Risk Factors for Long-Term Homelessness: Findings From a Longitudinal Study of First-Time Homeless Single Adults

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Homelessness is a social problem that has enormous public health significance. It has been estimated that about 1% of Americans—some 2 to 3 million people in a given year—experience an episode of homelessness that puts them in contact with a homeless assistance provider. Administrative data on those who use services for the homeless show that the majority of people who use these services use them on a temporary or short-term basis. Approximately 10% have been termed *chronically* homeless because they use the system for extended periods of time and are the greatest users of shelter care services. ^{2,3}

Little is known about the characteristics of people who stop using homeless services after a short time and are no longer tracked administratively, which is in contrast to those who repeatedly use homeless services or use them for an extended period of time. The impact of being homeless on the life course of people who experience homelessness has been poorly understood, partly because longitudinal data on homeless populations have been sparse and have been limited to specific subgroups of the homeless population, such as those who are severely mentally ill.4,5 Efforts to understand the course of homelessness from cross-sectional data^{6,7} have been limited by the likelihood that short-term users of services for the homeless are underrepresented in favor of those who use such services on a frequent or long-term basis.8 However, cross-sectional studies of risk and protective factors for the occurrence of homelessness have identified factors that distinguish homeless people from their housed counterparts, but it is not known whether these same factors also play a role in determining the course of homelessness.

Substance abuse ranks high among factors that distinguish homeless people from those who have never been homeless.^{7,9–14} Among people who suffer from illnesses for which

Objectives. We examined risk factors for long-term homelessness among newly homeless men and women who were admitted to New York City shelters in 2001 and 2002.

Methods. Interviews were conducted with 377 study participants upon entry into the shelter and at 6-month intervals for 18 months. Standardized assessments of psychiatric diagnosis, symptoms, and coping skills; social and family history; and service use were analyzed. Kaplan–Meier survival analysis and Cox regression were used to examine the association between baseline assessments and duration of homelessness.

Results. Eighty-one percent of participants returned to community housing during the follow-up period; the median duration of homelessness was 190 days. Kaplan–Meier survival analysis showed that a shorter duration of homelessness was associated with younger age, current or recent employment, earned income, good coping skills, adequate family support, absence of a substance abuse treatment history, and absence of an arrest history. Cox regression showed that older age group (P<.05) and arrest history (P<.01) were the strongest predictors of a longer duration of homelessness.

Conclusions. Identification of risk factors for long-term homelessness can guide efforts to reduce lengths of stay in homeless shelters and to develop new preventive interventions. (Am J Public Health. 2005;95:1753–1759. doi:10.2105/AJPH. 2005.063321)

ongoing use of services is indicated, such as schizophrenia, homelessness has been associated with less use of needed services compared with the situation of being stably housed.¹¹ Family experiences, such as outof-home placement during childhood, 10,11,15 parental instability,11 poor care from a parent, 16 and inadequate family support during adulthood, 11,12,14 are another domain that has distinguished homeless people from stably housed people. Finally, opportunity differences, such as educational achievement, 7,14 have distinguished homeless people from never homeless people in cross-sectional studies. When a person is dependent on family or friends for housing, the availability of a supportive social network and the absence of violent or aggressive behavior would seem to be conceptually important. For those who seek housing in their own apartments, employment and earned income would seem to be essential. Therefore, we expected that these

processes would underlie the duration of time that a person remains homeless.

This is the initial report of a longitudinal study of 377 newly homeless single adult men and women who were admitted to shelters in New York City and for whom follow-up data were available. The study was designed to examine the course of homelessness during an 18-month follow-up period. It focused on adult men and women who were homeless without kin, which is the largest subgroup of the contemporary homeless (about 75%).1 The study facilitated an investigation of the possible impact of risk factors for homelessness on the longitudinal course of homelessness. This article (1) describes the demographic, social, and clinical characteristics of study participants, including their living arrangements before they were homeless and their reasons for becoming homeless; (2) examines the association between demographic, family, illness, and

service use characteristics and the duration of homelessness; and (3) identifies predictors of duration of homelessness during the study period. We hypothesized that a shorter duration of homelessness would be associated with personal assets, such as recent employment, educational achievement, coping skills, and family support, and a longer duration of homelessness would be associated with conditions that might compromise personal assets, such as substance use disorder and psychiatric disability.

METHODS

We recruited 445 men and women who were homeless and without kin from the municipal shelter care system for homeless adults in New York City. Men far outnumbered women among the contemporary homeless¹; therefore, the sample, aged 18 to 65 years, was stratified by gender (225 men and 220 women). Recruitment was carried out at 6 assessment shelters—the main portals of entry into the adult shelter care system—on a 2-week rotation basis. Participants were recruited during a 12-month period to ensure that admissions throughout all 4 seasons were included in the study sample. Participants had to have experienced an initial episode of housing loss within 2 weeks before admission to the shelter. Being new to literal homelessness-i.e., having no fixed abode or place of nighttime shelter other than a shelter for the homeless or a place not meant for sleeping-was confirmed with the Homeless History Form.8

Voluntary informed consent was obtained after a mental health nurse practitioner, who was independent of the research team, determined a participant's ability to give informed consent. Interviewers had bachelor's degrees and were trained in the use of the study's research instruments and method for tracking study participants. We obtained detailed information on family and social contacts to assist with subject tracking. Each interviewer was assigned a caseload of participants who were recruited and then interviewed at baseline, 6 months, 12 months, and 18 months. Brief monthly interviews also were conducted to ensure reliable reports on behavioral and service use outcomes and to prevent loss to follow-up. Interviews were conducted in private areas of the shelter or in our offices. Participants were given product vouchers valued at \$25 at the end of each interview; a \$10 monetary incentive also was given during monthly interviews.

Course of Homelessness and Housing: The Dependent Variable

Participants were carefully tracked throughout the follow-up period to document the number of days spent in shelter and street locations, hospitals and jails, or domiciled in apartments or supportive living settings. We used psychiatric research interview for substance and mental disorders (PRISM) timeline grids¹⁷ to document, retrospectively, the number of days in various settings for each week during the preceding 6-month follow-up interval. Such information allowed us to assess the number of days a person was homeless before obtaining community housing. Hospitalizations and incarcerations during an episode of homelessness were not considered exits from homelessness.

Risk Variables Assessed at Baseline

We assessed illness characteristics on the basis of the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)¹⁸ psychiatric diagnosis of Axis I disorder, substance use disorder, posttraumatic stress disorder, and antisocial personality disorder. We used the Structured Clinical Interview for DSM-IV (SCID) as the research diagnostic procedure. 19 This structured interviewer assessment yields a current and lifetime Axis I psychiatric diagnosis on the basis of DSM-IV criteria, including substance use disorders. We used the instrument version appropriate for either a clinical or a nonpatient population. Test-retest reliability of the Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders, Revised Third Edition (DSM-III-R), with patient samples yielded a k statistic above .64 for lifetime major depression and a k statistic of .69 for current major depression.²⁰

We evaluated antisocial personality disorder using the Structured Clinical Interview for *DSM-IV* (SCID II).²¹ The SCID II is a patient questionnaire that probes the presence or absence of personality characteristics. Positive responses to the questionnaire items guide a structured interview, which focuses on an in-

depth assessment of relevant personality disorders. Test-retest reliability for the assessment of antisocial personality disorder on the basis of a study of patient and nonpatient samples yielded a κ statistic of .76.

We assessed psychiatric symptoms using the Positive and Negative Syndrome Scale (PANSS). 22,23 This instrument yields a total score for overall psychopathology (total PANSS) and has subscales that yield data on positive symptoms of psychosis, negative symptoms of psychosis, and overall general psychopathology. The α coefficients of reliability for the PANSS scale scores were .78 for the positive scale, .81 for the negative scale, and .78 for the general psychopathology scale. PANSS ratings are made on 7-point scales that range from none (1) to severe (7). The total PANSS score is shown in Table 1.

We used the Community Care Schedule to obtain demographic data and information on living arrangement before homelessness, education, employment, criminal justice contacts, out-of-home placement in childhood, income and entitlement support, current family support, and family history. Aut-of-home placement was defined as living in a nonrelative setting before 18 years of age. Family support was assessed with a 4-point rating on the basis of material support (e.g., provision of housing, food, clothing, or money), companionship, and emotional support. Inadequate (4) scores were classified as poor family support.

We assessed the adequacy of the family environment during the participant's childhood using ratings of nurturing constancy, residential stability, dependence on public assistance, family violence, parental criminality, parental substance abuse, and parental mental illness. These ratings are the components of the index of family disorganization; information for this instrument was obtained from the study participant. The α reliability coefficient for the 7-item index of family disorganization was .71. The index of family disorganization questions was administered at baseline. The Community Care Schedule was the source for use of substance abuse, mental health, and criminal justice services before admission to the shelter. We used lifetime designations of mental health treatment, substance abuse treatment, and criminal arrests in the analyses.

TABLE 1—Association Between Predictor Variables and Duration of Homelessness During the 18-Month Follow-up Period (N = 377): New York City, New York, 2001 and 2002

	Sample, %	No. of Days Homeless, Median	SE	95% CI	Р
	Demog	graphic domain			
Age, y					<.05
18-29	31	168	17	134, 202	
30-44	39	182	26	131, 233	
>44	30	269	47	178, 360	
Gender					.48
Male	48	188	21	146, 230	
Female	52	194	22	151, 237	
Race/ethnicity					.28
White/other	35	182	29	126, 238	
Black	65	194	19	156, 232	
Citizenship					.89
American born	85	196	17	163, 229	
Foreign born-US citizen	5	147	68	13, 281	
Foreign born-foreign citizen	9	189	53	85, 293	
Veteran status	-			,	.3
Nonveteran	90	185	11	162, 208	
Veteran	10	326	77	175, 477	
Education				,	.50
≤High school	66	189	21	149, 229	
> High school	34	196	18	160, 232	
Marital status	04	130	10	100, 232	.79
Single (never married)	60	188	12	165, 211	.1.
Other	40	196	39	119, 273	
Past employment status	40	130	39	119, 273	<.0!
	EC	175	10	144 200	\.U.
Employed	56	175	16	144, 206	
Unemployed	44	247	32	184, 310	. 0
Current employment status	40	400	00	04 404	<.0!
Employed	12	126	33	61, 191	
Unemployed	88	201	18	166, 236	
Earned income		95.	0.5	455	<.0!
No	69	204	25	155, 253	
Yes	31	154	27	101, 207	
Benefit income					.98
No	66	189	16	157, 221	
Yes	34	200	31	139, 261	
Out-of-home placement	Far	nily domain			.20
•	70	106	20	156 226	.21
No You	78	196	20	156, 236	
Yes	22	166	21	124, 208	4.7
Index of family dysfunction	70	105	20	150 004	.10
Low	76	195	20	156, 234	
High	24	156	33	92, 220	
Family Support		95-	0.5	100	<.0!
No	38	233	33	169, 297	
Yes	62	171	16	139, 203	

Continued

We assessed psychosocial adjustment using the Modified Erikson Psychosocial Stage Inventory (MEPSI).^{25,26} This instrument assesses the strength of psychosocial attributes in adulthood that might reflect successful progression through Erik Erikson's 8 stages of personal development. MEPSI has 80 items that assess self-reported personal characteristics, such as "I have difficulty relating to people different from me," "I have discovered no mission or purpose in life," and "I stick with things until they're finished," on 5-point scales that range from 1 (hardly ever) to 5 (almost always true). The α reliability coefficient for the instrument's total score was .91.

Data Analysis

We used descriptive statistics to characterize the study sample. We assessed risk variables associated with duration of homelessness, which was measured as the number of days homeless before obtaining housing, with the Kaplan–Meier survival analysis. 27 We used Cox regression²⁶ to identify predictors of duration of homelessness from the significant variables that emerged from the Kaplan-Meier survival analysis.

RESULTS

Sample Characteristics

Four hundred forty-five participants-225 men and 220 women-were enrolled in the study. The median age of participants was 36 years. Sixty-two percent self-identified as Black, 18% self-identified as Hispanic, and 20% self-identified as White or of another race/ethnicity not included in the first 3 categories. Eighty-four percent were Americanborn; 91% were single, separated, or divorced; and 36% had not completed high school. At the time of entry into the shelter, 85% were unemployed, 67% had no earned income, and 65% were without income from entitlements. Twenty-one percent had a history of out-of-home placement during childhood, and 24% scored lowest on an index of family dysfunction, which is an indicator of parental pathology, family violence, and residential instability during childhood.

Fifty-one percent had a lifetime diagnosis of DSM-IV Axis I disorder, the most common of which was affective disorder, and 53% had

TABLE 1—Continued

	Illne	ss domain			
DSM-IV Axis I lifetime					.60
No	48	195	16	163, 227	
Yes	52	189	29	131, 247	
DSM-IV Axis I last month					.34
No	71	198	16	167, 229	
Yes	29	168	15	138, 198	
Substance use disorder lifetime					.48
No	53	189	11	167, 211	
Yes	47	226	33	161, 291	
Substance use disorder last month					.44
No	78	182	12	159, 205	
Yes	22	252	39	176, 328	
Antisocial personality disorder					.3!
No	83	190	19	153, 227	
Yes	17	189	38	115, 263	
Posttraumatic stress disorder					.2
No	82	198	17	164, 232	
Yes	18	175	22	132, 218	
Total PANSS					.2
Low	75	182	13	157, 207	
High	25	252	42	170, 334	
MEPSI Score					<.0
Low	80	195	19	157, 233	
High	20	182	39	105, 259	
	Servi	ce domain			
Psychiatric treatment history					.8
No	54	182	19	145, 219	
Yes	46	203	25	154, 252	
Drug/alcohol treatment					<.0
No	63	171	12	147, 195	
Yes	37	249	27	196, 302	
Arrest history					<.0
No	41	158	15	128, 188	
Yes	59	226	25	177, 275	

Note. CI = confidence interval; DSM-IV = Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition; PANSS = Positive and Negative Syndrome Scale; MEPSI = Modified Erikson Psychosocial Stage Inventory.

a lifetime diagnosis of substance use disorder, the most common of which were alcohol, cannabis, and cocaine. Forty-four percent had ever received some type of psychiatric treatment, and 44% had received treatment for a substance use disorder. Fifty-eight percent had a history of arrests.

Living Arrangements Before Homelessness

Family settings were the most common types of living arrangements before the

onset of homelessness. Before becoming homeless, 60 participants (13.5%) were living with parents, 77 (17.3%) were living with a sibling or another relative, and 67 (15.1%) were living with a spouse, partner, or children. Ninety-one participants (20.4%) were living with a nonkin roommate, 73 (16.4%) were living alone, 16 (3.6%) were living in supervised housing, and 60 (13.5%) became homeless after discharge from prison or jail. Seventy-three (19.4%) were lease or mortgage holders.

Interpersonal problems, which were widespread in all nonsolitary types of living settings, were the most common self-reported reasons for homelessness. Economic problems and evictions were the most common reasons for homelessness among those who were living alone.

Loss to Follow-Up

Sixty-eight participants-15% of the total interviewed at baseline-were lost to follow-up. We compared the 68 lost-to-follow-up participants with the 377 participants who were followed for 6 months or longer by age, gender, race/ethnicity, place of birth, lifetime diagnoses of alcohol abuse/dependence and drug abuse/dependence, lifetime DSM-IV Axis I disorder, arrest history, and treatment history. A greater number of males were lost to follow-up (P=.012), but no other differences were observed. We report data from the 377 participants who were followed for 6 months or longer.

Living Arrangements Upon Exiting Homelessness

Eighty-one percent of the 377 participants for whom follow-up data were available (n=307) returned to community housing during the follow-up period; 70 participants (19%) remained homeless during the entire 18 months of follow-up. Overall, the median duration of homelessness was 190 days. For those who were able to exit homelessness, the most common type of living arrangement was living with family or friends (n=167, 55%). Fifty-two participants (17%) returned to the community to live alone in their own apartment (11 [4%] did so with the aid of a Section 8 voucher) and 88 participants (29%) were admitted to a supportive housing residence. Median number of days homeless was shortest among those who returned to live with family and friends (105 days) and was longest among those who lived alone in their own apartments (195 days).

Duration of Homelessness

We conducted Kaplan-Meier survival analysis results for all risk variables (Table 1). In the domain of demographic variables, the median duration of homelessness

was least among participants in the youngest age group (aged 18-29 years) and was greatest among those in the oldest age group (aged > 44 years) (P<.05). The median number of days homeless was less among those who were currently employed at the time of shelter admission compared with those who were unemployed (P < .05). Similarly, the median number of days homeless was less overall for those who had a history of past employment, even if they were currently unemployed, compared with those who had never been employed (P < .05). Consistent with findings on employment, the median number of days homeless was less among those who had earned income compared with those who did not have earned income (P < .05). No differences in median duration of homelessness were observed for gender, race/ethnicity, level of education, veteran status, benefit income, marital status, or place of birth.

In the family domain, the median duration of homelessness was less among those who had adequate family support compared with those who had inadequate support (P < .05). No differences in duration of homelessness were observed for childhood antecedent variables, such as out-of-home placement or family dysfunction.

In the illness domain, the median duration of homelessness was less among those who had higher scores on the MEPSI, which indicates greater ego strength and coping ability, compared with those who had lower scores (P < .05). No differences were observed in DSM-IV current or lifetime diagnosis of Axis I disorder, current or lifetime diagnosis of any DSM-IV substance use disorder, posttraumatic stress disorder, antisocial personality disorder, or level of symptomatology on the PANSS instrument.

In the prior service use domain, the median duration of homelessness was less among those who did not have a lifetime history of substance abuse treatment compared with those who had a treatment history (P < .05). The median duration of homelessness was less among those who did not have an arrest history compared with those who had a history of arrests (P < .001). No differences were observed for lifetime history of psychiatric treatment.

TABLE 2—Cox Regression Results for Variables Associated With Duration of Homelessness: New York City, New York, 2001 and 2002

	β	SE	P	OR (95% CI)
Age 30-44 y ^a	-0.04	0.14	0.79	0.96 (0.73, 1.27)
Age > 44 y ^a	-0.34	0.16	0.04	0.72 (0.52, 0.98)
Family support	0.17	0.12	0.16	1.19 (0.93, 1.52)
MEPSI	0.23	0.15	0.11	1.26 (0.95, 1.68)
Drug/alcohol treatment	-0.01	0.14	0.95	0.99 (0.75, 1.31)
Arrest history	-0.37	0.13	0.01	0.69 (0.53, 0.89)
Past employment	-0.08	0.14	0.56	0.93 (0.71, 1.20)
Current employment	-0.16	0.19	0.42	0.86 (0.59, 1.25)
Earned income	0.13	0.15	0.37	1.14 (0.86, 1.53)

Note. CI = confidence interval; MEPSI = Modified Erikson Psychosocial Stage Inventory; OR = odds ratio. ^aThe reference category was those aged 18-29 years.

Key Predictors of Duration of Homelessness

When we entered variables that showed significant differences in median duration of homelessness from the Kaplan-Meier survival analysis into a Cox regression, 2 variables remained significant: older age group (P < .05) and arrest history (P < .01). Cox regression results are shown in Table 2.

DISCUSSION

Assertive client-tracking methods, such as those used by the authors, have made longitudinal studies of residentially unstable populations more feasible. 4,5 Our prospective longitudinal study of risk factors for chronic homelessness among newly literally homeless adults in New York City was stratified by gender to ensure an adequate number of homeless women, who were outnumbered by men in New York City single-adult shelters and nationwide by about 4 to 1.1 The sample was representative of the age and racial/ethnic characteristics of new shelter admissions to New York City assessment shelters for single adults during the 1-year period of sample recruitment (New York City Department of Homeless Services, 2004, unpublished).

Four out of 5 study participants were able to return to conventional housing for some time during the 18-month follow-up period, but a significant subgroup remained homeless during the entire 18-months. In accordance with the 18-month criterion, 1 in 5

participants would be defined as chronically homeless, twice the estimate derived from administrative data reported previously.^{2,3} This finding cannot be generalized beyond the shelter care system from which participants were recruited, but it does suggest that long-term homelessness may be experienced by a larger number of people than previously thought.

The results of the Kaplan-Meier survival analysis showed that participants who were younger and who had better psychosocial adjustment, recent or current employment, earned income, adequate family support, no current drug treatment, and no arrest history experienced a shorter duration of homelessness. The Cox regression findings showed that age and arrest history were the strongest predictors of duration of homelessness. Our study findings have implications for reducing the length of shelter stays to the minimum time required to connect the homeless with housing and support services. It seems possible for shelter care programs to triage new admissions on the basis of characteristics likely to predict long-term homelessness. Those who have characteristics associated with a shorter duration of homelessness could be offered assistance with a job search, temporary income support, and other supportive services that facilitate a fast-track out of homelessness. People who have characteristics associated with an extended duration of homelessness, such as older age and an arrest history, could be triaged for special support

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services that facilitate a more rapid reentry into stable housing.

This newly homeless group was greatly dependent on family and friends for their housing both before homelessness and upon being rehoused. Only a minority could support living in their own apartments. Further research should evaluate the long-term stability of these housing arrangements, particularly those that require the support of family and friends.

Although participants who had a lifetime history of drug treatment experienced a longer duration of homelessness than those who did not have this life experience, we did not find that duration of homelessness was associated with lifetime or current DSM-IV Axis I disorder, substance use disorder, posttraumatic stress disorder, antisocial personality disorder, or severity of psychiatric symptoms. The finding that the MEPSI was an important predictor of duration of homelessness suggests that functioning and coping skills are better indicators of one's ability to more quickly exit homelessness than are psychopathology or diagnosed mental illness or substance use disorder. Lifetime DSM-IV Axis I disorder and lifetime substance use disorder were diagnosed in about half the total sample. Despite the lack of effect on duration of homelessness, the widespread prevalence of these disorders among this newly homeless study cohort underscores their vulnerability and suggests a great need for mental health and substance abuse treatment services in the poor communities from which study participants emerged and were very likely to return after exiting the shelter.

Approximately 1 in 7 participants was a jail or prison inmate before shelter entry. This finding, coupled with the importance of arrest history in predicting a longer duration of homelessness, underscores the association of the criminal justice system with the problem of homelessness. This association is ripe for the development of programs that involve prerelease planning for services, including housing, and the creation of interventions that prevent unnecessary incarceration of individuals who have serious mental illnesses and chemical dependencies and who come into contact with the police.

Long-term studies of the various subgroups of the homeless population are needed to gain

greater insights on the impact of homelessness over time. A clearer understanding of risk factors for long-term homelessness is an important first step in the process of developing new preventive interventions as municipalities across the nation focus on implementing plans to end chronic homelessness during the next decade. Reducing the ranks of those who are already chronically homeless will not be enough to bring an end to homelessness. Prevention efforts, such as assisting people at risk for long-term homelessness to retain existing housing or to obtain more appropriate housing, must be part of a comprehensive strategy to ameliorate chronic homelessness.

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C.L.M. Caton, D.S. Hasin, P.E. Shrout, A. Felix, H. McQuistion, and L.A. Opler originated the study. C.L.M. Caton supervised all aspects of the study and drafted the article. B. Dominguez, P.E. Shrout, and B. Schanzer conducted all data analyses. E. Hsu assisted with data analysis. All the authors participated in reviewing and drafting the article.

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This study was approved by the institutional review board of the Columbia University Medical Center.

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