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Time-Limited Case Management for Homeless Mothers With Mental Health Problems: Effects on Maternal Mental Health

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ABSTRACT *Objective:* In this study we test the effect of a time-limited case management model targeting homeless mothers who are experiencing mental health problems. Adapted from an empirically informed intervention to prevent recurrent homelessness among individuals, the Family Critical Time Intervention (FCTI) supports mothers with children for a 9-month period as they move from homeless shelters into affordable housing. The case management team uses a structured intervention to encourage mothers to create and maintain necessary connections in the community for key family supports. *Method:* We use a longitudinal randomized controlled trial ($N = 210$) to test whether homeless mothers referred to FCTI experience greater declines in psychopathology compared with those receiving homeless services-as-usual. All families receive access to affordable housing. Hierarchical linear models examine changes in symptomatology at shelter entry and 3, 9, and 15 months later. *Results:* Results suggest all homeless mothers report significant and clinically meaningful declines in mental distress over time, regardless of intervention condition. Treatment effects do not vary by prior homelessness experiences or receipt of mental health services. *Conclusions:* Homelessness presents acute stress for mothers that diminishes over time after families rehouse. In addition, improvements in maternal mental health fail to explain prior findings that associated FCTI with benefits in child and adolescent behavior. Taken together, FCTI with connection to affordable housing provides a useful approach with homeless families; however, additional research needs to articulate mechanisms involved in the intervention.

KEY WORDS: homeless families, mental health, evidence-based intervention, case management, randomized controlled trial

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Families consistently represent a substantial portion of the homeless population in the United States (Cortes, Dunton, Henry, Rolston, & Khadduri, 2012; U.S. Department of Housing and Urban Development [HUD], 2014). Homeless mothers disproportionately report histories of trauma, mental illness, and substance use that threaten mental health and child well-being (Schuster, Park, & Frisman, 2011; Zima, Wells, Benjamin, & Duan, 1996). Current homeless services focus primarily on housing with less emphasis on empirically informed case management to support mothers and children. The present study rigorously tested a time-limited case management model for mentally ill homeless mothers.

Homelessness and Maternal Mental Health

Homelessness among families with children is an entrenched problem in the United States. On a single night in 2014, an estimated 216,261 individuals were members of homeless families, which translates to 37% of the U.S. homeless population (Fargo, Munley, Byrne, Montgomery, & Culhane, 2013; HUD, 2014). Homeless families are overwhelmingly female headed, minority, and poor with limited financial resources and social support (Rog, Holupka, & Patton, 2007; Schrag & Schmidt-Tieszen, 2014; Spellman, Khadduri, Sokol, & Leopold, 2010).

Previous research has consistently shown a relatively high incidence of mental illness and substance abuse among homeless women with children. In a study of homeless families in New York City, Shinn et al. (1998) found higher rates of mental illness and substance abuse among homeless female heads of household compared with low-income housed controls, but lower rates compared with homeless single adults. In a case-control study conducted in Massachusetts comparing low-income housed mothers and homeless mothers, Bassuk and colleagues found similar rates of psychiatric illness between the groups of mothers, but higher rates of physical and sexual assault among homeless mothers (Bassuk, Buckner, Perloff, & Bassuk, 1998). Moreover, as compared with the general female population, both groups of mothers in Bassuk et al.'s (1998) study demonstrated elevated levels of poor mental health outcomes, including depression, posttraumatic stress, and substance abuse disorders. Additional research has found elevated rates of stress and depression among homeless mothers as compared with housed mothers (Banyard & Graham-Bermann, 1998; Bassuk & Beardslee, 2014).

Current Housing Interventions for Homeless Families

Current homeless services emphasize connection to housing as a primary mechanism to end homelessness and prevent its deleterious effects. Rapid rehousing programs focus on providing immediate, short-term housing assistance with the goal of transitioning to permanent arrangements (National Alliance to End Homelessness, 2014). Housing First approaches target hard-to-house populations and provide immediate, permanent housing without requiring sobriety or participation

in psychiatric services (Tsemberis, 1999). Evidence has suggested that both approaches promote housing stability among homeless individuals with mental illnesses or substance abuse disorders (Padgett, Gulcur, & Tsemberis, 2009; Tsemberis, 1999). Further, connection to housing has been associated with reductions in psychiatric and substance abuse symptoms among adults with mental illnesses, although improvements depend on program characteristics and participants' level of impairment (Gilmer, Stefancic, Ettner, Manning, & Tsemberis, 2010; Pearson, Locke, Montgomery, & Buron, 2007; Tsemberis, Gulcur, & Nakae, 2004).

Less is known regarding the effect of housing connections on stabilizing homeless families, especially at-risk mothers with mental health problems. Few studies have compared families who received housing interventions with similar families who did not receive housing service, and the few comparison studies available have used small samples with attrition over time (Herbers & Cutuli, 2014; Samuels, Shinn, & Buckner, 2010). Initial findings from an ongoing multisite, randomized controlled trial of rapid rehousing and other housing options have suggested unique challenges exist in serving hard-to-house families (Gubits, Spellman, Dunton, Brown, & Wood, 2013). Examining 2,307 families in 12 cities, the Gubits et al. study compared homeless families who received 1 of 4 housing interventions through the shelter system: rapid rehousing, short-term transitional housing, permanent housing, or usual care. However, most of the families randomly assigned to one of the housing interventions failed to meet eligibility requirements for at least some subsidized housing; among eligible families, many chose not to use housing resources (Gubits et al., 2013). In qualitative interviews, mothers described difficult tradeoffs associated with receiving housing services, such as moving away from family, friends, and child supports (Fisher, Mayberry, Shinn, & Khadduri, 2014). Data are not yet available on housing and mental health outcomes, but preliminary findings indicate challenges connecting families to services.

Mental Illness and Service Needs Among Homeless Mothers

Evidence has suggested homeless mothers with mental illness require more intensive services than housing assistance alone, yet psychological and parenting interventions are underemphasized in current housing interventions (Bassuk & Beardslee, 2014; Bassuk, Volk, & Olivet, 2010; Dawson, Jackson, & Cleary, 2013). In an evaluation of the Homeless Families Program, which provided Section 8 vouchers and case management services to 1,298 homeless families across nine sites, Rog and colleagues found caregiver mental health needs exceeded human capital and medical needs (Rog, McCombs-Thornton, Gilbert-Mongelli, Brito, & Holupka, 1995). A more recent analysis of service use before, during, and after periods of homelessness indicated shelters and transitional housing programs had few stabilizing effects on the mental health of heads of households (Culhane,

Park, & Metraux, 2011). Rates of inpatient hospitalizations for mental illness and substance abuse dropped during shelter stays but subsequently rebounded, suggesting that short-term shelter use replaced mainstream services temporarily but did not alleviate the need for services in the long run. There is a growing movement to increase the availability of supportive, service-enriched housing for families with parents with mental illnesses, but evidence on effective models is lacking (Corporation for Supportive Housing, 2001; National Alliance to End Homelessness, 2014).

Although research has suggested benefits are associated with linking housing to additional services, little is known about the effectiveness of intensive case management services among homeless individuals and families (Herbers & Cutuli, 2014). Participants who received intensive case management services through the Homeless Families Program displayed greater housing stability at follow-up, although the study sample was not representative of all homeless families (Rog et al., 1995). An evaluation of the Sound Families Project, which provided housing units and intensive case management services to homeless families in three counties in Washington State, found that nearly all families who successfully completed the program exited to permanent housing. Improvements were also seen in outcomes such as caregiver employment, household income, and child school attendance, but mental health was not assessed (Bodonyi, 2008). A recent systematic review of case management with homeless adults found mixed results in terms of improving mental health and reducing substance abuse (de Vet et al., 2013). In one study, intensive case management was associated with reduced alcohol drinking and increased access to substance abuse treatment among homeless adults (Cox et al., 1998). However, another study of homeless adults with severe mental illness found 14 months of case management had no effect on psychopathology, need for services, or social behavior (Marshall & Lockwood, 1995).

Few studies have investigated the effects of case management on homeless mothers' mental health. Bogard and colleagues found that increased contact with a case manager reduced homeless mothers' depression levels, but targeted mental health services had little overall effect (Bogard, McConnell, Gerstel, & Schwartz, 1999). A randomized pilot study recently conducted in Ohio found an ecologically based intervention composed of case management and substance abuse counseling for homeless mothers with substance abuse disorders was associated with a more rapid decline in alcohol use and increase in housing as compared with a control group, but between-group differences disappeared by the 9-month follow-up (Slesnick & Erdem, 2013). Furthermore, the event of becoming homeless is uniquely traumatic, and optimal timing of assessment and treatment among homeless mothers with mental illness remains unknown (Bassuk et al., 2010; Bogard et al., 1999). The relationship between housing, mental health services, and mental health outcomes has yet to be elucidated.

Present Study

Family Critical Time Intervention (FCTI) is a time-limited, empirically informed intervention designed to provide homeless families with scattered-site housing, continuity and focus of care, and service linkages during their transition from shelter to permanent housing in the community. FCTI provides an intensive, 9-month case management model based on the Critical Time Intervention (CTI) program that originated and demonstrated cost-effectiveness among homeless single men in New York City, and which has more than two decades of research support (Herman et al., 2011; Susser et al., 1997).

The present study examined the effectiveness of FCTI on maternal mental health for homeless mothers experiencing mental health and substance abuse problems. A longitudinal randomized controlled trial compared mothers referred for FCTI plus housing to mothers who received homeless services-as-usual, including permanent housing. Mothers reported mental health problems through standardized assessments conducted four times over a 15-month period. In addition, mothers provided a timeline of housing situations across the follow-up period, and at each time point, the mothers also self-reported their use of mental health services. No attempt was made in either condition to manipulate whether mothers received mental health services. Intent-to-treat analyses examined whether change in mental health problems occurred beyond the effects of time spent homeless and use of mental health services. The following hypotheses were tested:

Hypothesis 1. Mothers referred for FCTI would experience more rapid rehousing as designed by the supportive housing model compared to those who received services-as-usual at the 15-month follow-up.

Hypothesis 2. Mental health problems would decline more quickly among mothers referred to FCTI after controlling for differences in housing experiences and use of mental health services.

Hypothesis 3. Mothers randomly assigned to FCTI who also connected with mental health services would report the greatest declines in psychopathology over time.

Method

Participants

Participants eligible for the study included single, female-headed households entering family homeless shelters. Mothers met criteria for an Axis I diagnosis of mental illness and/or substance abuse problem sometime in the year prior to entry into the shelter system. Mothers also were eligible if they had at least one child between the ages of 18 months and 16 years living with them in the

shelter. Families entering domestic violence family shelters were excluded from this study to comply with policies regarding anonymity and secrecy associated with these services; however, mothers with histories of domestic violence were included.

Families used homeless services in a county outside of New York City. Census data from 2000 showed the county to be primarily White (71.3%) with smaller populations of African American (14.2%) and Latino (15.6%) households. The median county household income of \$63,582 in 2000 (\$87,889 when adjusted for inflation to 2014 dollars) represented one of the wealthier counties in the United States. Census data showed 6.4% of all families and 9.4% of families with children younger than 18 years earned below the federal poverty level, whereas 2.7% of households reported public assistance income. Most residents living in the county had graduated high school or earned an equivalent degree (83.5%), and 61.4% had attended at least some higher education beyond high school. The county housing market was characterized by a high occupancy rate (96.5%), and the majority of households owned homes (60.1%). The rental vacancy rate was low (3.0%).

Procedures

Study recruitment occurred at the central intake assessment center for the family homeless shelter system in a county outside of New York City. Mothers with children between the ages of 18 months and 16 years old were asked by the shelter case management supervisor if they would like to talk to the research team about an ongoing study of homeless families. Interested mothers then met with an on-site study-enrollment coordinator, who administered the Mini International Neuropsychiatric Interview (M.I.N.I.) to screen for Axis I diagnoses of mental illness and/or substance abuse (Sheehan et al., 1998). For mothers who met screening criteria, the enrollment coordinator described the research study, read through the informed consent form, and asked the mother to participate. After the consent form was signed, the enrollment coordinator called the main research office and was given a randomly chosen group assignment for the family. Families were randomized to FCTI and control conditions on a 1 : 1 ratio. Random assignment was stratified by family size, which is a factor thought to strongly affect the ability of families to acquire housing, and was accomplished by using a random number table. A separate table was used for large families (i.e., those with more than five family members).

Study enrollment began in November 2001 and concluded in February 2004. Baseline interviews were conducted within 2 weeks of shelter entry ($M = 7.6$ days). Follow-up interviews occurred in family homes at 3, 9, and 15 months. Interviews included self-reported measures of demographics, health, mental health, substance use, trauma, service use, residential history, social support, family resources, parenting, children, legal issues, and working alliance.

Experiment Conditions

Housing and homeless services-as-usual. All families entered the county homeless shelter system that provided for the placement of homeless families, singles, and childless couples in shelter facilities, transitional residences, and emergency housing. The system has been considered service-rich and well-coordinated; housing and homeless services represented one program in an array of social services provided through the county to address the needs of low-income households, including employment services, child support services, family and children's services, medical/home care services, and temporary financial services. In 2004, housing and homeless services also began administering homelessness prevention programs, including a rental assistance program.

Upon entry into the shelter system, families received a comprehensive assessment of needs over a 2-week period while staying in a 100-room former hotel. Parents and children were screened for problems in the areas of medical, mental health, substance abuse, and education. Clinical and nonclinical interviews explored families' pathways to homelessness, housing history, income and employment, education, and challenges faced by families. Each family received an independent living plan with treatment and service recommendations as deemed necessary by shelter staff. Typically, these plans included personal goal setting, communication, housekeeping and parenting skills, and referrals for any needed treatment. In addition, county social services staff and outside agency representatives provided full-time and part-time, on-site and off-site services to homeless households through contractual affiliations with and referrals to county nonprofit and private service providers. Many low-income and homeless families in the county took advantage of services, even if they never became homeless.

Families remained at the assessment center an average of 30 to 45 days while waiting for referral to their next placement in the shelter system. Referrals were made to 1 of 4 other shelters managed by nonprofit agencies. Sites varied in size (capacity to house 25 to 100 families) and living arrangements (a converted hotel, newly constructed buildings with kitchen facilities, an apartment building). Regardless of the provider, shelter units were sparsely furnished, relatively overcrowded, and lacked privacy. Shelter sites typically provided basic on-site services that included, but were not limited to, physical and mental health assessment and treatment; case management; substance abuse screening and rehabilitation; childcare, recreation, and after school programs; parenting, adult education, life skills, and job-readiness programs; and home-finding programs. Although shelter personnel provided many of the on-site services, nonprofit and private agencies were also co-located at some shelters.

Families' shelter stay durations ranged from a few months to more than 2 years. If families were not able to move out with the use of personal resources, they stayed until they were evaluated by shelter staff as being *housing ready*—that

is, capable of finding and maintaining a permanent dwelling. Families then moved to transitional apartments designed as a step between living in a shelter and obtaining permanent housing. Transitional housing was provided with case management paid through a per-diem rate that varied by provider contract and family size. To remain eligible for housing, families needed to work toward achieving housing readiness goals in specific areas, as designated in their independent living plans. Services provided often included counseling, treatment, services for specific health and mental health issues, and assistance with obtaining and maintaining permanent housing. The type, extent, and duration of services for a particular family were determined by shelter staff via ongoing assessment.

Despite the service-rich homeless and housing system, access to subsidized housing was difficult for low-income households in the county. In 2001, the county dispersed 8,196 Section 8 vouchers, with a total of 17,292 households on Section 8 waiting lists. At the beginning of the study, county officials reported that homeless families waited an average of 1 year before receiving a Section 8 housing subsidy voucher; however, providers and families in the homeless services and shelter system reported it took much longer than 1 year.

Family Critical Time Intervention. Like CTI, the adapted FCTI provides community-based case management in three phases of 3 months each. The first phase, Transition to Community, begins when the FCTI case manager is introduced to a family shortly after their entry into a homeless shelter. During this phase, the case manager focuses on identifying family needs and creating appropriate and effective links to community resources. Particular emphasis is placed on providing services for mental health, substance abuse, trauma, and other pertinent support and treatment needs along with practical services such as links to child care and employment linkages, and assistance with applying for benefits. FCTI case managers work closely with social service case managers to facilitate connections to resources through homeless services and community agencies.

The second phase, Try-Out, focuses on testing and adjusting the support systems established while the family works to secure and maintain stable housing. Case managers work with mothers to use housing resources, including subsidized housing. The caseworker aims to allow the mother space to maximize her strengths while remaining available to help when difficulties arise. The case manager must develop trust, while providing boundaries regarding dependency as the mother copes with the changes in her family's lives. If possible, the worker begins to step back during this phase and become less active with the family. During the third and final phase, Transfer to Care, refinements are made to the family's support system to ensure the establishment of long-term community-based linkages that address housing and family functioning. Case managers scale back contact and intervention with families. The expectation is that the mother and her family will continue to make progress within the safety net of community

care that was established over the previous 9 months. Case managers facilitate problem-solving done by mothers to address family needs. Termination plans are made and completed, at which point the FCTI case closes.

The titrated FCTI model was designed to (a) strengthen family members' long-term ties to the services they need, (b) heal and strengthen maternal relationships with extended families and friends, and (c) provide emotional and practical support during the critical time of transition from homelessness to stable housing in the community. FCTI focuses on the relationship between the case manager and mother that progresses through the 9-month period.

Three primary differences existed between the experimental condition and the services-as-usual control condition. First, the intervention group received continuous case management services from a single worker with specific training in the CTI model, as described. These sessions were provided on a time-limited basis, with case closure occurring after 9 months. Second, FCTI caseloads were considerably lower than homeless services-as-usual. Caseloads in the FCTI condition did not exceed 12 families at one time, whereas caseworkers in the shelter system carried 24 or more families at any time, and social services workers who served usual care families after they left shelter had caseloads of 50 or more families. Third, there was a substantially lower threshold for housing readiness for the intervention group than for the control group. Families were provided scattered-site housing without time limits and without having to meet the housing readiness requirements typically imposed in services-as-usual such as abstinence from substance use, engagement in mental health services, or addressing other issues that might impede permanent housing. Thus, as compared with the control group families, the average time from shelter to housing was much shorter for the experimental group and a higher percentage of treatment families left shelter.

Fidelity

Adherence to the FCTI model was monitored in a number of ways. A manual was developed for the family adaptation of the CTI model, and all service providers received extensive training on the intervention and motivational interviewing techniques prior to implementation with families. Ongoing supervision also monitored adherence to the FCTI model. Service providers attended weekly supervision meetings conducted with the entire FCTI clinical team. Structured meetings were run by the clinical director, a psychiatrist who developed CTI and had been running programs for singles for 15 years. Fidelity assessment occurred two times through semistructured interviews conducted with FCTI staff and supervisors. Interviews were administered by a licensed clinical social worker, and feedback from the fidelity assessments was provided to staff to ensure quality improvement.

Measures

Maternal mental health. Maternal mental health symptoms were measured using the Brief Symptom Inventory (BSI; Derogatis, 1993). The BSI, a shortened revised version of the Symptom Checklist-90, is a 53-item self-report symptom scale designed to measure levels of psychopathology. Items are rated on a 5-point scale of distress (0 to 4), ranging from *not at all* (= 0) to *extremely* (= 4). The BSI includes nine primary symptom subscales that assess different domains of psychopathology, including somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. This study used all 53 items to compute the Global Severity Index (GSI), a weighted frequency score calculated from the sum of the ratings assigned to each item. Possible scores range from 33 to 80. GSI scores below 50 have been considered in the *normal* range. Scores from 50 to 59 were considered *borderline*; an individual with a score in the borderline range might be recommended for further mental health screening and assessment. In the *clinical* range, a GSI score of 60 or greater indicated a need for intervention. The GSI has been used with the general population and in prior research with populations of homeless women (Morse & Calsyn, 1986; Toro et al., 1995). In general, BSI subscales have high (2-week) test-retest reliability ($r = .68-.91$). In this sample, internal consistency for the GSI was good ($\alpha = .85$).

Maternal mental health service use. Mothers were asked to report for a specific recall period of time whether she had needed any mental health services, whether she had received any services, and if so, the specific services she received. Services included mental health treatment in a hospital/clinic where she stayed overnight, services to help deal with a crisis, individual and or group mental health counseling/therapy, services of a psychiatrist or other medical practitioner for the monitoring of psychiatric medications, and services of a case manager or some other person to help coordinate mental health services. Mental health service use was collected at baseline recalling within the past 3 months, as well as at each follow-up interview that asked mothers to think back to the previous interview. Dichotomous variables indicated whether mothers received any mental services at each time point.

Housing experiences. Mothers used a structured residential follow-back instrument to provide timelines of the places they lived before and during the 15-month study period (Fowler, Toro, & Miles, 2009; New Hampshire Dartmouth Psychiatric Research Center, 1995). Interviewers asked mothers where their families stayed the night before and how long they had stayed there, and continued backward until the time of the previous interview. For each site, mothers described living arrangements, which were coded as one of 18 housing types. Examples of these situations included families who lived in their own apartment or room, lived in a shelter, lived on the streets, and stayed with a friend. The instrument was collected

at baseline for the previous 6-month period, and was readministered at each interview. Two variables captured different aspects of housing across the follow-up period. First, *stable housing* indicated the number of days since baseline until families moved out of a homeless shelter. Second, *proportion of time homeless* divided the number of days spent in a homeless shelter after the baseline interview by the total number of days since baseline.

Time and family demographics. Time was measured in days from the date of the baseline interview to each follow-up interview date. Mothers reported number of children younger than 18 years old living in their care, age of each child, current employment status (any employment), sources of income including employment and benefits, race and ethnicity, and highest educational attainment.

Analytic Approach

Analyses were conducted in three phases. The first phase described family characteristics and investigated possible differences between treatment conditions and follow-up. After probing the validity of randomization procedures, a second analytic phase used data to investigate model fidelity. This phase included describing differences between treatment conditions in caseload and supervision, as well as connection with housing. In particular, survival analysis predicted whether FCTI families left homeless shelters earlier than families in the services-as-usual condition, as expected in the rapid rehousing program. The third phase of analysis examined mental health outcomes of mothers associated with service receipt. Descriptive analyses examined treatment condition differences on symptomatology and service utilization at baseline and follow-up interviews. In addition, analyses examined mental health services use and level of symptomatology to query whether mothers in need received mental health services. Finally, a time-variant hierarchical linear model (HLM) examined changes in maternal mental health over four assessments across the 15-month follow-up. An intent-to-treat analysis tested whether families referred for FCTI exhibited greater improvements in mental health over time. The HLM model included covariates representing study group, time, time homeless before rehousing, a group-by-time interaction term, prior mental health service use, and a group-by-mental health services use interaction term to control for the difference in mental health services use by the groups. Missing data on repeated outcome measures were handled using HLM.

Results

Recruitment and Retention

Of the 434 families who qualified for the study based on nondiagnostic enrollment criteria, 113 (26%) were screened out after completing the modified M.I.N.I.—that is, the mothers did not appear to have an Axis I diagnosis. An additional

98 mothers were screened out because they failed to meet other study criteria, such as being single or living with their children. In all, 223 families enrolled in the study: 100 in the experimental group (FCTI intervention) and 123 in the control group (services-as-usual). An initial attempt to overenroll control families was abandoned because of diminishing numbers of eligible homeless families. After randomization, 13 families (3 = FCTI, 10 = Control) could not be tracked for baseline assessment. The final sample at baseline assessment included 210 families, of which 97 were randomly assigned to FCTI and 113 were assigned to the services-as-usual control condition.

Table 1 presents demographic information on mothers at the time of baseline assessment shortly after families entered the shelter system. Most of the homeless mothers (85%) identified as African American, Latino, or other ethnic minority; this percentage contrasted with the primarily (71.3%) Caucasian population of the county as described in Census data. The majority of mothers were in their late 20s and early 30s, living with 3 children ($SD = 1.6$) younger than 18 years. The average age of the children was 9 years old ($SD = 5.00$). Nearly two-fifths of the mothers did not have a high school diploma or GED, and most (85%) were currently unemployed. More than 1 out of 5 of the mothers reported that during their childhood, they had been involved in foster care placements. No significant differences existed between the treatment and control conditions on any demographic characteristics at baseline assessment, including the dependent variable of maternal mental health. This finding supported the validity of the stratified randomization strategy. The overall retention rate at 15 months was 73%, with a slightly higher rate among the treatment group of 77%. Retention rates at each time point (3, 9, and 15 months) did not significantly differ by treatment condition.

Fidelity and Housing Outcomes

The results of the two fidelity analyses revealed the implementation of the model in terms of structure and process was consistent with its intended form. FCTI families were handled by caseworkers with reduced client loads. Because FCTI families were not required to meet specific housing readiness criteria (short of establishing they were not dangerous), these families moved into housing more rapidly than their control group counterparts. In addition, the intervention was successfully limited to 9 months, and delivered as planned as three separate phases, with each phase determining both the goals and activities of the caseworker and the nature and frequency of the interaction with the client. Emphasis was placed on creating and securing links and support for the family in the community that would outlast the interaction with the caseworker, and thus, ensure greater housing stability. No modifications were indicated. However, over the course of the study fidelity analyses revealed caseloads for the control condition became much higher than anticipated. Caseworker turnover at one of the

Table 1

Baseline Characteristics of Mothers Randomly Assigned to Receive the Family Critical Time Intervention (FCTI) Plus Housing or to Receive Usual Homelessness Services

	FCTI (n = 97)	Control (n = 113)	Total (N = 210)
Maternal age	32.1 (7.1)	32.8 (8.3)	32.5 (7.8)
Number of children	2.9 (1.4)	3.2 (1.7)	3.0 (1.6)
Mean age of children (<1 – 18 years)	9 (5)	9 (5)	9 (5)
Married or cohabitating	23 (24)	34 (30)	57 (27)
Maternal race			
African American	48 (49%)	69 (61%)	117 (56%)
Caucasian	15 (15%)	17 (15%)	32 (15%)
Hispanic / Latino	17 (18%)	11 (10%)	28 (13%)
Other	17 (18%)	16 (14%)	33 (16%)
Maternal education			
Some high school or less	36 (37%)	45 (40%)	81 (39%)
High school diploma/ GED	22 (23%)	18 (16%)	40 (19%)
Vocational / some college or less	39 (40%)	50 (44%)	89 (42%)
Currently employed	12 (12%)	20 (18%)	32 (15%)
Monthly income			
Nonbenefit income	\$204 (\$335)	\$288 (\$493)	\$250 (\$428)
Benefit income	\$479 (\$420)	\$518 (\$357)	\$500 (\$387)
Total income	\$684 (\$438)	\$807 (\$547)	\$750 (\$502)
Maternal history of foster care	23 (24)	23 (20)	46 (22)
Health and mental health			
Have health insurance / Medicaid	65 (70%)	80 (71%)	145 (70.4%)
Global Sensitivity Index (GSI mean)	58 (12)	58 (12)	57.7 (12)

Note. GED = General Educational Development; high-school equivalency degree. Values represent means (standard deviations) or count (percentage) within group. No significant differences between treatment and control groups. Non-benefit income included earnings from work, retirement, unemployment compensation, family contributions, savings, child support, alimony; benefit income summed assistance received from food stamps, supplemental security income (SSI), Social Security Disability Insurance (SSDI), state/county assistance, disability, veterans' disability, benefits, and pension. Mental health was measured using Global Severity Index standard score.

larger shelters was high, and staff members were replaced relatively slowly, pushing family-to-caseworker ratios in the control condition as high as 50 : 1 for those who remained in the shelter facility. Thus, the intervention caseloads, which maintained the planned family-to-caseworker ratio of 12 : 1 or less, was dramatically lower than the control condition.

Another difference between treatment conditions reflected the timing and type of affordable housing made available to homeless families. As part of the

FCTI protocol, families were provided more immediate access to scattered-site transitional housing without consideration of the housing readiness of mothers, which reflected a Housing First approach. In contrast, families receiving homeless services-as-usual were connected with permanent housing after shelter staff deemed mothers to be good candidates to use the resource. Analyses of housing experiences supported treatment condition differences. A higher number of FCTI families left shelter (98%) compared with control families (84%), and the transition from shelter to housing occurred more quickly among the treatment group. The average number of days until FCTI families first moved into stable housing was 91.25 ($SD = 82.3$), whereas the control group took an average of 199.15 days ($SD = 125.4$). Survival analyses presented in Figure 1 formally tested whether treatment conditions differed on the probability of rehousing over time. The significant treatment effect reflected the descriptive statistics such that the majority of FCTI families were rehoused after 2 to 3 months, whereas the bulk of services-as-usual families were rehoused after 5 months.

It should be noted that as the study period progressed, the control group became significantly less likely than the intervention group to spend a longer period in shelter. Based on the early success of FCTI in rehousing families in a timely manner, county officials increased the availability of permanent housing vouchers to families involved in the homeless service system. This change included creating a preference for homeless families to receive Section 8 vouchers, and the county increased rental allowances for families that were not eligible for Section 8 or other voucher programs. These initiatives decreased the overall census of the county homeless population, as well as allowed study families in the control condition to receive housing more quickly, but still within the framework of services-as-usual.

Mental Health Problems and Service Use

At baseline, homeless mothers reported relatively high levels of mental health symptoms and service use. The mean standard score for the GSI fell close to borderline problem range ($M = 57.7$, $SD = 12$). Baseline GSI scores showed no significant differences between the treatment ($M = 58$, $SD = 12$) and control ($M = 58$, $SD = 12$) conditions. Also at baseline, mothers reported high use of mental health services; 19% had used mental health services in the past 3 months, whereas three-fifths (63%) of mothers had used mental health services sometime in their lifetimes. Almost one-quarter (23%) of mothers reported at least one inpatient psychiatric admission. Although not of central focus in this study, data were also collected on posttraumatic stress disorder (PTSD) symptoms and substance abuse. Nearly half of the mothers (45%) met clinical criteria for PTSD, whereas fewer reported substance use and treatment. One-quarter of the mothers had used alcohol in the past 30 days, and 10% had ever sought treatment for

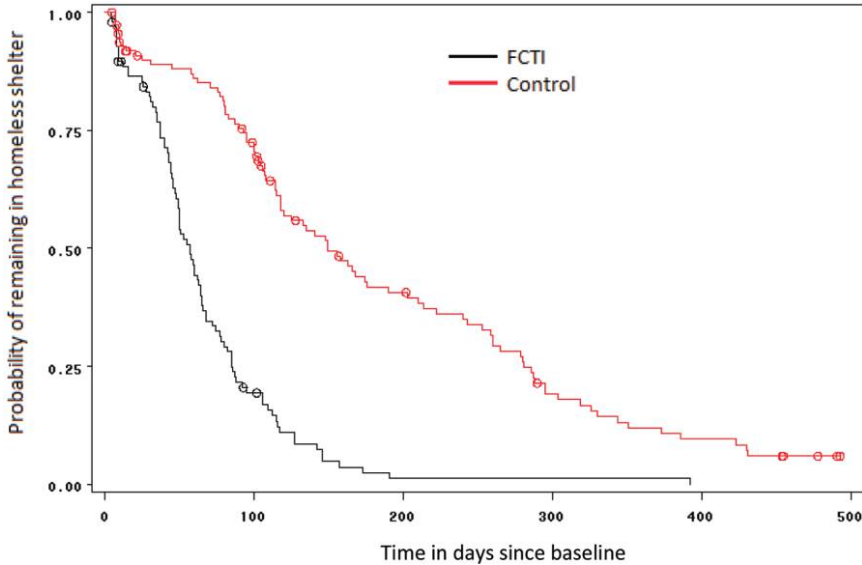


Figure 1. Survival curve of the number of days after baseline assessment until families moved into their own housing arrangements. *Note.* The horizontal axis represents days since baseline assessment whereas the vertical axis shows the probability of staying in homeless shelters. Families randomly assigned to the Family Critical Time Intervention (FCTI) plus scattered-site housing (black line) obtained stable housing significantly more quickly than families receiving homeless services-as-usual (red line) that included connection to permanent housing.

alcohol use. More than one-fifth (21%) of the mothers had received treatment for drug use.

As depicted in Figure 2, the mothers' mental health problems declined across time. Between baseline and 15-month assessments, mothers reported a 9-point decrease, on average, in standard GSI scores. This decrease brought most mothers into the normal range of mental health relative to the general adult population. Examining the sample quartiles, the mean score for those in the top 25th percentile at baseline was $t = 66$, dropping to $t = 59$ at 15 months; the mean score for those in the lowest 25th percentile dropped from $t = 50$ to $t = 33$. The percentage of mothers with GSI scores that fell in the borderline or clinical range of mental health problems also declined uniformly across treatment conditions; mothers in the treatment group with elevated symptoms declined from 77% at baseline to 42% at the 9-month follow-up, whereas percentages in the control condition dropped from 73% to 38%.

Table 2 presents patterns of mental health services use by treatment condition and level of symptomatology across time. Mothers with higher mental health needs accessed services at greater rates across the 15-month follow-up period,

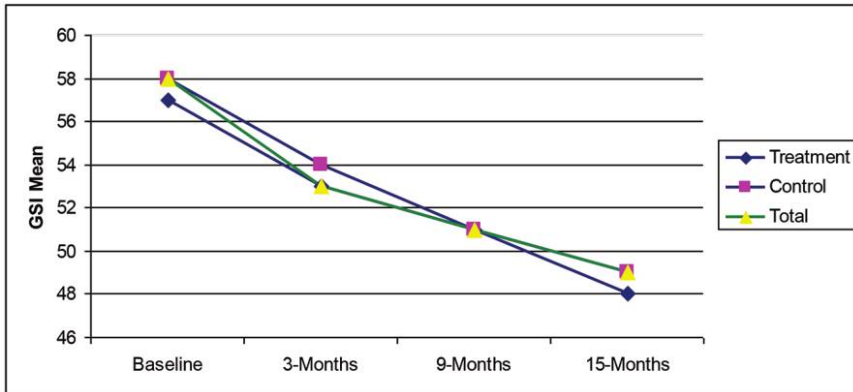


Figure 2. Mother-reported mental health problems at baseline, 3-month, 9-month, and 15-month follow-ups. *Note.* GSI = Global Severity Index standard score with a mean of 50 and standard deviation of 10.

not only suggesting that appropriate connections to resources had been made, but also suggesting the validity of the GSI classifications. In addition, as compared with mothers in the control condition, mothers in the treatment condition reported greater use of mental health services at the 9-month follow-up; this service use corresponded with the period when control families transitioned out of the homeless system, whereas FCTI families worked with caseworkers to try-out connection to services in the community.

An intent-to-treat analysis tested whether FCTI related with improvements in maternal mental health beyond the effects of housing and mental health service usage. Table 3 presents estimates from HLM models predicting linear change in GSI scores across time. Time negatively predicted change in symptoms, such that all mothers experienced a decline in mental health problems across the 15-month follow-up period. No significant differences existed in initial mental health and rate of decline between treatment conditions; mothers receiving FCTI experienced similar improvements in symptoms as families in the control condition. Likewise, the proportion of time spent in a homeless shelter before connecting with affordable housing did not relate with maternal mental health status. However, mental health service use significantly predicted a greater level or severity of mental health problems, reflecting appropriate connection to services for mothers exhibiting mental health problems. The interaction between treatment condition and proportion of time homeless was not significant, nor was the three-way interaction of condition by time homeless by time since baseline. Although FCTI families moved out of the shelter system more quickly, this shorter time in shelter did not relate to improvements in maternal mental health.

Discussion

The rigorous design used in the present study provides useful and timely information to develop empirically informed practices and policies to end family homelessness. The study found that homeless mothers exhibiting elevated levels of distress upon entry into the shelter system experienced significant improvements in mental health over time when provided access to affordable housing. Receipt of time-limited case management facilitated connection to housing and services, but did not enhance mental health benefits for mothers beyond housing. Findings extend prior research that shows modest improvements in mental health of the children in homes that received FCTI (Shinn et al., 2015). Together, results emphasize the importance of safe and secure housing to promote family stability.

The passage of time was the key determinant of maternal mental health when homeless families connected with affordable housing. The extreme duress associated with becoming homeless with children diminished as families worked

Table 2

Number and Percentage of Mothers Who Used Mental Health Services at Each Wave by Level of Mental Health Problems and Intervention Condition

	Normal mental health		Borderline mental health problems		Clinical mental health problems		Total N (missing)
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	
Baseline							
Control	0	0	5	16	15	29	112(1)
Treatment	3	14	3	9	14	33	97(0)
3 Months							
Control	5	14	6	21	12	38	97(16)
Treatment	6	17	4	18	12	43	86(11)
9 Months							
Control	3	8	3	15	9	39	79(34)
Treatment	2	6	7	39	17	74	74(23)
15 Months							
Control	3	8	6	25	8	42	81(32)
Treatment	7	18	5	28	8	50	74(23)

Note. Mental health problems were identified using mothers' scores on the Global Severity Index (GSI). Standard scores lower than 50 are considered in the "normal" range; score from 50 to 59 are considered "borderline"; and scores of 60 or greater fall into the clinical problems range.

Table 3

Hierarchical Linear Model Parameter Estimates of Change in Maternal Mental Health Over Time Predicted by Housing Intervention, Housing Experiences, and Mental Health Service Use

	Estimate	<i>p</i>
Intercept	86.04	<0.001
Time	-0.02	<0.001
Treatment group	0.043	0.44
Treatment group * Time	0.002	0.68
% Time homeless	0.61	0.65
Mental health service use	4.58	<0.001
Treatment group * %Time homeless	-3.37	0.17
Treatment group * % Time homeless * Time	.001	.99

Note. *p* = statistical significance. Treatment group coded families referred to homeless services-as-usual as a zero and Family Critical Time Intervention (FCTI) families as 1. Variable *percent time homeless* represented the proportion of time mothers spent in a homeless shelter after baseline assessment. Variable *mental health service use* represented a time-varying covariate that indicated whether mothers reported receiving services at each follow-up interview.

toward rehousing. The service-rich homeless system in which this study occurred provided families with a comprehensive assessment of needs as well as immediate opportunities to connect with an extensive array of resources. For example, mothers connected with entitlement and jobs programs to address income issues, children received health and behavioral health screens to determine treatment plans, and most importantly, mothers immediately worked toward housing. Resources and supports through social services met mothers' needs for safety and stability and facilitated adaptive coping with the trauma of homelessness.

Implications for Practice

This study's findings support the use of Housing First approaches to end family homelessness. FCTI families immediately placed in scattered-site subsidized housing experienced no significant setbacks in mental health, whereas mothers who remained in shelters for longer periods showed no sizeable benefit in mental health and housing outcomes. Mothers also secured and kept subsidized housing, and stability occurred regardless of whether shelter staff and service providers deemed mothers as housing ready. Mothers did well in the community without fully resolving other risks and barriers that precipitated entry into shelters.

The initial success of FCTI families in this study led county officials to revise shelter policy and to move families in the services-as-usual condition into per-

manent housing situations more quickly. Although this mid-study policy change attenuated differences between the treatment groups, it provided additional support that quickly moving families out of shelters and into affordable housing is a viable and beneficial option for mothers experiencing mental health problems, as previously demonstrated with mentally ill homeless individuals (Padgett et al., 2009; Tsemberis, 1999). Findings support recent large-scale initiatives that immediately connect families with housing, such as Supportive Services for Veteran Families. The Veterans Affairs program provides rapid rehousing plus time-limited case management services for veterans and their families across the United States, and similar to this study, initial findings suggest families consequently secure housing (Byrne, Kuhn, Culhane, Kane, & Kane, 2014). Given that Supportive Services for Veteran Families served more than 60,000 households in its first 2 years, promise exists for taking Housing First programs to scale.

The current study provides nuanced evidence to inform supportive housing models targeting homeless mothers with mental health or substance abuse problems. The study found no differences in mental health improvements among mothers who received FCTI versus services-as-usual; time and rehousing explained declines in maternal symptomatology. Lower caseloads and greater training and supervision in evidence-based mental health practices appeared less useful for mothers; however, children in FCTI families showed small improvements in the trajectories of behavior problems at home and at school over time (Shinn et al., 2015). Thus, FCTI benefited child mental health beyond general improvements in maternal symptomatology. Future analyses will explicitly examine the processes involved; however, findings demonstrate the importance of empirically informed case management in supporting overall family functioning.

The service-rich homeless system must also be considered in interpretation of the FCTI benefits. Families in the services-as-usual group received extensive assessment and connection to services through partnerships between shelters, local nonprofits, and governmental agencies; in fact, some shelters house various service providers to coordinate treatment. Mothers in the control condition received resources unavailable in most other homeless systems. Resources diminish differences between treatment groups, and thus, the study provides a conservative test of evidence-based case management. Specifically, lower caseloads and evidence-based practices provided by FCTI case managers are likely to matter less when families connect with multiple service providers. Benefits of FCTI might be more apparent when applied in other homeless and social service systems, especially with less consistent connection to affordable housing.

The present study also points to the complexity of screening families for supportive housing. FCTI attempts to serve mothers experiencing significant challenges that are a result of mental health problems. The sharp decline in maternal symptoms seen across treatment conditions questions whether initial assessments

identified the neediest families. Although the M.I.N.I has shown reliability and validity with other adult populations (Lecrubier et al., 1997; Sheehan et al., 1997), the brief assessment tool might not adequately distinguish Axis I diagnoses from the duress of becoming homeless. Sole reliance on self-reported mental health symptoms at shelter entry might represent an insufficient triage mechanism to identify at-risk families. More comprehensive assessment of lifetime experiences with mental illness may be necessary. In addition, referral sources for supportive housing could provide additional information to confirm family needs. For example, mothers in contact with the child welfare system might represent a subgroup at particular risk. Furthermore, benefits of FCTI with families who have the most need for specialized housing programs would be masked in the present study given the small sample sizes and limited power to detect effects. Future efforts to implement supportive housing models must consider these difficulties in assessment.

Limitations

The study findings must be considered in the context of some limitations. The absence of a true baseline assessment of maternal mental health precludes the ability to rule out alternative explanations for improvements in maternal mental health beyond rehousing. Initial mental health screening occurred when mothers entered shelters, and mothers were included in the study because of high levels of mental health problems. Decline in symptoms might represent a regression to the mean; that is, mothers' mental health would have improved regardless of services received and connection with affordable housing. In addition, baseline assessment of mental health outcomes (i.e., GSI) occurred on average one week after families arrived at a shelter, as well as after randomization to treatment conditions. The promise of rapid rehousing and individualized case management could have led to differential improvements in mental health among FCTI families, although the limited timeframe and lack of other differences between treatment conditions makes this unlikely. However, the absence of mental health assessment prior to entry into shelters prohibits ruling out these explanations. Regardless, policy implications for supportive housing remain; if people are selected for special services on the basis of distress, their distress is likely to decrease over time regardless of the treatment they receive.

Another limitation of the study is its reliance on mother self-report of outcomes and services. Using a single reporter introduces measurement error that can mask true effects, even though no assessment of the quality or quantity of service use is available. This limitation could potentially distort results. In particular, the finding that mental health services relate with increases in mental health problems over time suggests we captured need more so than the therapeutic benefit of these services. Future implementation of supportive housing

models with at-risk families would benefit from incorporating additional usage and effect indicators for mental health treatment and social services. In addition, the exclusion of mothers entering domestic violence family shelters limits generalizability of findings because this population is likely to be experiencing elevated levels of trauma beyond the distress associated with homelessness. Finally, data collection occurred nearly a decade prior to publication, and a number of changes in the housing market and homeless services have occurred that contextualize the findings. For example, the intervention occurred prior to the Great Recession that considerably altered housing and labor markets in many communities. Likewise, initial reports from this study led to greater emphasis on rapid rehousing with families across the country, and a need still exists for evidence-based practices to ensure that families benefit from these services. Replication of success through FCTI in a number of other cities shows promise for broader implementation.

In summary, the study provides much-needed evidence on the use of supportive housing models with at-risk homeless families. The findings highlight the importance of rehousing, as well as the utility of time-limited and evidence-based case management to address needs of homeless families. Programs must consider suitable ways to triage families to provide limited resources to those experiencing greatest risk. Future research will further examine specific housing experiences associated with mother and child outcomes. In addition, analyses will investigate connections with social supports and services that represent key components in explaining the effects of FCTI on families. Policy and practices based on empirical investigation promise to enhance services to end family homelessness.

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