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RESEARCH ARTICLE

Young Adults with Lived Foster Care Experience Who Later Experience Houselessness: an Exploratory Latent Class Analysis

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Abstract

Young adultswith lived experience in out-of-home care during childhood report later experiences of housing instability as common. Existing literature identifies a host of factors compounding an individual's risk of experiencing houselessness, but research has yet to explore constellations of characteristics which describe youth formerly in care who later become unhoused. This exploratory study leverages a public–private data linkage collaborative to integrate and de-identify child welfare data extracted from a Rocky Mountain state's administrative database and houselessness service utilization data from a regional provider in a large metro area of the state. Linkage and sampling yielded a final sample of 285 youth (ages 18 to 24) formerly in foster care who accessed houselessness services between December 2018 and March 2020 and who had signed required consents. A 22-measure latent class analysis identified three characteristic groups: intensive youth corrections involvement and emancipation from the child welfare system (32% of sample); family-based challenges, neglect, and more moderate youth corrections involvement (41% of sample); and youth behavior and substance use challenges along with family reunification before accessing houselessness services (26%). We found that young women and Black, Indigenous, and people of color were disproportionately represented in the sample compared to the state's population of youth in out-of-home care. Youth with long histories of child welfare placement were a majority of the sample. Implications are discussed. Data-sharing barriers must be addressed to facilitate further research aimed at understanding houselessness within this population.

Keywords Young adults · Foster care · Houselessness

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Introduction

In the USA, estimates suggest that approximately 50% of young adults who identify as being unhoused[1] at any given time were once in foster care (O'Neale, 2020). Data also indicate that at least 40% of young adults exiting foster care are prone to facing housing insecurity within the first 2 years of aging out of child welfare services (Shroyer & Brennan, 2019). Episodes of housing instability are correlated with increased risk of poor health and delayed educational and career achievements, including heightened prevalence of preventable disease, lower likelihood of future employment, and more frequent interactions with the justice system (Cobb-Clark & Zhu, 2015; Desmond & Sandel, 2017; Narendorf et al., 2020). Programs and policies aimed at preventing this group from experiencing housing instability and/or becoming unhoused require tailored solutions that address the unique characteristics of these young people. This research seeks to provide a deeper understanding of the characteristics and histories of unhoused young adults formerly in foster care in a Rocky Mountain US state with the goal of shedding light on possible policy solutions for serving such youth.

Young Adults and Inadequate Housing

Many possible circumstances can be described as "houselessness," "unstable housing," or the experience of "being unhoused." In the USA, it is common for young adults to vacillate among several sleeping arrangements while unhoused. Most often, youth stay with a series of acquaintances, or "couch surf," if they do not have access to their own home (Samuels et al., 2019). Additional possibilities include utilizing formal agency resources such as a shelter or transitional housing. It is also common for youth to sleep in spaces not meant for habitation, such as parks, stairwells, or abandoned buildings. Most unhoused youth report using more than one sleeping arrangement and changing arrangements frequently throughout any given week (Heerde et al., 2020). All of these circumstances leave young adults without a safe, reliable place to call home which reduces well-being for emerging adults.

Increasingly, housing insecurity has been conceptualized as a spectrum, with "homelessness" at one end and "stable, safe, adequate, and affordable housing" at the other (Cox et al., 2017). So, even if a young adult is not fully unhoused, they may still be experiencing a degree of housing insecurity or instability. In a research brief, the US Department of Health and Human Services (HHS) (2021) defined "housing instability" as involving "experiences or risk of homelessness, eviction, or other inability to find, maintain, and afford a stable residence." Others advocate for a more inclusive definition to more accurately estimate this population, and seek to

[1] We use "houselessness," "unhoused," and "experiencing housing instability" to describe what has been commonly referred to as "homelessness" both in past literature and as formally defined by the US Department of Housing and Urban Development (HUD, 2014). These newer terms are used consistently throughout to highlight the importance of using non-stigmatizing person-centered language (Perlman, 2020) when discussing lack of adequate housing.

measure housing insecurity along several dimensions, including residential stability, housing affordability, housing quality, housing safety, overcrowding, neighborhood safety, neighborhood quality, and homelessness (Cox et al., 2017; Curtis & Geller, 2010; Leopold et al., 2016).

Defining housing instability among youth in particular is no less complex —the US Departments of Education (ED), Housing and Urban Development (HUD), and HHS each operate under a different understanding of what it means for a youth to be unhoused (The United States Interagency Council on Homelessness, 2018). As a result, each agency produces counts of unhoused youth that over- or underrepresent certain subpopulations; for instance, most youth captured in HUD's point-in-time (PIT) count are sheltered and *over* 18 years of age, while those captured in ED's McKinney-Vento data are *under* 18 and may be individuals who are "couch surfing" (The United States Interagency Council on Homelessness, 2015). The absence of a standard definition of housing instability in general—and youth housing instability in particular—complicates efforts to effectively measure and serve this population (Frederick et al., 2014; Morton et al., 2018).

Existing national estimates and measurements of youth experiencing housing instability may fall short of a complete census, but they have managed to illuminate several factors correlated with a greater risk of housing instability among youth, including race, LGBTQ+ status, education level, household income, pregnancy or parenting, age, mental health problems, substance use history, and child welfare or criminal justice involvement (Morton et al., 2018, 2019; DiGuiseppi et al., 2020; Park et al., 2014; The United States Interagency Council on Homelessness, 2015). For instance, certain racial and ethnic groups are more likely to be unhoused—a study conducted by Morton et al., (2017) found that Black and Hispanic youth are 83% and 33% more likely, respectively, to become unhoused at any point. The same study highlighted additional increases in the likelihood of reporting an unhoused episode at 364% for youth with less than a high school diploma or GED, 162% for youth reporting an annual household income of less than $24,000, and 200% for unmarried, parenting youth (Morton et al., 2017). LGBTQ+ youth are roughly 2–4 times more likely to be unhoused than their non-LGBTQ+ peers (Congressional Research Service, 2019; Durso & Gates, 2012).

Houselessness and Health and Well-Being Among Young Adults

Young people who have experienced periods of being unhoused tend to have worse overall health and well-being outcomes into adulthood (Collins & Thomas, 2018). Physical health can be compromised by the poor housing conditions associated with housing insecurity, such as mold exposure and lead paint toxicity (Shaw, 2004). Without stable housing, it is very difficult to attend to preventative and affordable healthcare; in fact, houselessness and housing insecurity are considered distinct causes of preventable hospitalization nationwide (Sandel & Desmond, 2017). Experiences of being unhoused also correlate with behavioral health challenges. Youth who are unhoused are more likely to engage with substance use (Smith-Grant et al.,

2022), and a study conducted in Mexico found that girls who were unhoused and accessed shelter services experienced more social, emotional, and mental health issues than a comparison of girls who were at risk of becoming unhoused (Castaños-Cervantes et al., 2018). A Canadian research team looked at mental health and suicidal behavior among a sample of unhoused youth in Quebec, finding a substantial portion reported suicidal behaviors that co-occurred with attention deficit/hyperactivity disorder (Labelle et al., 2020). A 2021 study found that poor behavioral health outcomes occur across rural, suburban, and urban environments, though further research is required to understand how location intersects with behavioral health, as most research to date has been conducted in large metro areas (Gerwitz et al., 2021).

Lack of access to safe and stable housing is also linked to social challenges that prevent youth from thriving in developmentally appropriate areas (Zerger et al., 2008). The ages of 18–24, a period sometimes known as "emerging adulthood," is a critical developmental phase during which skills essential to independence are typically fostered (Kalfon Hakhmigari, et al., 2019). Youth who are unhoused during this period are less likely to pursue postsecondary education and are more likely to be unemployed (Rosenberg & Kim, 2018). In a study of individuals either currently or formerly in foster care in a large US city, many reported that when faced with housing instability, career and educational goals were out of reach; maintaining basic needs, such as meals and shelter, occupied most of their time and effort (Myers et al., 2020). Delay of education and employment milestones may also have lasting implications as youth progress into adulthood. Analysis of panel data from a large representative sample of unhoused and housing insecure individuals and families in Australia discovered that those who first became unhoused in childhood were less likely to be employed as adults (Cobb-Clark & Zhu, 2015).

Interviews with 654 youth nationwide in the USA revealed that more than 60% had experienced physical and sexual violence while unhoused (Administration for Children and Families, 2016; Britton & Pilnik, 2018). Unhoused youth are also at increased risk of human trafficking (National Human Trafficking Hotline, 2020), which remains a persistent issue across the USA (Middleton et al., 2018). The United States Department of Justice, (2020) defines human trafficking as a crime that involves exploiting a person for labor, services, or commercial sex. Young adults facing the instability of living unhoused and the termination of child welfare services may be targeted by traffickers, because individuals perceived to be vulnerable due to situational or social/emotional factors are at increased risk of being trafficked (NHTH, 2020). In general, rates of human trafficking are difficult to determine due to the covert and complex nature of the problem, and human trafficking is a global concern. Across Europe, lower income areas and areas included in well-established migratory routes tend to be higher risk areas (Hernandez & Rudolf, 2015). The Internet has become a primary tool for recruitment which further complicates the ability to estimate rates tied to any one geographic region; in 2020, online recruitment is estimated to have increased 22% in the USA (Polaris, 2022).

Youth, Foster Care, and Houselessness

As noted above, characteristics such as racial/ethnic identity, gender identity, and sexual orientation are known correlates of houselessness and housing insecurity (Evangelist & Shaefer, 2020; Forge et al., 2018). Furthermore, these groups have often faced isolation, stigmatization, and general lack of social and emotional support while in foster care (Clements & Rosenwald, 2007) which may result in a high number of placements and related instability. LGBTQ + youth report that because of these negative experiences, they are more likely to run away or forego a placement that feels unsupportive, in exchange for couch surfing or one of the other commonly used resources (Robinson, 2018). In Washington State, those who experienced multiple foster care placements while involved in child welfare services—particularly congregate care placements like group homes—were at higher risk of becoming unhoused within the first year of aging out of services, while those placed with a family member tended to be at less risk (Shah et al., 2017). Even before aging out of care, the National Youth in Transition Database (NYTD) data show that at age 17, 16% of youth in foster care had already been unhoused at some point in their lives, and of these, 34% would report at least one additional episode of being unhoused by the time of NYTD follow-up at age 19 (NYTD, 2014). Of all 19-year-old youth who aged out of the foster care system, nearly 1 in 5 reported having been unhoused at some point within the past 2 years (NYTD, 2014).

Finally, research suggests that youth who access houselessness services are simultaneously likely to be involved in juvenile justice systems and/or to have a history in child welfare services (Narendorf et al., 2020; Putnam-Hornstein et al., 2017). Forty-four percent of 873 unhoused youth interviewed in 11 US cities reported having stayed in a jail, prison, or a juvenile detention center, and 78% had had at least one interaction with police (Administration for Children and Families, 2016). Lack of safe and stable housing leads youth to miss school, spend time in public outdoor spaces after hours, and exchange sex or services to meet survival needs, all of which lead to involvement with juvenile justice systems (Britton & Pilnik, 2018).

Research Questions

Though the link between aging out of foster care and young-adult housing instability is well-established nationally, research has yet to explore what constellations of characteristics may specifically describe young adults formerly in care who later become unhoused (O'Neale, 2020). A deeper understanding of the characteristics and histories of unhoused former foster youth in a US Rocky Mountain state will shed light on possible policy and practice solutions for the state, with the aim of decreasing housing insecurity for youth transitioning out of foster care. And, the study will provide a starting point to consider such issues for other geographic locations. Thus, we address the following research questions:

1. Is there disproportionate representation (compared to the population of youth in out-of-home care) of women, Black, Indigenous or youth of color (hereafter: BIPOC youth), and/or high representation of youth with a longer care history among youth formerly in care who access houselessness services?
2. What are the demographic and case history characteristics of youth previously in care who later accessed houselessness support services in a US Rocky Mountain metro area?

    a. Can distinct groups of unhoused youth be identified? And, if so, what percentage of unhoused youth belong to each group?

Methods

This study focuses on youth who experienced an out-of-home placement (i.e., in foster care as defined in US federal statute and other out-of-home placements such as kinship or congregate care) in a US Rocky Mountain state. These young people were considered "unhoused" and included in the study if they accessed services tracked by a regional houselessness services provider in the provider's Homeless Management Information System (HMIS).

Linking Child Welfare and Houselessness Services Data

The data integration and de-identification for this study was accomplished through a public–private data linkage collaborative which includes the state governor's office of information technology and various state and local (both public and not-for-profit) data owners. The use of the data linkage collaborative is available on a fee-for-service basis to link and de-identify data approved by the data owners for research and analytics, such as for the current study. The data scientist (not a member of the research team) who performed the linking has technical expertise in identity resolution and has met all certification and background check requirements that permit the handling of protected records. Note that the study team did not have access to either the full set of child welfare records or to service data for unhoused youth; we had access only to limited, de-identified records containing pre-specified study variables. The principle of releasing only limited, de-identified data is foundational to the efforts of this public–private data linkage partnership to enable linked data research while preserving confidentiality.

This study was approved by the state's department of human services office for children and families and by a regional consortium sanctioned by the US Department of Housing and Urban Development to coordinate a metro area response to housing instability. Child welfare data was extracted by the linkage collaborative's data scientist from the state's administrative database, maintained by the department of human services for child welfare case management. Data for unhoused youth was similarly extracted from the Homeless Management Information System (HMIS), as maintained by the regional consortium to collect client-level data on the provision

of housing services to individuals and families. Table 1 delineates the data sources, data ranges, and other data restrictions. The "Discussion" section below describes how the release of information procedures and rates shaped interpretation of study findings.

The data sources were merged using personal identifiers; redundancies and inconsistencies were corrected; and identifiers were removed from the data prior to the study authors receiving access to the dataset for analysis.

The data scientist deduplicated data within both the child welfare and unhoused services data using two tools for performing identity resolution: (1) the Senzing identity resolution application and (2) structured query language (SQL) queries. Because multiple records for an individual might exist with slight variations (e.g., use of nickname instead of first name) or errors, the goal of the deduplication process was to recognize these slight differences so that the records could be consolidated into a set of unique individuals. Senzing uses a pre-trained analytical model that already understands how to identify these slight variations and how much weight to give to a similar first name, last name, date of birth, and Social Security Number (SSN). Senzing has been used effectively for projects of matching two sets of personal identifiers, with SQL queries used afterwards as a secondary means of identification.

After generating a list of potential duplicates with Senzing, the two records in a pair of potential duplicates were compared. For example, if the name was unusual and matched exactly or nearly so, and the date of birth was identical, then it was decided that the pair was the same person. If, however, the name and date of birth were a complete mismatch, but the SSN was an identical match, it was decided that one of the people had an incorrect SSN entry and that the two are actually unique individuals even though their SSNs are an identical match. This human quality assurance check provided balance to the use of the pre-trained model. If a pair was determined to be a duplicate pair, a final assessment was made to determine which of the two records were kept as the master record. To make that determination, each item of a pair was examined for whether it would then be the best candidate in the second round of matching when the HMIS records would be compared to the child welfare dataset. For example, a more complete HMIS record would be a better matching candidate than an incomplete record. All substantive data from duplicate records were reassigned to the master record, and thus, all system involvement of the individual was preserved.

With a unique set of identifiers for the HMIS dataset, the next step was to run the identity resolution process, with deduplication of the child welfare dataset performed after the matching process was completed. Because of known data entry errors in the child welfare data, it might be possible for one HMIS record to match only one of two duplicate child welfare records. By deduplicating the child welfare data after matching, the match rate could be maximized. At every stage of the matching process, results were sampled and examined to avoid mismatches, and a final quality check was run to detect possible bias in the matching. With the identity resolution process completed and the population of the study established, the substantive data elements from the database could be extracted and the linkage identifiers anonymized. All personal identifiers were deleted except for date of birth, which

Table 1 Linked data sources

Data source utilized	Provider organization	Date ranges	Other data restrictions
Child welfare extract	State Department of Human Services; Office for Children and Families	All child welfare clients from 2000 to 2019	Pre-existing child welfare data extract, not a new dataset from the administrative system
Homelessness Management Information System (HMIS) extract	Regional unhoused services provider	All service enrollments where age > 18 as of 12/1/2018	Only those records with a signed release of information held by services provider. This restriction reduced the study population by about 50%

The study team did not have access to the full set of child welfare records nor to full service data for unhoused youth; only to a limited set of de-identified, extracted records as described here in Table 11

was anonymized by retaining the month and year of birth but setting the day of birth to the first day of the month for all individuals. Three resulting datasets contained child welfare data for (1) child demographics, (2) child out-of-home removal episodes, and (3) child placements during removal. They also contained a flag indicating whether a child served by the state's department of human service later accessed services through the regional provider between the ages of 18 and 24.

Study Population and Analytic Sample

We first identified the statewide population of youth formerly in foster care who were also age-eligible to receive houseless services (i.e., young adults during study time frame). "Foster care" means 24-hour substitute care for children placed away from their parents or guardians and for whom a title IV-E agency has placement and care responsibility. This includes, but is not limited to, placements in foster family homes, foster homes of relatives, group homes, emergency shelters, residential facilities, childcare institutions, and pre-adoptive homes. The study population was identified by selecting a subset of out-of-home removal records such that the child removed would later be age 18–24 during the study period (December 2018 through March 2020) and thus eligible for the provider's services. From these records, the most recent removal episode (defined by begin date) for each child was retained for analysis. This resulted in 18,262 unique children in the state who could have accessed services during the study period. To answer the specific research questions, information about the last foster placement within the child's most recent removal episode was selected, and the study population further limited to youth whose last removal episode was in an area served by the provider. This resulted in 7709 youth with a final removal episode in one of the seven counties who could have accessed provider services during the study period. Finally, relying on the data linkages, we selected youth who actually accessed unhoused services during the study period, for a final analytic sample of 285 youth who accessed services as young adults (ages 18–24) between December 1, 2018, and March 31, 2020. Generally, eligibility for such services included the following situations: living outdoors, in a place not meant for human habitation or in a shelter/transitional location/motel; exiting an institution with an immediate prior occurrence of housing instability; fleeing domestic violence; and/or being at risk of houselessness within 14 days.

Measures

The selection of pre-existing and situational characteristics of youth included in this study began with a review of information that could be drawn from their administrative child welfare records and in consultation with patterns at the state department of human service. We narrowed the set of measures to an initial list of 44 possible variables which prior research and/or practical experience suggested might reasonably characterize youth both previously in care and now unhoused. From both a policy and analytic perspective, however, 44 characteristics were too many to meaningfully describe groups of unhoused youth. Therefore, the initial list was further narrowed

to 32 characteristics by removing those which were: redundant (e.g., both parents' ages at birth or child's age at current removal); not child-specific (e.g., parents' ethnicities and relationship of foster caregiver to child); or purely administrative (e.g., whether the foster caregiver received a stipend to care for the child). A final selection of 22 measures for latent class analysis (LCA) was made after preliminary results indicated which variables would most meaningfully differentiate among groups of youth experiencing houselessness. The final list for the model includes gender; race/ethnicity, prior child welfare placements, and removals; youth corrections involvements, detentions, and commitments; adopted or emancipated from child welfare, removal reasons (caregiver substance use, child neglect, child behavior, child substance use, housing, parent inability to cope, child physical abuse, child sexual abuse, parent incarceration, child disability, abandonment); and removal ending reasons and placement type (family-like or institutional). A complete mapping for the variable progression is available from the authors upon request.

Analytic Approach

The sample ($n = 285$) was analyzed via latent class analysis using PROC LCA in SAS 9.4 to identify groups of individuals inherent in the data, based on their observed characteristics. All variables were coded as categorical variables, in accordance with the assumptions for LCA. We ran LCA models using the 22 characteristics. We fit two-group, three-group, and four-group models and evaluated the fit of these models by using comparisons of Akaike and Bayesian information criteria, with a lower metric indicating better fit (Akaike, 1987; Schwarz, 1978). A three-group model was indicated based on these criteria. Selection of the three-group model as the final model was confirmed after verifying that groups were distinguishable based on item-response probabilities, that no group was negligible in size, and that a meaningful, descriptive label could be applied to each group (Lanza et al., 2007). Finally, the optimal three-group solution was confirmed by re-running the SAS procedure with 10 different, random starting seeds and confirming that the same solution was calculated by the algorithm each time.

Results

Research Question One: Disproportionate Representation

The first research question we sought to answer was: Is there disproportionate representation of young women, BIPOC youth and/or youth with a longer time in care among youth formerly in care who later access houselessness services? In short, the answer is unequivocally "yes." Young women, BIPOC youth, and young people with long histories of child welfare placement did access houseless services at high rates. Table 2 describes demographic characteristics of the final sample of 285

Table 2 Youth who experienced out-of-home removal and later accessed houselessness services by gender and racial or ethnic identity (n = varies)

	Percent
Identified gender (n = 285)	
Women	58%
Men	42%
System identified race/ethnicity (n = 282)	
Black	28%
Hispanic	38%
American Indian, Asian, Hawaiian, or multi-race	5%
Non-Hispanic White	28%

Race/ethnicity is missing for 3 participants. Race/ethnicity measures are not based on self-report but rather on records from child welfare administrative data. Racial and ethnic categories as commonly measured by the US federal government should not be interpreted as scientifically based or biological; rather, the categories are imperfect measures of current or cross-generational effects of social exclusion (Adkins-Jackson et al., 2021). Generally speaking, much more attention is needed in the research enterprise to adequately measure and account for the effects of structural racism on social determinants of health such as housing

youth. Fifty-eight percent were young women, and 72% of the sample were identified as BIPOC. In contrast, for this Rocky Mountain state, the population of youth in out-of-home care over the prior 10 calendar years (2011–2020) averaged only 43% girls and 56% BIPOC youth. Thus, there is substantial overrepresentation of young women and BIPOC youth formerly in foster care accessing houseless services as young adults.

Table 3 shows that youth had a long history of involvement with out-of-home removals. Fifty-three percent were removed from home at least twice. Sixty-eight percent spent time living in three or more distinct placements while removed from home.

Table 3 Youth who experience out-of-home removal and later accessed houselessness services by removal and placement history (n = 285)

	Percent
Lifetime number of out-of-home removals	
One lifetime removal	47%
Two or more lifetime removals	53%
Lifetime number distinct placements while out-of-home	
Fewer than 3 lifetime placements	32%
Three or more lifetime placements	68%

Table 4 Division of youth corrections history ($n = 285$)

	Percent
Involvements	
Any past youth corrections involvement	69%
No youth corrections involvement	31%
Detentions	
Any past youth corrections detention	46%
No youth corrections detention	54%
Commitments	
Any past youth corrections commitment	2%
No youth corrections commitment	98%

Research Question Two: Characteristics

The second request question asks what are the demographic and case history characteristics of youth previously in care who later accessed houselessness support services in the study's metro area? And, furthermore, can distinct groups of unhoused youth be identified? If so, what percentage of unhoused youth belongs to each group?

Tables 4, 5, and 6 display additional characteristics of the sample of 285 youth. Table 4 summarizes the youth corrections involvement history for the group. Youth corrections involvement overall is high, with 69% of youth having some type of corrections involvement, such as an arrest and/or juvenile risk assessment. Forty-six percent experienced a detention (short and/or temporary stay in a secure state facility), while only 2% had been committed following a legal adjudication.

Table 5 shows the mean ages and permanency histories of youth previously in care who later accessed houselessness support services. Youth had a mean age of 12.0 years at their first removal and 13.5 years at the most recent removal. Ten percent had been adopted previously. Thirty-three percent emancipated from

Table 5 Permanency history and age ($n = $ varies)

	Percent
Adoption ($n = 285$)	
Previously adopted	10%
Never adopted	90%
Emancipation from child welfare ($n = 285$)	
Previously emancipated from CPS care	33%
Never emancipated from CPS care	67%
End reason for last out-of-home removal ($n = 276$)	
Last removal ended with emancipation	27%
Last removal ended with other non-agency reason	9%
Last removal ended with adoption, guardianship, or living with relatives	25%
Last removal ended with parental rights reinstatement or reunification with parents	39%

Youth had a mean age of 12.0 years at their first removal and 13.5 years at the most recent removal

out-of-home care without being placed with a permanent family. The last characteristic in Table 5 is the reason provided in administrative data for the end of a child's removal from home. Only 39% had a removal end because they reunified with parents, and only 25% had a removal end because they were adopted or placed in a legal guardianship or with relatives.

Table 6 displays the reasons documented in the child welfare administrative data for each child or youth's final (most recent) removal into out-of-home care. Note that physical abuse and sexual abuse are comparatively uncommon (these reasons are given for 13% and 7% of children in the sample, respectively). Child behavior problems are the most common reason among final removal reasons, given for 52% of youth. This is followed by parents' inability to cope, given as a final removal reason for 27% of the youth in the sample.

Results from the latent class analysis demonstrated that there are three distinct groups of youth who experienced removal to out-of-home care and then later accessed houselessness services from the regional provider. One group is characterized by intensive youth corrections involvement and by the experience of emancipating from the child welfare system (32% of youth served). The second group is characterized by family-based challenges, neglect, and more moderate youth corrections involvement (41% of youth served). Finally, the third group is characterized by

Table 6 Reasons for most recent CPS removal ($n = 285$)

	Percent
Parent substance use	
Yes – reason given	16%
Neglect	
Yes – reason given	25%
Child behavior problems	
Yes – reason given	52%
Child substance use	
Yes – reason given	6%
Housing problems	
Yes – reason given	8%
Parent inability to cope	
Yes – reason given	27%
Physical abuse	
Yes – reason given	13%
Sexual abuse	
Yes – reason given	7%
Parent incarceration	
Yes – reason given	4%
Child disability	
Yes – reason given	2%
Abandonment	
Yes – reason given	9%

More than one reason can be specified for a removal

Table 7 Descriptive characteristics of the three latent classes

Item response probabilities	Class name		
	Group 1: intensive youth corrections/ emancipated	Group 2: family challenges	Group 3: youth challenges/reunified
Class membership probabilities	0.32	0.41	0.26
Gender			
Male	39%	39%	52%
Female	61%	61%	48%
Race/ethnicity			
Black	27%	24%	37%
Hispanic	38%	45%	26%
American Indian, Asian, Hawaiian, or multi-Race	3%	8%	4%
Non-Hispanic White	31%	23%	34%
Number of child welfare placements			
3 or more	95%	53%	61%
Number of child welfare removals			
2 or more	63%	41%	58%
Youth corrections involvement			
Yes	72%	56%	85%
Youth corrections detention			
Yes	59%	20%	71%
Youth corrections commitment			
Yes	6%	0%	1%
Adopted from child welfare			
Yes	3%	17%	8%
Emancipated from child welfare			
Yes	99%	0%	3%
Reason for final removal			
Caregiver substance use	13%	29%	0%
Neglect	20%	45%	0%
Child behavior	67%	14%	92%
Child substance use	6%	1%	15%
Housing	6%	15%	0%
Parent inability to cope	29%	31%	17%
Physical abuse	10%	21%	2%
Sexual abuse	6%	6%	10%
Parent incarceration	4%	5%	1%
Child disability	3%	1%	3%
Abandonment	13%	7%	7%
Ending reason for final removal			
Emancipated	80%	0%	0%
Non-agency reason	20%	2%	6%

Table 7 (Continued)

Item response probabilities	Class name		
	Group 1: intensive youth corrections/ emancipated	Group 2: family challenges	Group 3: youth challenges/reunified
Adoption or guardianship	0%	49%	19%
Reunified with parents	0%	49%	75%
Placement type			
Family-like	28%	87%	33%
Institutional	72%	13%	67%

youth behavior and youth substance use challenges, but also experienced reunification with family (26%).

A well-fitting, three-group solution resulted from the LCA, as described in the "Methods" section. These groups describe constellations of attributes that characterize the former foster youth who became unhoused. It is worth noting that these results do not identify factors which *predict* an individual becoming unhoused, nor do LCA results suggest which characteristics of the urban area's population of foster youth are *most associated with* later housing instability. LCA is not a predictive modeling technique. The results do, however, describe current and historical characteristics of the 285 youth who *did* access services; these characteristics may or may not be common among all the 7709 youth with a final removal episode in one of the seven counties who *could have* accessed services. A more detailed description of the groups follows and is summarized in Table 7.

Intensive Youth Corrections Involvement and Emancipation (32% of Youth Served—Group One)

The intensive youth corrections/emancipated group who accessed unhoused services were highly likely to have emancipated from the child welfare system. Very few were ever adopted, and they were not reunified with their family of origin at the end of their last out-of-home removal. About 70% of intensive youth corrections/emancipated youth were not in a family-like setting for their final placement. These youth are likely to have experienced at least three or more lifetime placements. Almost 70% had child behavior problems listed as one reason for their last removal from home; about 30% had parent inability to cope listed as a reason for removal. Finally, experiences of youth corrections involvement (70% +) and detention (almost 60%) were very common.

Family-Based Challenges, Neglect, and Moderate Youth Corrections Involvement (41% of Youth Served—Group Two)

The family challenges group had fewer overall out-of-home placements, with almost 50% having two or fewer lifetime placements. Seventeen percent achieved

permanency via adoption following an out-of-home placement. Thirty percent were removed due to parent substance use, and 45% were removed for neglect, with higher percentages of parent substance use and neglect than in the other two groups. Almost 90% of the youth in the family challenges group were in a family-like setting for their last placement, and almost 50% ended their last removal living with an adoptive parent or guardian. Likewise, almost 50% reunified with parents. Most of these youth (80%) had never been detained in youth corrections, and none had experienced youth corrections commitment.

Youth Behavior and Youth Substance Use Challenges, but Reunified with Family (26% of Youth Served —Group Three)

The youth challenges/reunified group also had fewer overall out-of-home placements than the intensive youth corrections/emancipated group, with almost 40% having two or fewer lifetime placements. Very few were adopted following out-of-home placement(s), and 75% of this group reunified with parents after their final placement. Over 90% were removed for reasons including child behavior problems, and none had a removal reason including parent substance use or neglect. Fifteen percent included a removal reason for child substance use. Only about 30% were in a family-like setting for their last placement. Most of these youth (70%) had been detained at least once in youth corrections, and 85% had a youth corrections involvement of some type.

Discussion

As described, there are three distinct groups of youth who experienced time in out-of-home care and later accessed services for unhoused individuals in the study's urban area. The first group experienced intensive involvement in the youth corrections system and emancipation from care (32%). The second group experienced family-based challenges and allegations of neglect but low youth corrections involvement (41%). Finally, the third group had youth behavior and youth substance use challenges, but many of these youth reunified with family (26%).

First, it is of note that physical abuse and sexual abuse are not the most common reasons for the final removal from home for the youth in the study who later experienced houselessness (see Table 7). More common reasons for the final removal are caregiver substance use, child behavior issues, parent "inability to cope," and/or neglect (often related to household poverty). There is emerging evidence that children and youth in the USA can be placed out-of-home for reasons other than maltreatment (Drake et al., 2021). Attention to the underlying reasons that lead to the placements in care which precede housing instability may be very helpful in developing preventative strategies. Second, these youth tend to be older when they are first removed from home; fewer than 6% of study youth were first removed prior to age 5; and the average age at most recent/final removal is 13.5 years. Finally, note that about half of the family challenges group and three-quarters of the youth challenges/reunified group had achieved permanency at the end of their most recent

placement. It is not only emancipated youth who experience houselessness, so do youth who were reunified with family and those who were adopted. These are viewed as successful permanency outcomes for the end of a child welfare placement. However, permanency does not necessarily protect against challenging outcomes in young adulthood, such as housing instability; this may be particularly true for youth such as those in this study who commonly experience removals as adolescents and/or have had substantial youth corrections involvement.

Data Access

Proactively addressing houselessness services data access barriers is necessary for successful replication of this study. Better access would allow a more accurate count of the number of individuals receiving unhoused services from a specific provider and in turn allow more accurate estimates of the prevalence of unhoused former foster youth in the population. In the USA, the Department of Housing and Urban Development has recommended ensuring that privacy notices for clients explicitly allow for future academic research, using de-identified client-level data, regardless of whether there is an active release of information on file. This would allow for research to be conducted using administrative data in similar ways to what is permissible in education and healthcare research under Family Educational Rights and Privacy Act (FERPA) and Health Insurance Portability and Accountability Act (HIPAA) exceptions. As a result of conversations started around this research, some service providers throughout the state have begun to update their privacy notices so that in the future, houselessness service data can be more comprehensively connected to child welfare records without a specific release of information. Across the globe, of course, country-specific situations vary. For example, in Canada, the Personal Information Protection and Electronic Documents Act (PIPEDA) covers commercial organizations, but not necessarily not-for-profit organizations (Coos, 2019). In the European Union, organizations and researchers must follow the General Data Protection Regulations and any specific regulations that apply to study design (Wolford, 2022).

Human Services Programming

Elucidating groupings of characteristics for young people formerly in care who later become unhoused can inform the continuum of strategies aimed at prevention. Once group characteristics are identified, detailed group descriptions can be used to crosswalk with current and proposed practices and strategies from child welfare, behavioral health and, public health systems. This work can identify gaps in the array of policies, practices, and supportive services. While this process is intended to help states or local agencies make data informed decisions about the types of strategies that are matched to youth needs, from an implementation perspective, it is important to recognize that individual youth may benefit from strategies that are aligned with multiple groups (e.g., Chafee services and apprenticeship). Table 8 provides

Table 8 Examples of human service strategies tailored to study groups

Group	Examples of tailored strategies	Alignment with group characteristics
Intensive youth corrections involvement and emancipation (group 1)	(1) Consistent access to Chafee services (2) Strengthen case planning before youth emancipate or exit corrections at age 18+ (3) Expanded age eligibility to 23	The John H. Chafee Foster Care Program for Successful Transition to Adulthood (Chafee) is a federally funded grant program providing US states a flexible and supplemental funding source to support youth who are at risk of leaving foster care without achieving permanency. The example strategies could expand reach of this program.
Family-based challenges, neglect, and low youth corrections involvement (group 2)	Prioritize young people formerly in foster care apprenticeship learning programs	The ability to earn income while pursuing a postsecondary credential may meet the financial stability needs of young people with a family history of poverty (which is often associated with neglect) so that they can successfully transition into young adulthood.
Youth behavior and substance use challenges, but reunified with family (group 3)	(1) Develop pathways to access evidence-based mental health and substance use services after child welfare case closure.	(1) Addressing the mental health needs of youth and strengthening family functioning can prevent houselessness. The US Family First Prevention Services Act allows states to request federal reimbursement of some evidence-based mental health and substance use services, and this is a way to resource the provision of services.
	(2) Include youth in decision making about prescription medications.	(2) In the state where this study was conducted a youth advocacy group recommended engaging youth in their treatment process and setting them up to be self-advocates in their healthcare. A specific recommendation that may include: "Especially before youth exit foster care, develop a plan for medication management and/or discontinuation of prescriptions"

examples for how strategies could be aligned with the groups identified in the current study.

Disproportionate Representation

Most housing programs and voucher systems are tailored to youth broadly, except for programs for pregnant and parenting youth. In the current study, young women and BIPOC youth are disproportionately and highly represented among the young people formerly in care who access houseless services. Therefore, females and BIPOC youth may be priority populations for culturally responsive services and policies aimed at lessening the duration of houselessness. However, because the nature of the data (previously discussed) limits our ability to make population-level prevalence estimates, there is no evidence from this study to suggest that population-wide young men and/or White youth are unhoused at lower percentages. The current study suggests simply that they are not tapping into formal services (e.g., perhaps couch surfing, living on the street or in a car). Indeed, this finding should be applied with caution as a study limitation was that data were only available for youth with an active release of information. It is possible that the overrepresentation of females and BIPOC youth could reflect their relative propensity to sign an information release form.

Limitations

The study results are specific to those youth who accessed services and were in the child welfare system in a US Rocky Mountain city's metro area *and with an active release of information*. There could be systematic and unknowable differences between young people with and without an active release of information. Thus, the findings are not intended to be generalized beyond the sample it represents. Also, this study did not assess *risk* or *likelihood* of housing instability, as 100% of youth in the sample had indeed accessed houseless services.

COVID-19 Pandemic

The economic fallout from the COVID-19 pandemic has increased the prevalence of unemployment, financial hardship, and subsequent evictions across the board (Kochhar, 2020). In the USA, according to the Census Bureau's Current Population Survey (CPS), total civilian employment fell by 21 million from the last quarter of 2019 to second quarter of 2020, while the unemployment rate rose to 13.0%—the highest quarterly unemployment rate recorded in the CPS' 82-year history (Bureau of Labor Statistics, 2022). Although pandemic and economic conditions have begun to ameliorate, food and housing hardships remain. As of October 2021, 9% of all American households reported lacking sufficient food, and 16% of all renters were still behind on rent; these numbers are much higher for households of color, with 17% and 28%

of Black households lacking sufficient food and behind on rent, respectively (Center on Budget & Policy Priorities, 2021). And, by March 2022, inflation in the USA had also reached very high levels (Bureau of Labor Statistics, 2022), affecting the cost of goods and services young people require.

These conditions have had significant ramifications for housing stability as well. At the end of 2020, 44% of Hispanic and Black renters had reported housing insecurity during the pandemic, including 42% of Hispanic and 43% of Black children (Cai et al., 2021). Among households behind on rent (roughly 17% of the overall population between August and December 2020), 47% reported that it was "very likely" or "somewhat likely" that they would be evicted within the next 2 months (Cai et al., 2021). Young adults have been hit particularly hard—"3.8 million young adults had little to no confidence in their or their household's ability to pay the next month's rent," and 25% of Black young adults living alone reported being behind on rent (Morton & Daniels, 2021).

While the pandemic pushed many individuals deeper into housing insecurity, it negatively impacted those who became or were already unhoused at its onset. In 2021, many communities were unable to include unsheltered individuals in HUD's annual PIT count—an imperfect measure, but one that determines funding levels for federal assistance grant programs—omitting the roughly 40% of the unhoused population that spends each night unsheltered (Auerswald et al., 2013; National Alliance to End Homelessness, 2022a). Unhoused individuals, regardless of their shelter status, are at greater risk of contracting COVID-19 and faced significant barriers when attempting to access treatment or vaccines (The United States Center for Disease Control, 2020; National Alliance to End Homelessness, 2022b). Additionally, just as communities of color are overrepresented in the unhoused population, they are more likely to contract or be hospitalized for COVID-19 than their White counterparts (The United States Center for Disease Control, 2022). Lastly, as exemplified by the challenges facing the PIT count, COVID-19's impact on unhoused youth extends far beyond the immediate health effects of the disease itself—since the pandemic began, unhoused youth have reported increased frequency of emotional distress and substance use, while their ability to access services and meet basic needs has been severely curtailed (Auerswald et al., 2020; Rew et al., 2021; Thomas et al., 2021). As the world enters the fourth year of this pandemic, it is crucial to address the inequities exacerbated by COVID-19 and its attendant economic fallout, to work at better counting and understanding the population of unhoused youth, and to tailor existing services to the nuanced needs of unsheltered life during a public health crisis.

Conclusion

This exploratory study supports child welfare and community agencies in better understanding characteristics of unhoused youth with lived experience in out-of-home care. By providing descriptions of these young adults' characteristics and past in-care experiences, the study provides actionable information so that

agencies and service providers can build capacity to prevent future experiences of unstable housing among youth exiting foster care.

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Declarations

Conflict of Interest The authors declare no competing interests.

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