Pathways to and From Homelessness and Associated Psychosocial Outcomes Among Adolescents Leaving the Foster Care System

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Homelessness and its associated psychosocial effects continue to plague American urban centers. ^{1,2} Especially troubling are suggestions that foster care functions as a pipeline to the streets for older adolescents leaving the system. Surveys of service providers and homeless populations suggest that young people exiting foster care have difficulty securing stable housing. ^{3–5} However, little research has systematically examined the onset, frequency, and duration of homelessness in this group. The absence of adequate assessments of housing problems and related negative outcomes limits the possibilities for policy and programmatic interventions in an already-vulnerable population.

Approximately 3.5 million Americans are homeless each year, and this number does not seem to be decreasing despite initiatives to stem growing rates of homelessness. In studies focusing on homelessness in adulthood, placement in foster care in childhood or adolescence frequently emerges as a risk factor. Homeless adults disproportionately report foster care experiences. 3–5

Each year, 24000 adolescents across the country exit foster care because they have achieved the legal age of majority (in most states, 18 years). Preventing homelessness in this population has been an enduring federal policy goal since Congress created the Title IV-E Independent Living Program in 1986. Title IV-E represents the primary source of funding available to states to prepare adolescents in foster care for the transition to young adulthood, and up to 30% of funds can be used to provide housing services.

Congress increased funds and state flexibility to support adolescents moving out of the system when it passed the Foster Care Independence Act of 1999 (FCIA; HR 3443). The act established the John H. Chafee Foster Care Independence Program and doubled the federal allotment for state independent living

Objectives. We evaluated the prevalence and nature of housing problems among adolescents leaving foster care because of their age to provide evidence that can inform public and programmatic policies designed to prevent homelessness.

Methods. Housing and psychosocial outcomes in a sample of 265 adolescents who left the foster care system in 2002 and 2003 in a large midwestern metropolitan area were evaluated over a 2-year follow-up period. Analyses focused on identifying latent housing trajectory categories across the first 2 years after participants' exit from foster care.

Results. Findings revealed 4 latent housing classifications. Most participants (57%) had experienced stable housing situations since their exit from foster care. Those in the remaining 3 categories endured housing problems, and 20% were chronically homeless during the follow-up period. Housing instability was related to emotional and behavioral problems, physical and sexual victimization, criminal conviction, and high school dropout.

Conclusions. Adolescents in foster care are at considerable risk of homelessness. Preventive initiatives can reduce homelessness in this population by implementing improved foster care programming and developing empirically informed interventions targeting foster care adolescents. (*Am J Public Health*. 2009;99:1453–1458. doi:10.2105/AJPH.2008.142547)

initiatives that prepare young people in foster care for the transition to adulthood. This program provides \$140 million in annual funding divided among states on the basis of percentages of children in foster care, and states are required to contribute 20% of the funds they receive in matching funds. Funds can be spent on young people aged 18 to 21 years.

Although additional funds can be used to provide adolescents with a wide range of services intended to prevent homelessness, most states opt not to do so, and therefore they fail to draw federal dollars to support such initiatives. With more than 200 000 adolescents in foster care and an additional 24 000 exiting the system each year, funding limits compromise the accessibility and comprehensiveness of housing services, and opportunities may be lost to mitigate and prevent homelessness. 6

As a result of the inadequate research in this area, the scope of housing problems among adolescents who have left foster care may be

underestimated, potentially misinforming intervention efforts. Estimates from studies of housing problems in this population indicate that 12% to 14% of young people formerly in foster care experience homelessness within a few years after they leave the system. 9,10 However, a number of methodological flaws limit the utility of these estimates. Most such studies incorporate small, unrepresentative samples and fail to reliably and validly assess housing problems. In addition, homelessness has been measured with single items in which young people are asked whether they lived on the street within a given period of time. This method fails to adequately address the long-term housing instability characteristic of homelessness, as defined by researchers and federal guidelines.8 Precarious housing situations, in which young people must temporarily live with friends or family members because they cannot afford to live elsewhere, may be common and remain undocumented.

Compounding this distortion is the lack of research on the negative psychosocial outcomes associated with housing problems among young people who have exited the foster care system. Homelessness in adolescence and young adulthood has been shown to be associated with elevated risks of a number of negative outcomes,⁸ and young people who have left foster care report disproportionately high levels of similar problems. Many experience elevated rates of emotional and behavioral problems, exposure to physical and sexual abuse, adolescent pregnancy, incarceration, and high school dropout. 9,10 It may be that housing difficulties, in part, account for these elevated rates and place young people on deviant developmental trajectories that threaten to cascade into problems in adulthood across multiple domains.11

Given that states function as de facto parents of young people leaving foster care, the absence of informed social policy is a primary public health concern. At present, state services focusing on housing issues often fail to effectively support young people who are leaving foster care and making the transition to adulthood. Thorough housing assessments would provide the opportunity to advance our understanding of the specific risks facing adolescents leaving foster care, and they represent an avenue to possibly preventing the high rates of homelessness that continue to plague American cities. We sought to estimate the prevalence of homelessness and the relationship between housing trajectories and psychosocial outcomes among a representative sample of adolescents who had exited the foster care system.

METHODS

We targeted young people 19 to 23 years old who had left foster care in the Detroit, Michigan, metropolitan area. Michigan's Department of Human Services provided case summaries and contact information for young people 18 years or older whose foster care cases had closed in the years 2002 and 2003 (n=867). Interviews were conducted over a 10-month period during 2005 and 2006, allowing time to evaluate participants' transition out of foster care and into early adulthood.

Young people were drawn at random from the overall population of 867, and attempts were made to contact them. Given the transience of adolescents leaving foster care and the fact that most of the contact information provided was no longer valid, we used a number of tracking methods to locate young people, including searching the Internet and public records and contacting family members. We attempted to reach a total of 772 young people via mailings and telephone calls, and we were able to contact 287 of these potential participants. Sixteen exhibited cognitive impairments that made them ineligible for the study, and 6 refused to participate. We conducted telephone interviews with 265 young people. The response rate of 34% was similar to that of another study that tracked young people formerly in foster care.¹²

Measures

A life history calendar was used to explore participants' housing transitions after their exit from foster care. This reliable and valid technique has been used to assess housing problems in studies of homeless adolescents as well as homeless adults. 13-17 Participants were asked to list all of the living situations they had experienced since their self-reported date of exit from foster care, including starting and ending dates, type of housing, and whether they considered themselves homeless in each situation. We defined homelessness as experiencing an undesirable living situation, even for one night, as a result of the inability to afford to live elsewhere (this definition was in accordance with federal guidelines [McKinney-Vento Homeless Assistance Act; Pub L No. 100-77] relating to adolescent homelessness).

We further distinguished between literal homelessness, defined as primary nighttime residence in a homeless shelter or a place not designed for or ordinarily used as regular sleeping accommodations for human beings (e.g., abandoned buildings, cars, parks), and a precarious housing situation, defined as temporary cohabitation in a residence with friends, relatives, or others because of the inability to afford to live elsewhere. Living arrangements that young people considered homeless situations were recoded on the basis of the type of arrangement. All other living situations were defined as stable. Timelines were used to

calculate living situations at 3-month intervals for the initial 2 years after participants had exited foster care.

Information on participants' foster care experiences was obtained via case records and self-reports. Data on the number of foster care placements and age at entry into foster care, derived from case records, were recoded into quartiles to account for the wide range in experiences. We used participants' self-reported date of exit from foster care, rather than the date recognized by the Michigan Department of Human Services, to better capture young people's perceptions of disconnection from the system. Final type of foster care placement (trichotomized as restricted setting, kinship care, or independent living site) was coded as the type provided in the case record at the time participants reported leaving foster care.

We assessed emotional and behavioral wellbeing with standardized measures used in previous studies of transient populations, including homeless adolescents and adults. 19-21 Young people with clinically elevated scores on the global severity index of the Brief Symptom Inventory, a 53-item, self-report measure that assesses psychological symptom patterns, were classified as having emotional problems (items are rated on a 5-point distress scale ranging from not at all [0] to extremely [4]).²² Externalizing problems referred to the presence of significant elevations in substance abuse or conduct problems as measured with the Diagnostic Interview Schedule.²³ Elevations were defined as 1 standard deviation above the sample mean on system counts of alcohol (more than 4 symptoms), marijuana (more than 3 symptoms), and conduct problem (more than 5 symptoms).

The Physical and Sexual Victimization Scale was used to assess victimization experienced by the participants since their exit from foster care. ²⁴ This 9-item, self-report measure includes questions about exposure to serious physical harm (i.e., physical assault or assault involving a weapon) and experiences with unwanted, coerced, and forced sexual contact. Response choices are coded on a 4-point scale ranging from never (0) to many times (3). Participants with an average score more than 1 standard deviation above the sample mean were classified as having experienced a high level of victimization.

Additional estimates were used to assess whether participants had experienced other

significant events as of the time of their interview. Examples included adolescent pregnancy (giving birth to or fathering a child at or before 19 years of age), criminal conviction (arrest or conviction for a criminal offense), and high school dropout (failure to have attained a high school diploma or the equivalent by the time of the interview).

Analytic Approach

We evaluated housing trajectories for the 2 years after participants left foster care to empirically identify different categories of housing. We used latent class mixture modeling in our analyses to account for the complex housing patterns of this transient population.²⁵ We expected that some young people would experience housing stability across the follow-up period, whereas others would encounter less stable situations.

Our models provided flexibility in accounting for important covariates that could affect housing trajectories, including gender, race, age at entry into foster care, number of foster care placements, type of placement at exit from foster care, and age at exit from foster care. 9,10 In addition, the models estimated the effects of housing experiences on psychosocial outcomes in young adulthood in the domains of emotional and behavioral well-being, physical and sexual victimization, adolescent pregnancy, criminal conviction, and high school dropout.

We used general growth mixture modeling, a methodology in which the presence of latent classifications is empirically evaluated.²³ In this technique, subgroups are identified by successively estimating models that add a trajectory class and by examining changes in model fit indices to determine the most appropriate number of latent classes.

We used 4 considerations to determine the optimal number of latent housing classifications to include in our models.^{25,26} First, we calculated the Bayesian information criterion, adjusted for sample size, to determine the relative fit across models: a low value indicates a wellfitting model.²⁷ Second, we examined classification quality ("entropy") by reviewing posterior probabilities of class membership; these estimates reflect the average likelihood of membership in the determined latent class. Third, we conducted bootstrapped likelihood ratio tests to assess whether the fit of a given model was

significantly better than the fit of an identical model with one less class.^{26,27} Fourth, we considered the usefulness and interpretability of our latent classes.

We used Mplus (Muthén & Muthén, Los Angeles, CA), which allows estimation of missing data via full information maximum likelihood values, in our model estimations. Thirtyone participants (11.7%) reported having left foster care less than 2 years before their interview date. As a group, these participants were younger than the remaining participants at the time of their interview (mean: 19.8 vs 20.9 years; t_{263} =5.38; P<.05) and had left foster care at a later age (mean: 18.9 vs 17.8 years; $t_{263} = -5.64$; P < .05). Young people without complete data (via imputation) were assigned to latent trajectory classes at similar rates as young people with complete data. Results including and not including these former participants were similar, and thus we decided to include estimations of missing data.

In the tested models, the intercept parameter (housing status at exit from foster care) and the slope parameter (variance of housing patterns across 2 years after exit from foster care) were regressed on a categorical latent trajectory class variable representing unobserved groupings of participants with optimally similar intercept and slope parameters. This categorical latent variable was also regressed on a set of predictors that included gender, race, number of foster care placements, most recent type of placement, and self-reported age at exit from foster care. Predictors were allowed to

covary; in addition, growth parameter intercepts and residual variances were allowed to vary across classes.

We also explored the influence of latent class membership on outcomes in young adulthood. We conducted logistic regression analyses to determine whether there were significant differences in emotional and behavioral well-being, victimization level, and adolescent pregnancy, criminal conviction, and high school dropout rates between participants in difference trajectory classes.

RESULTS

Seventy-eight percent of the participants were African American, 22% were White, and 1% were members of another racial/ethnic group; 52% were female. Most of the participants had been placed in foster care as a result of parental neglect or abuse, but 22% had exhibited deviant behavior that led to (or maintained) their placement in the foster care system. According to case summaries, participants' mean age at entry into foster care was 13.31 years (SD = 3.81; range = 1-17), they hadexperienced a mean of 5.77 foster care placements (SD= 4.31; range=1-29), and their mean age given in case records when the study follow-up attempts began was 20.5 years (SD=1.22). There were no statistical differences in demographic characteristics or foster care experiences between participants who were interviewed and those who were not (Table 1). In addition, neither group differed in

TABLE 1—Comparison of Participants Who Completed and Did Not Complete Interviews: Detroit Metropolitan Area, Michigan, 2002-2003

	Interviewed (n = 265)	Not Interviewed (n = 602)	
Gender, No. (%)			
Female	137 (51.7)	354 (58.8)	
Male	128 (48.3)	248 (41.2)	
Race/ethnicity, No. (%)			
African American	206 (77.7)	445 (73.9)	
White	57 (21.5)	153 (25.4)	
Other	2 (0.8)	4 (0.7)	
Age at case record collection, y, mean (SD)	20.53 (1.22)	20.56 (1.01)	
Age at entry into foster care, y, mean (SD)	13.30 (3.81)	13.43 (3.73)	
No. of foster care placements, mean (SD)	5.77 (4.34)	5.99 (4.50)	

Note. Differences between those interviewed and those not interviewed were not significant.

these characteristics from the overall population of young people who had left foster care in the Detroit area in 2004, suggesting that our sample was representative.

After evaluating the fits of 2-, 3-, 4-, and 5-class models, we determined that the 4-class solution provided the best fit to the data. That model's adjusted Bayesian information criterion value was higher than that of the 2- and 3-class models (3842.51, 3968.85, and 3897.96, respectively), its entropy value was high (0.93), and the significant bootstrapped likelihood ratio test result (P<.001) suggested that inclusion of the fourth class improved model fit over a 3-class solution. We could not find a stable solution for a 5-class model even when we increased the number of starting values to 1000 iterations; therefore, we ruled out this model as a possibility.

Table 2 presents descriptive data for each individual housing classification and the percentages of participants stably housed at each 3-month interval. Class labels reflected housing trajectories across the follow-up period. Fiftyeight percent (n=153) of the participants had been in continuously stable living situations (adequate accommodations for the great majority of or the entire follow-up period); 12% (n=31) had experienced increasingly stable conditions (initial unstable housing situations but increasingly secure housing over the follow-up period); 11% (n=29) had experienced decreasingly stable situations (housing stability immediately upon exit from the system but precarious housing and literal homelessness in the months after exit); and, finally, 20% (n=53) had been in continuously unstable situations (movement between literal

TABLE 2—Sample Characteristics, by Latent Housing Trajectory Classifications: Detroit Metropolitan Area, Michigan, 2002–2003

	Continuously Stable (n = 153)	Decreasingly Stable (n = 29)	Increasingly Stable (n = 31)	Continuously Unstable (n = 52)
Female, %	56	45	65	39
Non-White, %	80	72	94	69
Age at entry into foster care, y, mean (SD)	13.29 (3.93)	12.20 (4.28)	13.58 (3.81)	13.23 (3.22)
No. of foster care placements, mean (SD)	4.93 (4.00)	5.37 (3.30)	4.58 (2.93)	6.44 (4.14)
Age at exit from foster care, y, mean (SD)	17.83 (1.13)	18.37 (1.03)	17.79 (1.26)	17.81 (1.11)
Final type of placement, %				
Restrictive setting	33	45	52	35
Kinship care	42	35	26	50
Independent living	25	21	23	15
Stably housed at 3-mo intervals,				
within class %				
1st	96	73	8	9
3rd	99	73	5	3
6th	99	73	14	3
9th	98	64	19	3
12th	98	55	22	3
15th	96	33	62	0
18th	95	27	68	9
21st	93	24	68	14
24th	86	39	65	11

Note. Housing stability percentages reflect the first day of the 3-month interval. Month 1 refers to the self-reported day of exit from foster care.

homelessness and precarious housing situations).

We examined coefficients for the regressions of the growth factors on the covariates. Across classes, non-White participants reported greater decreases in stability over time (b=-0.38; SE=0.12; t=-3.20). In addition, we assessed the relationships between covariates and latent class membership; multinomial logistic regression was used to predict whether covariate levels differed among the (normative) continuously stable class and the other 3 classes. Participants in continuously unstable situations experienced more placement transitions while they were in foster care (b=0.64; SE=0.22; t=2.94) than participants in continuously stable situations, and they were significantly less likely to have left foster care from independent living placements (b=-0.66; SE=0.31; t=-2.17). Participants in increasingly stable situations were less likely to have left foster care from restrictive placements (b=-0.63; SE=0.31; t=-2.04), and participants in decreasingly stable situations were younger at their exit from foster care and had experienced more placements during their time in the system (b=0.77; SE=0.40; t=1.99).

Latent trajectory housing classes also predicted psychosocial outcomes. Probability estimates for the regressions of outcomes on classes are presented in Table 3. Binary logistic regressions showed that participants in increasingly stable, decreasingly stable, and continuously unstable housing groups had significantly greater odds of experiencing a number of negative psychosocial outcomes than did members of the reference group (i.e., participants in continuously stable living situations). Participants in all 3 groups were at a significantly elevated risk of behavioral problems (more than twice the rate of the reference group), rates of victimization (more than 5 times the rate of the reference group), and high school dropout (more than twice the rate of the reference group).

Emotional problems and criminal convictions were significantly more likely among participants in continuously unstable and decreasingly stable living situations but not among participants in increasingly stable situations. Interestingly, the probability of parenting a child in adolescence was equally likely across housing categories, suggesting that

TABLE 3-Psychosocial Problems, by Housing Classification: Detroit Metropolitan Area, Michigan, 2002-2003

	Increasingly Stable			Decreasingly Stable			Continuously Unstable		
	%	OR (95% CI)	Р	%	OR (95% CI)	Р	%	OR (95% CI)	Р
Emotional problems	23	0.98 (0.39, 2.47)	<.001	52	3.61 (1.59, 8.20)	<.001	58	4.60 (2.35, 8.96)	<.001
Behavioral problems	42	1.25 (0.57, 2.74)	.57	59	2.45 (1.09, 5.51)	.03	65	3.27 (1.69, 6.33)	<.001
High level of victimization	26	3.45 (3.08, 14.68)	<.001	35	5.23 (2.04, 13.41)	<.001	40	6.73 (1.30, 9.15)	<.001
Adolescent parent	32	1.44 (0.62, 3.33)	.39	24	0.96 (0.38, 2.43)	.94	21	0.81 (0.38, 1.74)	.59
Criminal conviction	19	1.07 (0.40, 2.86)	.89	35	2.35 (0.99, 5.60)	.05	35	2.36 (1.17, 4.78)	.01
High school dropout	55	0.44 (0.20, 0.95)	.03	66	0.28 (0.12, 0.64)	<.00	50	0.53 (0.28, 1.00)	.05

Note. OR = odds ratio; CI = confidence interval. Continuously stable housing was the reference group. Among the reference group participants, 23% had emotional problems, 37% had behavioral problems, 9% had experienced high levels of victimization, 25% were adolescent parents, 18% had been convicted of a criminal offense, and 55% had dropped out of high school.

interventions in areas other than housing may better address adolescent pregnancy and risky sexual behavior.

DISCUSSION

Our findings demonstrate the pronounced need for housing interventions designed to prevent homelessness among adolescents who are leaving the foster care system. More than two fifths of our participants experienced enduring housing problems in the 2 years following their exit from foster care. In this 2-year follow-up period, rates of homelessness exceeded 12.9%, the lifetime prevalence rate for a single episode of homelessness among US adults.²⁸ Although some young people leaving the foster care system manage to attain stable housing after early episodes of homelessness, many experience enduring patterns of precarious housing; one fifth of the adolescents taking part in our study experienced chronic homelessness. Causality is difficult to determine, and reciprocal relationships are likely such that housing problems exacerbate negative psychosocial outcomes, and these outcomes in turn make securing stable housing more difficult. Regardless, the scope of this problem is immense not only in its prevalence but also in terms of its impact on young people's psychosocial functioning.

Improvements in existing public and programmatic policies combined with extensive evaluation offer a framework to immediately enhance the well-being of adolescents exiting foster care. Federal policy guidelines exist to support efforts to prevent homelessness. States can use a pair of Foster Care Independence Act provisions to improve their services

immediately. One of these provisions allows states to use up to 30% of their Foster Care Independence Act funds to pay for room and board of young people formerly in foster care who are at least 18 years old but not yet 21 years of age. The other requires states to use at least some portion of their funds to provide follow-up services to young people after their exit from foster care. The Foster Care Independence Act also allows states to prolong Medicaid coverage for these young people until they are 21 years of age, which may help them access necessary health services.

Homelessness and its associated negative outcomes can be prevented if young people are allowed to remain in the foster care system until the age of 21 years.^{8,9} Research in a few states (e.g., Illinois) with higher age limits suggests that adolescents who remain in foster care longer experience a more positive transition to adulthood than their peers who leave care at earlier ages. 9 Many states have opted not to use federal dollars to implement these services, however.8 Recent legislation provides additional financial incentive for states to allow adolescents who are in school or are working to remain in foster care up to 21 years of age. The Fostering Connections to Success and Increasing Adoptions Act, signed into law in September 2008, offers states federal support to continue services and requires transition planning for young people as they exit the system. Extended eligibility would provide a greater opportunity to connect young people with the services they need to prepare for independent living and would reflect the developmental needs of emerging adults.¹¹

Programs need to be developed and evaluated to ensure the physical and psychological

well-being of adolescents exiting foster care.²⁹ Interventions must target young people while they are still in foster care, before the age of 17 years, to ensure connection to services such as tuition assistance, employment training, and health insurance.9 Our results suggest that awareness of certain foster care experiences, including a high number of placements and early disconnection from foster care services, can help identify young people in this population who are at risk for problems. Comprehensive assessments can be used to inform individually tailored treatment plans given the variance in the types and quantities of services needed by young people leaving foster care. 30-32 Intensive case management is a service model that would be useful in addressing the heterogeneous nature of these young people's needs.¹⁹

To ensure that young people exiting the foster care system complete a stable transition to adulthood, Foster Care Independence Act funding should be increased, and incentives should be built into funding procedures to encourage states to use available funds on housing programs. Improving foster care services offers a remarkable opportunity to mitigate and prevent homelessness and its associated psychosocial effects in the United States.

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Contributors

P.J. Fowler originated the study, supervised the research, conducted analyses, and wrote the original draft of the article. P.A. Toro originated the study, supervised the research, and helped to develop and critically revise the article. B.W. Miles assisted in final revisions. All of the authors helped to conceptualize ideas and interpret findings.

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Human Participant Protection

This study was approved by the institutional review board of Wayne State University. Verbal consent was obtained from all study participants.

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