

Homelessness During the Transition From Foster Care to Adulthood

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Among the populations at greatest risk for becoming homeless are the 25 000 to 30 000 youths who age out of foster care each year when they turn 18 or, in some states, 21.¹ Unlike many of their peers who continue to live with or receive financial assistance from their parents, these youths often struggle just to keep themselves housed.^{2,3} A review of research published between 1990 and 2011 has suggested that between 11% and 36% of the youths who age out of foster care become homeless during the transition to adulthood.^{4–6} By comparison, approximately 4% of the nationally representative sample of youths aged 18 to 26 years who participated in the third wave of the National Longitudinal Study of Adolescent Health reported ever being homeless.⁷

Youths who become homeless after aging out of foster care appear to experience many of the same problems as other homeless youths and young adults,^{8–12} including high rates of mental health disorders, a high risk of physical or sexual victimization, and a lack of access to health care services.^{5,6,13} Although researchers have compared youths who became homeless after aging out of foster care with youths who aged out but did not become homeless, not much is known about which youths are at greatest risk of becoming homeless after aging out because these studies used a cross-sectional design.^{5,6}

To our knowledge, only 1 study of homelessness among youths aging out of foster care used longitudinal data to identify risk and protective factors. Dworsky and Courtney¹⁴ analyzed data collected from youths transitioning out of foster care in 3 Midwestern states. All other things being equal, the odds of becoming homeless by age 19 years were higher for those who (1) had run away more than once while in foster care, (2) were placed in a group care setting at baseline, (3) had been physically abused before entering foster care, (4) had engaged in more delinquent behaviors,

Objectives. We estimated the incidence of homelessness during the transition to adulthood and identified the risk and protective factors that predict homelessness during this transition.

Methods. Using data from the Midwest Evaluation of the Adult Functioning of Former Foster Youth, a longitudinal study of youths aging out of foster care in 3 Midwestern states, and a bounds approach, we estimated the cumulative percentage of youths who become homeless during the transition to adulthood. We also estimated a discrete time hazard model that predicted first reported episode of homelessness.

Results. Youths aging out of foster care are at high risk for becoming homeless during the transition to adulthood. Between 31% and 46% of our study participants had been homeless at least once by age 26 years. Running away while in foster care, greater placement instability, being male, having a history of physical abuse, engaging in more delinquent behaviors, and having symptoms of a mental health disorder were associated with an increase in the relative risk of becoming homeless.

Conclusions. Policy and practice changes are needed to reduce the risk that youths in foster care will become homeless after aging out. (*Am J Public Health.* 2013;103:S318–S323. doi:10.2105/AJPH.2013.301455)

and (5) did not feel very close to a biological parent or grandparent.

We built on Dworsky and Courtney's¹⁴ analysis and asked what the predictors of becoming homeless would be when (1) the observation period was extended to age 26 years, (2) event history techniques were used to measure relative risk, and (3) the sample included youths who were still in foster care when the data Dworsky and Courtney analyzed were collected. This third condition is important because 69% of the study participants did not exit foster care until sometime between their 20th and 21st birthdays.

METHODS

Our analysis was based on data from the Midwest Evaluation of the Adult Functioning of Former Foster Youth (the Midwest Study), which followed a sample of youths from Iowa, Wisconsin, and Illinois for 10 years beginning in 2002. The sampling frame included all the Iowa and Wisconsin youths and two thirds of the Illinois youths who had entered foster

care before their 16th birthday, were still in foster care at age 17 years, and had been removed from home for reasons other than delinquency; 96% of those eligible were interviewed at baseline (n = 732). Follow-up data were collected at ages 19, 21, 23 or 24, and 26 years, with response rates ranging between 81% and 83%. (Additional information about the design of the study can be found at <http://www.chapinhall.org/research/report/midwest-evaluation-adult-functioning-former-foster-youths>.) Because Illinois is the only 1 of the 3 Midwest Study states in which youths can and do routinely remain in foster care until their 21st birthday, 73% of the Illinois participants who were interviewed at wave 2 were still in foster care when the second wave of data were collected compared with fewer than 1% of the participants from Iowa and Wisconsin.

At each postbaseline wave of data collection, respondents were asked whether they had “ever been homeless for at least one night since we last talked to you.” We defined “homeless” as “sleep[ing] in a place where people weren't meant to sleep, or sleep[ing] in a homeless

shelter, or [not having] a regular residence in which to sleep.” We used responses to this question to estimate the discrete-time hazard of becoming homeless for the first time. The discrete-time hazard represents the conditional probability that respondent i will become homeless between waves j and $j + 1$ given that the respondent has never been homeless before, that is,

$$(1) h(t_{ij}) = \Pr(T_i = j | T_i \geq j),$$

in which h is the discrete time hazard, Pr is the conditional probability and T is the failure time.¹⁵ It is appropriate to use when data are interval censored, as they are in this case, where we know the period during which respondents became homeless but not the exact date.¹⁶

To estimate the discrete-time hazard, we created a file of person–period records (i.e., 1 record per respondent per postbaseline wave of data collected, with a maximum of 4) that included a binary indicator coded “1” if the respondent reported being homeless for at least 1 night since the most recent interview and “0” otherwise. We treated observations as right censored if the respondent was permanently lost to attrition (i.e., data were not collected at any subsequent wave) or if it was the last record for a respondent who had never been homeless.

We modeled the discrete-time hazard as a function of time since the baseline interview and a vector of covariates. Our choice of covariates was guided by prior research on homeless youths, our knowledge about youths aging out of foster care, and the results reported by Dworsky and Courtney.¹⁴ They included time-invariant covariates that were only measured at baseline: gender (1 = male; 0 = female), race (2 dummies: White and other, with African American as the reference group), state (Iowa or Wisconsin = 1, Illinois = 0), physically abused before foster care placement (1 = yes, 0 = no), sexually abused before foster care placement (1 = yes, 0 = no), total number of foster care placements (continuous), ever ran away from a foster care placement (1 = yes, 0 = no), placed in group care at baseline (1 = yes, 0 = no), and placed with a relative at baseline (1 = yes, 0 = no). They also included time-varying covariates that were measured at each

wave: educational attainment (2 dummies: “completed high school but no college” and “completed at least 1 year of college,” with “did not complete high school” as the reference group), currently employed (1 = yes, 0 = no), sexual orientation (1 = not 100% heterosexual, 0 = 100% heterosexual), symptoms of depression or posttraumatic stress disorder (1 = yes, 0 = no), symptoms of an alcohol or other drug use disorder (1 = yes, 0 = no), number of delinquent behaviors (continuous), social support (continuous), very close to a biological parent or grandparent (1 = yes, 0 = no), ever incarcerated since prior interview (1 = yes, 0 = no), and the number of months between interviews (continuous). All the time-varying covariates were lagged so that the values at wave j were used to predict homelessness during the interval between waves j and $j + 1$.

Time was represented by a set of $g - 1$ dummies, where g is the total number of intervals between waves. Each interval has its own baseline hazard, determined by the parameter estimate for its corresponding dummy together with the overall intercept.¹⁷ The model also includes 3 terms representing interactions between state and time to test whether the conditional probability of becoming homeless during interval g was different in Illinois than in Iowa or Wisconsin.

We used the SAS 9.2 Multiple Imputation procedure (SAS Institute, Cary, NC) to deal with missing covariate values, which involved filling in the missing data m times to create m complete data sets, analyzing each of the m complete data sets using standard statistical procedures, and combining the results from those m analyses to generate valid statistical inferences about the parameters.¹⁸ We used the default value of m , which is 5.

Although discrete-time models predict the conditional probability of an event’s occurrence, the parameter estimates are directly comparable to Cox proportional hazard model coefficients, and the exponentiated coefficients can be interpreted as hazard ratios when the complementary log–log link (i.e., $\log[-\log(1 - \lambda_{ij})] = \alpha_j + \beta'x$) is used (in which λ_{ij} is the discrete time hazard, β is a vector of coefficients, and α_j is a constant related to the conditional survival probability in the interval; F. Steele, unpublished manuscript, 2009).¹⁵

We focused our analysis on the 624 respondents (i.e., 85% of the baseline sample) for whom we were able to observe whether they became homeless postbaseline. This sample included 435 for whom we had 5 waves of survey data plus 27 who reported having been homeless before being lost to attrition and 162 who were interviewed after missing 1 or more waves of data collection. We coded 40% ($n = 65$) of the 162 respondents as having been homeless starting with the first wave for which they were missing data because they reported an episode of homelessness the next time they were interviewed.

The 108 respondents whose outcomes we did not observe had either not completed any follow-up interviews ($n = 19$) or were permanently lost to attrition before becoming homeless ($n = 89$). An analysis of attrition revealed that these 108 respondents were more likely to be male and more likely to be from Illinois than the 624 respondents whose outcomes were observed.

RESULTS

The thick solid line in Figure 1 shows that 36% of the 624 respondents whose outcomes we observed had been homeless at least once by age 26 years. The true percentage could be higher or lower than this figure suggests depending on what happened to the 108 respondents whose outcomes we did not observe. On the one hand, if we assume a best-case scenario, namely that none of those respondents became homeless, then the true value would be 31% (the dashed line in Figure 1). On the other hand, if we assume a worst-case scenario, namely that all of those respondents became homeless, then the true value would be 46% (the dotted line in Figure 1). Neither of these 2 extremes is likely to have occurred, but the true value must lie somewhere in between.¹⁹

Table 1 shows the estimated odds ratios from our discrete-time hazard model. Six covariates were associated with a statistically significant increase in the relative risk of becoming homeless: running away while in foster care, greater placement instability, being male, a history of being physically abused, engaging in more delinquent behaviors, and having symptoms of a mental health disorder.

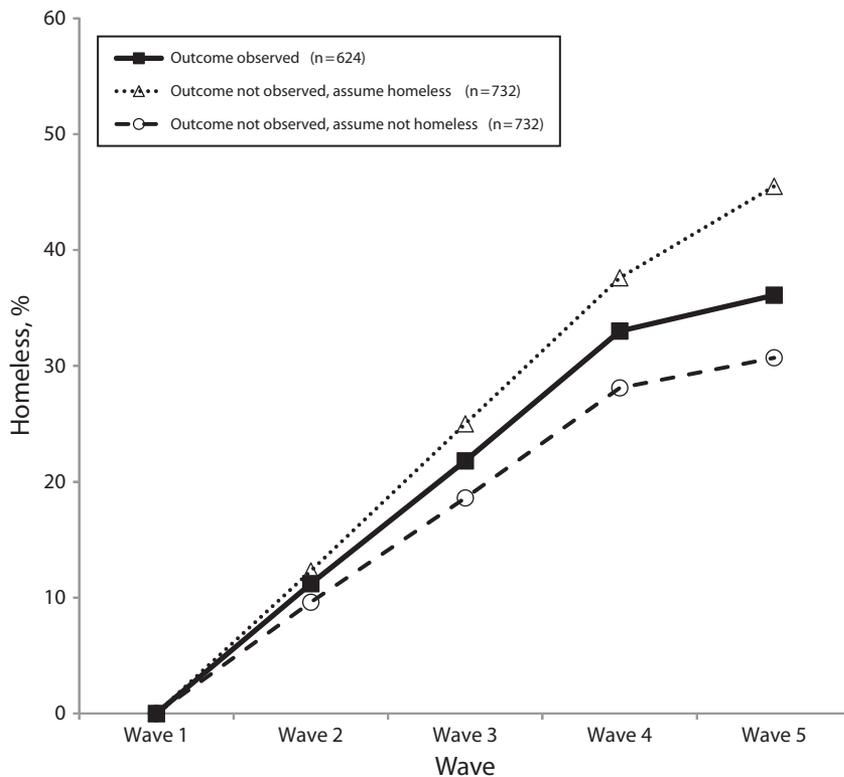


FIGURE 1—Cumulative percentage ever homeless: Midwest Evaluation of the Adult Functioning of Former Foster Youth; Iowa, Wisconsin, and Illinois; 2002–2011.

Although feeling very close to a biological parent or grandparent was associated with a reduction in the relative risk of becoming homeless, the relationship was not statistically significant.

Although the main effect for time was statistically significant between the second and third waves and between the third and fourth waves, the interaction between state and the first-time dummy was arguably more important even though it was not statistically significant at the conventional level ($P = .063$). This interaction, which can be seen in Figure 2, indicates that the relative risk of becoming homeless between waves 1 and 2 was significantly higher among respondents from Iowa and Wisconsin than among respondents from Illinois.

We performed sensitivity analyses to assess the potential impact of the 15% attrition rate on our results. Specifically, we reestimated our model, first under the assumption that all the respondents whose outcomes were not observed had become homeless just before the first wave at which they were permanently lost

to attrition and then again under the assumption that none of those respondents had become homeless by age 26 years. A few covariates that were statistically significant in our original analysis were statistically significant under 1 assumption but not the other, but the estimates were in the same direction and about the same size. The one exception was that having been incarcerated was associated with an increase in the relative risk of becoming homeless when we assumed that the respondents whose outcomes we could not observe had all become homeless, but this was not the case in our original analysis. This finding probably reflects the fact that these 108 respondents were disproportionately male and men were far more likely than women to have been incarcerated.

DISCUSSION

Consistent with earlier studies, we found that youths aging out of foster care are at high risk of becoming homeless during their transition

to adulthood. Specifically, 36% of the 624 Midwest Study participants whose outcomes we could observe reported at least 1 episode of homelessness by age 26 years. That figure could be as low as 31% or as high as 46% depending on the rate of homelessness among those with unobserved outcomes, which means that, at a minimum, nearly one-third of the study participants were homeless at some point after leaving foster care.

The results of our multivariate analysis suggest that running away while in foster care and frequent placement changes are associated with an increase in the relative risk of becoming homeless. Both are markers of instability. This instability may prevent youths from developing strong ties to their caregivers or supportive relationships with other adults. It may also limit their ability to connect with community-based resources, including programs that could provide assistance with housing.

Consistent with previous studies that have found higher rates of mental health disorders among youths who became homeless after aging out of foster care than among their peers who did not become homeless,^{5,6} having symptoms of a mental health disorder was associated with an increase in the relative risk of becoming homeless. Moreover, unlike earlier cross-sectional research, the Midwest Study's longitudinal design eliminates any ambiguity about the temporal relationship between homelessness and mental health disorders.

Previous studies have found high rates of physical abuse among homeless youths, and homeless youths are more likely to report having been abused than their peers who are housed.^{20–23} However, our study may be the first to have demonstrated that a history of childhood physical abuse is associated with an increase in the relative risk of becoming homeless. Additional research is needed not only to better understand this relationship but also to determine whether the effect is limited to youths in foster care.

The higher relative risk of becoming homeless associated with being male is consistent with the results of a study by Boesky et al.,²⁴ who found that the risk of becoming homeless declines for females but rises for males during the transition to adulthood. It may also help explain the higher rate of attrition among

TABLE 1—Parameter Estimates From Discrete-Time Models Predicting First Experience of Homelessness: Midwest Evaluation of the Adult Functioning of Former Foster Youth; Iowa, Wisconsin, and Illinois; 2002–2011

Variable	OR (95% CI)
Intercept	0.044 (0.015, 0.132)
Interval	
Interval 1: between waves 1 and 2	0.958 (0.453, 2.024)
Interval 2: between waves 2 and 3	2.614** (1.357, 5.033)
Interval 3: between waves 3 and 4	3.528*** (1.861, 6.693)
State	0.837 (0.311, 2.255)
Interaction	
Interaction 1: state × interval between waves 1 and 2	2.801 (0.945, 8.306)
Interaction 2: state × interval between waves 2 and 3	0.776 (0.250, 2.413)
Interaction 3: state × interval between waves 3 and 4	1.116 (0.372, 3.343)
Race/ethnicity	
White	0.823 (0.578, 1.172)
Other	0.948 (0.618, 1.454)
Male	1.448* (1.055, 1.988)
Type of care	
Group care	1.235 (0.886, 1.721)
Relative care	0.800 (0.594, 1.078)
Incidence of abuse	
Physical abuse	1.438* (1.074, 1.927)
Sexual abuse	0.984 (0.698, 1.388)
Ran away at least once	1.712*** (1.269, 2.309)
Incidence of symptoms	
Mental health disorder	1.402* (1.045, 1.883)
Substance use disorder	0.983 (0.678, 1.423)
Total no. of placements	1.163** (1.038, 1.303)
Incarcerated since last interview	1.301 (0.946, 1.790)
Months between interviews	0.983 (0.961, 1.006)
Very close to parent or grandparent	0.708 (0.500, 1.003)
Currently employed	0.838 (0.621, 1.130)
Delinquency score	1.121* (1.013, 1.241)
Education	
No high school diploma or GED	1.146 (0.813, 1.614)
≥ 1 y college	0.805 (0.487, 1.330)
Sexual orientation	1.211 (0.790, 1.857)
Social support	0.967 (0.882, 1.060)

Note. CI = confidence interval; GED = general equivalency diploma; OR = odds ratio.
* $P < .05$; ** $P < .01$; *** $P < .001$.

young men than among young women in the Midwest Study.

Equally striking were some of the relationships we did not find. For example, we found no evidence of a relationship between the risk of becoming homeless and either education or employment. Nor did we find any relationship between the risk of becoming homeless and

sexual orientation despite the overrepresentation of youths who identify as lesbian, gay, or bisexual among the population of homeless youths,²⁵ which could indicate that any effects of these variables were explained by other factors in the model.

Had we not included the interaction terms in our model, the absence of any main effect of

state would suggest that the relative risk of becoming homeless was the same regardless of the state in which the participants resided. In fact, consistent with what Dworsky and Courtney¹⁴ reported, we found virtually no difference in the cumulative percentage ever homeless between participants from Illinois (37%) and those from Iowa or Wisconsin (35%). However, the large and positive interaction term for the interval between waves 1 and 2 indicates that the relative risk of becoming homeless was higher at an earlier age for youths from Iowa and Wisconsin than for those from Illinois.

More important, although the age at which youths become too old for foster care is not the only difference between Illinois and the other 2 states, how any other differences would explain the interaction that we found is not clear. Nor does the fact that the interaction was limited to the interval between waves 1 and 2 mean that extending foster care to age 21 years could not reduce homelessness over the long term. Rather, it suggests that the particular approach to extending care in Illinois did not have an impact on the risk of homelessness once youths had aged out.

At the time the Midwest Study data were collected, Illinois was 1 of only 3 jurisdictions in which youths routinely remained in foster care until age 21 years. That is no longer the case. Beginning in October 2010, states were given the option of claiming partial federal reimbursement for the costs of extended foster care. As of June 2013, 20 states have an approved or pending Title IV-E plan amendment to extend federally funded foster care to youths beyond age 18 years.²⁶

What, then, should child welfare agencies be doing differently to ensure that youths are stably housed after they age out? First and foremost, child welfare agencies should ensure that all youths have a concrete plan to address their housing needs after they age out. At a minimum, that plan should include where they plan to live, with whom they plan to live, and how they plan to pay for their housing-related costs. Although federal law has required child welfare agencies to help youths develop a personalized transition plan that includes options for housing since October 2008, not much is known about the specificity of those plans. Moreover, special attention

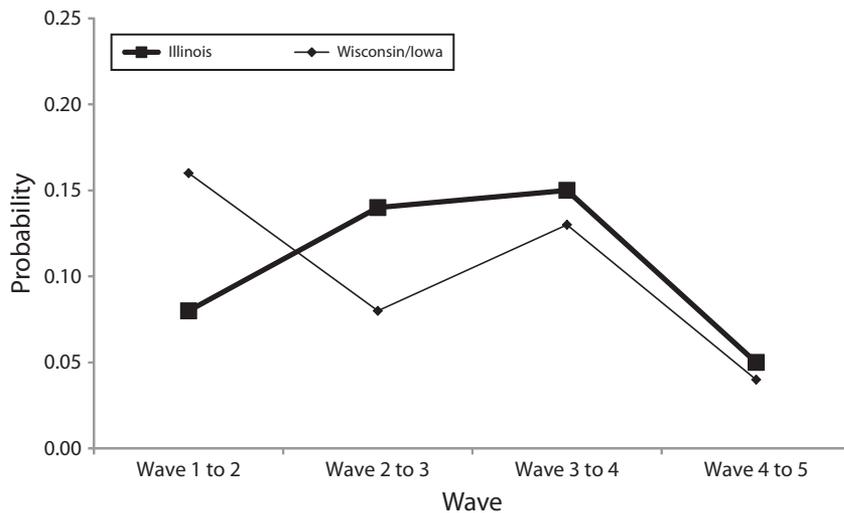


FIGURE 2—Probability of becoming homeless for the first time if not previously homeless: Midwest Evaluation of the Adult Functioning of Former Foster Youth; Iowa, Wisconsin, and Illinois; 2002–2011.

should be given during this transition planning process to the housing needs of youths who frequently changed placements, youths who were physically abused, and youths with mental health problems. This special attention might include more hands-on housing search assistance or advocacy with transitional housing programs that might otherwise screen them out.

Second, child welfare agencies should do more to help youths build financial assets while they are still in foster care. Building financial assets would increase the housing options available to youths and provide them with a safety net should they experience a loss of income that might otherwise lead to homelessness. The Jim Casey Opportunity Passport, which includes a matched savings account component, is an example of this type of asset-building program.²⁷

Third, we found some tentative evidence that close relationships with family may reduce the relative risk of becoming homeless. Although the association was not statistically significant, family was very narrowly defined as biological parents or grandparents. Helping youths in foster care develop and maintain family ties is already recognized as a best practice in child welfare.^{28,29} Our results suggest that in addition to whatever other benefits youths might derive from these permanent

connections, they might also aid in preventing homelessness.

Fourth, given that extending foster care to age 21 years appears to reduce the risk of homelessness, at least over the short term, states that have not already done so should consider passing legislation that would allow youths to remain in foster care until their 21st birthday. States that have taken this step should provide youths in extended foster care with innovative placement options that will prepare them to find and maintain stable housing after they age out. These states should also adopt a reentry policy that would give youths who choose to leave foster care once they turn 18 and are legally adults the right to reenter should they find that they cannot make it on their own as long as they are not yet 21. This option already exists in several states.

Although these changes could go a long way toward reducing homelessness among youths aging out of foster care, additional resources are needed to close the gap between the supply of and demand for housing assistance available to this population.^{30,31} Approaches might include

1. increasing the amount of funding states receive from the Chafee Foster Care Independence Program and requiring them to spend 30% of those funds on housing former foster youths;

2. creating a program modeled after the Education and Training Voucher program that would provide youths with housing vouchers for as long as 2 years after they age out;
3. increasing funding for the US Department of Housing and Urban Development's Family Unification Program, which provides Section 8 Housing Choice Vouchers along with supportive services for as long as 18 months to former foster youths aged 18 to 21 years if they exited foster care on or after their 16th birthday and are homeless, at imminent risk of homelessness, or otherwise inadequately housed (e.g., live in substandard, dilapidated, or overcrowded housing);
4. encouraging public housing agencies to give youths who aged out of foster care preference on their waiting lists as some already do; and
5. providing federal, state, or local tax credits to housing developers who create low-cost rental units specifically for this population.

Finally, a growing number of transitional housing programs target youths who have aged out of foster care. These programs are often run by community-based agencies with funding from a combination of public and private sources.¹ However, little is known about the extent to which these programs prevent homelessness or promote long-term housing stability. Methodologically sound evaluations of these programs are needed so that we can learn what approaches work best and with whom. ■

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Contributors

A. Dworsky was responsible for analyzing the data and writing the article. L. Napolitano helped prepare the data for the multivariate analysis and reviewed drafts of the article. M. Courtney is the principal investigator for the Midwest Study that provided the data on which the analyses are based; he also contributed to the

conceptualization of the multivariate analysis and reviewed drafts of the article.

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Human Participant Protection

This research was approved by the Social Service Administration/Chapin Hall institutional review board at the University of Chicago.

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