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ORIGINAL PAPER

Understanding Wait Times in Rapid Re-Housing Among Homeless Youth: A Competing Risk Survival Analysis

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Abstract

Approximately 3.5 million youth experience homelessness in the United States. Assisting youth to exit homelessness as quickly as possible through various housing venues aims to prevent adverse health impacts that prolonged homeless experiences may have on youth. Rapid re-housing (RRH) is a recent, short-term, less costly housing option than permanent supportive housing that provides temporary housing supports and services to counter homelessness. Although previous literature indicates that youth are likely to achieve stable homelessness exits via RRH, the duration of wait times for youth and potential disparities in RRH waiting periods remain unclear. We used administrative data from 16 communities across the United States ($N = 10{,}920$) to gain a greater understanding about RRH wait times among homeless youth. In addition, we adopted a competing risk survival analysis to investigate potential disparities (i.e., race and ethnicity, gender, rurality, sexual orientation, and previous homelessness condition) in RRH wait times while taking into consideration the presence of other homelessness exit options (e.g., permanent supportive housing). Study results indicate that RRH is a common homelessness exit for homeless youth and is prioritized for youth assessed as mid-vulnerability, per commonly accepted assessment measures of youth vulnerability. However, youth who received RRH waited, on average, 131 days following their housing eligibility assessment. Furthermore, being a minor (i.e., 17 years old or younger), experiencing homelessness in rural communities, and lower engagement in homeless services (e.g., emergency shelters and transitional living programs) were all associated with lower probability of exiting into RRH over time, taking into account the possibility of other competing homelessness exits. Expansion of the short-term housing supports offered through RRH may be a promising strategy to counter homelessness among youth in a timely manner. However, such an expansion should also address the potential disparities underlying youths' wait time to receive RRH in order to reduce prolonged homelessness experiences within this vulnerable population.

Keywords Rapid re-housing · Homelessness · Homeless youth · Disparity · Wait time

Introduction

Homelessness is a major issue in the United States, affecting an estimated 3.5 million young people aged 18–25 annually (Morton et al., 2018). It is well established that early interventions for youth experiencing homelessness are critical for avoiding a host of negative outcomes, such as substance abuse, trauma, depression, sexual risk-taking, and exposure to violence (Ensign & Bell, 2004; Halley & English, 2008; Harris, Rice, Rhoades, Winetrobe, & Wenzel, 2017; Medlow, Klineberg, & Steinbeck, 2014; Perlman, Willard, Herbers, Cutuli, & Eyrich Garg, 2014; Rattelade, Farrell, Aubry, & Klodawsky, 2014; Toro, Dworsky, & Fowler, 2007). Research has unequivocally demonstrated a relationship between prolonged periods of homelessness and these negative outcomes (Toro et al., 2007). Therefore, what is needed is a rapid response for housing homeless youth. Fortunately, rapid re-housing (RRH) has recently been introduced as an intervention to address this need, and recent research suggests that more than 80% of youth provided with this intervention will avoid returning to homelessness for at least 6 months (Rice et al., 2018). What remains unclear is how rapidly this intervention is currently being deployed and whether there are disparities in how quickly youth receive this critical intervention. We used administrative data from 16 communities across the United States to assess the distribution of time taken to exit homelessness via RRH and interrogate the data for disparities (e.g., race and ethnicity, gender, rurality, sexual orientation) in the time to receive RRH.

Rapid Re-Housing and Homeless Youth

The United States Department of Housing and Urban Development (HUD) offers mandates, guidelines, and best practice recommendations to communities on housing youth (HUD, 2015, 2016). In most Continuums of Care (CoCs; regional bodies that coordinate funding for housing and homeless services), a single interconnected system pools housing resources across the CoC to address the needs of individuals experiencing homelessness (Cunningham, Gillespie, & Anderson, 2015). The two most commonly used interventions in such systems are permanent supportive housing (PSH) and rapid re-housing (RRH). In most CoCs, youth experiencing homelessness come into contact with an intake resource (for example, designated emergency shelters, street outreach, or drop-in centers) in pursuit of housing support. There, they are assessed for housing eligibility and vulnerability/risk, often through the use of the Transition Age Youth-Vulnerability Index-Service Prioritization Decision Assistance Tool (TAY-VI-SPDAT): Next Step Tool (NST) developed by OrgCode Consulting, Corporation for Supportive Housing (CSH), Community Solutions, and Eric Rice (Orgcode Consulting, 2015). Based on these assessments, in which higher scores correspond with greater vulnerability or risk, a case manager or a team of housing navigators decide how a youth is to be prioritized for housing, considering the options available (Rice, 2018).

PSH, recognized as a best practice in providing long-term housing services to those identified as the most vulnerable chronically homeless, continues to

demonstrate positive outcomes with both adults and youth (Padgett, Henwood, & Tsemberis, 2015; Rice et al., 2018). In most CoCs, PSH is reserved for youth scoring 8 or higher on the NST, due to its scarcity relative to community need. In recent years, the federal government has promoted RRH as a shorter-term and less costly option than PSH and a key strategy for addressing homelessness nationwide through the coordinated entry systems mentioned above. RRH provides a more economical response by offering temporary support in the form of rental assistance, ranging from 3 to 24 months, and other relocation and stabilization services designed to help people exit the homeless system quickly and secure permanent housing (Finkel, Henry, Matthews, Spellman, & Culhane, 2016; HUD, 2013). In practice, RRH is likely to be prioritized for youth with mid-range vulnerability, defined by the NST as scores ranging from 4 to 7 (Rice et al., 2018).

While the homelessness intervention literature has largely focused on evidence of low-threshold housing provisions (i.e., housing without preconditions associated with program compliance; Brown et al., 2018), a narrow body of research has begun to evaluate the effectiveness of RRH as a less costly and more readily available housing approach. Some research calls into question the overall effectiveness of the RRH model. Most notable among these studies is HUD's Family Options Study, which found that, after 3 years, RRH had little to no effect on improving housing stability, family preservation, adult and child well-being, and self-sufficiency relative to usual care (i.e., families were not offered priority access to any type of homeless or housing assistance; Gubits et al., 2016). However, other studies, albeit less rigorous than the Family Options Study, suggest the potential of RRH programs to demonstrate promising outcomes for families, veterans, as well as youth experiencing homelessness in terms of reducing rates of return to homelessness (Byrne, Treglia, Culhane, Kuhn, & Kane, 2016; Cunningham et al., 2015; Finkel et al., 2016; Rice et al., 2018; Rodriguez & Eidelman, 2017; Taylor, 2014). The limited literature on RRH with youth provides evidence of potential disparities in the length of time individuals are waiting in the homeless system prior to RRH placement.

Housing Wait Times Among Homeless Youth

Previous studies of disparities in housing outcomes, while largely focused on housing stability rather than waiting periods, suggest that race and ethnicity, gender identity, sexual orientation, age, and rurality may be associated with duration in housing, returns to homelessness, and other indicators of housing stability (Allgood & Warren, 2003; Brown, Vaclavik, Watson, & Wilka, 2017; Brown et al., 2018; Byrne et al., 2016; Finkel et al., 2016; Milburn, Ayala, Rice, Batterham, & Rotheram-Borus, 2006; Pearson, Montgomery, & Locke, 2009; Rodriguez & Eidelman, 2017). For example, a study conducted by Allgood and Warren (2003) examining characteristics of "stayers" versus "leavers" of Housing First programs found that participants who identified as women were more likely to be stayers, while those identifying as Black were more likely to be leavers. A 2017 study conducted by Brown et al. found that RRH program participants identifying as Black or African American were at greater risk of re-entry to homeless services. However, a 2018 follow-up

study conducted by these authors found that, when controlling for all other variables, Black or African American participants had significantly higher odds of exiting RRH programs into permanent housing. These mixed findings suggest the need for further examination of group disparities in housing placements and outcomes, specifically pertaining to RRH for youth.

Furthermore, given the focus of RRH on facilitating quick exits from homelessness into housing, examination of disparities related to wait times in the homeless crisis service system, as opposed to focusing on stability once housed, must be measured. Minimal research on wait times in the context of Housing First models has been explored. Spellman, Khadduri, Leopold, and Sokol (2010) found that, in addition to disparities in race and age of participating families, the types of programs accessed while homeless were also associated with the length of time in the homeless system. Allgood and Warren (2003) concluded that the duration of homelessness was associated with age, gender, and rurality. However, these findings on wait periods in the homeless system have yet to be applied to RRH program wait times.

Our Study

Findings from these studies suggest that more research is needed to understand the impact of characteristics of youth in the homeless service system on wait times for placement in RRH as well as potential disparities in the delivery of this housing approach. Conducting a competing risk survival analysis on a large national administrative dataset on homeless youth from 16 communities across the country, we sought to add to the limited body of literature on RRH interventions with youth by exploring disparities in waiting times within this population. As previously noted, providing housing to youth experiencing homelessness as quickly as possible can address a host of health risks and costs. Therefore, understanding such issues can have critical policy implications with regards to RRH as a prevention strategy for long-term homelessness and its associated risks for youth who experience homelessness.

Method

Data Source

Our study used administrative data downloaded and de-identified by OrgCode Consulting from the Homeless Management Information System (HMIS) database on May 1, 2017. This dataset includes a total of 10,922 homeless youth from 16 communities across the United States. A convenience sampling strategy was adopted to select the 16 communities. Specifically, these communities had received technical consultation from OrgCode Consulting to implement NST and agreed to provide the research team access to deidentified data. Youth who entered HMIS from the 16 communities between January 1, 2015, and May 1,

2017, were included in the dataset. The average number of days between the HMIS entry date and the dataset conclusion date (i.e., May 1, 2017) was 428.9 ($SD = 153.2$; range = 848 days). Data were collected and entered into HMIS by local community providers when assessing homeless youth for housing eligibility. Information captured by the dataset includes the NST score and assessment dates, youth demographic information (e.g., age, race and ethnicity, sexual orientation), neighborhood types (e.g., rural, suburban, urban), homelessness exits (e.g., PSH, RRH, family reunification, self-resolved), and homelessness exit dates. In our study, two cases were removed because of data entry errors (i.e., the homelessness exit dates preceded NST assessment dates, resulting in negative wait times).

Measurements

Outcome of Interest

In the dataset, homelessness exits are treated as nominal variables with categories including PSH, RRH, family reunification, self-resolved, deceased, incarceration, boarding home, and veteran program [i.e., supportive services for veteran families (SSVF)]. The dataset also includes information indicating whether the individual's homeless status was pending (i.e., youth who were still in the system and had not yet exited homelessness into one of the aforementioned housing types by the date that the dataset was generated) or lost (i.e., youth who were no longer in the system and could not be contacted). The outcome of interest (i.e., major event of interest in competing risk survival analysis) for the current study is youth exiting homelessness into an RRH program over time, with the possibility of other exits. The other exit types listed above were, therefore, treated as competing events.

Independent Variable

We examined the variables of age, race and ethnicity, sexual orientation, gender, homelessness condition, and neighborhood type (i.e., urban, rural, suburban) to explore potential disparities in exiting homelessness into RRH. Age is treated as a dichotomous variable that compares youth aged 17 or younger (i.e., minors) with those aged 18–24. Race/ethnicity comprises four categories: White, Black, Latino, and Multiracial or Other. Sexual orientation is treated as a dichotomous variable that contrasts lesbian, gay, bisexual, transgender, queer or questioning, intersex, and two-spirit (LGBTQI2-S) with youth who identify as heterosexual. Gender is also treated as a dichotomous variable comparing female and male youth. Homelessness condition is a categorical variable that captures where youth most frequently sleep during episodes of homelessness. This includes emergency shelters, transitional living programs, vehicles, couch surfing, and outdoors. Neighborhood type is a nominal variable with three categories: rural, suburban, and urban.

Control Variable

Although not the specific focus of this study, the youth's NST score serves as a control variable, given that community providers have widely adopted this vulnerability assessment in housing prioritization (Rice et al., 2018). As a tool to assess a youth's level of housing vulnerability, the NST employs 28 multiple-choice, dichotomous, and frequency-type questions. These questions cover an individual's history of housing and homelessness, risks, socialization, daily functions, and wellness (sample question: "Is your current lack of stable housing because of violence at home between family members?"). More detailed information regarding the development and validation of the NST can be found in studies conducted by Rice and his colleagues (Rice, 2018; Rice et al., 2018).

Based on a youth's response to the NST questions, a score ranging from 0 and 17 is produced. The higher the score, the higher the level of assessed vulnerability. NST scores are organized into three categories: high vulnerability (scores of 8 or above), mid-vulnerability (scores from 4 to 8), and low vulnerability (scores from 0 to 3). These "cut scores" were determined by OrgCode Consulting (see Rice, 2018 for more details). Following current NST recommendations, PSH is prioritized for youth with high vulnerability, while RRH is prioritized for youth with mid-vulnerability (Rice et al., 2018). Because housing resources (e.g., PSH and RRH) are prioritized based on the three levels of vulnerability assessed by the NST, in our study, the NST score is operationalized as an ordinal variable with three levels: high, mid-range, and low vulnerability.

Analysis

Our study used a competing risk survival analysis (Fine & Gray, 1999) to explore potential disparities in homeless youth's waiting time prior to exiting homelessness into RRH, while at the same time taking the probability of other exit types into consideration. When entering homelessness exit data into HMIS, exits were categorized as PSH, RRH, family reunification, self-resolved, or other exits. These options are mutually exclusive in that selection of one of the exits excludes all other possibilities. For example, a youth who exits homelessness into PSH will not be able to exit homelessness into RRH at the same time. Therefore, homelessness exits other than RRH were treated as "competing events" in this study in relation to the event of interest, which is an exit into RRH.

Competing risk survival analysis, compared to traditional survival analysis, allows for the fact that youth may exit homelessness via mechanisms other than RRH and takes into consideration that such exits may prevent the occurrence of an exit into RRH. Specifically, in our study, all homelessness exits other than RRH, including PSH, family reunification, self-resolved, deceased, incarceration, boarding home, and veteran program were considered competing risks, given that such exits prevent youth from exiting into RRH. Time to event was calculated by subtracting the homelessness exit date from the NST assessment date. Youth who were

identified as pending or lost were censored in the analysis. It should also be noted that data for youth who entered the HMIS system precisely on May 1, 2017, (i.e., the conclusion date of the study dataset) were also considered pending in the system and, therefore, censored in the analysis, since no wait time to homelessness exit information (i.e., time to event) was available. All independent and control variables were included in the multivariate competing survival analysis model. All analyses were conducted using the stcrreg command in Stata 12 (StataCorp. 2011).

Results

Table 1 shows the demographic information of youth included in the HMIS dataset. Among all homelessness exits, RRH is the predominant exit (26%) for homeless youth, which stands to reason considering that the majority of youth fell into the mid-vulnerability category as assessed by the NST (66%) and the overall scarcity of available PSH. However, it should be noted that a high proportion of youth remained pending in the system waiting to exit homelessness (33%) or were lost track of within the system (10%). In terms of waiting time, youth who received RRH waited, on average, over 4 months ($SD = 79.9$). Youth included in the dataset were predominantly over 18 years of age (70%), male (78%), White (48%), from suburban or urban areas (85%), and had previously engaged with homeless services (i.e., 79% stayed in emergency shelters and transitional living programs). Finally, over 30% of youth identified as LGBTQI2-S.

Table 2 and Figs. 1, 2 and 3 demonstrate the competing risk survival analysis results. Compared to youth who were 18 or older, and in the presence of other potential homelessness exits, minors were found to be negatively associated with exits into RRH over time. As Fig. 1 illustrates, when holding other variables constant, the probability of a minor exiting into RRH within 200 days of entering the HMIS was determined to be around 15%, while it was 20% for youth 18 or older.

Experiencing homelessness in suburban or urban communities, compared to rural communities, was associated with an increased probability of exiting homelessness via RRH over time while considering the possibility that other homelessness exits may occur. As suggested in Fig. 2, youth in rural communities had about a 13% probability of receiving RRH within 200 days of entering the system, while the probability of youth in urban settings receiving RRH within the same timeframe was close to 20%.

Homelessness conditions, as measured by the most frequent location where youth slept while homeless, were also found to be associated with exiting into RRH over time. Specifically, youth who engaged in formal homeless service systems (i.e., emergency shelters or transitional living programs), compared to other condition types (e.g., couch surfing or sleeping outdoors), were found to be associated with an increased probability of exiting into RRH over time, as demonstrated in Fig. 3. Finally, this study also found that NST scores between 4 and 7 (i.e., mid-vulnerability), compared to high vulnerability youth (i.e., NST score ≥ 8), were positively associated with exiting into RRH over time in the presence of other potential homelessness exits.

Table 1 Descriptive statistics of homeless youth participants ($N = 10{,}920$)

	Mean (*SD*)	*n* (%)
Homelessness exit of interest		
Rapid re-housing (RRH)		2885 (26.42)
Competing homelessness exit		
Permanent supportive housing (PSH)		579 (5.30)
Family reunification		1259 (11.53)
Self-resolved		1144 (10.48)
Boarding home		8 (0.07)
Veteran program (SSVF)		54 (0.49)
Incarceration		211 (1.93)
Deceased		68 (0.62)
Pending in the system for homelessness exit		3610 (33.06)
Lost in the system		1102 (10.09)
Waiting time for RRH (in days)[a]	131.21 (79.87)	
Demographics		
Minor (aged 17 or younger)		3302 (30.24)
Female		2428 (22.25)
LGBTQI2-S		3318 (30.38)
Race/ethnicity		
White		5212 (47.73)
Black		3382 (30.97)
Latino		1655 (15.16)
Multiracial/Other		671 (6.14)
Neighborhood type		
Rural		1590 (14.56)
Suburban		2046 (18.74)
Urban		7284 (66.70)
Homelessness condition		
Emergency shelter		7187 (65.82)
Transitional living program		1505 (13.78)
Vehicle		766 (7.01)
Couch surfing		664 (6.08)
Outdoors		798 (7.31)
Next Step Tool (NST) score		
High vulnerability		2946 (26.98)
Mid-vulnerability		7181 (65.76)
Low vulnerability		793 (7.26)

[a]For youth who received RRH only ($n = 2885$)

We conducted post hoc auxiliary univariate logistic regression analyses to explore potential characteristics of youth awaiting an exit from homelessness versus youth exiting homelessness via stable homelessness exit venues (i.e., PSH, RRH, family reunion, and self-resolved) as defined in previous literature (Rice et al., 2018).

Table 2 Competing risk survival analysis for homelessness exits into RRH ($n = 6208$)

	Sub-hazard ratio	Robust *SE*	95% CI
Demographics			
Minor (aged 17 or younger)	0.77***	0.03	0.71, 0.83
Female	0.99	0.05	0.91, 1.09
LGBTQI2-S	1.03	0.04	0.95, 1.12
Race/ethnicity (Ref = White)			
Black	1.01	0.04	0.93, 1.10
Latino	1.07	0.06	0.96, 1.19
Multiracial/Other	0.89	0.08	0.75, 1.06
Neighborhood type (Ref = Rural)			
Suburban	1.41***	0.10	1.21, 1.63
Urban	1.48***	0.10	1.31, 1.68
Homelessness condition (Ref = emergency shelter)			
Transitional living program	1.13*	0.06	1.03, 1.25
Vehicle	0.75**	0.07	0.62, 0.91
Couch surfing	0.44***	0.05	0.35, 0.55
Outdoors	0.29***	0.04	0.22, 0.38
NST score (Ref = high vulnerability)			
Mid-vulnerability	1.29***	0.08	1.15, 1.45
Low vulnerability	0.02***	0.01	0.01, 0.04

*$p < 0.10$; **$p < 0.05$; ***$p < 0.001$

We also conducted the same analyses to investigate characteristics of youth lost in the system versus those exiting homelessness via stable venues. Considering that it might take time for youth to exit homelessness after being assessed for housing eligibility, the post hoc analysis mentioned above only included youth who entered the HMIS database at least 120 days prior to the dataset conclusion date. The results of the post hoc analyses are not shown in tables. The post hoc analyses suggest that youth who were minors (*OR* 2.04; 95% CI 1.86, 2.23), Black (*OR* 1.21; 95% CI 1.10, 1.33), Latino (*OR* 1.27; 95% CI 1.12, 1.43), sexual minorities (*OR* 1.12; 95% CI 1.02, 1.23), and from urban (*OR* 1.25; 95% CI 1.07, 1.46) or suburban (*OR* 1.41; 95% CI 1.24, 1.60) communities were more likely to be pending in the system for exiting homelessness.

In addition, youth who were minors (*OR* 1.30; 95% CI 1.13, 1.49), female (*OR* 1.19; 95% CI 1.02, 1.38), and Black (*OR* 1.44; 95% CI 1.24, 1.67), Latino (*OR* 1.26; 95% CI 1.04, 1.53), multiracial or some other race/ethnicity (*OR* 1.49; 95% CI 1.15, 1.92) were more likely to be pending in the system for exiting homelessness. Finally, as compared to youth who spent most of their nights in emergency shelters during homelessness, youth who spent most of their nights in vehicles (*OR* 1.42; 95% CI 1.10, 1.83), couch surfing (*OR* 2.76; 95% CI 2.24, 3.41) or on the streets (*OR* 1.86; 95% CI 1.44, 2.39) were more likely to be lost in the system, while youth who spent most nights in transitional living programs were less likely to be lost within the system (*OR* 0.70; 95% CI 0.56, 0.88).

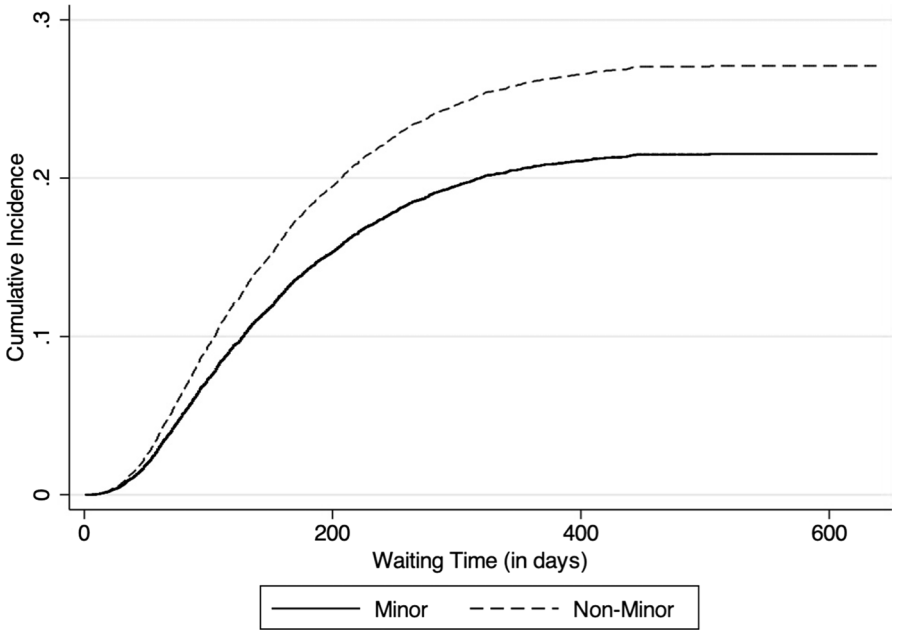

Fig. 1 This figure shows the cumulative incidence of rapid re-housing exits over time comparing minor versus non-minor

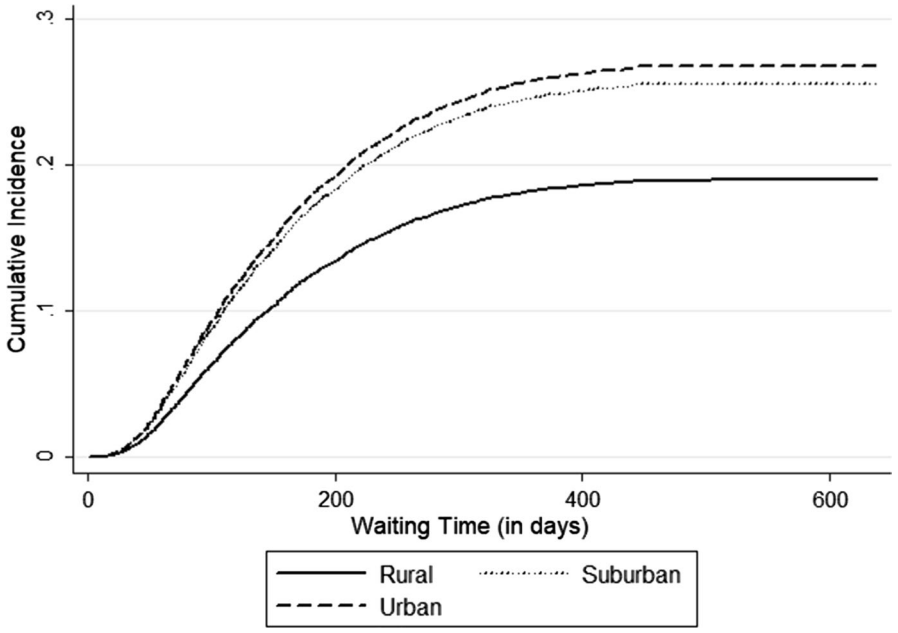

Fig. 2 This figure shows the cumulative incidence of rapid re-housing exits over time comparing rural neighborhoods versus urban and suburban neighborhoods

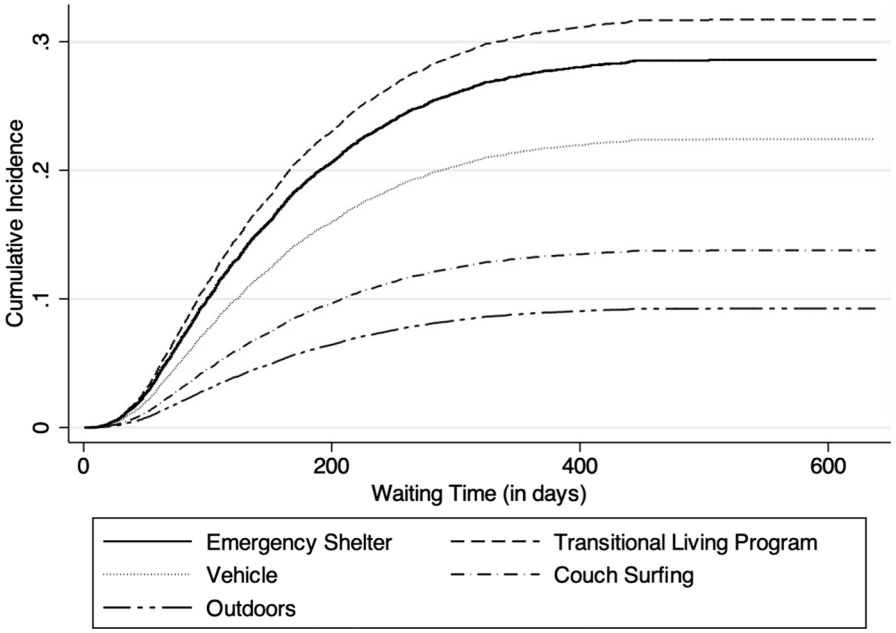

Fig. 3 This figure shows the cumulative incidence of rapid re-housing exits over time as a function of homelessness conditions

Discussion

As we move toward understanding best practices in addressing youth homelessness, several important findings emerge from this study that allow us to better understand potential disparities in homelessness exit wait times when considering RRH as a key tool in housing for youth. Adult youth (i.e., youth 18 years and older) experience higher placement in RRH than their younger peers over time. As placement is generally determined by the service system and service providers, this finding may reflect the current views held by service providers about placing minors in RRH. Perhaps service providers do not feel that RRH is appropriate for minors and, thus, do not readily refer youth under 18 years of age to this housing intervention. It is also possible that younger youth may have a harder time adapting to the expectations and responsibilities of independent living and may have a more challenging time remaining stably housed due to vulnerabilities associated with age (Rice et al., 2018). Additionally, landlords may also be hesitant to house minors due to the perceived risks (e.g., unstable income after housing subsidy period) and potential legal issues. With limited understanding of RRH wait times and sustainability for minors experiencing homelessness, more research is needed regarding the housing placement process and related outcomes that include the youth service system and provider perspectives.

Perhaps most illuminating, location matters when it comes to housing. We found that urban and suburban areas have higher rates of RRH placement over time,

whereas rural areas have lower rates of RRH placement. This mirrors previous findings that rurality is associated with durations of homelessness (Allgood & Warren, 2003; Rice et al., 2018). Less is known about the barriers to housing and the experiences of housing instability in rural areas. Access to care is a concern, and affordable housing is critical, perhaps increasingly so in rural areas where there is a dearth of housing programs.

Obtaining needed housing support is crucial for successfully exiting homelessness. Thus, persons engaged in systems of care and other supportive housing during episodes of homelessness, such as shelters and transitional housing, were more likely to exit into RRH as compared to those with more experiences of literal homelessness. The more one engages with the homeless service system, the more likely one is to experience successes within that system. Perhaps youth with greater homeless service system involvement have more contacts within the homeless service system, are better known by homeless system providers, and are, thus, more likely to be contacted when vacancies occur. This is congruent with previous literature that notes that the types of programs one accesses while homeless are associated with length of time in the homeless system (Spellman et al., 2010). Furthermore, it is also possible that youth with a more robust service engagement history are perceived by providers as being more "ready" for a housing program, and, thus, are prioritized with RRH resources with the goal to promote housing stability. Therefore, it may be that communities need further training on outreach to service-disconnected youth and the rationale and operation of a low-threshold rapid re-housing approach. Further research is also needed to identify the unique barriers to RRH among unsheltered youth exhibiting greater disconnection from services.

Findings of this study also echo previous literature on housing resource prioritization based on youth's degree of vulnerability. In this national dataset, a high proportion of youth exited homelessness via RRH, and most of them scored in the mid-range for vulnerability. Previous research (Rice et al., 2018) shows that youth are being placed according to the recommended thresholds of the NST, which supports RRH for mid-range scoring youth (scores of 4–7) and PSH for higher scoring youth (8 and above). Our study suggests that youth with mid-range vulnerability, as compared to youth with high vulnerability, are more likely to exit to RRH in a shorter period of time, accounting for other competing homelessness exits. However, the average time to placement remains 4 months (Rice et al., 2018), indicating that "rapid" may not be rapid enough to meet the immediate needs of those it aims to serve.

Our study identified potential disparities in RRH exit wait times faced by homeless youth. However, it is worth pointing out that our analysis also suggested that there were not significant sexual orientation, gender, and racial disparities in wait times to RRH exit when considering other competing homelessness exits. Nonetheless, the post hoc analysis shows potential disparities among homeless youth subgroups (e.g., minor youth, racial minorities, and sexual minorities) who face exiting homelessness or even maintaining connection with the homeless service system. Future studies should build upon these preliminary findings to investigate the interconnectedness of such characteristics among youth who experience homelessness and their access to stable homeless exits.

While this study is based on an unprecedented longitudinal administrative dataset linking intake assessment scores and variables to service placements and outcomes across multiple communities, there are also several limitations that signal to areas for data improvements and future research. First, as these results are based on administrative data, we only have information on youth who made contact with a specific CoC. Many youth experience homelessness but do not make themselves known to the local CoC. Similarly, if youth came into contact with the CoC but left the community or returned to homelessness and did not reengage with the local CoC, the dataset would not reflect information on their subsequent outcomes.

Second, the data do not include all types of housing programs in which youth could be placed. Perhaps most importantly, in this respect, the data do not include exits to transitional living programs, which are primarily funded by the United States Department of Health and Human Services (HHS) and other non-HUD funding streams. Homeless youth's engagement with a transitional living program in our study was based on where a youth spent most nights during homelessness prior to the housing eligibility assessment, rather than youth who exited homelessness via transitional living program. Considering the shared similarities between a transitional living program (e.g., temporal housing assistance), and that youth can stay in such programs up to 2 years, future research should compare results associated with different housing interventions: for example, between RRH and transitional housing for youth with different characteristics and degrees of vulnerability.

Third, this study was not designed as an impact evaluation. We could examine administratively-recorded housing stability over time associated with a few broad types of exits/programs, but there was no prospective control group, and youth were not assigned randomly to different interventions.

Fourth, there are gaps in both the NST tool and the outcomes data available that limit the depth of possible analysis. For example, as a triage tool, the NST focuses on risk factors but lacks information on young people's strengths and assets, which could play important roles in informing appropriate service connections or predicting housing stability.

Despite these limitations, these data provide communities with much needed new information on disparities in the timing to receive RRH resources. Literature on the influence of homelessness exit wait times on youth's future housing and health outcomes remains scarce and, thus, warrants further investigation. However, the consensus is that timely intervention that reduces the length of homelessness experienced by youth may be promising in preventing not only further long-term homelessness but a host of health and behavioral health issues in the future. Therefore, determining which youth may be in need of more targeted assistance with RRH is critical. We believe the most important direction for future research is a more in-depth examination of RRH in the context of rural communities. As place-based housing programs may be less available in these settings, understanding how to effectively mount RRH as a response to homelessness is of paramount importance, yet rural communities appear to have a more difficult time quickly placing youth in RRH.

Conclusion

With the scarcity of PSH, which is prioritized for high-vulnerability youth, RRH that provides relatively short-term housing supports may be a viable option for mid-vulnerability youth to exit homelessness (Rice et al., 2018). Given the long waiting period to receive RRH and the high proportion of youth still pending in the system waiting to exit homelessness, expanding RRH provisions may be a potential strategy to address youth homelessness. However, such an expansion decision should be guided by additional in-depth and rigorous research demonstrating evidence of the effectiveness of RRH, particularly with youth. Furthermore, the expansion of RRH should also take factors such as age, rurality, and past service engagement into consideration to avoid potential disparities in accessing RRH. RRH, although dynamic in its offerings, is a complex program involving many stakeholders, including housing agencies, private landlords, city infrastructure, and youth (Wilkins & Burt, 2012). Engaging these community stakeholders to develop community-based RRH resources may be important for housing local homeless youth as quickly as possible with the ultimate goal of preventing long-term adverse outcomes resulting from prolonged experiences of homelessness.

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Compliance with Ethical Standards

Conflict of interest The authors have no conflicts of interest to declare.

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