occurrence over time among those participants who remain eligible for or at risk of experiencing the event in question. More formally, this rate, which is called the *hazard rate*, represents the instantaneous rate of event occurrence at each point in time, conditional on that event having not yet occurred (Tuma & Hannan, 1984):

$$h(t) = \lim_{\Delta t \rightarrow 0^+} \frac{P(t < T < t + \Delta t \mid T > t)}{\Delta t}.$$

Although many ways to model the relationship between the hazard rate and covariates exist, many social scientists, including child welfare researchers, have made extensive use of the Cox proportional hazards model. Because of the manner in which the Cox model is specified (i.e., proportional hazards akin to an OR in logistic regression) and the way in which its likelihood function is expressed, it does not require the imposition of a specific parametric form for the underlying hazard rate, which makes it ideal for modeling phenomena with irregular or unknown baseline hazards.

Use of the Cox model does, however, require that a limited number of cases in the data have identical event durations. In situations in which the number of tied event durations are mod-

erate, researchers have developed several modifications to the likelihood of the Cox model that permit its use in the presence of ties (e.g., Breslow and Efron approximations). In the current study, however, because (a) the maximum observation period (one year) was defined to be equal across all participants and (b) only a minority of participants (27%) experienced reunification prior to the end of the observation period, the number of tied events (30% of subjects) is too large to be accommodated by any available method (Hertz-Picciotto & Rockhill, 1997).

In such cases, researchers can model hazard rates by using parametric continuous time models. To avoid having to impose a restrictive parametric form on the baseline hazard that such an approach would entail, however, the authors took an alternate approach suggested by Wu (2001) and others, and modeled the relationship between reunification and various hypothesized predictors using a piecewise linear spline hazard model.

As its name suggests, the piecewise linear spline hazard model is specified as a discrete-time model. In the case of a standard discrete-time model, the log of the baseline hazard rate, $\log h_0(t)$, is defined over a set of discrete time periods, $(0, \tau_1], (\tau_1, \tau_2], \dots, (\tau_{P-1}, \infty]$, as a series of constants:

$$\log h_0(t) = \begin{cases} \lambda_1, & t \in (0, \tau_1], \\ \lambda_2, & t \in (\tau_1, \tau_2], \\ \dots & \\ \lambda_P, & t \in (\tau_{P-1}, \infty] \end{cases},$$

that can be modeled by defining P time-varying dichotomous variables (Yamaguchi, 1991). In the case of a piecewise linear spline hazard model, however, the log of the baseline hazard rate is defined by a series of expressions:

$$\log h_0(t) = \begin{cases} \lambda_1 + \gamma_1 t, & t \in (0, \tau_1], \\ \lambda_2 + \gamma_2 t, & t \in (\tau_1, \tau_2], \\ \dots & \\ \lambda_P + \gamma_P t, & t \in (\tau_{P-1}, \infty] \end{cases},$$

for which the following series of $P-1$ equality constraints apply (Wu, 2001):

$$\begin{aligned}
 \lambda_1 + \gamma_1 \tau_1 &= \lambda_2 + \gamma_2 \tau_1 \\
 \lambda_2 + \gamma_2 \tau_2 &= \lambda_3 + \gamma_3 \tau_2 \\
 &\dots \\
 \lambda_{p-1} + \gamma_{p-1} \tau_{p-1} &= \lambda_p \tau_{p-1}.
 \end{aligned}$$

In other words, the cumulative log baseline hazard rate in a piecewise linear spline model is defined as a continuous, albeit disjointed, function of time. Such a specification allows for a myriad of irregular functional forms for the baseline hazard function and hence, is well suited to modeling processes such as reunification.

In the current analysis, the authors modeled the hazard using logistic regression—that is, they modeled the log odds of the hazard. The interpretation of parameter estimates are, thus, not exactly the same as when using a Cox hazard model. Specifically, the coefficients in a Cox model can be transformed (by taking the antilog) into hazard ratios, whereas transforming the coefficients produced by a logit hazard model in a similar fashion yields ORs (Singer & Willet, 2003).♦

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