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Permanent housing for child welfare-involved families: Impact on child maltreatment

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Abstract

A longitudinal randomized controlled trial tested whether access to permanent housing reduces child maltreatment among inadequately housed families under investigation for child abuse and neglect. The study followed homeless and child welfare-involved families randomly assigned to receive a referral for housing subsidies plus housing case management ($n = 75$, 196 children) or housing case management alone ($n = 75$, 186 children). Latent growth models examined change in caregiver-reported frequencies of psychological aggression, physical abuse, and neglect toward children at five time points across 2.5 years. Intent-to-treat analyses suggested treatment differences for minor assault and neglect that approached significance; families randomly assigned to permanent housing plus case management exhibited marginally greater declines compared to families referred for housing case management only. Caregiver psychological aggression remained high over time, regardless of treatment condition. No evidence indicated higher risk families benefitted more from permanent housing. Results show some promise of permanent housing and highlight the complex needs of homeless families under investigation for child maltreatment. Findings emphasize the importance of continued involvement from the child welfare system to connect families with important resources.

Keywords

housing stability; child welfare; family homelessness; child maltreatment; longitudinal randomized controlled trial

Overview

A growing body of research connects family experiences of homelessness with parent-child separations (Cowal, Shinn, Weitzman, Stojanovic, & Labay, 2002; Fowler et al., 2013; Park, Metraux, Brodbar, & Culhane, 2004). Stress associated with securing adequate and affordable housing may consume caregiver attention and force difficult decisions regarding how to best provide for children in a context of scarcity (Fowler et al., 2014; Leventhal & Newman, 2010). Programs and policies currently focus on stabilizing housing to keep

homeless families together (Harburger & White, 2004; United States Interagency Council on Homelessness (USICH), 2010). However, few studies examine whether access to housing reduces child maltreatment among at-risk families. A need exists for rigorous research that tests assumptions of homeless services aimed at keeping homeless families together to improve programming and avoid unintended consequences. The present study uses an experiment with homeless families in the child welfare system to evaluate the impact of permanent housing on child maltreatment.

Theoretical Framework for Child Maltreatment Associated with Inadequate Housing

Evidence suggests homeless families experience disproportionate rates of formal and informal parent-child separations. Multiple studies of families using homeless shelters in large metropolitan areas estimate one-quarter subsequently lose children into foster care (Culhane, Webb, Grim, Metraux, & Culhane, 2003; Fantuzzo & Perlman, 2007; Park, et al., 2004). A prospective survey of homeless mothers in New York City shows an additional 18% of families using shelter place children with family and friends (Cowal et al., 2002). Conversely, a nationally representative study of child welfare-involved families estimates one in six intact families experience inadequate housing that threatens out-of-home placement, while at least double that rate experiences inadequate housing that delays reunification of children already placed in foster care (Fowler et al., 2013).

A developmental ecological theory explains the disproportionate rates of formal out-of-home placement among inadequately housed families through disruptions in family functioning associated with inadequate housing (Fowler & Farrell, in press; Fowler et al., 2014; Leventhal & Newman, 2010). Unaffordable housing markets limit safe and secure housing options for low-income families. Families endure unstable living conditions often characterized by high costs, low quality, limited space and privacy, and lack of amenities (Coley, Leventhal, Lynch, & Kull, 2013). Low-income housing dynamics frequently push families into neighborhoods characterized by greater crime, less cohesion, and higher rates of child maltreatment (Coulton, Crampton, Irwin, Spilsbury, & Korbin, 2007). Moreover, residential mobility occurs to avoid literal homelessness; caregivers rely on family and friends to provide temporary accommodations to stay out of shelters and more dangerous situations (Fowler & Schoeny, in press). The instability undermines important relationships with family, friends, and neighborhoods key to healthy child development (Coleman, 1988).

Housing insecurity contributes to family stress that impedes effective parenting (Conger & Elder, 1994; Conger, Wallace, Sun, Simons, McLoyd, & Brody, 2002). Housing searches consume cognitive and emotional resources of caregivers, especially with constrained options due to limited resources. The process also requires time and energy that could otherwise be invested in ongoing family processes, such as nurturing healthy social and emotional development, establishing family routines, and monitoring exposure to stress. Thus, inadequate housing taxes caregiver capacity to meet the normative challenges of parenting (Haskett, Perlman, & Cowan, 2014). In this chaotic context, child maltreatment is more easily triggered. Stress elicits harsher and more psychologically aggressive responses

to children that more quickly escalates to physical discipline (Strauss et al., 1998). Scarcity of time and resources associated with inadequate housing also contributes to neglect of physical and emotional needs.

Family stress associated with housing instability also indirectly diminishes effective parenting through maladaptive coping by caregivers. Many low-income and homeless parents seek relief from external and internal pressure through alcohol and drugs, which further compromise nurturing and responsive parenting (Haskett et al., 2014). Likewise, ongoing exposure to housing insecurity triggers feelings of hopelessness and inadequacy as a parent, which can overwhelm emotional resources and lead to depression. Caregiver substance abuse and depression compromise parenting, as well as contributes to risk for child maltreatment (Runyan et al., 2002). Thus, inadequate housing contributes to a cascade of environmental risks in the lives of families and children.

Permanent Housing for Homeless Families: Theory of Change

Figure 1 illustrates a developmentally informed theory of change associated with providing permanent housing to reduce child maltreatment. According to developmental theory (left panel in Figure 1), child maltreatment and child welfare involvement emerge as maladaptive responses to family stress associated with ongoing housing instability and ineffective parenting. Child welfare services alone fail to address threats to child permanency and well-being associated with housing. Coordinated through local public housing authorities, permanent housing directly targets risks for maltreatment by providing access to affordable housing that meets quality standards. In particular, families choose housing and pay no more than 30% of household income for units that meet basic physical quality standards with adequate space for every household member.

Access to safe and affordable housing reduces family stress associated with housing insecurity and homelessness, as illustrated in the right panel of Figure 1. Greater family stability diminishes household chaos and allows families to develop routines vital for effective parenting and child well-being. Moreover, stable housing creates a platform for families to take advantage of additional resources through the child welfare system. This includes access to and expanded usage of parenting and child supports, mental health treatment, and substance abuse interventions. The underlying logic of permanent housing assumes that additional supports for homeless parents and families are unnecessary to reduce child maltreatment. The theory of change suggests keeping families together and within communities offers a sustainable way to break reliance on the child welfare system, and saves money through reduced out-of-home placements (Fowler & Chavira, 2011; Harburger & White, 2004).

The Family Unification Program (FUP) represents the largest and longest-standing program to provide permanent housing for inadequately housed families involved in the child welfare system. Funded by the United States Department of Housing and Urban Development, FUP partners local public housing authorities with child welfare agencies to provide Housing Choice Vouchers (HCV) to homeless families with open child welfare cases. The program aims to prevent family separation or hasten reunification among children already placed in

foster care by addressing inadequate housing that threatens child safety and well-being. Congress has funded the program sporadically since 1992, and up to 47,159 vouchers have been allocated to 386 communities across the United States based on a competitive application process (National Center for Housing and Child Welfare, 2011). However, little evaluation exists regarding the effectiveness of FUP. A 31-site study of 995 child welfare families receiving FUP vouchers conducted in 1993 found families who received FUP exhibit greater stability at a 12-month follow-up; 90% of families initially at risk for out-of-home placement remained intact, and approximately 85% of families with children already placed out of home were reunified. Furthermore, 85% of families receiving FUP vouchers remained stably housed over the 12-month follow-up (Rog, Gilbert-Mongelli, & Lundy, 1998). However, the lack of comparison groups limits ability to rule out alternative explanations for program effects, including the natural stabilization of homeless families.

A more recent and rigorous evaluation of FUP questions the impact of permanent housing on child welfare involvement (Pergamit, Cunningham, & Hanson, in press). Using child welfare administrative data collected for 18 months following referral, the quasi-experiment compares families who receive FUP with eligible families on a waitlist in Portland, OR (146 families) and San Diego, CA (238 families). Referral for FUP relates with greater likelihood of child welfare case closure in significantly fewer days. In addition, FUP decreases the probability of re-reports for abuse and neglect among intact families, as well as San Diego families working toward reunification. However, re-reports increase among reunification families in Portland, and no significant differences exist on overall probabilities of preventing out-of-home placement or promoting return of children already placed across cities. The study suggests FUP reduces child welfare involvement; however, it remains unclear whether families actually stabilize, and whether stabilization relates with permanent housing.

Housing First approaches applied with homeless families offer another insight into whether permanent housing impacts child maltreatment. Housing First emphasizes timely provision of permanent housing for families experiencing housing crises, with subsequent provision of social services such as intensive case management, substance abuse treatment, and employment training (Shinn, 2009). The model assumes vulnerable families need housing in order to build skills and relationships that break the cycle of homelessness.

The most recent and largest investigation comes from the Family Options Study – a United States Department of Housing and Urban Development (HUD) demonstration that randomly assigned families entering homeless shelters to receive different housing interventions. Twenty months after randomization, caregivers receiving permanent housing exhibit lower rates of child separation compared to those with temporary shelter (Shinn et al., in press). Caregivers randomly assigned to permanent housing also report decreases in theorized risks for maltreatment, including lower psychological distress, substance abuse, and intimate partner violence (Gubits et al., 2015). Despite these positive effects, homeless caregivers randomly assigned to permanent housing are also less likely to work during the 20-month follow-up period, which could diminish relief from financial strain (Gubits et al., 2015). The study does not directly assess family functioning and child maltreatment through self-report

or observational instruments, and thus, it remains unclear whether families remain together due to actual improvements in parenting and family environments.

In sum, a number of untested assumptions underlie current interventions to reduce child maltreatment among families whose inadequate housing threatens out-of-home placement. It remains unknown whether access to more affordable and higher quality housing interrupts theorized mechanisms that trigger abuse and neglect, and whether permanent housing yields greater benefits for families exhibiting threats to effective parenting, including substance abuse, depression, and living on the streets. A need exists for rigorously designed studies to evaluate the impact of permanent housing on child maltreatment, especially given the considerable ongoing investment of resources by multiple public systems.

Present Study

The present study leverages an experiment implemented within the child welfare system to test whether permanent housing plus housing case management reduces child maltreatment among families at risk of out-of-home placement compared to housing case management alone. The study informs theory and policy that assumes connection with affordable and higher quality housing serves as a platform on which to promote stability among high-risk families. In particular, the experiment evaluates the impact of FUP on child maltreatment over a one-year period. All families received housing case management and child welfare services, while half were also randomly assigned for FUP that provides housing subsidies through the public housing authority. Children and caregivers were surveyed at baseline after randomization and prior to receipt of vouchers, as well as at four time points across a 2.5-year follow-up period. Caregivers self-reported frequencies of abuse and neglect for all children in the home at each interview. Longitudinal analyses examined whether referral for permanent housing stabilized families.

The two primary hypotheses of this study were:

1. Frequency of caregiver-reported psychological aggression, physical assault, and neglect would decrease over time, and declines in child maltreatment would be greater among families referred for permanent housing subsidies after controlling for family-level risks at baseline.
2. Higher-risk families at baseline would report greater declines in the frequency of child maltreatment when referred for permanent housing. In particular, caregivers experiencing depression, substance abuse, or living on the streets or in shelters at baseline, would exhibit the most improvement in child maltreating behaviors.

Method

Study Design and Participants

A longitudinal randomized controlled trial implemented within the child welfare system tested the effects of the Family Unification Program (FUP) on homelessness and child maltreatment. Random assignment referred child welfare-involved intact families to FUP plus the Housing Advocacy Program (HAP) or HAP alone on a 1:1 ratio. All families

received child welfare services. Assessments conducted with caregivers and children occurred at baseline, six months, and 12 months, 18 months, and 30 months following referral.

Participants included intact families under investigation for child abuse and neglect whose inadequate housing threatened child out-of-home placement. Families met general eligibility criteria for the HCV program. Thus, households included at least one U.S. citizen, reported annual gross incomes below 30% of the median income for similar family sizes in the Chicago area, and did not owe arrears to any public housing authority. Caregivers had no criminal histories that excluded them from public housing.

A number of criteria excluded households from randomization. Families needed to live within the geographic catchment area of City of Chicago child welfare and public housing authorities when referred for FUP. Child welfare cases anticipated to close within six months of referral for FUP were deemed ineligible by program administrators. In addition, families working to reunify with children already placed in foster care were immediately provided FUP without randomization, while the child welfare system opted not to use FUP for youth aging out of foster care. Although families could move to different parts of the state or country with or without a FUP voucher, households that lived outside of a 90-mile radius of the city at the time of recruitment were excluded from the survey. The final survey sample included 150 families with 372 children evenly divided by FUP plus HAP ($n = 75$ families, 196 children) and HAP alone ($n = 75$ families, 186 children).

Procedures

An experiment implemented within the child welfare system leveraged existing referral mechanisms to test study questions. Child welfare caseworkers identified intact families whose inadequate housing threatened out-of-home placement. Caseworkers referred families for permanent housing plus housing advocacy. Random assignment on a 1:1 ratio determined whether families received permanent housing plus advocacy or advocacy alone. Research staff conducted structured interviews with families at five time points over a 2.5-year period. Baseline assessments were collected approximately two months after referral for FUP and before families assigned to FUP moved in with vouchers. Follow-up surveys occurred for all families 12, 18, and 30 months after referral. Due to budget restrictions, 6-month assessments occurred only with the first cohort (65/150) of surveyed families. Structured interviews occurred in a convenient location for families - most often in homes or current living arrangements. Two-person teams assessed caregivers plus up to five children aged 0 to 15 years residing in the home at baseline. Interviewers were trained to ensure family privacy, while computer-assisted personal interviewing used headphones and allowed caregivers to enter responses directly into laptops for sensitive information including caregiver depression, substance abuse, and child maltreatment.

Informed consent for study participation was collected from legal guardians prior to interviews. If children were temporarily separated from primary caregivers, the current caregiver was consented and interviewed; the child welfare system provided written consent when parental rights had been terminated. Caregivers were described the purpose of the study, risks and protections created to protect confidentiality, as well as circumstances that

required disclosure, including threats to the safety of children or oneself. Caregivers were compensated with \$50 cash for their time. Study procedures received human subjects research approval from the Illinois Department of Children and Family Services, as well as data collection sites including the University of Chicago, DePaul University, and Washington University in St. Louis.

Interventions

Family Unification Program—Families were randomly assigned to receive the Family Unification Program (FUP). The HUD-funded initiative connects child welfare-involved families with permanent housing vouchers. Specifically, the child welfare system identified and referred families whose inadequate housing threatened child out-of-home placement to local public housing authorities that served families through the Housing Choice (Section 8) Voucher Program. Section 8 provided subsidies for use in approved rental units that ensured families paid no more than 30% of household income towards rent. The public housing authority also conducted inspections on rental units to ensure accommodations met minimal standards of safety and quality. Families chose housing and could move to more desirable units locally or anywhere in the country that accepted vouchers. Households retained housing vouchers until income exceeded eligibility thresholds or families failed to follow program rules, and thus, families frequently kept vouchers long past closure of child welfare cases. Thus, families with FUP accessed more permanent affordable housing that met quality standards. They also received housing advocacy.

Housing Advocacy Program—All families received referrals to the Housing Advocacy Program (HAP). The manualized case management program provided information and resources to address inadequate housing that threatened family stability (Egan, 2007). Advocates conducted initial assessments of housing goals and created tailored plans with caregivers to secure stable housing. Families in crisis were immediately connected with homeless shelters, while all families received skills training, including how to build housing resumes, role plays on how to approach and negotiate with landlords, and education on tenant responsibilities and rights. Training also covered budget counseling and job searches.

A number of resources also helped families directly obtain safe and stable housing. To assist with searches, advocates maintained accurate lists of available and affordable housing across neighborhoods; the lists were updated through personal relationships with landlords, which facilitated timely referrals and accommodations for families with little or poor housing histories. HAP families received help with security deposits and first month rents, as well as could access appliances, cookware and flatware, and table and chairs. Advocates also conducted housing inspections to ensure units met minimal standards for child safety and well-being. The housing advocates communicated with child welfare caseworkers to address additional psychosocial needs of caregivers and children, such as health and cash assistance, and mental health and substance abuse treatment.

Advocacy was typically delivered over one to three sessions in community-based agencies contracted through the child welfare system. Advocates were trained and supervised by program staff. The child welfare system used performance-based contracting to ensure

referred families received timely and minimal number of contacts (Egan, 2007). Families randomized to receive HAP only did not receive FUP housing vouchers.

Measures

Child Maltreatment—Caregivers self-reported frequency of child maltreating behaviors using the Parent-Child Conflict Tactics Scales Second Edition (CTSPC-2; Strauss et al., 1998). Items assessed three domains of maltreatment. Psychological aggression included five acts, such as screaming at a child or calling the child dumb or lazy. Physical assault assessed five minor acts of violence against the child, such as shaking or hitting on the bottom with something like a belt, hairbrush, a stick or some other hard object. Neglect asked five items about leaving the child home alone when caregivers thought an adult should be there, and times the caregiver was too drunk or high to care for the child. Items that would warrant child welfare investigation were excluded to ensure families were placed at greater risk for separation because of study participation. Caregivers were assessed for each child in the home and reported frequencies of behaviors within the past 12 months or since last interview on a 7-point Likert-type scale (none, 1 time, 2 times, 3 to 5 times, 6 to 10 times, 11 to 20 times, more than 20 times). Sum scores indicated total frequency of each type of child maltreatment for each child. The CTSPC-2 was validated using a nationally representative sample of 1,000 U.S. children (Strauss et al., 1998). It also has been used extensively with population-based studies of child welfare-involved families (Dowd et al., 2012).

Caregiver depression—Caregivers reported depressive symptoms using the Composite International Diagnostic Interview Short Form (CIDI-SF; Kessler, Andrews, Mroczek, Ustun, & Wittchen, 1998). The widely used instrument screened for symptoms of dysphoria and anhedonia experienced in the past 12 months or between interviews. Positive screens were followed up with additional items that assessed the extent and length of depressive problems. Caregivers were classified as having clinical elevations if they endorsed three out of nine symptoms in each domain of dysphoria and anhedonia (Kessler et al., 1998). The measure has been used extensively with child welfare-involved caregivers (Dowd et al., 2012).

Caregiver drug abuse—Problematic usage of substances was assessed with the Drug Abuse Screening Test-10 (DAST-10; Skinner, 1982). Caregivers responded to 10 items asking about substance usage in the 12 months before baseline and the time between interviews, such as ‘Have you always been able to stop using drugs when you wanted to?’ and ‘Have you engaged in illegal activities in order to obtain drugs?’ A total score calculated the number of endorsed drug problems, and a clinical cutoff of three or more symptoms was used given prior research that showed convergence with Diagnostic Statistical Manual diagnosis for substance abuse problems. The DAST-10 has demonstrated adequate reliability and validity, including outpatient and inpatient settings and child welfare (Dowd et al., 2012).

Caregiver alcohol abuse—Caregivers reported excessive drinking using the Alcohol Use Disorders Identification Test (AUDIT) – Second Edition (Babor, Higgins-Biddle,

Saunders, & Monteiro, 2001). The 10-item self-report tool asked about frequency and quantity, dependence symptoms, and interpersonal consequences of drinking. Example items include, 'How many drinks containing alcohol do you have on a typical day when you are drinking?', 'How often during the last year have you found that you were not able to stop drinking once you had started?', and 'Have you or someone else been injured as a result of your drinking?'. The AUDIT has been used extensively, and studies have demonstrated strong reliability and validity across genders, ethnicities, and cultures (Reinert & Allen, 2007); it has also been validated with child welfare-involved populations (Dowd et al., 2012).

Analytic Approach

Descriptive statistics examined sample characteristics and participant flow. Chi-square and *t*-tests investigated baseline differences between intervention conditions on family characteristics. Analysis of covariance probed differential attrition by testing whether baseline family characteristics were predicted by treatment condition, attrition, or the interaction of treatment by family characteristics. Baseline frequencies of child maltreatment were examined at the child- and family-levels.

Changes in the frequency of child maltreatment were examined through multilevel latent growth models (Muthen & Muthen, 2007). Analyses were conducted in MPLUS Version 7.3 (Muthen & Muthen, Los Angeles, CA). Two-level latent models nested time within children, who were nested within families. Models included caregiver-reported frequency of psychological aggression, physical assault, and neglect assessed for each child in the home across five time points. Maltreatment domains were estimated together in order to capture simultaneous and interrelated growth. Negative binomial regressions accounted for non-normal and over-dispersed distributions of outcomes. Model fit was assessed through absolute and comparative fit statistics; chi-square difference tests using log likelihoods with scale correction provided formal tests of whether model fit worsened (Satorra & Bentler, 2001). Although not presented, preliminary analyses suggested models met assumptions of longitudinal measurement invariance across treatment conditions that warranted tests of intervention effects (Muthen & Muthen, 2007). Missing data were handled using robust maximum likelihood estimators with full information likelihood.

A series of two-group analyses tested permanent housing plus advocacy intent-to-treat effects on simultaneous changes in psychological aggression, physical assault, and neglect as displayed (Muthen & Curran, 1997). Covariate effects on intercepts and slopes included homelessness at baseline, caregiver depression, alcohol abuse, and drug abuse. Joint analyses modeled change across intervention conditions allowing growth parameters to estimate freely across treatment conditions, as well as covariate effects on growth; subsequent models iteratively constrained growth factors of each maltreatment type to be equal. Wald chi-square tests with one degree of freedom tested significance of group differences across intercepts, while separate models tested changes of linear slopes in maltreatment associated housing intervention.

Differential effects of housing interventions on maltreatment were also tested through two-group analyses. The 90% confidence intervals of estimates were reviewed across treatment

conditions; estimates that fell outside of 90% confidence intervals were subsequently tested in a series of models that fixed parameters as equal across conditions. Significant Wald chi-square tests with one degree of freedom indicated moderation – the effect on growth varied by treatment condition.

Results

Participant Flow and Sample Description

Figure 2 presents information on random assignment. Child welfare caseworkers started applications for 229 families to FUP plus HAP; uncompleted applications were not referred for FUP plus HAP. Randomization assigned 179 families to receive FUP plus HAP ($n = 89$) versus HAP only ($n = 88$). One family randomized for FUP was subsequently deemed ineligible because they lived outside of Chicago at the time of referral, while another family was ineligible for the survey because they moved out of state by the time of recruitment. The primary reason for failure to participate in the survey was inability to contact by research staff. The survey included 150 families evenly divided between FUP plus HAP and HAP alone, representing 84.7% of eligible families. Follow-up interviews after baseline occurred with 131 primary caregivers, or 87% of recruited families.

Table 1 shows baseline characteristics of surveyed families by intervention condition. Primary caregivers were mostly single females in their late 20's and early 30's. The majority of caregivers identified as either African American or Latino, and more than one-third reported receiving less than a high school education. Nearly all households earned less than the federal poverty level at the time of referral for housing services and more than half reported incomes below 50% of the federal poverty level. The typical family included between two and three children under 18 years of age with more than half having children under the age of six years.

Comparisons examined the integrity of the research design. No significant differences existed between families recruited ($n = 150$) and not recruited ($n = 27$) into the survey on information provided in the referral for FUP, including caregiver age and gender, child age and gender, family size, nor reason for referral. Baseline equivalency existed for surveyed families referred for FUP plus HAP ($n = 75$) versus HAP only ($n = 75$) on family characteristics as displayed in Table 1. Attrition did not differ by intervention condition, family characteristics, or the interactions between intervention condition and family characteristics. Additionally, no differences existed among cohorts on demographics or rates of child maltreatment. Evidence supports the validity of the longitudinal randomized controlled trial, which was further probed by testing latent pretest differences in child maltreatment described below.

Child Maltreatment Frequencies

Table 2 displays caregiver-reported baseline incidences of psychological aggression, physical assault, and neglect behaviors across intervention conditions. Nearly every child within every family was exposed to some maltreatment; similar child- and family-level frequencies suggested child maltreatment occurred consistently across households and was

not isolated to a small subset of highly abusive homes or specific children within homes. Psychological aggression such as yelling and threatening with physical punishment were the most common behaviors. More than half of children experienced some minor physical assault, such as spankings. Likewise, nearly half of children experienced neglect that varied in form from failure to show love to inability to meet basic child needs.

Change in Child Maltreatment and Permanent Housing

Linear latent growth models that examined the pattern of change in maltreatment frequencies during the 30-month follow-up provided adequate fit to the data. An initial unconditional multigroup model that excluded covariates provided adequate fit the data; although large contingency matrices make interpretation difficult, a Pearson chi-square test was not significant ($\chi^2(65440) = 7354.48, p = 1.00$) with reasonable comparative fit ($ABIC = 19719.77$). Analyses also tested models that included quadratic terms to describe non-linear change in maltreatment types; however, the models did not significantly improve fit to the data.

Figure 3 shows unconditional estimated growth in frequencies of child maltreatment by housing interventions. For both treatment conditions, psychological aggression was the most frequent type of maltreatment followed by physical assault and neglect. Intercorrelations existed between latent intercepts across maltreatment domains. Higher initial levels of maltreatment in one domain related with elevations in other domains. Baseline psychological aggression related with physical assault ($r = .81, SE = .04, p < .01$) and neglect ($r = .65, SE = .10, p < .01$), while assault correlated with neglect ($r = .48, SE = .14, p < .01$).

Hypothesis tests compared rates of change in maltreatment by treatment condition after controlling for covariate effects. Inclusion of covariates significantly improved model fit ($ABIC = 19671.26, \chi^2(24) = 84.53, p < .01$) with no extreme values of residuals across treatment conditions. Table 3 presents conditional model results. No significant differences existed in latent intercepts of psychological aggression ($\chi^2(1) = .05, p = .82$), physical assault ($\chi^2(1) = .36, p = .55$), or neglect ($\chi^2(1) = 1.04, p = .31$). This provided further support of baseline equivalency through random assignment. Families referred for FUP plus housing case management exhibited significant decreases in minor physical assault and neglect, while psychological aggression remained high over time. Families referred for housing case management only showed no change in psychological aggression, minor physical assault, or neglect. Although different patterns of growth emerged within treatment conditions, formal tests showed no significant differences between housing conditions on psychological aggression ($\chi^2(1) = .76, p = .38$), physical assault ($\chi^2(1) = 3.24, p = .07$), or neglect ($\chi^2(1) = 3.25, p = .07$). Differences on change in minor physical assault and neglect approached significance with families receiving permanent housing exhibiting slightly greater declines in child maltreatment over time.

Table 3 also presents tests of differential effects based on family characteristics of change in child maltreatment associated with FUP plus HAP. Covariate estimates represent effects on slopes when freely estimated across intervention conditions. Review of 90% confidence intervals of parameter estimates showed no differences between treatment conditions on the

influence of covariates. Thus, no comparisons were made to formally test possible moderating effects of family characteristics on child maltreatment change. A meaningful pattern of covariate effects failed to emerge within conditions. For treatment families, homeless families referred for permanent housing reported lower initial aggression but higher neglect, as well as increases in physical assault. In both treatment conditions, caregivers with drug problems at baseline reported increases in physical assault, while those with alcohol problems exhibited declines in assault over time. Depressed caregivers in the treatment group reported higher initial aggression and neglect, as well as increases in assault over time, while depressed caregivers in the control showed declines in neglect.

Discussion

The present study investigates the impact of permanent housing on child maltreatment among high-risk families whose inadequate housing threatens placement into foster care. A randomized controlled trial tests the Family Unification Program (FUP) – a HUD initiative that provides HCV to homeless families under investigation for abuse and neglect. The rigorous study informs recent efforts to coordinate local child welfare and housing resources. Families whose inadequate housing threatens out-of-home placement engage in psychological aggression, physical assault, and neglect at levels that exceed national rates of other child welfare-involved families, and rates remain stubbornly high over a 2.5-year follow-up. Findings from this study suggest small changes in child maltreatment associated with referral for permanent housing, and most child welfare-involved children in homeless families continue to experience maltreatment. Given evidence that permanent housing keeps homeless families together, the findings raise questions about current programming and policy directions.

This study emphasizes the importance of continued intervention with high-risk families. FUP and other housing interventions may allow families to avoid homelessness and remain together, but housing stability does not immediately and dramatically improve parenting. A troubling pattern emerges from a recent quasi-experiment that shows FUP speeds child case closure (Pergamit et al., in press). High-risk and homeless families likely require more intensive interventions to address various influences on maltreating behaviors. Moreover, the active control group in the current study suggests housing advocacy alone fails to mitigate maltreatment. Programs that pair housing supports with evidence-based and culturally adapted interventions for homeless families offer potential solutions. Research is emerging on the development and implementation of supportive housing programs that incorporate key features, including triage, trauma-informed practices, and team-based delivery of resources (Samuels, Fowler, Ault, Tang, & Marcal, 2015; Shinn et al., 2015).

Study findings help calibrate expectations for cost-benefit analyses of housing programs for child welfare-involved families. Current rationale for FUP and housing interventions emphasize potential savings from avoiding out-of-home placement (Harburger & White, 2004; USICH, 2010). Persistent maltreatment, however, indicates continued need for child welfare interventions, including foster placements. Smaller returns on investment may dissuade decision makers from implementing housing interventions, but the value of programming should be based on child safety and well-being rather than cost savings.

A number of caveats must be considered. It is premature to conclude permanent housing fails to influence maltreatment. Caregivers could be motivated to underreport actual rates and types of maltreatment due to social desirability and fear of further child welfare involvement. The use of computer-administered assessment attempts to mitigate bias, while frequencies suggest caregivers feel comfortable reporting maltreatment across domains and time. The study also represents a relatively small group of inadequately housed and child welfare-involved families in a single city. A larger sample might detect subtler benefits from the program; the current study is powered to detect moderate program effects ($d = .30$) on change in child maltreatment; smaller impacts remain indiscernible. Research with larger samples may improve understanding of program effects, as well as studies that compare permanent housing with more intensive supportive housing interventions.

Another limitation of the present study is the focus on primary caregivers. The study included maltreatment reports from parents referred for permanent housing, regardless of whether the child remained in the home with caregivers. Thus, the study tests whether permanent housing influences parent behavior and not necessarily child exposure to maltreatment. Likewise, the present study does not focus on child welfare involvement, such as re-report of maltreatment or out-of-home placement. Future research will further elucidate effects of permanent housing for child welfare-involved families. For example, another study of the sample shows children referred for permanent housing experience greater increases in the probabilities of out-of-home placement (Fowler, Schoeny, Brown, & Chung, 2016). Emerging evidence will illuminate potential mechanisms for effective intervention.

This study represents one of the first to investigate the impact of permanent housing on child maltreatment. The rigorous design and analytical approaches illuminate the nature of housing and maltreatment patterns among child welfare-involved families. Troubling high and static rates of maltreatment require reconceptualization of how child welfare interventions best support child well-being. Early identification and prevention remain vital for child welfare.

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Figure 1.

Developmentally informed theory of change for providing permanent housing with child welfare services to reduce child maltreatment and improve child well-being

Figure 2.

Flow diagram of the experiment testing the Family Unification Program plus housing advocacy compared to housing advocacy alone. Numbers represent primary caregivers referred for the permanent housing and followed over 2.5 years.

Figure 3.

Unconditional estimated growth in caregiver-reported frequencies of child maltreatment by domain and intervention condition. Solid lines represent families referred for the Family Unification Program (FUP) plus the Housing Advocacy Program (HAP), while dashed lines indicate HAP only. Circle line makers refer to rates of psychological aggression; triangles represent physical assault; squares indicate neglect. No significant housing intervention effects were found on change in child maltreatment although greater declines in assault and neglect approached significance for FUP families.

Baseline Characteristics of Homeless Families Whose Inadequate Housing Threatens Out-of-Home Placement by housing intervention condition

Table 1

Caregiver Age	32.0	8.5	31.2	7.6	.56
Caregiver Gender (Female)	92.0		94.7		.51
Caregiver Race					.90
% African American	68.0		65.3		
% Latino	21.3		20		
% White	9.3		13.3		
% Other	1.3		1.3		
% High School Graduate	68.0		60.0		.31
Proportion of Poverty Guideline	.47	.57	.49	.58	.86
Below 50% of Poverty Guideline	76.5		70.0		.39
Number of children	2.87	1.8	2.8	1.7	.56
Age Ranges of Children					1.0
% Infants	30.7		30.1		
% 3–5 Year Olds	21.9		22.8		
% 6–11 Year Olds	28.4		28.2		
% 11–15 Year Olds	19.1		18.9		
Age of Children	6.2	5.1	6.1	5.1	0.83

Note. FUP = Family Unification Program, HAP = Housing Advocacy Program

Table 2

Baseline Frequencies of Caregiver-Reported Psychological Aggression, Physical Assault, and Neglect towards children in the past 12 months

	<i>M</i>	<i>SD</i>	% Children	% Families
<u>Any Maltreatment Incident in the Past Year</u>	36.13	37.06	85.2%	90.0%
<u>Psychological Aggression</u>	27.04	28.76	82.2%	86.7%
Shouted, yelled, or screamed at			79.0%	84.0%
Threatened to spank or hit but did not actually do it			62.1%	72.0%
Sworn or cursed at			41.5%	45.3%
Threatened to send away or kick out of house			13.5%	21.3%
Called dumb or lazy or some other name that			25.7%	29.3%
<u>Physical Assault</u>	5.96	12.45	53.2%	60.0%
Spanked on the bottom with your bare hand			38.2%	46.7%
Slapped on the hand, arm, or leg			34.1%	44.0%
Hit on the bottom with something like a belt, hairbrush, a stick, or some other hard object			27.9%	30.7%
Pinched			10.8%	13.3%
Shook			6.7%	9.4%
<u>Neglect</u>	3.16	6.96	43.4%	49.3%
Not able to show or tell CHILD that you loved			24.0%	26.7%
Unable to make sure got to a doctor or hospital when needed			17.3%	21.3%
Left home alone, even when you thought some adult should be with			13.2%	16.1%
Not able to make sure got the food needed			9.7%	11.3%
So drunk or high that you had a problem taking care of			3.2%	4.7%

Notes. % family refers to any child in a family exposed to maltreatment. Items ordered by frequency within maltreatment domains

Table 3
Conditional Linear Latent Growth and Parameter Estimates by Treatment Condition

FUP+HAP					HAP					Treatment vs Control
Growth Estimates										
Aggression	Intercept	2.91 *	0.30	2.42	3.41	2.79 **	0.46	1.89	2.79	ns
	Aggression Slope	-0.11	0.07	-0.21	0.00	-0.03	0.06	-0.15	-0.03	ns
	Assault Intercept	1.06 *	0.45	0.33	1.79	0.59	0.66	-0.70	0.59	ns
	Assault Slope	-0.36 **	0.10	-0.53	-0.20	0.02	0.18	-0.34	0.02	ns
	Neglect Intercept	1.16	0.84	-0.22	2.55	0.00	0.87	-1.71	0.00	ns
	Neglect Slope	-0.36 *	0.16	-0.62	-0.10	0.04	0.14	-0.24	0.04	ns
Covariate Estimates										
Aggression	Intercept	-0.66 *	0.34	-1.21	-0.11	-0.56	0.79	-1.86	0.74	ns
	Depression	0.59 *	0.27	0.14	1.03	0.42	0.61	-0.58	1.41	ns
	Drugs	-0.13	0.46	-0.89	0.63	0.04	1.24	-2.00	2.08	ns
	Alcohol	1.27 **	0.44	0.55	2.00	0.59	0.74	-0.63	1.80	ns
	Slope	0.12	0.07	0.00	0.24	-0.04	0.07	-0.16	0.07	ns
Assault	Depression	-0.02	0.07	-0.14	0.09	-0.01	0.07	-0.11	0.10	ns
	Drugs	0.27 **	0.10	0.11	0.43	0.17 *	0.08	0.04	0.30	ns
	Alcohol	-0.25 *	0.11	-0.43	-0.07	-0.22 *	0.10	-0.37	-0.06	ns
	Homeless	-0.43	0.50	-1.25	0.39	-0.38	1.24	-2.41	1.66	ns
	Depression	0.48	0.41	-0.20	1.16	-0.05	1.27	-2.14	2.05	ns
Neglect	Drugs	-0.11	0.82	-1.46	1.24	0.09	2.48	-3.99	4.16	ns
	Alcohol	-0.68	0.77	-1.95	0.58	1.73	1.44	-0.63	4.09	ns
	Homeless	0.29 *	0.12	0.09	0.50	-0.12	0.19	-0.42	0.20	ns
	Depression	0.11	0.11	-0.08	0.29	-0.12	0.12	-0.32	0.08	ns
	Drugs	0.19	0.12	-0.01	0.39	0.21	0.18	-0.09	0.51	ns
Neglect	Alcohol	-0.09	0.17	-0.36	0.19	-0.29	0.21	-0.63	0.06	ns
	Homeless	-1.40	0.85	-2.81	0.00	-0.42	0.94	-1.97	1.13	ns
	Depression	1.96 **	0.45	1.22	2.71	1.21	0.94	-0.32	2.75	ns

		FUP+HAP				HAP				
		<i>b</i>	SE	Lower 90%CI	Upper 90%CI	<i>b</i>	SE	Lower 90%CI	Upper 90%CI	Treatment vs Control
Slope	Drugs	-0.24	0.64	-1.30	0.81	-0.05	0.95	-1.61	1.52	<i>ns</i>
	Alcohol	0.98	0.61	-0.02	1.98	0.64	0.74	-0.58	1.85	<i>ns</i>
	Homeless	0.35	0.19	0.04	0.66	-0.10	0.18	-0.39	0.20	<i>ns</i>
	Depression	-0.10	0.16	-0.37	0.17	-0.48 *	0.19	-0.79	-0.16	<i>ns</i>
	Drugs	0.02	0.20	-0.31	0.35	0.13	0.26	-0.29	0.56	<i>ns</i>
	Alcohol	-0.57 **	0.15	-0.82	-0.33	-0.35	0.30	-0.84	0.13	<i>ns</i>

Notes. ns = not significant

* $p < .05$ ** $p < .01$ *b*=unstandardized estimates, *SE*=standard error.