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# Partnership in Data Exploration (PiDE) Framework: A Case Study for Community Partnerships using Linked Homelessness Data

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**Abstract**

**Introduction**: Canada's housing and homelessness systems of care (HHSC) generate extensive administrative data to support service delivery. We propose a Partnership in Data Exploration (PiDE) methodology for analysing linked administrative data to support approaches to prevent and end youth homelessness. We describe a PiDE case study examining pathways from youth to adult homelessness supports. **Objectives**: Our case study aimed to 1. Identify pathways Youth Transitions to Adulthood (YTA) participants take into adult services ("Where are they?"), and 2. Assess the status and wellbeing of past YTA participants upon adult service entry ("What is bringing them in?"). **Methods:** PiDE uses an exploratory sequential mixed-methods design. Qualitative interviews were conducted to build the quantitative analysis of the linked administrative data. Conjoint Health Research Ethics Board at the University of Calgary approval REB21-1386 **Participants and Data:** Qualitative interviews with YTA staff (n=8) generated three themes. Anonymized data from Trellis Society (n=8029) and adult system data with the Calgary Homeless Foundation (n=3020) was linked to create a data set with 831 unique participants. The quantitative analysis examined 2203 responses. **Results:** Averages for participants showed more positive Wellness Impact Value responses for balancing Present Crisis vs. Future Goals (52.8%) and Navigating the Unfamiliarity of Adulthood (46.4%), and more negative responses in Broken Relationships and Stand-In for Supports (44.4%). **Implications:** The framework is an effective tool for incorporating frontline expertise into secondary administrative data analysis to support prevention research. The results support preparing youth for adulthood through life skill development and developing supportive networks of natural and formal supports.

**Keywords**

Linked data, administrative data, mixed-methods, community-based research, transition-aged youth, homelessness prevention

## Introduction

Homelessness remains a persistent and increasingly complex social issue in Canada for all demographics, with evidence suggesting it is growing in both scope and severity, most critically among youth (Evans & Masuda, 2020; Gaetz, 2014; O'Grady et al., 2020; Russell et al., 2023). Addressing homelessness requires attention to the ways structural, social, and political factors impact housing stability, as well as the ways systems of care do and do not provide adequate supports (Gaetz, 2010). Across Canada, provinces and municipalities have designed and implemented different approaches to reducing and preventing homelessness, demonstrating an evolving connection between direct and system-level interventions (Nichols et al., 2024; Russell et al., 2025).

Both in programming and academic literature, homeless prevention is understood to be more than a single approach or series of interventions and can happen at various points in an individual's journey. An expanded definition of the Canadian Observatory on Homelessness definition of youth homelessness prevention includes three levels of interventions for systems of care to address (Gaetz & Dej, 2017; Russell et al., 2025).

Primary prevention includes efforts to intervene prior to youth becoming homeless and is considered one of the most crucial stages to track known risk factors, pathways, and causes of homelessness. Secondary prevention includes interventions that prevent long-term homelessness, including moments where individuals may fall through system gaps and experience barriers to exiting homelessness. Tertiary prevention includes supports around housing retention and community integration. A strong data infrastructure supports all levels of prevention efforts to support the long-term goal of ending homelessness across the life cycle (Russell et al., 2025).

The housing and homelessness systems of care (HHSC) generate a large amount of administrative data to triage, deliver, and evaluate services in emergency shelters, transitional and permanent housing programs, prevention, and outreach (Messier et al., 2025; Russell et al., 2023). Administrative data includes information regularly collected, such as demographic and program interaction information, and support program management and delivery. Across Canada, municipalities created sector-wide administrative databases, commonly called Homeless Management Information Systems (HMIS), to help agencies collect the same types of information, support quality control, and create accountability around expectations and funding (Aykanian, 2023). HMIS systems bring information from similar programs and agencies, such as those addressing youth homelessness, together to improve coordination and to improve the experience of service users navigating the system (Aykanian, 2023). The shift towards building a HHSC that is data-driven has resulted in an abundance of administrative data that is used for service delivery, organizational planning, reporting to stakeholders, and for research.

Secondary analysis of HHSC administrative data has been widely leveraged in research, including to examine emergency shelter use (Jadidzadeh & Kneebone, 2022; Messier, 2022), crime and housing (Kneebone et al., 2023), public health and food security (Jadidzadeh & Kneebone, 2025). Using administrative data is cost-effective and pragmatic (Culhane, 2016; Messier et al., 2025; Russell et al., 2025), and avoids burdening frontline workers with more data collection and input responsibilities (Karusala et al., 2019; Russell et al., 2023). It also protects service users from repeated re-telling and re-disclosing of personal information and experiences (Messier et al., 2025; Robinson et al., 2023; Yamaguchi et al., 2025).

Even with coordinated data systems within the HHSC, this type of administrative data has significant weaknesses and gaps that provide an incomplete picture of the services and the participant journeys for the purpose of research (Aykanian, 2023). Specifically, there is overreliance on quantitative outcome data and the lack of coordination between data systems. These limitations drive the need to build new practices and frameworks to generate relevant and complete systems of information to help end and prevent homelessness.

The challenging dynamic between service providers and data and technology systems has been at the centre of human-computer-interaction (HCI) research, trying to find purposeful and effective strategies to improve decision-making, performance, and interaction efficiency (Bopp et al., 2017; Karusala et al., 2019). Bopp et al. (2017) engaged with 13 mission-driven non-profit organizations to understand their experience with

their use of data to guide service planning, monitoring, and evaluation practices. The pressures exerted by stakeholders—government and funding bodies—is part of a cycle of disempowerment for many organizations, "preventing the meaningful use of data and discouraging the organization from redesigning data practices to better meet their needs" (p.3609). The same has been reported in interviews with HHSC service providers (Yamaguchi et al., 2025).

Their research is part of the growing body of evidence that challenges the pressures that construct data practices and the overreliance on quantifying what are mainly social and relational experiences (Bopp & Voida, 2023; Karusala et al., 2019; Moon & Guha, 2024; Showkat et al., 2023). It has been widely accepted that administrative data that is dominated by quantified metrics may not adequately represent people or their journeys—how "numbers aren't the whole story" (Yamaguchi et al., 2025, p. 6). Data-driven organizations want to prioritize data collection approaches that better represent the experiences and progress of service users more holistically (Bopp et al., 2017; Karusala et al., 2019; Masrani et al., 2025; Yamaguchi et al., 2025). For many organizations, the stories are essential to their work and provide irreplaceable contextual information that cannot be measured using quantitative techniques (Bopp & Voida, 2023). Approaches identified include more narrative and strength-based opportunities, improving culturally-appropriate data ethics, and better utilizing the expertise of youth and the frontline service workers (Russell et al., 2025; Yamaguchi et al., 2025).

Single-source administrative data has become insufficient to inform approaches to preventing and ending homelessness due to the incomplete picture it provides. Issues include conflicting or missing data, the use of tools or information collection approaches that have poor reliability, and missing variables from outside service engagements (Aykanian, 2023; Brown et al., 2018; Chelmis et al., 2021; Russell et al., 2025). Notably for youth accessing HHSC and Children's Services, their presence within youth-specific administrative dataset falls off due to the sudden age cut-offs to supports (Ha et al., 2015; Russell et al., 2025; Shewchuk et al., 2020). This leaves analysis of their service history inconclusive due to not being able to adequately describe where they went or how they were doing upon youth-system exit.

The creation of more integrated data systems (IDS) that link fragmented systems can inform predictive and preventative mechanisms, service interventions, and sustainable outcomes (Culhane, 2016; Hudani et al., 2024; Messier et al., 2025; Russell et al., 2025; Russell et al., 2023). A recent PolicyWise study described the current data infrastructure of youth homelessness prevention and services across Canada. They outlined promising provincial-wide practices to centralize data across sectors to better predict and prevent youth homelessness (Russell et al., 2025; Russell et al., 2023). HMIS Data from HHSC and other sectors such as health and education can be anonymously linked using common metrics to understand different pathways and patterns of service use (Hudani et al., 2024; Russell et al., 2025; Trick et al., 2021). Recommendations focus on continuing to leverage already collected information of programs and organizations to better understand and collaborate across agencies, ministries, and sectors (Culhane, 2016; Yamaguchi, 2023). To implement these recommendations, there must be strong, collaborative relationships that

not only allow for administrative data to be shared and linked but also ensure that its use is contextualized and rooted in the needs and wishes of the community (Bopp et al., 2017; Russell et al., 2025; Slota et al., 2023; Yamaguchi, 2023).

There are few examples and approaches that demonstrate how to address the limitations of secondary administrative data analysis while also conducting a rigorous examination of the information in pursuit of our goals, such as ending and preventing homelessness. Our approach describes how to apply community-based research principles in a sequential exploratory mixed-methods approach to mutually support frontline service delivery and increase the capacity of academic research to provide insight into homelessness. This approach is unique due to emphasis placed on the qualitative themes to drive the secondary analysis. Similar approaches to mixed methods research more commonly use the qualitative findings to create a new quantitative tool or measure or to supplement quantitative results (Hendren et al., 2023). There is currently a demand for creative approaches to mixed methods research that prioritizes or bring an equal weight between qualitative and quantitative studies (Belardinelli & Mele, 2020; Hendren et al., 2023; Honig, 2019; Mele & Belardinelli, 2019).

We propose a Partnership in Data Exploration (PiDE) methodological framework for secondary administrative data analysis built on the expertise of frontline workers and community partners as an approach to youth homelessness prevention. We use a case study that explores the pathways taken by youth from a Youth Transitions to Adulthood (YTA) program as they enter the adult HHSC. From this case study, we can derive insight from youth who continue to or return to homelessness after youth system exit to examine current secondary and tertiary prevention efforts. In partnership with a local community organization, we co-designed this mixed-methods approach to explore the youth-to-adult transitions by linking YTA youth data to adult HHSC data. The case study and community engagement received ethics approval with the Conjoint Health Research Ethics Board (CHREB) at the University of Calgary, REB21-1386.

**Youth Homelessness and Transitions to Adulthood**

Youth experiencing homelessness (YEH) includes youth and young adults between the ages of 13 and 24 (Canadian Observatory on Homelessness, 2016; Gaetz et al., 2016; Slesnick et al., 2009). This group captures the critical time when youth learn and develop the skills and experience needed for independence in adulthood (Gaetz, 2014; Gaetz et al., 2018). There is a conservative estimate that approximately 40,000 people under 24 years old experience homelessness in Canada (Gaetz et al., 2016). YEH engage in multiple service systems: education, children's services (including foster care, group homes, and kinship), and health care (Dumollard et al., 2025; Lee et al., 2023; Shewchuk et al., 2020). Young people are losing or leaving housing due to factors such as poor transitions from child welfare and youth justice systems, conflict and violence at home, abuse and neglect, and personal factors such as mental illness, substance use, and goals for independence (Gaetz et al., 2016). However, barriers to supports and housing are not experienced equally; Two-Spirit, Lesbian, Gay, Bisexual, Transgender, Queer/Questioning, Intersex, Asexual, and others with additional sexual orientations and gender identities

(2SLGBTQIA+) and racialized young people face disproportionate barriers, which contributes to their overrepresentation among youth experiencing homelessness (Abramovich, 2017; Gaetz et al., 2016; Kidd et al., 2019).

YEH rely on complex systems of care to support them in gaining their independence as they age. Targeted programs have been designed to bridge the gaps that frequently fail young people as they transition between child, youth, and adult sectors. In Calgary, for example, YTA programs support the changing needs of YEH. However, while programs like YTA fill service gaps, we have yet to design an integrated administrative data system to follow young people through this change (Culhane, 2016; Russell et al., 2023).

**Administrative Data Set**

The Calgary Homeless Foundation (CHF) provided the adult housing and homelessness data set used for this study. CHF plans and coordinates systems of care in Calgary, requiring them to consolidate administrative data from housing and homelessness programs throughout the city (Calgary Homeless Foundation, 2025). Each entry in the CHF data set contains an anonymized person ID number, the year of birth for that person, a program ID number, the date the person accessed that program, and the number of days the person utilized the program. The data set contains 128,994 entries for 34,566 people who interacted with Calgary services from October 30, 1995 to July 26, 2023. The data contains entries for 88 different housing programs, 15 different shelter programs, and 30 different case management programs.

CHF also includes survey data from Diversion programs, housing programs, and Coordinated Access and Assessment (CAA) housing triage processes. CAA triage uses an assessment survey that includes client-reported histories, experience with housing, and their current state and needs. Some questions are categorized and scored in binary (1, 0) to generate a final score at the end. The score and key questions are used in tandem to prioritize acuity and fit to programs based on vacancies and capacity of the programs. The triage assessment present in this data set is an adapted and abbreviated version of the Service Prioritization Decision Assessment Tool (SPDAT), called the Needs and Services Questionnaire (NSQ; Li et al., 2017). There are 130,339 completed surveys recorded for 22,035 people. This includes 100,624 housing surveys, 15,989 CAA surveys, and 13,726 Diversion surveys.

While CHF provided the adult data set for this study, the youth data set was provided by Trellis Society (Trellis). Trellis operates a range of youth and family services including Calgary's only youth emergency shelter. Each entry in the Trellis data set contains an anonymized person ID number, the year of birth for that person, and an ID number for a program accessed by that person. If a person accesses multiple programs, they will have multiple entries in the data set. The data contains 21,758 entries for 19,550 people. These entries encompass 9 family housing programs, 7 youth or family shelter programs, 23 clubs, 8 group homes, 3 youth transitions to adulthood programs, and 24 general youth programs.

The data security and privacy protocol used to access and work with the administrative data was approved by CHREB. Entries in the CHF and Trellis data sets for the same person were linked using a privacy-preserving machine learning-based methodology, described in Messier et al. (2025). Using this approach, records for 2,002 people in the youth data set were linked to records in the adult data set.

The cohort of people included in this case study turned 18 years old between 2013 and 2023. Within this cohort, 8,029 youth accessed Trellis services and 3,020 accessed CHF services. Of the 8,029 youth in the Trellis data, 831 of these people also show up in the linked CHF data (10.35%).

**Methodology**

Starting in 2023, this project brought together the academic research partners and leadership from Trellis to address relevant issues facing frontline service providers and YTA participants. To address some of the challenges mentioned above, the PiDE framework is guided by community-based research principles and mixed methods research. We believe this is a replicable approach to involve community and organizational partners in the analysis of the linked administrative data to support ongoing program and sectoral decisions and directions.

Community partners have resources and skills that are crucial to establishing a stronger data infrastructure across the sector to support prevention efforts (Russell et al., 2023). As described below in our case study, the project is situated within community-based research principles, starting with equitable and strength-based participation between the community organization and the academic researchers (Israel et al., 1998; Janzen et al., 2016). This principle encourages research practices that highlights and builds-off the unique strengths and assets that currently exist within the agency and the community (Israel et al., 1998). It considers community partners as leaders in decision-making and the main drivers behind the potential impact of the work.

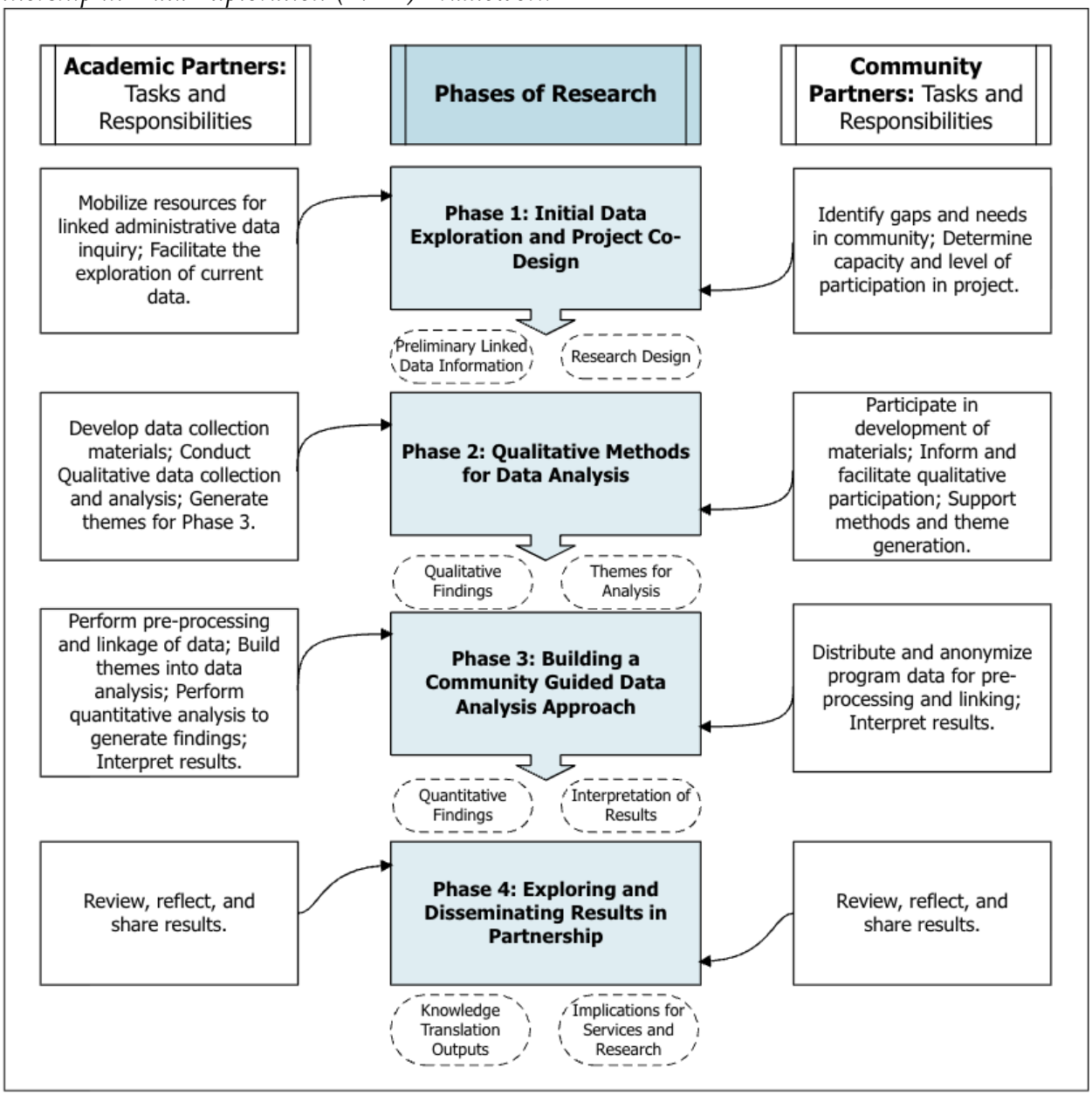
We chose to integrate multiple perspectives to understand the linked administrative data and to establish a holistic view of YTA program experiences. The research team (encompassing both community and academic partners) chose an alternative mixed methods approach to make sense of the data. Mixed methods research is a common community-based approach as it allows for the combination of multiple sources and types of information to allow for a deeper and pragmatic examination (Creswell & Creswell, 2018). It is premised on the assumption that neither quantitative data sources (such as administrative data), nor qualitative data are sufficient alone to address a complex question or subject. Specifically, we used the New Variable Variant (NVV) of an exploratory sequential mixed methods design, where qualitative methods are conducted and analysed first to build the quantitative methods (Anderson, 2016; Younas & Durante, 2023). Our case study, described in later sections, used qualitative interviews to develop a context-appropriate foundation for our analysis methods in the linked YTA and system data.

## Partnership in Data Exploration (PiDE) Framework

Below, we outline our approach to co-developing a new framework with community partners around a YTA program (Figure 1). It highlights four key phases (middle column) and the tasks and responsibilities of the academic partners (left column) and the community partners (right column). Each phase has specific outputs (between the phases) that flow through to the next phase. The goal is for these to act as an example, more than a rigid guide, to one's partnerships and should be adapted based on the skills, resources, and capacities within the research team.

**Figure 1.**

*Partnership in Data Exploration (PiDE) Framework*



Phase 1 focuses on building and understanding the research team and establishing a common understanding of the topic, the administrative data, and the broader needs and context. This includes initial data exploration within the targeted administrative data as well as creating the research design for the secondary analysis. Phase 2 includes engaging deeply with partners to mobilize community expertise, using qualitative methods to generate themes or terms to build a secondary data analysis approach. Phase 3 integrates the qualitative results into the analysis of the linked administrative data. Phase 4 brings the research team together to disseminate the results in mutually impactful ways.

Below, we provide a general description and rationale of how we intend for this framework to be used by others, followed by a detailed account of our partnership with Trellis which informed the development of this framework.

### *Phase 1: Initial Data Exploration and Project Co-Design*

As demonstrated in our YTA case study below, a deep understanding of the selected administrative data is needed to understand the potential opportunities in completing deeper analysis. This is a critical preliminary step to help focus on relevant and practical options for secondary data analysis. As demonstrated in the case study below, this stage could potentially involve significant preliminary analysis to best understand the information and guide your examination.

Community partners will come into the project with extensive knowledge and frontline expertise, and will be able to identify current gaps and needs within the systems. Paired with preliminary examination of the administrative data, the research team collaborates on questions, patterns, and gaps that may exist within the data and informs the research design. Early project planning involves understanding and dividing key tasks and responsibilities between academic and community partners based on their access to resources, knowledge, and capacity to participate.

### *Phase 2: Qualitative Methods for Data Analysis*

As previously mentioned, this mixed methods approach uses both qualitative and quantitative methods to understand the linked administrative data. Sequential exploratory mixed methods are generally a three-part approach beginning with qualitative methods before the quantitative methods to then be analysed together (Anderson, 2016; Creswell & Creswell, 2018; Younas et al., 2020). Using the decision tree by Younas and Durante (2023), we aligned closely with the NVV mixed methods approach to leverage qualitative insights to inform the secondary administrative data analysis.

The qualitative methods are chosen by the research team to align with the research questions guiding the administrative data analysis. This includes choosing who will participate and how qualitative information will be collected and analysed in a way that can provide the building blocks or direction in the quantitative analysis (Phase 3). Therefore, this phase provides strong contextual knowledge and experience that is often missing from academic-led secondary analyses.

The research team and qualitative participants should review the findings together and explore the themes and interpretations for new and missing context to assess how they can be applied in further analysis. These conversations are to ensure that the approaches taken are rigorous and true to the proposed methods, as well as a necessary part of transparency and partnership in academic and community research relationships. This aligns with research integrity and qualitative rigour and community-based research practices (Israel et al., 1998; Lincoln & Guba, 1986; Minkler, 2005).

Our case study below describes how roles and responsibilities were divided between the academic and community partners as reflected in Figure 1 above. The academic partners conducted the qualitative interviews and analysis, whereas the Trellis partners provided access to frontline staff interested in participating in the interviews. The themes and insights generated from the interviews were built into the quantitative analysis as described in Phase 3.

### *Phase 3: Building a Community Guided Data Analysis Approach*

As previously mentioned, this stage and linking of the qualitative and quantitative methods is a unique type of exploratory sequential mixed methods approach to analyzing administrative data. In the NVV mixed methods, we are proposing the building integration technique, where data in early phases informs the methods (such as collection or analysis) of the latter phase (Fetters et al., 2013; Younas & Durante, 2023). We provide an example of how this could be done below, where the qualitative themes are used cluster survey questions in the adult system. In doing so, we interpreted how youth entering the adult system are doing in those main themes.

Community and academic partners will need to know how to sample from the administrative data, whether that includes date cut-offs, narrowing the population included, or how to address errors or incomplete information.

### *Phase 4: Exploring and Disseminating Results in Partnership*

The final phase of our proposed framework focuses on interpreting and reviewing the results from the secondary administrative data analysis. This phase requires both academic and community partners to identify what is significant and relevant to their separate and shared objectives and research questions.

Part of generating a relevant dissemination strategy is choosing approaches that align with the anticipated audience and utility of the information. This may include traditional strategies such as visualizations of the linkages, presentations to different partners or audiences, or reports and publications. Alternatively, collaborating with partners to find additional methods that connect and align audiences often missed by traditional methods may be a validating and impactful choice.

## Case Study Exploring YTA Program Transitions

Here, we describe our project with Trellis that informed the PiDE framework in understanding prevention and successes for YTA graduates. This demonstrates our interpretation of ways to apply mixed methods techniques in community-based analysis of administrative data within the HSSC.

### *Phase 1*

The co-design and data exploration within this project were iterative, as ongoing discussions between partners informed further exploration of the data, which then incited additional questions to explore. The lead investigator applied for and received funding and permission to link youth data from Trellis with the adult sector data from their coordinated services. Once complete, the team reviewed visualizations and patterns in the data to inform how they wanted to proceed with the project.

Linking youth to adult data allows for visualizations that illustrate how young people flow into and through the adult system of care. These figures, presented in the Phase 3 results, demonstrate how young people enter, use, and exit the adult system. This flow cannot be captured by the separate databases alone. However, the large number of different destinations in the care system (133 adult programs and 74 youth programs) meant that showing every transition between every program would not produce a meaningful visualization. The following describes how the data was treated to produce simpler figures that still capture the important ways in which a young person moves through the adult system.

Flow visualizations were generated by combining programs into categories. For the youth data, the categories shown in the visualizations are Housing, Shelter, Group Homes, YTA Programs, and Clubs, or General Programming. For the adult data, the categories are Housing, Shelter, or Case Management.

In the Trellis data, 499 people participated in multiple programs. To simplify the visualizations, people in multiple programs were placed in a program category based on the highest intensity program they accessed. The ranking of program severity, in decreasing order, was Group Home, Shelter, YTA Programs, Housing, General Programming, and Clubs.

Early in the collaboration, Trellis partners identified the YTA program as the focus of the project, after seeing how youth moved between programs and identifying the desire to understand what happens to youth after the YTA program. The YTA program specifically supports young people until they are 22 years old, which allows them to support immediately after other supports and services end at 18 years old. The program is funded by the provincial government ministry, Children's Services, specifically to provide individualized case planning around housing, financial management, education, and career pathways. Academic partners were brought to Avenue 15, a youth shelter, to discuss the research and learn broadly about frontline and youth experiences.

Preliminary data was reorganized to better explore the specific youth in the YTA program. Any person with YTA programming in the Trellis data was placed in the YTA category regardless of the other programs they accessed, to better capture the YTA youth cohorts. Table 1 shows the proportion of young people accessing the different program categories after the 499 multiple program participants were placed in single categories.

**Table 1**

*Community Organization: Program Categories and Program Participants*

| Program Category | Proportion |
|---|---|
| **CLUBS** | 41.72% (N=3350) |
| **GENERAL PROGRAMMING** | 35.53% (N=2853) |
| **SHELTER** | 9.84% (N=790) |
| **HOUSING** | 5.65% (N=454) |
| **YOUTH TRANSITIONS TO ADULTHOOD (YTA)** | 4.30% (N=345) |
| **GROUP HOME** | 2.95% (N=237) |
| **TOTAL** | **100% (N=8029)** |

Discussions about the data resulted in two key objectives to guide our examination of YTA youth in the adult system: 1. Identify the different pathways that YTA participants take after the program, in regard to the adult HHSC ("Where are they?"), and 2. Assess the status and wellbeing of past YTA participants upon adult service entry ("How are they doing?").

Since the first objective is to examine how youth flow through the adult system of care, the entry/exit points for a young person entering/leaving the adult system will be represented as the CHF program category.

Representing what happens to someone while they access the adult system of care can be very complex due to the large number of different programs in the CHF data set. To simplify, Table 2 lists a series of classifications that are used to summarize a person's use of the adult system. When classifying a person's system use, definitions are applied in increasing order (i.e., first the Heavy Shelter definition is tried, then Housing, etc.). A person is classified using the first definition they satisfy. Note that the definitions are ordered so that a person tends to be classified based on their usage of the most critical system services. For example, someone who satisfies the Heavy Shelter definition will be placed in that category even if they also access some housing and case management services. A system use pattern would be categorized as Light Shelter only if the person did not first satisfy the Heavy Shelter and Housing definitions.

**Table 2**

*Adult System-use Definitions*

| Classification | Definition |
|---|---|
| **1) HEAVY SHELTER** | More Than 100 Days in Emergency Shelter. |
| **2) HOUSING** | More housing stays than shelter stays. |
| **3) LIGHT SHELTER** | At least one stay in shelter. |
| **4) CASE MANAGEMENT** | At least one case management session. |

To address the second objective of exploring how a YTA youth was doing at entry and within the adult data, we identified key contacts and data points that were commonly seen within the data (such as program entrance and exit dates), as well as detailed surveys and inputs corresponding to these transitions.

The YTA youth who appear in the adult CHF data have survey data describing their entry to the adult system present in the CHF data set. While some people have multiple surveys collected on different dates, the surveys used in this study are the first survey collected immediately upon appearing in the adult data. This is to reflect the wellbeing of the YTA youth as soon as possible after transitioning to the adult system. A total of 75 people had CAA surveys as their first survey, 71 had Diversion surveys as their first and 13 had housing surveys.

For each person, there are 81 survey question fields in the CHF data set for a total of 12,879 possible survey answers for the 159 YTA people. However, there are only 2,203 valid answers in the data. This is due to either a question field not being covered by the person's survey, or the person may have declined to answer the question.

To better explore the second objective and include important current and historical experiences, Trellis and academic partners organized a qualitative inquiry that would inform further analysis of the dataset. By focusing on the YTA program and frontline expertise, the partnership focused the research on topics and questions that were relevant and applicable to the current needs in the organization and community (Israel et al., 1998; Janzen et al., 2016).

***Phase 2***

Beginning in early 2023, the research team worked with Trellis administrators to identify, schedule, and engage with staff members for individual interviews. We used purposive sampling based on job title and program affiliations. We conducted individual, semi-structured interviews with frontline staff, program managers, and organizational leadership from Trellis to generate themes that were then used to code the survey data for deeper analysis. A total of eight interviews were completed.

The interview guide was developed collaboratively by the research team members and Trellis partners. The research team shared knowledge and experience on interview approaches and best practices to elicit rich responses from participants. This included strategies such as open-ended questions, general and specific prompts to encourage elaboration, and active listening skills to demonstrate empathy when difficult subjects arose. There were different interview questions for frontline staff—those working directly with young people—and those in leadership or supervisory-level positions. The interview guides focused on the staff member's understanding of service interactions and needs that youth experience, and information about what might make this transitional period easier or harder.

We also asked about their overall impressions and reflections on what we could expect from examining data that is currently collected about this group. This allowed us to learn about perceived challenges and weaknesses of the data based on how it is collected. Interviewees were encouraged to recommend changes in data collection and utilization to better support YTA youth.

## Interview Methods and Analysis

Interviews were scheduled for one hour and conducted online with multiple different interviewers, working in pairs. Zoom video services were used to make interviews adaptable to staff time and scheduling priorities. Draft transcripts were generated using Rev.com services, then reviewed by a member of the research team with audio recording for accuracy and to remove all identifying details. A second member of the research team reviewed the written transcripts to confirm completeness and clarity. At this point, audio recordings were deleted. All files including consent documents, anonymized transcripts, and master lists were stored in a university-owned shared folder with encryption and access restrictions in compliance with university and ethics security standards.

Anonymized transcripts were analysed using a thematic analysis approach, facilitated by NVivo. Our approach to Thematic Analysis (TA) was inductive—where the data leads the coding and analysis internally—and closely followed their outlined reflective approach (Braun & Clarke, 2006, 2012). Braun and Clarke (2006) outline six main steps to TA. First, we familiarized ourselves with the data by reviewing the anonymized transcript in detail. Second, we applied labels and categories in a primary coding process to organize the relevant portions of data. Next, we searched for themes in the hierarchy of codes, and we then reviewed them within the context of the broader data set to make final adjustments. The themes were finalized with titles, definitions, and illustrative interview excerpts to help describe the relevant collated portions of the data set and communicate findings.

## Results

The interviews highlighted many key themes and insights on both the benefits and challenges of administrative data use in programming, as well as the challenges and experiences for youth in exiting the homeless-serving sectors after graduating the YTA programs.

### Data as a Tool in Individualized and Program Planning

Many interview participants shared their perspectives and observations of current administrative data collection, sharing, and usefulness in their community roles. Some participants commented on how data supports individualized and program planning and advocacy, as well as consequences of quantifying service needs and vulnerabilities:

> *[Regarding the use of a goal planning tool] it's nice to be able to see changes for them so that we can track them and say 'Hey, when we started working together, here are some of the things that you identified as being a barrier. And like, look how far we've come'. Despite how sometimes it doesn't always feel that we're, we're making progress on things.*

> *[Regarding sharing information between agencies] I don't think we would ever have access and that's the unfortunate part is they could be tracking [eviction information], they could be having discussions about it. I think there's not a lot of freedom of having conversations with that program right now and not a lot of willingness to come to the table with us to have conversations.*

Additionally, many participants commented on the challenge of adequately representing the actual experiences and progress of the youth in administrative data:

> *I do think a lot of the time we do dwindle our clients down to a number or a demographic ... and it doesn't feel like it's telling the whole [story].*
>
> *I personally think that [triage assessments] is good data to have, but it doesn't really cover everything because stories are very narrative, and like it's hard to put that into a number or a scale or a whatever you wanna call it*
>
> *Sometimes then our data doesn't always tell our story. So, it's the stories that make the difference… how are we measuring success? And the data might say something different than our day-to-day experiences with the youth that we serve.*

Frontline staff broadly described the challenges and desire to use administrative data to provide better care and services, while also being cautious of the issues with accuracy and fairness to rely on completely. This feedback was crucial as it pre-emptively identified concerns of representation in the administrative data we later analysed.

**Success and Challenges in YTA Experiences.**

The interviews generated three main themes describing the connection between YTA youth and system experiences, and possible gaps in supports contributing to system entry. These include Navigating the Unfamiliarity of Adulthood, Broken Relationships and Stand-ins for Natural Supports, and Present Crisis vs. Future Goals.

The first major theme was Navigating the Unfamiliarity of Adulthood, where Trellis frontline workers articulated that YTA participants had a significant gap to close between demands of adulthood and the life skills needed to succeed in independence and prevent future returns to homelessness. They described some of the struggles in this phase to set youth up for success after programming who may have less access to support for wellness, self-care, and housing protections such as paying rent:

> *When you're in group care or in a foster home, staff do a lot of things for you. Right? Like they're cooking for you, they're cleaning for you, they're administering your medication and there's no real empowerment there.*
>
> *We were preparing her six months before she turned 18 to get ready for YTA, she wasn't really understanding that there needs to be a preparation phase, in the sense that she was like, 'I'm going to be independent'.*
>
> *The instant that these youth take on more of those adult responsibilities without actually setting them up to be able to understand them, I feel like has the potential to create more barriers for the youth.*

The second theme to come through in the interviews with frontline staff examined Broken Relationships and Stand-ins for Natural Supports. This theme captures the difficulties many youth have experienced regarding their relationships with family and peers. Further, Trellis staff explained that they often must act as stand-ins for the natural

supports that the youth do not have. However, it is challenging for these youth to build trusting relationships with professional staff after experiencing past relationship trauma:

> *Some of them still have their parents as natural supports, but for example, my caseload, my clients don't have any relationship with their parents.*
>
> *She was also dealing with some other trauma related to like her family and kind of the relationships we had seen and the modelling that she had seen. So, she was engaging with some unsafe relationships at the time.*
>
> *How do we build a relationship with these youth when they've felt like their relationships that they have built, have kind of broken down to no fault of their own. Of course. So, I just take it slow.*

The final theme that was identified addressed the tensions between Present Crisis vs. Future Goals. This addresses the constant challenge to balance immediate needs with long-term planning to support youth in their independence and housing sustainability:

> *Clients I work with have a lot of mental health struggles, addiction struggles; they also struggle with like community and connection to their natural supports. So, when you're working with them, you're kind of doing all of the above, while also helping them work on goals.*
>
> *A lot of the skill-building that they've done has just been fighting to survive day-to-day in a group home.*
>
> *The kids coming out of group care, it was an absolute panic trying to find them housing before they turned 18 and they were discharged from whatever program they were in prior to.*

These results were brought back to our partners in a collaborative meeting, showing how the themes were generated. These themes were then used to build the quantitative analysis approach in Phase 3.

### *Phase 3*

As described above, the three themes from the qualitative interviews informed how the linked youth and adult administrative data addressed the project objectives. This was primarily completed by the academic team with regular consultative conversations with community organization partners.

### *Building the Analysis Approach*

The analysis of the linked data aimed to focus on youth that appear in the Trellis program data in YTA programming, then later appear in the adult administrative data set. Each survey question in the CHF secondary data was assigned to the interview theme that best represented the intention of the question. To assist with clarifying the categories for single categorization, definitions were created for each theme:

1. Navigating the Unfamiliarity of Adulthood: Questions that addressed specific transition skills or capabilities related to adulthood and independence (e.g., paying rent, work and income).
2. Broken Relationships and Stand-ins for Natural Supports: Questions that ask about natural supports (e.g., friends, family), involvement of external family

supports or services, and the quality of relationship (e.g., close family supports, family violence).
3. Present Crisis vs. Future Goals: Questions that address different service needs and interactions, challenges, or barriers that are not transition-specific and could happen at any life stage (e.g., mental health conditions, contact with health or judicial systems).
4. None: Questions that did not fit in these categories, such as demographic details or specific program delivery questions, were not coded and excluded from the analysis.

The questions were organized independently by two people (GM and EG), and differences were discussed and addressed. Not all questions were assigned to a category, and those that were left uncategorized were excluded from analysis. The survey questions available in the CHF data had categorical response fields (i.e., drop-down or numerical entry style answers) only. No free text fields were available due to the anonymized nature of the data set.

To evaluate what each question indicated about a person's wellbeing and needs upon entering the adult system, the researchers labeled each non-empty question response as "*positive*", "*negative*" or "*neutral*". For example, for the question "*Do you have a history of repeat involvement in the justice system?*", an answer of "*Yes*" would be labelled negative and an answer of "*No*" would be labeled as positive. An answer of "*0*" to "*How many times have you been hospitalized?*" would be positive, 1 or 2 times would be neutral, and 3 or more times would be negative. Assigning labels through this process involved interpreting the significance of the responses based on how they would impact their need for supports and services, aligning with the intention of the NSQ and SPDAT assessments. This process was completed by the academic members of the research team independently, then any discrepancies were compared and resolved through discussion, reflection, and consensus. They were then reviewed by the community partners, who recommended adjustments based on the assigned labels, informed by the implications of the questions and responses. Members from the academic team and the community partners have extensive frontline experience working with the triage assessment within the HHSC, which was important knowledge to have for the coding process.

Before the analysis of question responses, some questions in the data were also labeled by the researchers as having particularly high personal impact. For example, a question related to involvement in the justice system would be labeled as high-impact, while a question related to family size would not. Not all survey questions contained a valid answer. The questions and responses include a combination of well-being assessments and helpful triage and logistic information. Selecting the high-impact questions was based on if they could contribute to understand the status of the individual at the time of the assessment. For example, "*Are you pregnant?*" would be considered a high-impact question while "*Do you already have a case manager or are part of a case management program?*" would not.

## Results

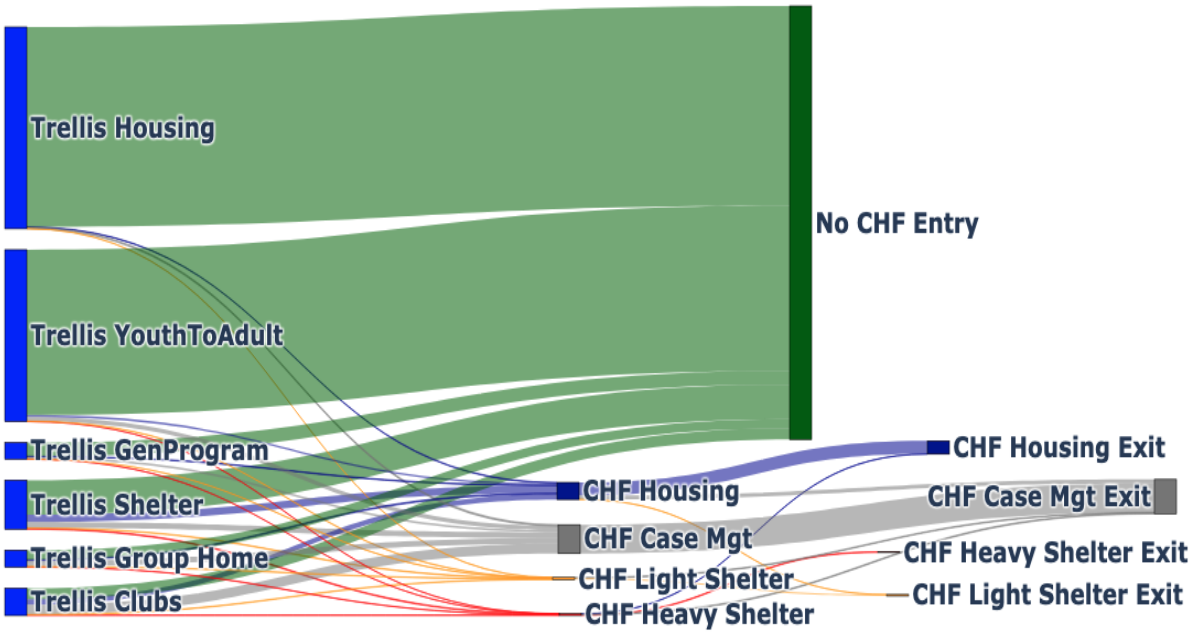
### *Objective 1: Where Are they?*

YTA program participants were linked to the adult CHF administrative data set to see if they accessed adult services after exiting the program. An exit is defined based on their status recorded in their final entry in the data. Due to program age restrictions, the youth would not re-enter the YTA program once entering the adult data. The Sankey diagrams below illustrate the proportion of people who flow from Trellis program nodes on the left, to CHF adult system utilization nodes in the middle, and finally to CHF system exit nodes on the right.

As mentioned in earlier descriptions of the data, simplified visualizations are helpful to demonstrate different pathways between the two systems and datasets. Note: P shows the 8,029 people with Trellis programming and how they did or did not transition to the adult system of care. To focus in on how those in the cohort did use the adult system, Figure 3 shows the 831 people from Figure 2 that used the adult system. For comparison, Figure 4 shows the 2,189 young people who accessed the adult system with no record of Trellis youth programming.

**Figure 2**

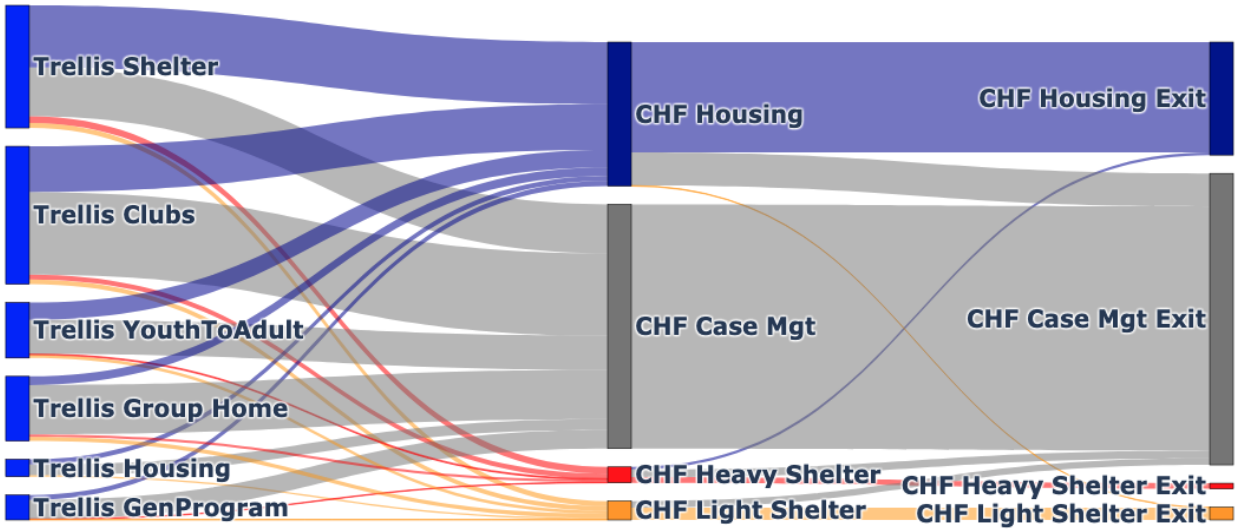
*Total Trellis Participant Linkage to CHF Adult Data*




*Note*: People with Trellis program history (n=8,029).

**Figure 3**

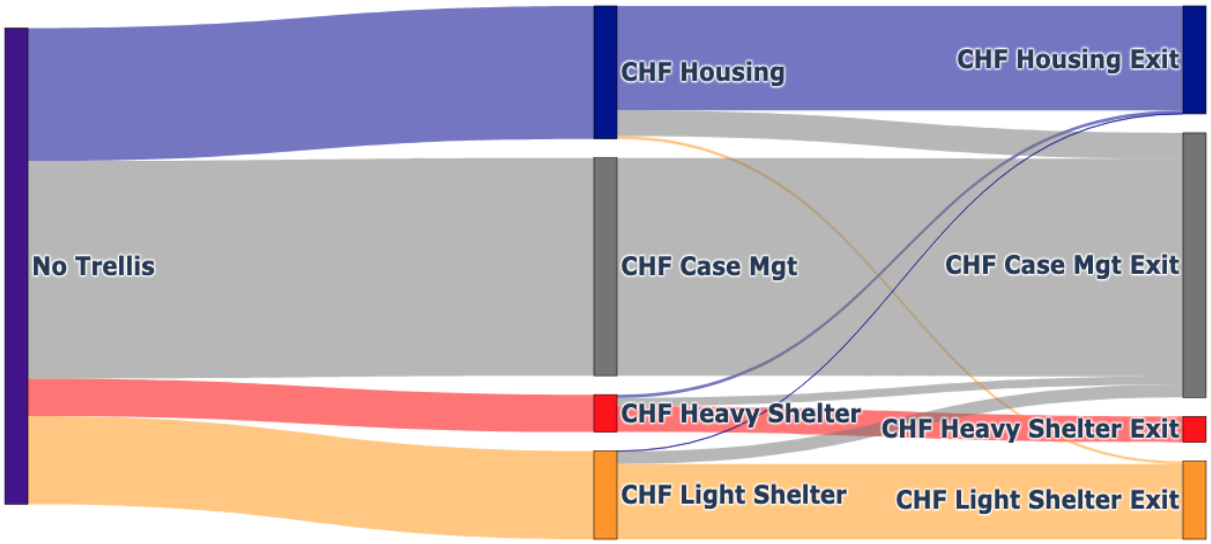
*YTA Participants with CHF Service Access Data*




*Note:* People with Trellis program history who accessed the adult CHF system (n=831).

**Figure 4**

*CHF Service Participants without Trellis Program History*

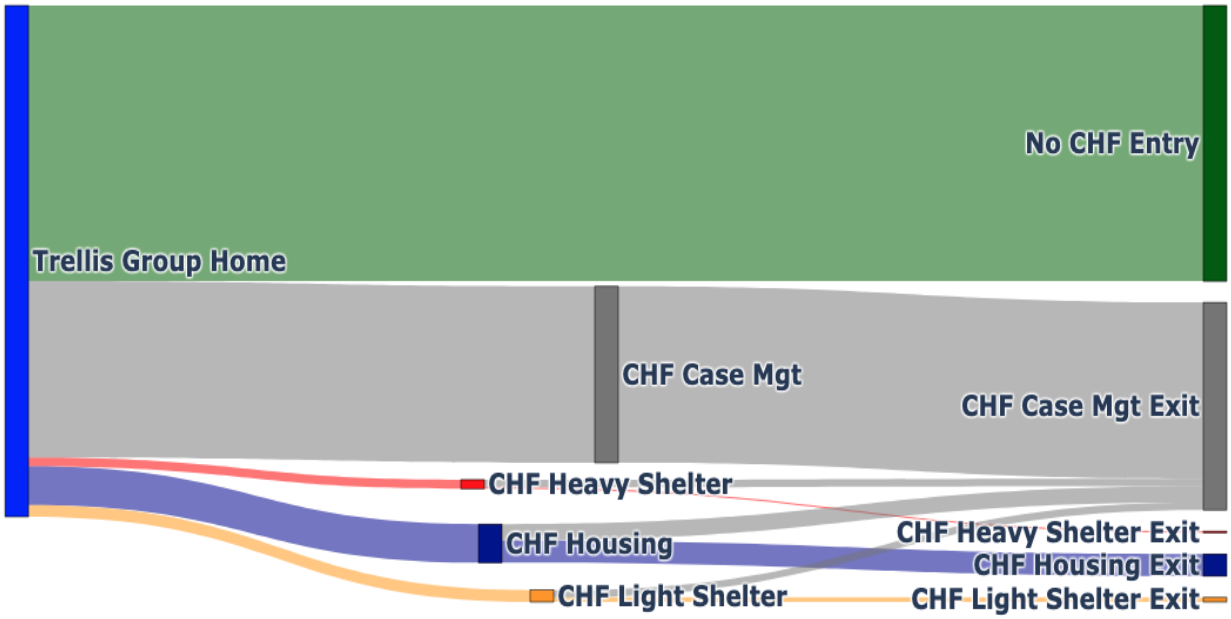



*Note:* People without Trellis program history (n=2,189).

Figure 5 looks closer at the youth with YTA program use and the results of linking to the adult data. A total of 345 youth accessed the YTA programs, where 159 of these youth (46.09%) appear in the linked CHF data at the time of data linkage, and 186 do not. Of those 159 people who entered the adult system, 6 (3.8%) entered through a Heavy Shelter use, 26 (16.4%) into Housing Program, 8 (5.0%) with Light Shelter use, and 119 (74.8%) into Case Management.

**Figure 5**

*YTA Program Participants and Adult System Use*




*Note*: People with Trellis YTA program history (n=345).

***Objective 2: What Is Bringing Them In?***

The CHF data has a total of 81 questions, and 9 were not assigned to a theme and were therefore excluded from the analysis. Of the remaining 72 questions, 44 were designated as "high-impact" questions that have a particularly important impact on a young person's trajectory. Tables 3 and 4 show the percentage of theme questions that each person answered in the secondary survey data. While the response rate would ideally be higher, this is often a limitation of secondary data, and the responses are still sufficient to show some important trends regarding the wellness of the respondents and what might be contributing to their system entrance.

**Table 3**

*Survey Question Response Rate Percentage for all Questions by Theme. Response Rate: Average (25th Percentile, 75th Percentile).*

| Theme | No. Assigned Questions | Individual Response Rate |
|---|---|---|
| Navigating The Unfamiliarity of Adulthood | 24 | 11.98% (4.17%,16.67%) |
| Broken Relationships and Stand-Ins for Natural Supports | 19 | 16.09% (10.53%,21.05%) |
| Present Crisis Vs. Future Goals | 29 | 16.92% (10.34%,24.14%) |
| Total | 72 | |

**Table 4**

*Survey Question Response Rate Percentage for High-Impact Questions by Theme. Response Rate: Average (25th Percentile, 75th Percentile)*

| Theme | No. Assigned Questions | Individual Response Rate |
|---|---|---|
| Navigating the Unfamiliarity of Adulthood | 14 | 14.47% (7.14%,21.43%) |
| Broken Relationships and Stand-Ins for Natural Supports | 11 | 17.55% (9.09%,27.27%) |
| Present Crisis Vs. Future Goals | 19 | 15.52% (10.53%,21.05%) |
| Total | 44 | |

For the questions in each theme, the percentage of questions each person answered positively, negatively, or neutrally was determined. All recorded answers for each question were labeled as positive, negative or neutral. For example, for the question "*Times moved in the last 12 months?*", zero times was positive, one time was neutral, and two or more times was negative. Table 5 shows the percentage of replies from each respondent that were positive, negative, and neutral.

**Table 5**

*Proportion of Wellness Replies by Theme for Each Person: Average, (25th Percentile, 75th Percentile).*

| WELLNESS IMPACT VALUE | NAVIGATING THE UNFAMILIARITY OF ADULTHOOD | BROKEN RELATIONSHIPS AND STAND-INS FOR NATURAL SUPPORTS | PRESENT CRISES VS. FUTURE GOALS |
|---|---|---|---|
| **POSITIVE (ALL)** | 55.5% (25.0%,100.0%) | 27.7% (0.0%,50.0%) | 51.2% (25.0%,81.7%) |
| Negative (All) | 26.8% (0.0%,50.0%) | 35.9% (0.0%,50.0%) | 22.0% (0.0%,34.5%) |
| **NEUTRAL (ALL)** | 8.3% (0.0%,0.0%) | 32.6% (0.0%,50.0%) | 13.6% (0.0%,14.3%) |
| Positive (High-Impact)* | 46.4% (0.0%,100.0%) | 31.1% (0.0%,66.7%) | 52.8% (25.0%,80.0%) |
| **NEGATIVE (HIGH-IMPACT)*** | 36.0% (0.0%,66.7%) | 44.4% (0.0%,100.0%) | 20.8% (0.0%,36.7%) |
| Neutral (High-Impact)* | 4.4% (0.0%,0.0%) | 5.6% (0.0%,0.0%) | 13.1% (0.0%,20.0%) |

* only includes questions selected as high Wellness Impact Value.

For each theme, we compared the proportions of positive and negative responses. The second theme, Broken Relationships and Stand-ins for Natural Supports, was the only theme to show more negative responses (35.9%) in comparison to positive ones (27.7%). When comparing the high-impact questions only, the proportion of negative responses increases for the first two themes but remains relatively unchanged for Present Crises vs Future Goals.

### *Phase 4*

These results have been shared with our community partners to explore the implications for transition-age youth moving between systems. Among the research community, different parts of this research have been presented at conferences, including at the Canadian Alliance to End Homelessness annual conference and the International Conference on the Prevention of Youth Homelessness conference. In other presentations, it has been shared among youth mental health experts, and on an international youth transitions from care panel.

In the community, this information has been impactful to support initiatives and programming as evidence and support for maintaining strong supports for youth across the lifespan. There continues to be discussions about future opportunities, including direct engagement with YTA youth around research and solutions to transition barriers.

## Discussion

The PiDE framework and case study outlines how community-based partnerships and qualitative methods can expand the examination of administrative data within homeless services and systems of care. In partnership with Trellis Society, the mixed methods results show where YTA graduates have gone and provides a preliminary description of how they are doing when connecting with the adult system of care. Together, these may identify some critical insights into why youth are entering the adult system and therefore how to adapt current prevention and intervention strategies.

Both themes around the program role in supporting and preparing for adulthood, Navigating the Unfamiliarity of Adulthood and Present Crises vs. Future Goals, address the challenges of building important life skills and long-term planning with young people in challenging environment. One frontline worker described the system policies (e.g., age cut-offs, length of services) that accelerate the transition process from youth to adult systems as "forcefully shoving them into independence, whether they're ready or not". YTA services, such as the one studied here, are vital for preparing and supporting young people to prevent further homelessness by providing the scaffolding to develop skills and pathways to independence. Further, youth in these programs hopefully benefit from targeted efforts to prevent prolonged homelessness or returns to homelessness as adults.

The methodology used here resulted in three different scenarios based on the themes and quantitative analysis. The first theme, Navigating the Unfamiliarity of Adulthood, includes questions around life skill development, such as being able to pay rent or bills, attending education or job training, or being currently employed. This showed broadly positive responses when looking at all questions together and the selected high-impact questions, although to a lesser degree. This supports the purpose of programming targeting youth at this difficult, transitional life stage (Semborski et al., 2021; Shewchuk et al., 2020). For young people who have used or relied on youth programming, adult-based services differ significantly as program participants should be responsible for their own care and supports (Farrugia, 2015). Adulthood—or the expectations and demands connected to age-related independence—presents new challenges that can contribute to the continuation of homelessness or return to it.

It is imperative that youth with experiences of homelessness are given the support and time to build skills and self-efficacy to succeed and support the development of their sense of autonomy and independence as part of a suite of prevention efforts system-wide (Agnihotri et al., 2022; Slesnick et al., 2009; Thulien et al., 2019; Thulien et al., 2023).

The second theme, Broken Relationships and Stand-ins for Natural Supports, demonstrates how important relationships and family-focused care is part of both youth and adulthood homelessness prevention. Challenges in early life such as poverty, family breakdown, living within child and family service systems, have been connected to increased risk of homelessness (Buccieri et al., 2023; Dumollard et al., 2025; Gaetz et al., 2016; Karabanow et al., 2018). Theme two showed marginally more negative responses for the general category, and a slightly increased proportion of negative responses for the high-impact questions. Prior work has shown that accessing formal homeless-based services for youth depends on their self-perceptions of being homeless (Winetrobe et al., 2017). O'Grady et al. (2020) reported that, of the youth surveyed across Canada, seeing themselves as homeless (now or historically) differed based on connections with family. Therefore, youth and young adults without ongoing contact with family and natural supports may be turning to homeless services for support due to a lack of alternative natural supports.

This aligns with what we already know about the need for further upstream prevention work around supporting youth and their families to address the consequences of long-term institutionalization through health, justice, and care systems (Doucet et al., 2025; Milaney et al., 2024). Without natural supports, diversion and early intervention work that might be done through shelters and other sector services must look for program or independent housing options that require not only the skills and resources to sustain them but the social and emotional support that most receive through family and community. Overall, it is increasingly common for youth and young adults to be living with their families further into adulthood in response to housing market and affordability challenges (The Vanier Institute of the Family, 2024; Mirdamadi & Gordon, 2026). Prevention efforts that look to build on the supports and communities around youth provides not only the connections but also a crucial safety net when building personal independence. Further exploration into how people create and feel connected to communities in encampments (Olson & Pauly, 2023), the impact of social isolation (Lachaud et al., 2024), and the ongoing resilience of young people (Kidd & Davidson, 2007) influence this complex topic for youth homelessness and homelessness prevention.

The third theme, Present Crisis vs. Future Goals, showed almost no difference between the broad category and the high-impact questions, with an average of over half of question responses being positive. Key questions include being pregnant or ongoing and repeat contact with health or judicial services. This suggests that some youth with YTA program participants who are connecting to adult services may not have frequent interactions with health or judicial systems.

Consistent with other research, these findings demonstrate the complexities within youth experiences and the systems of care. Responses to the themes were largely positive, demonstrating that current program efforts are addressing impactful concerns in their

service delivery and prevention efforts. However, as this analysis supports, the overrepresentation of service contact for transition-aged youth remains a concern (Buccieri et al., 2023; Kneebone et al., 2023; Milaney et al., 2023). For example, Kneebone et al. (2023) recently linked Housing First programs for youth in Calgary with police and justice system data and noted that of the 531 youth who used to be homeless in their CHF data set, 58% had no reported interactions with police before or after entering a Housing First program. Those who did were primarily involved in minor incidents, many affiliated with survival behavior including theft and illegal or unconventional commerce, such as pan-handling, squeegeeing, drug or sex work (Kneebone et al., 2023).

The themes identified in the interviews support much of what we know and understand about youth-to-adult transitions. Agnihotri et al. (2022) synthesized the 150 studies to propose a series of indicators of successful transitions for youth aging out of care. Among others, they include many indicators that match the qualitative themes, such as general living skills, employment, and education (Navigating the Unfamiliarity of Adulthood); social supports and relationships, and conduct and victimization (Broken Relationships and Stand-ins for Natural Supports); and finally health, basic needs, resilience, and empowerment (Present Crisis vs. Future Goals; Agnihotri et al., 2022).

Trellis, most importantly, continues to find ways to utilize this information to support their programming and organizational goals. First, the linked administrative data showing the service pathways that program youth take after service exit and entry into the adult system data is valuable when articulating both service impacts and gaps in care. This information was able to be included in reports, presentations, and applications to support their ongoing work. Second, the ongoing investment in the ongoing partnerships has continued to be a resource for both the community and academic partners as new issues and ways to explore the data come up. In addition to partnering on presentations and publications, we continue to explore new ways this partnership and these results can be utilized in community.

## PiDE Framework: Implications and Considerations

Our framework methodology, as exemplified by our case study, does have challenges and limitations for how results are interpreted. First, selecting qualitative and quantitative data sources may be limited to what and who is available. For example, many of the responses analysed in the administrative data are from the triage NSQ, which is largely based on the SPDAT. Both the research and service community (including the tool creator) has criticized the tool for issues in application and quality, and biases in how it is interpreted and used to direct care (Brown et al., 2018; Cronley, 2022). Therefore, the responses analysed from the CHF data will have the same issues that may weaken the interpretation. Data quality concerns were echoed by the interviewed frontline workers, who commented on issues within data and reporting mechanisms. The local HHSC have recently moved away from this tool as a triage mechanism in favour of a locally created and informed assessment.

Another consideration of this data is that both who is in the data and how they are reflected in it was not purpose-built for research but instead was generated for tracking

and informing service interactions. In this case, the linked administrative data only captures people who encountered the adult system and cannot alone describe everyone who has used Trellis' specific YTA services. For those who are not observed in the administrative data, it is unknown if they are doing better, worse, or the same as those who do enter the system. Youth who may need supports may choose not to enter the system due to service fatigue for youth who have frequent and long care histories (Mayock & Parker, 2020). Instead, they may seek informal alternatives outside of the HHSC, such as couch surfing or rough sleeping (Mayock & Parker, 2020). Interpretations should be careful to comment on what is in the data and not generalize. Additionally, the low response rate to the included questions (Table 3 and Table 4) limits how the information can be interpreted and prevents broader generalizations.

These limitations have implications for how this specific evidence and model can be used to measure prevention outcomes. Specifically, it leaves vacant the answers to where youth who did not enter the adult system went, and how they are doing. Future applications of this PiDE approach can build partnerships with other sectors and systems that may show successful outcomes, such as education data or income assistance. This project shows one pathway that YTA youth may be on, and further research can explore the many other trajectories after YTA graduations and exits. PiDE, by bringing frontline expertise into the data analysis process, may highlight new insights into how sectors can work together across all prevention pillars.

The frontline staff interviews provided the initial context around the challenges of the transition system of care that places significant pressure on the youth and programs to prepare for adulthood in a limited time. This informed how we explored and could look at the linked administrative data that provides information on how youth are doing at the time of adult system access. However, it is important to highlight that many of the challenges identified in staff interviews highlighted structural and systemic issues that exist beyond the reach of any singular program or sector and instead require a further structural investment in social supports to build on individual, family, and community strengths and resilience as part of prevention efforts.

This mixed-methods framework benefited the procedures in the following ways. First, the qualitative interview themes were directly built into the analysis of the linked data sets, ensuring all phases of the study integrate frontline expertise and context (Anderson, 2016). Second, merging both qualitative and quantitative information provided new insight into how qualitative descriptions of YTA experiences compare to quantitative metrics.

The PiDE framework is not prescriptive to a specific qualitative method to allow the community-based partnerships to have significant influence on the process of research and administrative data analysis. Another consideration is that PiDE can be flexible to the availability and capacity of the partners involved. Participation and partnership is not a binary, all-or-nothing element, but is a spectrum (Ortiz et al., 2020; Vaughn & Jacquez, 2020). In this project, there are many points in the process where both frontline staff and organizational partners could have larger involvement, such as assigning themes to the survey questions. Ortiz et al. (2020) describes this as a key context building stage in

community-based research, where the partners decide the capacity and readiness for their ongoing participation. This is a process that takes considerable time and investment that may be less attractive for both the partners and academics with both timeline pressures in implication and deadlines. This framework would benefit from further mimicry and replication to support the ongoing inclusion of community partnerships and linked administrative data within research.

## Conclusions

This approach to mixed methods research and secondary administrative data analysis brings together two bodies of research that are seen as conflicting or opposed by many quantitative academics and community partners with qualitative and experiential data (Bopp & Voida, 2023). This framework encourages partners to use both sources to challenge the status quo of what is considered data (Bopp et al., 2017; Moon & Guha, 2024). This can be done by combining the capacity and resources of academics to support community with the analyses of administrative data, with the vision, expertise, and skill of community partners providing on-the-ground support to communities.

The PiDE framework is an effective tool for including qualitative methods in the exploration of administrative data in academic and community partnerships within ongoing homelessness and prevention studies. The insight and contributions of frontline staff highlighted key themes that speak to the strengths and challenges for transition-aged youth and programs supporting them, and the linking of data can be used to identify where gaps in supports can be addressed in the future. This demonstrates an impactful strategy for deriving further meaning from administrative data, allowing community and academic partners alike to benefit from the utilization of administrative data in preventing and ending homelessness.

## Declarations

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**Competing interests/Conflict of interest:** The research team has no conflict of interest to disclose.

**Ethics approval:** Conjoint Health Research Ethics Board (CHREB) at the University of Calgary under certificate number REB21-1386

**Author contributions**: Research concept and collaborative design (GM, EG, TM, GD, KM, NJ, SE); Conducting qualitative data collection and analysis (GM, EG, TM, GD); Administrative data preparation, sharing, and analysis (GM, KM, NJ, SE, EG); Drafted and Finalized manuscript for publication (GM, EG, TM, GD, KM, NJ, SE). The authors are collectively accountable for all aspects of the work.

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**References**

Abramovich, A. (2017). Understanding how policy and culture create oppressive conditions for LGBTQ2S youth in the shelter system. *Journal of Homosexuality*, *64*(11), 1484-1501. https://doi.org/10.1080/00918369.2016.1244449

Agnihotri, S., Park, C., Jones, R., Goodman, D., & Patel, M. (2022). Defining and measuring indicators of successful transitions for youth aging out of child welfare systems: A scoping review and narrative synthesis. *Cogent Social Sciences*, *8*(1), 2130218. https://doi.org/10.1080/23311886.2022.2130218

Anderson, V. R. (2016). Introduction to mixed methods approaches. In L. Jason & D. Glenwick (Eds.), *Handbook of methodological approaches to community-based research: Qualitative, quantitative, and mixed methods*. Oxford university press.

Aykanian, A. (2023). Exploring the potential of homeless management information system data for understanding the mobility of people experiencing homelessness. *Journal of Social Distress and Homelessness*, *32*(2), 272-280. https://doi.org/10.1080/10530789.2022.2035129

Belardinelli, P., & Mele, V. (2020). Mixed methods in public administration: advantages and challenges. *Handbook of research methods in public administration, management and policy*, 28-41.

Bopp, C., Harmon, E., & Voida, A. (2017, May). Disempowered by data: Nonprofits, social enterprises, and the consequences of data-driven work. In *roceedings of the 2017 CHI conference on human factors in computing systems* (pp. 3608-3619). https://doi.org/10.1145/3025453.3025694

Bopp, C., & Voida, A. (2023). " Showing the context": A need for oligopticonic information systems in homelessness measurement. *Proceedings of the ACM on human-computer interaction*, *7*(CSCW1), 1-24. https://doi.org/10.1145/3579622

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77-101. https://doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2012). Thematic analysis. In *APA handbook of research methods in psychology, Vol 2: Research designs: Quantitative, qualitative, neuropsychological, and biological.* (pp. 57-71). American Psychological Association. https://doi.org/10.1037/13620-004

Brown, M., Cummings, C., Lyons, J., Carrión, A., & Watson, D. P. (2018). Reliability and validity of the Vulnerability Index-Service Prioritization Decision Assistance Tool (VI-

SPDAT) in real-world implementation. *Journal of Social Distress and the Homeless*, *27*(2), 110-117. https://doi.org/10.1080/10530789.2018.1482991

Buccieri, K., Whitmore, N., Davy, J., & Gilmer, C. (2023). Ending homelessness in Canada: Reflections from researchers in the Field. *International Journal on Homelessness*, *3*(2), 237-251. https://doi.org/10.5206/ijoh.2022.2.15213

Calgary Homeless Foundation. (2025). *All hands together: Calgary's fight against homelessness. Report to Community*. https://www.calgaryhomeless.com/meet-us/what-we-do/report-to-community/our-report-to-community/

Canadian Observatory on Homelessness. (2016). *Canadian definition of youth homelessness*. www.homelesshub.ca/youthhomelessdefinition

Chelmis, C., Qi, W., & Lee, W. (2021). *Challenges and opportunities in using data science for homelessness service provision*. Companion proceedings of the web conference 2021, 128-135. https://doi.org/10.1145/3442442.3453454

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5. ed.). SAGE Publications, Incorporated.

Cronley, C. (2022). Invisible intersectionality in measuring vulnerability among individuals experiencing homelessness – critically appraising the VI-SPDAT. *Journal of Social Distress and Homelessness*, *31*(1), 23-33. https://doi.org/10.1080/10530789.2020.1852502

Culhane, D. (2016). The potential of linked administrative data for advancing homelessness research and policy. *European Journal of Homelessness*, *10*(3), 109-126.

Doucet, M., Clark, E., & Ungar, M. (2025). Finding our way home: Exploring the experiences of young people who have 'aged out'of care and experienced homelessness in Canada. *Child Protection and Practice*, *6*, 100195. https://doi.org/10.1016/j.chipro.2025.100195

Dumollard, M., Gauthier-Davies, C., Goyette, M., & Blanchet, A. (2025). The transition to adulthood of dual-system youth in Quebec: A focus on high school graduation and housing situation. *Child and Adolescent Social Work Journal*, *42*(2), 179-196. https://doi.org/10.1007/s10560-023-00944-x

Evans, J., & R Masuda, J. (2020). Mobilizing a fast policy fix: Exploring the translation of 10-year plans to end homelessness in Alberta, Canada. *Environment and Planning C: Politics and Space*, *38*(3), 503-521. https://doi.org/10.1177/2399654419884581

Farrugia, D. (2015). *Youth homelessness in late modernity*. Springer. https://doi.org/10.1007/978-981-287-685-0

Fetters, M. D., Curry, L. A., & Creswell, J. W. (2013). Achieving integration in mixed methods designs—principles and practices. *Health Services Research*, *48*(6pt2), 2134-2156. https://doi.org/10.1111/1475-6773.12117

Gaetz, S. (2010). The struggle to end homelessness in Canada: How we created the crisis, and how we can end it. *The Open Health Services and Policy Journal*, *3*(1), 1-26.

Gaetz, S. (2014). *Coming of age: Reimagining the response to youth homelessness in Canada*. Canadian Homelessness Research Network. https://homelesshub.ca/wp-content/uploads/2023/12/ComingOfAgeHH_0.pdf

Gaetz, S., & Dej, E. (2017). *A new direction: A framework for homelessness prevention*. Canadian Observatory on Homelessness Press. https://homelesshub.ca/wp-content/uploads/2024/04/COHPreventionFramework_1.pdf

Gaetz, S., O'Grady, B., Kidd, S., & Schwan, K. (2016). *Without a home: The national youth homelessness survey*. https://homelesshub.ca/sites/default/files/WithoutAHome-final.pdf

Gaetz, S., Schwan, K., Redman, M., French, D., & Dej, E. (2018). *Structural prevention of youth homelessness*. Toronto: Canadian Observatory on Homelessness Press. https://homelesshub.ca/wp-content/uploads/2024/04/Structural_Prevention-1.pdf

Ha, Y., Narendorf, S. C., Santa Maria, D., & Bezette-Flores, N. (2015). Barriers and facilitators to shelter utilization among homeless young adults. *Evaluation and Program Planning*, *53*, 25-33. https://doi.org/10.1016/j.evalprogplan.2015.07.001

Hendren, K., Newcomer, K., Pandey, S. K., Smith, M., & Sumner, N. (2023). How qualitative research methods can be leveraged to strengthen mixed methods research in public policy and public administration?. *Public Administration Review*, *83*(3), 468-485. https://doi.org/10.1111/puar.13528

Honig, D. (2019). Case study design and analysis as a complementary empirical strategy to econometric analysis in the study of public agencies: Deploying mutually supportive mixed methods. *Journal of Public Administration Research and Theory*, *29*(2), 299-317. https://doi.org/10.1093/jopart/muy049

Hudani, A., Long, J., Labonté, R., & Yaya, S. (2024). Where are the links? Using a causal loop diagram to assess interactions in healthcare coordination for youth experiencing homelessness in Toronto, Canada. *Health Research Policy and Systems*, *22*(1), 19. https://doi.org/10.1186/s12961-024-01104-y

Israel, B. A., Schulz, A. J., Parker, E. A., & Becker, A. B. (1998). Review of community-based research: assessing partnership approaches to improve public health. *Annual Review of Public Health*, *19*(1), 173-202. https://doi.org/10.1146/annurev.publhealth.19.1.173

Jadidzadeh, A., & Kneebone, R. (2022). How do youth use homeless shelters? *Journal of Poverty*, *26*(4), 322-336. https://doi.org/10.1080/10875549.2021.1910106

Jadidzadeh, A., & Kneebone, R. (2025). Food bank use prior to homelessness. *The School of Public Policy Publications*, *18*(1), 1-18. https://doi.org/10.55016/ojs/sppp.v18i1.80050

Janzen, R., Ochocka, J., & Stobbe, A. (2016). Towards a theory of change for community-based research projects. *Engaged Scholar Journal: Community-Engaged Research, Teaching, and Learning*, *2*(2), 44-64. https://doi.org/10.15402/esj.v2i2.165

Karabanow, J., Kidd, S., Frederick, T., & Hughes, J. (2018). *Homeless youth and the search for stability*. Wilfrid Laurier University Press. ISBN 9781771123334

Karusala, N., Wilson, J., Vayanos, P., & Rice, E. (2019). Street-level realities of data practices in homeless services provision. *Proceedings of the ACM on Human-Computer Interaction*, *3*(CSCW), 1-23. https://doi.org/10.1145/3359286

Kidd, S. A., & Davidson, L. (2007). "You have to adapt because you have no other choice": The stories of strength and resilience of 208 homeless youth in New York City and Toronto. *Journal of Community Psychology*, *35*(2), 219-238. https://doi.org/10.1002/jcop.20144

Kidd, S. A., Thistle, J., Beaulieu, T., O'Grady, B., & Gaetz, S. (2019). A national study of Indigenous youth homelessness in Canada. *Public Health*, *176*, 163-171. https://doi.org/10.1016/j.puhe.2018.06.012

Kneebone, R., Dutton, D. J., & Jadidzadeh, A. (2023). Youth, crime, and the potential cost offset to housing first programs. *Canadian Journal of Criminology and Criminal Justice*, *65*(4), 82-102. https://doi.org/10.3138/cjccj-2023-0051

Lachaud, J., Yusuf, A. A., Maelzer, F., Perri, M., Gogosis, E., Ziegler, C., Mejia-Lancheros, C., & Hwang, S. W. (2024). Social isolation and loneliness among people living with experience of homelessness: A scoping review. *BMC Public Health*, *24*(1), 2515. https://doi.org/10.1186/s12889-024-19850-7

Lee, J. S., Gimm, G., Mohindroo, M., & Lever, L. (2023). Assessing homelessness and incarceration among youth aging out of foster care, by type of disability. *Child and Adolescent Social Work Journal*, *40*(6), 743-759. https://doi.org/10.1007/s10560-022-00817-9

Li, A., Noble, N., Richardson, S., & Sinclair, J. (2017). *System Planning Framework*. http://www.calgaryhomeless.com/wp-content/uploads/2021/02/Adult-System-Planning-Framework.pdfU

Lincoln, Y. S., & Guba, E. G. (1986). But is it rigorous? Trustworthiness and authenticity in naturalistic evaluation. *New Directions for Program Evaluation*, *1986*(30), 73-84. https://doi.org/10.1002/ev.1427

Masrani, T. W., Messier, G., Voida, A., Dimitropoulos, G., & He, H. A. (2025). Understanding data usage when making high-stakes frontline decisions in homelessness services. *Proceedings of the ACM on Human-Computer Interaction*, *9*(7), 1-32. https://doi.org/10.1145/3757687

Mayock, P., & Parker, S. (2020). Homeless young people 'strategizing'a route to housing stability: Service fatigue, exiting attempts and living 'off grid'. *Housing Studies*, *35*(3), 459-483. https://doi.org/10.1080/02673037.2019.1612036

Mele, V., & Belardinelli, P. (2019). Mixed methods in public administration research: Selecting, sequencing, and connecting. *Journal of Public Administration Research and Theory*, *29*(2), 334-347. https://doi.org/10.1093/jopart/muy046

Messier, G. (2022). A simpler method for understanding emergency shelter access patterns. https://doi.org/10.48550/arxiv.2210.13619

Messier, G., Elliott, S., & Seitz, D. (2025). Understanding housing and homelessness system access by linking administrative data. https://doi.org/10.48550/arxiv.2505.08743

Messier, G., Gunn, E., Main, K., Jackson, N., Masrani, T. W., Dimitropoulos, G., & Elliot, S. (2025). *Using community data to support youth experiencing homelessness: A community-based project mixing administrative and frontline expertise* [conference presentation]. International Conference on the Prevention of Youth Homelessness, Toronto, ON.

Milaney, K. S., A; Mah, M; Venturo, A; & Jackson, N. (2023). Understanding the lived experiences of youth with complex histories of trauma and homelessness: Solutions for policymakers. *Journal of Health Science and Education*, *7*(4), 240-247. https://doi.org/10.61545/JHSE-1-240

Milaney, K., Noble, A., Neil, A. E., Stokvis, C., Feraday, R., Feasby, C., ... & Brick, K. (2024). Prioritizing prevention: Examining shelter diversion as an early intervention approach to respond to youth homelessness. *Youth*, *4*(3), 1337-1347. https://doi.org/10.3390/youth4030084

Minkler, M. (2005). Community-based research partnerships: challenges and opportunities. *Journal of Urban Health*, *82*, (2_suppl_2), ii3-ii12. https://doi.org/10.1093/jurban/jti034

Moon, E. S. Y., & Guha, S. (2024). A human-centered review of algorithms in homelessness research. In F. F. Mueller, P. Kyburz, J. R. Williamson, C. Sas, M. L. Wilson, P. T. Dugas, & I. Shklovski (Eds.), *Proceedings of the 2024 CHI conference on human factors in computing systems* (pp. 1-15). ACM. https://doi.org/10.1145/3613904.3642392

Mirdamadi, M. & Gordon, J. (2026). *Millennials in the Canadian housing market: An intergenerational comparison (no. 46-28-0001).* Housing Statistics in Canada. https://www150.statcan.gc.ca/n1/pub/46-28-0001/2026001/article/00001-eng.htm

Nichols, N., Cullingham, S., & Malenfant, J. (2024). The politics of prevention and government responses to homelessness. *International Journal on Homelessness*, *4*(1), 171-184. https://doi.org/10.5206/ijoh.2023.3.16675

O'Grady, B., Kidd, S., & Gaetz, S. (2020). Youth homelessness and self identity: A view from Canada. *Journal of Youth Studies*, *23*(4), 499-510. https://doi.org/10.1080/13676261.2019.1621997

Olson, N., & Pauly, B. (2023). 'Forced to become a community': Encampment residents' perspectives on systemic failures, precarity, and constrained choice. *International Journal on Homelessness*, *3*(2), 124-138. https://doi.org/10.5206/ijoh.2022.2.14431

Ortiz, K., Nash, J., Shea, L., Oetzel, J., Garoutte, J., Sanchez-Youngman, S., & Wallerstein, N. (2020). Partnerships, processes, and outcomes: A health equity–focused scoping meta-review of community-engaged scholarship. *Annual Review of Public Health*, *41*(1), 177-199. https://doi.org/10.1146/annurev-publhealth-040119-094220

Robinson, L., Schlesinger, P., Rosenberg, A., Blankenship, K. M., & Keene, D. (2023). "Being homeless can burn you out": A qualitative study of individuals' experience of administrative burden when accessing homeless services. *Journal of Social Distress and Homelessness*, 1-10. https://doi.org/10.1080/10530789.2023.2237242

Russell, M., Bilyk, K., Yamaguchi, S., Nichols, N.; Victor, J.; Urichuk, L.; Belanger, Y. (2025). *A roadmap for youth homelessness prevention data infrastructure: Final Report*. Edmonton: PolicyWise for Children and Families. https://policywise.com/a-data-roadmap-for-preventing-youth-homelessness/

Russell, M., .; Zarezadeh-Kheibari, S., Mustafa, F.; Yamaguchi, S.; Nichols, N.; Victor, J.; Blackadar, R.; Belanger, Y. (2023). *A roadmap for youth homelessness data infrastructure - Supplement 1: Canadian data infrastructure scan.* Edmonton: PlicyWise for Children and

Families. https://policywise.com/a-data-roadmap-for-preventing-youth-homelessness/

Semborski, S., Redline, B., Madden, D., Granger, T., & Henwood, B. (2021). Housing interventions for emerging adults experiencing homelessness: A scoping review. *Children and Youth Services Review*, *127*, 106081. https://doi.org/10.1016/j.childyouth.2021.106081

Shewchuk, S., Gaetz, S., & French, D. (2020). *Transition supports to prevent homelessness for youth leaving out-of-home care.* Canadian Observatory on Homelessness Press: Toronto, ON, Canada. https://homelesshub.ca/wp-content/uploads/2024/04/SupplementalFileA_July_30.pdf

Showkat, D., Smith, A. D., Lingqing, W., & To, A. (2023). "Who is the right homeless client?": Values in algorithmic homelessness service provision and machine learning research. In A. Schmidt, K. Väänänen, T. Goyal, P. O. Kristensson, A. Peters, S. Mueller, J. R. Williamson, & M. L. Wilson (Eds.), *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems* (pp. 1-21). ACM. . https://doi.org/10.1145/3544548.3581010

Slesnick, N., Dashora, P., Letcher, A., Erdem, G., & Serovich, J. (2009). A review of services and interventions for runaway and homeless youth: Moving forward. *Children and Youth Services Review*, *31*(7), 732-742. https://doi.org/10.1016/j.childyouth.2009.01.006

Slota, S. C., Fleischmann, K. R., Lee, M. K., Greenberg, S. R., Nigam, I., Zimmerman, T., Rodriguez, S., & Snow, J. (2023). A feeling for the data: How government and nonprofit stakeholders negotiate value conflicts in data science approaches to ending homelessness. *Journal of the Association for Information Science and Technology*, *74*(6), 727-741. https://doi.org/10.1002/asi.24715

Thulien, N. S., Gastaldo, D., McCay, E., & Hwang, S. W. (2019). "I want to be able to show everyone that it is possible to go from being nothing in the world to being something": Identity as a determinant of social integration. *Children and Youth Services Review*, *96*, 118-126. https://doi.org/10.1016/j.childyouth.2018.11.005

Thulien, N. S., Hwang, S. W., Kozloff, N., Nisenbaum, R., Akdikmen, A., Fambegbe, O., Feraday, R., Mathewson, C., Mutamiri, M., Roglich, J., Wang, A., Zagala, M., & Amiri, A. (2023). "When I think about my future, I just see darkness": How youth exiting homelessness navigate the hazy, liminal space between socioeconomic exclusion and inclusion. *Canadian Journal of Public Health,* *114*(6), 893-905. https://doi.org/10.17269/s41997-023-00804-2

Trick, W. E., Hill, J. C., Toepfer, P., Rachman, F., Horwitz, B., & Kho, A. (2021). Joining health care and homeless data systems using privacy-preserving record-linkage software. *American Journal of Public Health (1971),* *111*(8), 1400-1403. https://doi.org/10.2105/AJPH.2021.306304

The Vanier Institute of the Family. (2024). Preface and introduction. In *Families Count 2024,* (p.g. 1-viii). https://vanierinstitute.ca/families-count-2024/preface-introduction

Vaughn, L. M., & Jacquez, F. (2020). Participatory research methods–choice points in the research process. *Journal of Participatory Research Methods*, *1*(1). https://doi.org/10.35844/001c.13244

Winetrobe, H., Rhoades, H., Rice, E., Milburn, N., & Petering, R. (2017). "I'm not homeless, I'm houseless": Identifying as homeless and associations with service utilization among Los Angeles homeless young people. *Journal of Social Distress and Homeless*, *26*(1), 16-24. https://doi.org/10.1080/10530789.2017.1280204

Yamaguchi, S., Russell, M. J., Kheibari, S. Z., Daley, M., Mustafa, F., Nichols, N., Victor, J., Urichuk, L., & Belanger, Y. (2025). Towards youth-centered information practices to support youth facing homelessness: Experiences and perspectives of youth with lived experience and community service providers. *Journal of Social Distress and Homelessness*, 35(1), 141-154. https://doi.org/10.1080/10530789.2025.2485686

Yamaguchi, S., Mustafa, F.; Russell, M.; Zarezaheh-Kheibari, S.; Nichols, N.; Victor, J.; Blackadar, R.; & Belanger, Y. (2023). *A roadmap for youth homelessness data infrastructure - Supplement 3: Promising practices literature review*. Edmonton: PolicyWise for Children and Families. https://policywise.com/a-data-roadmap-for-preventing-youth-homelessness/

Younas, A., & Durante, A. (2023). Decision tree for identifying pertinent integration procedures and joint displays in mixed methods research. *Journal of Advanced Nursing*, *79*(7), 2754-2769. https://doi.org/10.1111/jan.15536

Younas, A., Rasheed, S. P., Zeb, H., & Inayat, S. (2020). Data integration using the building technique in mixed-methods instrument development: Methodological discussion. *Journal of Advanced Nursing*, *76*(8), 2198-2207. https://doi.org/10.1111/jan.14415