

This study looks at two sets of women who stayed in New York City homeless shelters in 1992—one set as part of a family and the other set as individuals—and at factors associated with an increased risk of their experiencing repeat shelter stays. Descriptive statistics and event history analysis indicate that regardless of whether the women stay in shelters with their families or by themselves, various family dynamics are associated with particular vulnerability to subsequent shelter stays, especially when the women are part of “young” families, are in households with absent children, or disclose a history of domestic violence. Exits from a shelter stay to one’s own housing, on the other hand, has the strongest association with avoiding repeat shelter stays. These results suggest that family dynamics and the availability of affordable housing are two important focuses for efforts to reduce the incidence of homelessness among women.

Family Dynamics, Housing, and Recurring Homelessness Among Women in New York City Homeless Shelters

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What factors facilitate successful exits from homelessness? Much concern has been expressed about a “cycle of homelessness” (e.g., Inter-agency Council on the Homeless, 1994) that leads many persons, once they become homeless, to experience repeat homeless episodes in a prolonged homeless career. Yet, despite such concerns, a paucity of longitudinal homeless data accounts for relatively little being known about what factors are associated with an increased risk, after having had a homeless episode, for a person to experience subsequent homeless episodes. This leads to little available information to inform an often heated debate surrounding the merits of providing such things as increased housing and

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increased support services to ameliorate homelessness. It also leaves a significant gap in understanding the dynamics of homelessness.

Using administrative data, this study follows two groups of women who exited New York City homeless shelters in 1992 and investigates what factors relate to these women's ability to make long-term exits from the shelter system. The increased presence of women, many with children, among the homeless population has led to extensive inquiry into the relation between family dynamics and homelessness. Considerable evidence indicates that family dynamics, such as pregnancy, instability, recent childbirth, and domestic violence, place women who are already in tenuous housing and financial situations at even greater risk for homelessness. Along with this, however, a general increase in female-headed households since the 1970s and the high rates of poverty among these households also have left women more vulnerable to the economic and housing factors associated with homelessness (Bassuk, 1993).

Such an array of factors associated with women and homelessness has helped fuel debate, in research, policy, and media forums, about placing structural or individual factors as the primary causes of homelessness. From these divergent positions, there has emerged a more moderate position that incorporates both structural issues and individual characteristics and circumstances. This position outlines a process in which structural factors such as poverty, the declining availability of affordable housing, and lack of employment have left growing numbers of persons and households facing considerable difficulty in maintaining their housing arrangements and who are at risk for experiencing episodes of literal homelessness. From this group, certain persons and households, because of individual factors—disabilities, family dynamics, misfortune, or some other circumstances—are particularly vulnerable to experiencing homelessness and account for the unusually high prevalence of these individual factors in the homeless population (Rossi, 1989; Wolch & Dear, 1993). Koegel, Burnam, and Baumohl (1996) likened this to a game of musical chairs, where an increasing number of players vie for a declining number of chairs, and where those players who are at a competitive disadvantage are the most likely to remain standing when the music stops.

This study examines how various factors, including selected family and housing dynamics, affect a woman's ability to exit the homeless shelter system successfully. Because of their previously disrupted living situations, the women who are the participants in this study can be regarded as remaining particularly susceptible to repeated homeless episodes after exiting the shelters. As such, following them over time stands to offer insights into the respective roles that structural and individual factors play

among a population at high risk for homelessness. More specifically, this study examines whether certain family-related characteristics or, alternatively, structural factors, such as availability of housing, are associated with any changes in women's risk of again experiencing homelessness, either with or without their households.

WOMEN, FAMILY DYNAMICS, AND HOMELESSNESS

One of the basic gender differences in homelessness centers around family. Burt and Cohen (1989a, 1989b), in an Urban Institute study of homelessness nationwide, estimated that, among service-using adults (i.e., shelter and soup kitchen users) in large American cities, 9% were single women and another 9% were women accompanied by at least one child. Although half of adult service-using women were estimated to be homeless with their children, 98% to 99% of their male counterparts were homeless by themselves—although more than half of homeless men had fathered children. As a result, 80% of homeless households with children were headed by a single mother (Interagency Council on the Homeless, 1994). Thus, it is also not surprising that although men have their highest risk for staying in a shelter in their 30s and 40s, women's period of highest vulnerability to shelter stays occurs between ages 18 and 29, during their early childbearing years (Culhane & Metraux, *in press*).

Women, as compared to men, are also much more likely, when homeless, to use emergency shelter facilities, as opposed to using makeshift sleeping arrangements in such places as on the street, in vacant buildings, and in encampments. Reasons for this include the greater susceptibility to predatory violence that women face on the streets; the greater difficulties involved in caring for children in such conditions; and, when there are children present, the perceived threat of losing them to forced foster care placements. The type of shelter facilities available to women may vary widely. In New York City during the early 1990s, the public shelter accommodations available to unaccompanied women consisted of approximately 1,300 beds in 11 facilities ranging in size from 40 to 266 women (Women's City Club of New York and the Coalition for Homeless Women, 1992). The living arrangements were primarily congregate, dormitory-style, sleeping facilities. The family shelters in New York City housed an average of 5,267 families, or 17,177 persons, on a given night in 1992. Women in these households received accommodations in a variety of facilities that were either hotels contracted to provide rooms to homeless households; dormitory-style shelters with congregate sleeping

arrangements; or "Tier II" shelters, which featured a private room for each homeless household (Culhane, Metraux, & Wachter, 1998).

Among women staying in shelters, a disproportionate number of them are either pregnant or are accompanied by small children (Rossi, 1994). Pregnancy and small children place additional stress on any woman's housing, financial, and social resources, and thus may serve as a catalyst to seeking a shelter bed (Bassuk & Weinreb, 1993; Weitzman, 1989). Weitzman noted that 35% of a sample of women interviewed while applying for shelter in New York City were pregnant, as compared to 6% in a comparison group of housed women receiving Aid to Families with Dependent Children (AFDC) benefits. Similarly, Weitzman observed that 26% of the former group had given birth in the last year, compared to 11% of the latter group. She found that, of women requesting family shelter, those who were pregnant or were new mothers were both younger and more likely to have lived in "doubled-up," secondary tenant situations than their counterparts who were not pregnant. Weinreb, Browne, and Berson (1995), describing a service demonstration program targeting homeless women, also observed that pregnant women remain vulnerable to relapsing into homelessness after exiting shelters, especially when they have limited social support networks.

Another family-related issue that has become intertwined with women and homelessness is family instability, defined here as households in which either parents or children are absent from the household for extended periods of time. As mentioned previously, most homeless households with children are headed by single women, in which the male parent either left or had never joined the household (Rossi, 1994). In addition, increased stress brought on by the financial, housing, and other difficulties related to homelessness can be instrumental in causing additional separations among parents and can lead mothers to place their children either with family or friends or, less voluntarily, to relinquish custody of the children to the child welfare system (Steinbock, 1995; Williams, 1991). No precise data on rates of homeless women who have children in these types of foster care are available, but Smith and North (1994), in samples of sheltered women with and without children, found that 23% of those they surveyed had some but not all of their children staying elsewhere, and 20% had none of their children with them. This indicates that there are similar rates of households with absent children among single sheltered women and among sheltered families. Weitzman (1989) also noted that women seeking shelter placement have more children not living with them than a comparison group of AFDC recipients. Noting that studies show homeless women to be three to five times more likely than housed

mothers to report an open child welfare case, McChesney (1995) considered it likely that many of these children in question are in state custody. One contributing factor to family instability among homeless families are shelter policies (Rossi, 1994). Many shelters either do not have facilities for male parents or will only shelter both parents if they can document a legal marriage. Older children, especially adolescent boys, often cannot stay in shelters where women and younger children share common living areas (Mihaly, 1991) and are left, in some instances, to take to the streets (Solarz, 1992).

Weitzman (1989) also found that pregnant women and women with infants were more likely than other homeless women to have "experienced serious family disruption" (p. 177) such as placement in foster care while growing up. Other studies also noted a high prevalence of homeless persons who experienced episodes of foster care placement as children, with rates as high as 25% for the total homeless population (Koegel, Melamid, & Burnam, 1995; Rog, Holupka, & McCombs-Thornton, 1995; Susser, Struening, & Conover, 1987). Goodman (1991) reported that 16% of her sample of homeless single mothers spent time in foster care as a child, a rate significantly higher than a comparison group of poor, housed single mothers. Nunez (1994) and McChesney (1995) also noted high rates of foster care placements and active child welfare cases involving children of homeless women who were themselves in foster care as children. Although this link between foster care and homelessness needs more research, the relation between the two appears to manifest itself as a mutually reinforcing cycle.

Studies show that a high proportion of homeless women disclose domestic violence as a chronic feature of their relationships and family life or as a precipitating factor in their current homeless episode (Bassuk & Rosenberg, 1988; D'Ercole & Struening, 1990; North, Thompson, & Smith, 1996; Redmond & Brackman, 1990; Wood, Valdez, Hayashi, & Shen, 1990). Browne (1993), in a review of studies of domestic violence among homeless women, found that the more in-depth the interviewing of homeless women, the greater the reported proportions of women who disclose that they were physically or sexually abused. According to Browne, the highest rates of victimization among homeless women were found by Goodman (1991), where 60% of a sample of 50 homeless mothers reported childhood physical abuse, 42% reported childhood sexual abuse or rape, and 64% reported violence inflicted by an adult partner.¹

Although many women who are staying in single-adult shelters do have minor children (Smith & North, 1994; Women's City Club of New

York and the Coalition for Homeless Women, 1995), research also indicates the existence of basic differences between women who stay in single-adult shelters and their counterparts in family shelters. In one of the first studies to compare these two groups of women, Burt and Cohen (1989b) found that homeless women unaccompanied by children, as compared to homeless women with children, have higher rates of past psychiatric hospitalization and past inpatient chemical dependency, experience longer durations in their current spell of homelessness, have more education, and are older and proportionally more White. Other studies found that, even among homeless mothers, those unaccompanied by minor children were older, had been homeless longer, and had more indicators of disabilities (Johnson & Kreuger, 1989; North & Smith, 1993; Smith & North, 1994).

Along with this literature describing links between family dynamics and women's homelessness, a more modest body of research suggests that one effective measure to prevent repeat spells of homelessness is affordable housing. Shlay (1994), Weitzman and Berry (1994), and Stretch and Kreuger (1992) all show associations between shelter exits to affordable housing and reduced rates of shelter returns. Wong, Culhane, and Kuhn (1997), using New York City family shelter data, specifically examined types of housing and their effect on family shelter exits and family shelter returns. Their results showed a strong negative association between exits to government subsidized housing and shelter returns. Their study, focusing on families, also showed that having a pregnant family member, receiving public assistance, the presence of additional children and additional adults, and being either Black or Hispanic are all associated with an increased hazard of returning to family shelter.

Taken together, the research discussed here indicates that women, much more than men, take their family responsibilities with them into the shelter, and that certain family characteristics and dynamics seem to be unusually prevalent among homeless women. This study further looks into the relation between certain family dynamics—pregnancy, single parenthood, young children in the household, domestic violence, family instability—and homelessness, and how these dynamics contribute to the women's risk of experiencing a repeat shelter stay, either at a family shelter or at a single-adult shelter, where family dynamics are not so readily apparent. On the other hand, this study also tests the conclusions in the literature that providing homeless households with housing appears to decrease the risk for repeated episodes of homelessness.

DATA

DATA SETS

To examine the relation between family dynamics and repeat shelter stays, administrative data from the New York City shelter system were used. The largest shelter network of any American city, New York City's Department of Homeless Services (DHS) either owns, administers, or contracts with shelters that provide emergency and long-term housing for an average, in 1992, of 25,900 homeless persons per night, two thirds of whom were part of families (Culhane, Metraux, & Wachter, 1999). New York City has been tracking shelter usage since 1986 for this system through two separate databases: one for families, who are tracked through the Homeless Emergency Referral System (HOMES); and the other for individuals, where information is kept through the Shelter Care Information Management System (SCIMS). Together, HOMES and SCIMS provide a comprehensive record of New York City public shelter usage and basic demographic data on its users for the years 1987 through 1995, and represent one of the few large, longitudinal databases on homelessness in the United States (Culhane & Metraux, 1997).²

HOMES and SCIMS reflect the parsing of the homeless population, when applying for public shelter, into two separate shelter systems according to their household status. Families, defined as one or two parents present with children and other related individuals, are placed in a system of family shelters. Aside from children and their custodial parents, a family, by HOMES criteria, may include legally married spouses, adult siblings, grandparents, and other immediate relatives. A woman without any children who is pregnant also can qualify as a family, as can a legally married couple without children. Legal or public assistance documentation is required to verify both relationship and pregnancy status. If shelter applicants do not meet the criteria for being homeless as part of a family, then they are assigned to the single-adult shelter system, which composes a completely different set of facilities.

SELECTION CRITERIA AND DEFINITIONS USED TO DESCRIBE DATA

Using HOMES and SCIMS databases, this article examines individual, family, and stay history data for two groups of women: one group who stayed, with their household, in family shelters; and the second group who stayed in single-adult shelters. The women were selected on the basis of their exiting from the New York City public shelter system in 1992 after

experiencing a shelter stay of at least 7 days, and by their falling, during this stay, within the 17- to 39-year-old age cohort, which encompasses traditional childbearing years and thus is directly affected by the family dynamics explored in this study. All women in the SCIMS data set who matched these criteria were selected. In the HOMES data set, one woman was chosen per eligible household by virtue of her age and her position as either the head of a household or the partner of a male head of household.

The 7-day shelter stay ending in 1992 is hereafter called the *reference stay*,³ and several features of this criterion for inclusion into the study group require further clarification. First, a shelter "stay" is considered to be a span of shelter use that both follows and precedes a 30-day absence from a shelter (Culhane & Kuhn, 1998; Piliavin, Wright, Mare, & Westervelt, 1996; Wong et al., 1997). By using this 30-day exit criterion, a stay hereby precedes an extended time period away from shelters and assumes that after an exit, alternate living arrangements have supplanted, not just provided temporary relief from, shelter use. Second, leaving a shelter may in some cases not mean leaving homelessness; depending on the living situation and the definition of homelessness used (Cordray & Pion, 1991), a woman (and her household), by virtue of subsequently living "on the streets" or in doubled-up situations with other households, still may be considered homeless. Finally, as previously mentioned, 7 days is used as the minimum duration of a reference stay. Although this distinction is to a degree arbitrary, a shorter shelter stay would appear to reflect a qualitatively different use of shelter and usually indicates either a very temporary, quickly resolved crisis or a pattern of residential instability that is largely independent of the shelter system. This distinction does not preclude women experiencing these briefer stays from being considered as homeless, but including the shorter stayers in this study would add a potentially confounding degree of heterogeneity in the shelter stay patterns of the women in the study group.

VARIABLES AND DATA SET MERGES

Because HOMES and SCIMS are used for reservations and tracking in the New York City shelter system, the data sets provide precise information on the dates and durations of periods of shelter stay. In addition, both data sets also give basic demographic information such as age and ethnicity, as well as limited information about each woman's situation prior to her reference stay and after her stay ended. Although SCIMS information on women's family characteristics is limited to information on pregnancy

and the presence of children staying elsewhere, HOMES has more detailed information on pregnancy; children and adults in the woman's household; and indicators for family instability, domestic violence, and receipt of public assistance benefits. SCIMS also has data that HOMES lacks, including indicators on disabilities (psychiatric, substance abuse, and medical) and receipt of Supplemental Security Income (SSI) disability benefits.

Shelter use can be assessed from these data sets not only within but across the two shelter systems. If women who experience stays in single-adult shelters also experience stays in family shelters, this would indicate that despite their being homeless as individuals, they have maintained ties, albeit apparently tenuous ones, with their families during some part of their homeless careers. Assessing the prevalence of crossover between shelters is done by comparing social security numbers and a "unique" identifier constructed for each woman from a combination of the first five letters of her last name, the first three letters of her first name, and her date of birth. A match on either social security number or unique identifier confirms that the woman in question spent time in both a family shelter and a single-adult shelter sometime in the time period 1989 through 1995.

These data make it possible to examine whether certain family dynamics that are already highly prevalent among sheltered homeless women also contribute to a greater likelihood for additional episodes of shelter use. Second, these data can explore to what degree exiting shelter stays to housing mitigates the risk of subsequent shelter stays. Finally, these data can show the extent to which women demonstrate stay histories across both types of shelters. The latter facet of this study offers potential insights on the nature of family dynamics among all sheltered women and into whether grouping homeless women based on whether they are accompanied by family represents an arbitrary separation of this population.

DATA ANALYSIS

Cox proportional hazards models are used to estimate the competing risks that both groups of women face for experiencing a stay in each type of shelter, single-adult or family, subsequent to their reference stay. This survival analysis technique offers the means to assess, first, the impact of the variables measured by HOMES and SCIMS on the women's ability to make a prolonged exit from the shelter system, and second, the different effects of these variables on the hazard of entering a single-adult or a family shelter following the reference stay.

Cox proportional hazard models are a type of regression model that are in a class of statistical methods known both as *survival analysis* or *event history analysis*. Survival analysis is well suited for analyzing longitudinal data that measures the occurrence of a specific event⁴ that contains covariates that may have causal relations with the event in question. In such cases, survival analysis is preferable to ordinary least squares and logistic regression methods because of its ability to easily accommodate both censoring, where the event in question does not occur to all persons in the data set, and timing of events.

The Cox proportional hazard model is perhaps the most widely used survival analysis technique. Two of the reasons for its popularity are that it allows for placing into the model time-dependent covariates, variables whose impact on the event may change over time, and that it does not require choosing a specific hazard function—the probability distribution for describing the survival times. In a Cox model, the hazard (h) of a return shelter stay by individual i at time t is represented by $h_i(t)$ in the equation:

$$h_i(t) = \lambda_0(t) \exp \{ \beta \mathbf{x}_i \},$$

where $\lambda_0(t)$ is an unspecified baseline hazard function and $\{ \beta \mathbf{x}_i \}$ is an exponentiated vector of coefficients for individual i (Allison, 1995). Two models, one for each type of shelter entry, models that constitute competing hazards, are fitted. For each group, a woman is considered at risk for experiencing a repeat shelter stay for a period of 3 years following her exit from the reference stay. In the competing risks model, once a woman experiences a subsequent shelter stay of one type (either family or single-adult shelter stay), she is then “censored,” or taken out of the risk set, for entering the other type of shelter. In either event, she is censored from the risk set for entering either type of shelter if she fails to return to a shelter in the 3-year time period. Thus, for the purposes of this study, a woman is considered to have made a permanent exit from the shelter system if she fails to return in 3 years following her exit from the reference stay.

The tables containing the results of the Cox models are read in a fashion similar to other types of regression models. Each covariate has a p value whose significance is interpreted in the same manner as the covariates for other types of regression models. The coefficients for the Cox model covariates are best interpreted by taking their exponential value, or e^β , to get each covariate's risk ratio. The risk ratio offers a gauge of the magnitude of the covariate effect that is more intuitive than the coefficient. For dummy variables, the risk ratio can be interpreted as the percentage

TABLE 1
Data on Shelter Stays, Age, and Race–Ethnicity for
Women With a 1992 Reference Stay in New York City
Single-Adult and Family Shelters

	<i>Single-Adult Shelter Users</i>	<i>Family Shelter Users</i>
<i>N</i> ^a	2,444	8,030
Median length of stay	57 days	190 days
Prior family shelter stay	19.9%	24.4%
Subsequent family shelter stay	15.6%	25.9%
Prior or subsequent family shelter stay	28.2%	42.0%
Prior single-adult shelter stay	40.8%	4.9%
Subsequent single-adult shelter stay	40.5%	4.4%
Prior or subsequent single-adult shelter stay	59.5%	7.7%
Any prior shelter stay	49.9%	27.0%
Any subsequent shelter stay	49.7%	28.1%
Any prior or subsequent shelter stay	69.6%	43.2%
Median age ^b	30.8 years	26.2 years
Race–ethnicity		
Black	78.8%	67.5%
Hispanic	13.2%	30.2%
White	5.6%	1.9%

a. Women in this study were between the ages of 17 and 39 and exited a New York City shelter sometime in 1992 following a shelter stay of at least 7 days.

b. Age is calculated on the last day of each woman's 1992 reference stay.

change, all other things being equal, in the estimated hazard for a value of 1 to a value of 0. For interval level variables, subtracting the risk ratio from 1 and multiplying by 100 gives the percentage change in the estimated hazard, all other things being equal, for each 1 unit increase of the variable in question (Allison, 1995).

RESULTS

DESCRIPTIVE STATISTICS

Data are presented for 8,030 women with a 1992 reference stay in the family shelter system and for 2,444 women with a 1992 reference stay in the single-adult shelter system.⁵ The first three tables show descriptive statistics on variables that are used in the subsequent event history analysis. Table 1 features findings on shelter stay patterns, age, and ethnicity—

variables that are directly comparable across the two groups of women. The median stay for women in family shelters is almost four times as long as the median stay for women in the single-adult shelters, which can be explained at least in part by the wait required to receive a subsidized housing placement.⁶ This longer stay duration is offset, however, by the lower overall rate of return shelter stays experienced by women staying in family shelters. For both groups of women, however, there is a high rate of multiple shelter episodes, as only 57% of the women in families and 30% of the single women have their reference stay as their only stay for the study period. Also worth noting, however, is that although roughly the same number of women from each group also experienced a stay in the other type of shelter, proportionally there is a lower rate of crossover from family shelters to single-adult shelters than vice versa. There is a 4½-year difference in median age between the two groups of women, even though the women in both groups were from the 17 to 39 age group. Finally, Table 1 shows, for both groups, extremely high proportions of Blacks as compared to the proportion of Whites.⁷

Table 2 contains variables that are unique to the women in the family shelter data set. These variables include measures of household composition, which show that 71% of the women in the study were the sole adults in their respective households and three quarters of the women's households had two children or fewer present during the reference stay. There was, for some of the women, turnover in their households during their shelter stay—adults and children either left or entered the household. Combining these household changes and after accounting for those households that experienced multiple instances of household turnover, 17% of the women experienced some change in household composition during their reference stay (not including 9% who gave birth during their stay), changes that reflect such dynamics as placing children with others or in foster care, taking children back into the sheltered household, and marital separation or reconciliation. Fifty-eight percent of the family shelter group either gave birth within the year before the reference stay or were pregnant at some point during the reference stay.⁸ Almost half of the women became mothers as teenagers, and three quarters of the women received public assistance income. According to self-reported data, which is likely here to undercount the actual rates, 40% reported living doubled up, or as a secondary tenant in someone else's household prior to their reference stay, and 9% of the women reported domestic violence issues as affecting their household. Finally, looking at data on shelter exits, 56% of the women left their reference stay to go to their own housing, mostly through rent subsidy programs but also through private-market housing.

TABLE 2
Household Variables of Women With a
1992 Reference Stay in New York City Family Shelters

Women in study with family shelter reference stay ^a	8,030
Adults in women's household during reference stay	
Woman is only adult in household	71.2%
Adults joined household during reference stay	6.5%
Adults left household during reference stay	3.6%
Children in women's household during reference stay	
No children in household	12.9%
One child in household	39.7%
Two children in household	25.0%
Three or more children in household	22.4%
Children joined household during reference stay	6.8%
Children left household during reference stay	4.8%
Women and childbirth	
Women who were pregnant during reference stay	34.5%
Women who gave birth during reference stay	9.6%
Mothers who entered shelter with a child less than age 1	27.5%
Women who had first child as teenage mothers ^b	47.8%
Women and their household situation	
Household received public assistance	75.2%
Report of domestic violence in household	8.9%
Report of "doubling up" prior to reference stay	40.0%
Stay outcomes	
Exit to subsidized housing	50.3%
Exit to "own" housing	5.9%

a. Women in this group were each from a separate household, were between the ages of 16 and 39, and exited a New York City family shelter sometime in 1992 following a stay of at least 14 days.

b. Teenage parenthood refers to woman's age at the birth of her first child, which happened either before or during shelter stay.

The remainder of the women exited to what likely were more tenuous arrangements such as joining another household.

Table 3 shows the variables available to women staying in single-adult shelters. Sixteen percent of this group exited to "community," which the DHS uses to refer to a broad range of housing outcomes including exits to supported housing; halfway houses; independent living; and less formal arrangements (e.g., with family) that are considered stable. The only data on family characteristics in SCIMS show that 56% of the women in this group reported minor children staying elsewhere and a small percentage, 1.5%, reported being pregnant.⁹ The disability indicators—mental, physical, and substance abuse—must be interpreted with caution as the reliability of the reporting is unknown. Twelve percent of the women in the

TABLE 3
Personal Variables of Women With a 1992
Reference Stay in the New York City Single-Adult Shelters

Women in study with single-adult shelter reference stay ^a	2,444
Stay outcomes—exit to community	15.8%
Women and their children	
Women with children staying elsewhere	56.3%
Women who are pregnant during reference stay	1.5%
Women and disability	
Confirmed history of mental illness	12.3%
Suspected mental illness	6.8%
Observed/reported substance abuse problems	52.7%
Women with observed/reported physical illness or disability	26.8%
Women receiving SSI disability benefits	12.4%

a. Women in this group were between the ages of 17 and 39 and exited a New York City single-adult shelter sometime in 1992 following a stay of at least 14 days.

single-adult shelter group were known to have had a diagnosis or treatment of a major mental illness (schizophrenia, bipolar disorder, or major depression), and another 7% were suspected to have mental illness, presumably based on self-report or observed behavior. More than half of the women were reported to have substance abuse problems, although the criteria for this determination is unclear. The 27% of women who fall into the "Physical Illness and Disability" category suffered from a wide range of maladies, some of which interfere more with daily functioning than do others. These indicators are imprecise and cannot be used to determine the prevalence of disabilities among shelter users accurately. Despite the indicators' limitations, however, they still could indicate possible relations between these issues and repeat shelter stays. A more rigorous standard of physical or mental disability, as well as a source of income, are SSI disability benefits, which 12% of the women in the single-adult shelter group receive.

COX PROPORTIONAL HAZARDS MODELS

Tables 4 and 5 estimate the effects of covariates, which are found on the first three tables, on the hazards of repeat shelter stays for women exiting family shelters and single-adult shelters, respectively, in 1992. As explained previously, each table estimates competing risks for returning to each of two types of shelter for each group of women in question. In addition to the covariates already mentioned, each model also includes interactions of some covariates with periods of time before either an event or

TABLE 4
Cox Proportional Hazards Model Estimating
the Hazards of Return Stays to Two Different Types of Shelters
for Women Exiting New York City Family Shelters in 1992

<i>Independent Variable</i>	<i>Repeat Family Shelter Stay</i>		<i>Subsequent Single-Adult Shelter Stay</i>	
	<i>Coefficient</i>	<i>Risk Ratio</i>	<i>Coefficient</i>	<i>Risk Ratio</i>
Single-parent household ^{a,b}	-0.2458***	0.782	0.6055**	1.832
Adult joined household	0.0659	1.068	-0.6344	0.530
Adult left household	0.0241	1.024	-0.0306	0.970
No children in household ^b	0.7033***	2.020	0.2368	1.267
One child in household ^b	0.2042***	1.227	-0.0031	0.997
Two or more children in household	—	—	—	—
Child joined household ^b	0.6392***	1.895	0.7733**	2.167
Child left household ^b	0.3473***	1.415	0.8255**	2.283
Pregnant	-0.0073	0.993	0.5640**	1.758
Gave birth during stay ^{a,b}	0.7117***	2.037	-0.7108*	0.491
With young child (< age 1) ^{a,b}	0.2754***	1.317	-0.2376	0.788
Had first child as teenager	0.1471**	1.158	-0.0387	0.962
Household on public assistance ^{a,b}	0.1543**	1.167	-0.3686**	0.692
“Doubled up” × Time (0–180 days) ^{a,b}	-0.0112**	0.989	-0.0824	0.921
“Doubled up” × Time (180 days to 3 years) ^{a,b}	-0.3081***	0.735	0.2593	1.296
History of domestic violence ^{a,b}	0.3512***	1.421	-0.3537	0.702
Length of reference stay (days) ^{a,b}	-0.0009***	0.999	0.0023***	1.002
One prior family shelter stay ^b	0.4494***	1.567	0.1702	1.186
Two or more prior family shelter stays ^{a,b}	0.8020***	2.230	0.0806	1.084
No prior family shelter stays	—	—	—	—
One prior single shelter stay ^{a,b}	-0.0182	0.982	1.7012***	5.481
Two or more prior single shelter stays ^{a,b}	-0.0509	0.950	2.9972***	20.029
No prior single shelter stays	—	—	—	—
Subsidized Housing × Time (0–180 days) ^{b,c}	-2.6898***	0.068	-2.6576***	0.070
Subsidized Housing × Time (181–365 days) ^{b,c}	-1.6819***	0.186	-2.02842	0.132
Subsidized Housing × Time (366–545 days) ^{b,c}	-1.0376*	0.354	-1.86682	0.155
Subsidized Housing × Time (546–1,095 days) ^{b,c}	-0.7058***	0.494	-1.3793***	0.252

(continued)

TABLE 4 Continued

<i>Independent Variable</i>	<i>Repeat Family Shelter Stay</i>		<i>Subsequent Single-Adult Shelter Stay</i>	
	<i>Coefficient</i>	<i>Risk Ratio</i>	<i>Coefficient</i>	<i>Risk Ratio</i>
Private Housing \times Time (0–189 days) ^{b,c}	–1.2905**	0.275	–1.49872	0.223
Private Housing \times Time (181 days to 3 years) ^{b,c}	–0.6082***	0.544	–2.0237**	0.132
Other type of exit from shelter	—	—	—	—
Age ^{a,b}	–0.0245***	0.976	0.0399**	1.041
Black	0.1731	1.189	0.6683	1.951
Hispanic	–0.0104	0.990	0.2889	1.335
White/other	—	—	—	—

NOTE: $N = 8,030$. In the family shelter model, 75.04% were censored, and in the single-adult shelter model, 96.9% were censored. Dashes indicate reference categories.

a. This indicates nonacceptance ($p < .05$) of the null hypothesis that the variable's coefficients in each of the two models are equal.

b. This indicates nonacceptance ($p < .05$) of the null hypothesis that the variable's coefficients in both models are equal to zero.

c. With interactions between the independent variable and time (in risk period), all time intervals for a particular covariate have the last time period as reference category (which represents the effect of the covariate without a time interaction). In the marked cases, the interaction with time does not significantly ($p > .05$) differ from the significant ($p < .05$) effect of the covariate without a time interaction.

* $p < .05$. ** $p < .01$. *** $p < .001$.

censoring occurs.¹⁰ The tables show the coefficient value and the risk-ratio for each coefficient, as described in the Data Analysis section.

MODELS FOR WOMEN WITH A 1992 REFERENCE STAY IN THE FAMILY SHELTER SYSTEM

Comparing the two models on Table 4 finds, in the family shelter return model, significant effects for most of the covariates describing either the woman's individual or household characteristics; however, many of these same covariates, in the single-adult shelter stay model, are either nonsignificant or have significant but very different effects on the hazard. In the family shelter model, covariates representing young mothers and young families are associated with an increased hazard for a repeat family shelter stay (i.e., returning). Giving birth to a child during the reference stay and having a child less than 1 year old yields increases of 104% and 32%, respectively, to the hazard of returning. Age has a significant negative coefficient, indicating that for each additional year of age, the hazard for

TABLE 5
Cox Proportional Hazards Model Estimating
the Hazards of Return Stays to Two Different Types of Shelters
for Women Exiting New York City Single-Adult Shelters in 1992

<i>Independent Variable</i>	<i>Repeat Single-Adult Shelter Stay</i>		<i>Subsequent Family Shelter Stay</i>	
	<i>Coefficient</i>	<i>Risk Ratio</i>	<i>Coefficient</i>	<i>Risk Ratio</i>
Children in others' care ^{a,b}	-0.0946	0.910	0.4286**	1.535
Pregnant ^b	0.5779*	1.782	0.5342	1.706
Reported substance abuse	0.0981	1.103	-0.0564	0.945
Confirmed mental illness ^b	0.4157***	1.515	-0.0461	0.955
Suspected mental illness ^b	0.3991***	1.490	0.2787	1.321
Reported physical health problems	-0.0354	0.965	0.1449	1.156
Receiving SSI disability income ^{a,b}	0.2971**	1.346	-0.4795	0.619
Housing Exit × Time (0–180 days) ^{a,b,c}	-0.8469***	0.429	0.5356	1.708
Housing Exit × Time (181–365 days) ^c	-0.4592	0.631	0.3068	1.359
Housing Exit × Time (366–1095 days) ^{a,b,c}	0.0903	1.094	-0.0218	0.978
Length of reference stay (days)	0.0004*	1.000	-0.0004	1.000
One prior single-adult shelter stay	0.1354	1.145	0.1391	1.149
Two or more prior single-adult shelter stays ^{a,b}	0.7471***	2.111	-0.2502	0.779
No prior single-adult shelter stay	—	—	—	—
One prior family shelter stay ^{a,b}	0.0648	1.067	0.8924***	2.441
Two or more prior family shelter stays ^{a,b}	-0.0265	0.974	1.5741***	4.827
No prior family shelter stay	—	—	—	—
Age ^{a,b}	-0.0060	0.994	-0.0467***	0.954
Black	0.0374	1.038	0.3821	1.465
Hispanic ^a	-0.1521	0.859	0.6554*	1.926
White/other	—	—	—	—

NOTE: $N = 2,444$. In the family shelter model, 62.23% were censored, and in the single-adult shelter model, 88.09% were censored. Dashes indicate reference categories.

a. This indicates nonacceptance ($p < .05$) of the null hypothesis that the variable's coefficients in each of the two models are equal.

b. This indicates nonacceptance ($p < .05$) of the null hypothesis that the variable's coefficients in both models are equal to zero.

c. With interactions between the independent variable and time (in risk period), all time intervals for a particular covariate have the last time period as reference category (which represents the effect of the covariate without a time interaction). In the marked cases, the interaction with time does not significantly ($p > .05$) differ from the significant ($p < .05$) effect of the covariate without a time interaction.

* $p < .05$. ** $p < .01$. *** $p < .001$.

returning decreases 2.4%, or, conversely, that being younger contributes to an increased risk of returning.

In contrast, in the single-adult shelter model, the coefficients of these three variables are significantly different and have opposite signs from their corresponding coefficients in the family shelter model. Two of the covariates—giving birth during the reference stay and age—have significant effects on the hazard of a subsequent single-adult shelter stay (i.e., crossover), the former being associated with a 51% decrease in the hazard of crossover and the latter being associated with a 4% increase in crossover hazard for each additional year of age.

For both models, having children enter or leave the household during the reference stay has a significant effect on the hazard of a subsequent stay. This means that such household instability apparently is associated with continued housing instability after exit from the reference stay; the twofold increase in the hazard of crossover associated with both children leaving and joining the household suggests that these women are at a higher risk of subsequently placing their children elsewhere. Smaller households, those with no children or one child each, have a significantly increased hazard for returning as compared to households with two or more children, but this effect is not present in the hazard of crossover. The associated increase in the hazard for women with no children is, surprisingly, very strong in the family shelter model and nonsignificant in the single-adult shelter model.¹¹

Another surprising finding is that pregnancy has a nonsignificant effect on the hazard of returning, although it is associated with a 75% increase in the hazard of crossover. Controlling for giving birth during the shelter stay and not having children likely contributes to explaining this covariate's weak effect in the family shelter model, but its strong effect in the single-adult shelter model raises questions about birth outcomes and child placement among those women who are pregnant but do not give birth during their reference stay.¹²

Status as the only adult in the household and receiving public assistance both have significant but opposite effects in the two models. The finding that being the sole adult is associated with an 83% increase in the hazard of crossover is consistent with the assumption that women in such households are more vulnerable to getting separated from what remains of their household. Receiving public assistance, however, is associated with a 31% decrease in the hazard of crossover. In the family shelter model, being the sole adult in the household and receiving public assistance are associated with a 22% decrease and a 17% increase in the hazard for returning.

In a related finding, adults joining or leaving the household have nonsignificant effects in both models.

With the remaining covariates related to household characteristics and dynamics, reporting domestic violence and being or having been a teenage mother both are associated with increased hazards (42% and 16%, respectively) of returning. Coming from a doubled-up living situation prior to the reference stay yields a negligible 1% decrease in the hazard for returning in the first 180 days. But if a woman avoids a repeat stay for that time period, this covariate is associated with a 27% decrease in the risk of return thereafter. All of these covariates, including the interactions, have no significant effect in the single-adult shelter model. Finally, being of Black or Hispanic race/ethnicity shows no significant effect on the hazard of returning in either model.

Another noteworthy set of findings are the effects of exits to housing placements, either to subsidized or private-market housing, as compared to other exits. In both models, exiting to either type of housing has a significant and strong association with a decreased risk of a subsequent shelter stay and also has significant interactions with time. For public housing in the family shelter model, the negative effect is strongest in the first 180 days after exiting from the reference stay. The effect of exiting to public housing is associated with a 93% decrease in the hazard of returning for a family shelter stay during this period, and then gets weaker in each subsequent 180-day time period. A similar-sized effect comes in the single-adult model in the first 180 days, but subsequent interactions are not significantly different from the final time interval (which represents the effect of the housing covariate without any time interaction). With exits to private-market housing, the coefficients also have negative impacts on the hazards in both models. This negative effect, in the first 180 days, is even stronger in the family shelter model but not significantly different from the overall effect (as shown in the later period) for the single-adult shelter model. These results suggest that for women leaving family shelters, housing, both subsidized and unsubsidized, becomes harder to maintain over time. Despite the decreased effect over time, however, judging from this model, exits to housing are one of the most effective means for preventing a subsequent shelter stay.

The variables related to shelter stay, used primarily for control, show strong effects associated with previous shelter use patterns. Length of the reference stay has opposite and significant effects in each model, and history of past shelter stays is significant depending on the model: Past single-adult stays have a significant effect on the hazard of crossover, and past family shelter stays have a significant effect on the hazard of returning.

In each case, this effect increases when there is more than one past shelter stay, and the effect of more than one single-adult shelter stay has an association with a 20-fold increase on the hazard of crossover.

MODELS FOR WOMEN WITH A 1992 REFERENCE STAY IN THE SINGLE SHELTER SYSTEM

Table 5 contains data on the women leaving single-adult shelters in 1992 and, like Table 4, indicates that different dynamics influence the hazards of subsequent stays in each of the two types of shelter. Of the disability variables, mental illness, confirmed or observed, is associated with increases of roughly 50% on the hazard for repeat single-adult shelter stays, and receipt of SSI is similarly associated with a 35% increase. None of these disability variables, however, has a significant effect on the hazard of a subsequent family shelter stay. The indicator for pregnancy has a significant effect on single-adult shelter returns, although having minor children staying elsewhere has a significant positive effect on the hazard for subsequent family shelter entry. This is similar to the pattern found in Table 4, in which pregnancy has a significant positive effect on the hazard for a subsequent single-adult shelter return, and variables related to children have significant effects on the hazard for a family shelter return. "Exit to Housing in the Community" has negative effects on the hazard for repeat single-adult shelter admissions only in the first 180 days after exit from the reference stay. As in Table 4, significant effects of past shelter usage are limited, in both models, to the particular type of shelter for which the hazard of a subsequent stay is estimated, and this effect on the hazard increases if there is more than one previous stay. Significant effects found only in the subsequent family shelter return model are for being of Hispanic ethnicity (associated with a 92% increase with the hazard) and for increased age (4.6% decrease in hazard per year of age), whereas the duration of shelter stay has a significant positive effect in the single-adult model only.

DISCUSSION AND CONCLUSION

Homelessness for the large majority of the women in this study occurs in the context of family, and this study's findings offer evidence that the presence of certain family dynamics in these women's households—having young children in the household, family instability, and domestic violence—are all associated with an increased risk of their experiencing

additional episodes of shelter use. Children, either present or absent in the household, represent the most salient link between women in the two types of shelters studied. Pregnancy, also examined in this study, was found to occur at high rates among the women in this study, but had a lesser association with return shelter stays.

These findings suggest that women in families with three different sets of characteristics are particularly at risk, once they are in shelters, for additional shelter stays and, by extension, for prolonged bouts with homelessness. In the first set are younger women who recently (i.e., less than 1 year before the reference stay) gave birth, often to their first child. In the second set are women who report a history of domestic violence in their households. In the third set are women, in both single-adult and family shelters, whose children are either not staying in the household or who join or leave their mothers' household during the time they spend in the shelter, apparently coming from or going to either foster care or more informal placements.

The increased risk of repeat shelter use for women in young families and for those reporting domestic violence underscores the economic and housing consequences tied to these dynamics. Having young children in the family, especially when they are already poor and living in the households of friends or relatives, typically puts additional financial and social strains on women that, if this leads to homelessness, also would create greater difficulty in their returning to stable living situations away from the shelter system. Likewise, women reporting a history of domestic violence face economic and housing difficulties, once in the shelter system, in addition to the effects of the domestic violence, a combination that also appears to contribute to a decreased likelihood of making a successful shelter exit.

Those in the third set, women whose children are away from the household for at least part of the reference stay, are also at higher risk for additional shelter stays, but the circumstances surrounding these women and their households are poorly understood. This study's findings show an association between women whose families demonstrate this form of instability during their family shelter reference stays and increased risk of a subsequent stay at both types of shelters.

This raises questions that cannot be answered with these data, such as whether the onset of the women's homelessness preceded their children's placement outside their households, or if other mitigating factors played a role in both the homelessness and the children's absence from the household. These findings support the existence of a relation between repeat shelter stays, foster care, and other child placement issues, but more

research is needed to describe more clearly the dynamics and directions of causality in this relation.

It is also important to note that the increased risk for subsequent shelter stay that is associated with absent children is not limited to the women in the family shelter system and represents the most salient feature for those who stay in both shelter systems. More than half of the women in single-adult shelters report having children staying elsewhere, and women in the single-adult shelters who have children elsewhere are at higher risk of subsequent homeless shelter stays in the family shelter system. Thus, many women who ostensibly are alone when they seek shelter have children, and those who have children are more likely to be among the 15% of the single women who subsequently stay in a family shelter, presumably with their children. Therefore, family dynamics are likely to play a significant role in the homeless careers of sheltered women, regardless of the shelter system in which they stay.

Having established these associations between women's family dynamics and their risk for repeated shelter stays, these findings also suggest that preventing these subsequent shelter stays does not necessarily involve directly addressing these issues. The extremely strong associations, in the family shelter models,¹³ between housing exits and decreased risk of shelter returns offer affirmation for those who regard homelessness as primarily a housing issue. The negative effects of housing variables, although they generally decrease somewhat over time, overwhelm the positive effects of the covariates related to family dynamics on the risk of shelter returns. This strengthens the argument for providing sheltered women and their households with affordable, stable housing as the first step in addressing other problems associated with them and their families. Although housing cannot remediate problems such as experience with domestic violence, for example, it can provide an atmosphere more suitable to addressing these problems, and it can prevent a single homeless episode from becoming a series of repeat stays.

The obvious implications for housing policy are that simply providing affordable, stable housing goes a considerable way toward limiting homelessness for a woman and her household to a onetime experience. It also questions the need for most sheltered women and their households to participate in transitional housing—an expensive regimen that offers shelter on a long-term basis; instruction in such areas as parenting, employment, and maintaining a household; and a caseworker who helps locate permanent housing and facilitate “self-sufficiency” (e.g., New York City Commission on the Homeless, 1992; Nunez, 1994). Although this study's results indicate the success of providing housing without services to

sheltered women and their households, such an approach also has potential pitfalls, particularly in a tight housing market such as that of New York City, as the promise of expedited housing might draw women who are precariously housed in the shelter system (Culhane et al., 1999). Nationwide, this problem underscores the more general crisis in the availability of affordable housing: One study estimates that in 1995, there were 4.4 million more low-income households than there were low-cost housing units (Daskal, 1998). Thus, there exists a potential latent demand for stable, affordable housing that threatens to overrun any effective housing initiatives that are targeted solely at homeless households.

In conclusion, certain family dynamics, highly prevalent among homeless households, also are associated with the increased hazard for repeat shelter stays. Although the family issues identified with repeat shelter stays highlight the characteristics and circumstances of individual women and their households, it is the availability of affordable housing, something with which all the women in this study (and many poor women who are not homeless) must contend, that shows the most promise in alleviating additional shelter use among this group. To the extent that women in this study bear sole responsibility for children in their household and for the extent to which they experienced homelessness as part of a family, these family dynamics also become gender issues, as any significant reductions in the number of women who are homeless will have to accommodate the needs of their families as well.

NOTES

1. Although there is a nationwide network of domestic violence shelters that provides shelter exclusively to women who are victims of domestic violence, the studies cited here were conducted at shelters more generally available to women and families.

2. Approximately 18% of the shelter beds in New York City, including a smaller network of domestic violence shelters, are not recorded in the Department of Homeless Services (DHS) system (Culhane, Dejowski, Ibanez, Needham, & Macchia, 1994). Furthermore, DHS can track homeless persons who sleep on the streets and in other makeshift arrangements only insofar as they use shelters.

3. If a woman has more than one shelter stay meeting this reference stay criteria, then the earliest one is designated as the reference stay.

4. Allison (1995) defines *event* as "a qualitative change [a transition from one discrete state to another] that can be situated in time" (p. 2).

5. In the family shelter group, a total of 9,847 households, containing 10,779 women ages 17 and older, made an exit from a family shelter (by the 30-day exit criteria defined in this article) in 1992. Of these women, 9,753 were in the 17- to 39-year-old cohort. The 8,030 women (from 8,030 different households) in the study group—representing 82% of the total age cohort—were selected by virtue of their position in their households and the length of

their stay (as outlined in the Data section). In the single-adult shelters, from a total of 4,329 women exiting single-adult shelters in 1992, 3,235 were in the 17- to 39-year-old cohort, and 2,444 (76% of this cohort) met the stay requirements (as outlined in the Data section) for the single-adult set used in this study.

6. As shown in Table 1, a considerable number of women exited their family shelter reference stay to some form of subsidized housing. Although women staying in homeless shelters can get subsidized housing placements much more quickly than can women and households who are not considered homeless, there is still a wait, usually at least 6 months and often upwards of a year, before homeless women can move to subsidized housing.

7. The references to Whites and Blacks is exclusive of persons of Hispanic ethnicity. See Culhane and Metraux (in press) for a description of the disparities in the relative risks of different racial and ethnic groups for homelessness in New York City.

8. Neither the 17% figure cited for combined total of women whose households experienced turnover during their shelter stay nor the 58% figure cited for the combined group of women who were either pregnant or recently had given birth are explicitly given in Table 2.

9. The low pregnancy rate is likely an artifact of pregnant women getting referred to the family shelter system.

10. This controls for nonproportionality of the effects of a covariate over time and for the nonlinear effects of time in this interaction. More practically, these interactions demonstrate the changing effects that some of the covariates have on the hazard over time.

11. Hypothesis tests comparing the value of the coefficient for one child and no children support the effect of number of children being nonlinear, with the latter having more than twice the effect of the former.

12. No indications were found of any collinearity among the family composition variables in these models.

13. In the single-adult shelter models, the effects of the "housing to community" covariate and its interactions with time are difficult to interpret due to the broad scope of this variable, as it reflects an array of different placements captured under the single rubric of "community," including exits to supportive housing, arrangements with family, and "market" rent housing.

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