Youth At-Risk of Homelessness: An Early Picture of Youth and Services

Examining a Coach-like Case Management Program for Youth and Young Adults with Foster Care Histories

Supplemental Analytic Plan

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Overview

A. Introduction

Preventing homelessness among youth and young adults involved in the child welfare system remains an urgent issue for child welfare policymakers and practitioners. To expand the evidence base on interventions designed to prevent homelessness among youth and young adults involved in the child welfare system (hereafter youth and young adults), the Administration for Children and Families (ACF) of the U.S. Department of Health and Human Services (HHS) launched the Youth At-Risk of Homelessness (YARH) multiphase grant program.

ACF contracted with Mathematica in the first two phases of YARH to conduct process studies, provide evaluation technical assistance to grantees, support grantees in articulating and refining the design of their service models, assess the evaluability of each service model, and disseminate the knowledge grantees developed. ACF is now in the third phase of YARH (2019 to 2028, known as YARH-3). This phase provides information to the field on how to better serve youth and young adults through a rigorous summative evaluation of a policy-relevant comprehensive service model, Pathways to Success (Pathways), developed by Colorado. Pathways is an intensive, coach-like case management model for youth and young adults with foster care histories at age 14 or older.

Currently, 37 counties within Colorado participate in the summative evaluation. Some counties have a small number of youth and young adults who need services. In these cases, adjacent counties form a hub for service provisions. Currently, 15 hubs, encompassing the 37 counties, are participating in the summative evaluation.

Enrollment for the summative evaluation began in September 2021. About a year into the enrollment period, the YARH descriptive report (Shiferaw et al. 2023) takes stock of the services delivered through Pathways and comparison (business-as-usual) programs, the characteristics of the hubs in the evaluation, and the characteristics of the youth and young adults enrolled through August 2022.

B. Purpose

This analytic plan provides supplemental information about the data and analytic methods used in the descriptive report. Specifically, it describes the following:

- The five data sources used to describe the services delivered and youth and young adults participating in the summative evaluation

- The analytic samples used in the report

- The process for cleaning and analyzing data

- The response rates for survey data used to describe the characteristics of youth

- Granular data on the characteristics of hubs presented in the descriptive report

I. Introduction

A. Overview of YARH

To expand the evidence base on interventions designed to prevent homelessness among youth and young adults involved in the child welfare system, the Administration for Children and Families (ACF) of the U.S. Department of Health and Human Services (HHS) launched the Youth At-Risk of Homelessness (YARH) multiphase grant program. The design of YARH aligns closely with the U.S. Interagency Council on Homelessness (USICH) Framework for Ending Youth Homelessness (USICH 2013). YARH mirrors the USICH framework's focus on achieving positive outcomes related to housing, permanent connections to caring adults, education, employment, and well-being. YARH also reflects the framework's emphasis on using data to specify risk and protective factors for youth and young adults, identifying and implementing strategies to mitigate risks and enhance protective factors, and using monitoring and evaluation to improve services. The grant program specifies three primary populations: (1) adolescents who enter foster care from age 14 to 17, (2) young adults aging out of foster care, and (3) homeless youth and young adults (up to age 21) with foster care histories.

YARH seeks to guide grantees along an evidence-building path (Exhibit I.1). In the first phase of the grant program (2013 to 2015, known as YARH-1), 18 grantees received two-year planning grants that they used to understand the characteristics of the three primary populations for YARH, develop partnerships and teaming structures, and begin designing comprehensive service models to prevent homelessness. Under the second phase of YARH (2015 to 2019, known as YARH-2), 6 of the 18 YARH-1 grantees received four-year implementation grants to further specify their comprehensive service models, begin delivering services, complete usability testing of key components of their service models, and conduct formative evaluations to assess program implementation and early outcomes for the youth and young adults they served. ACF contracted with Mathematica in YARH-1 and YARH-2 to conduct process studies, provide evaluation technical assistance (TA) to grantees, support them in articulating and refining the design of their service models, assess the evaluability of each service model, and disseminate the knowledge they developed.

B. Overview of summative evaluation

In 2019, ACF again contracted with Mathematica for the third phase of YARH (2019–2028, known as YARH-3), which provides information to the field on how to better serve youth and young adults through a rigorous summative evaluation. YARH-3 incorporates assessments of grantees' readiness for summative evaluation, a federally-led evaluation of one comprehensive service model (conducted in partnership with the state of Colorado, a YARH-1 and YARH-2 grantee) including an implementation study and an impact study, and ongoing dissemination of knowledge gained through project activities.

The implementation study addresses two broad objectives—first, to support interpretation of Pathway's impacts on outcomes for youth and young adults, and second, to generate information about factors that contributed to or inhibited implementation of its services in different settings to support replication or improvement of future service delivery. The implementation study is guided by research questions and two conceptual frameworks to assess different dimensions of Pathways to Success (Pathways) implementation. The Consolidated Framework of Implementation Research guides clear conceptualization and systematic assessment of the range of contextual factors that facilitate or hinder implementation of the Pathways service model (Damschroder et al. 2009). We draw from a theoretical model of fidelity to ensure comprehensive measurement of the Pathways components based on the

model's various dimensions of fidelity (Carroll et al. 2007). These frameworks support analysis of factors that facilitate or hinder Pathways implementation in different settings and the extent to which the intervention is delivered with fidelity to the service model. See the implementation study design report on the YARH project page hosted by the Office of Planning, Research, and Evaluation for more details (Keith et al. 2022).

Exhibit I.1. Evidence-Building Path in YARH
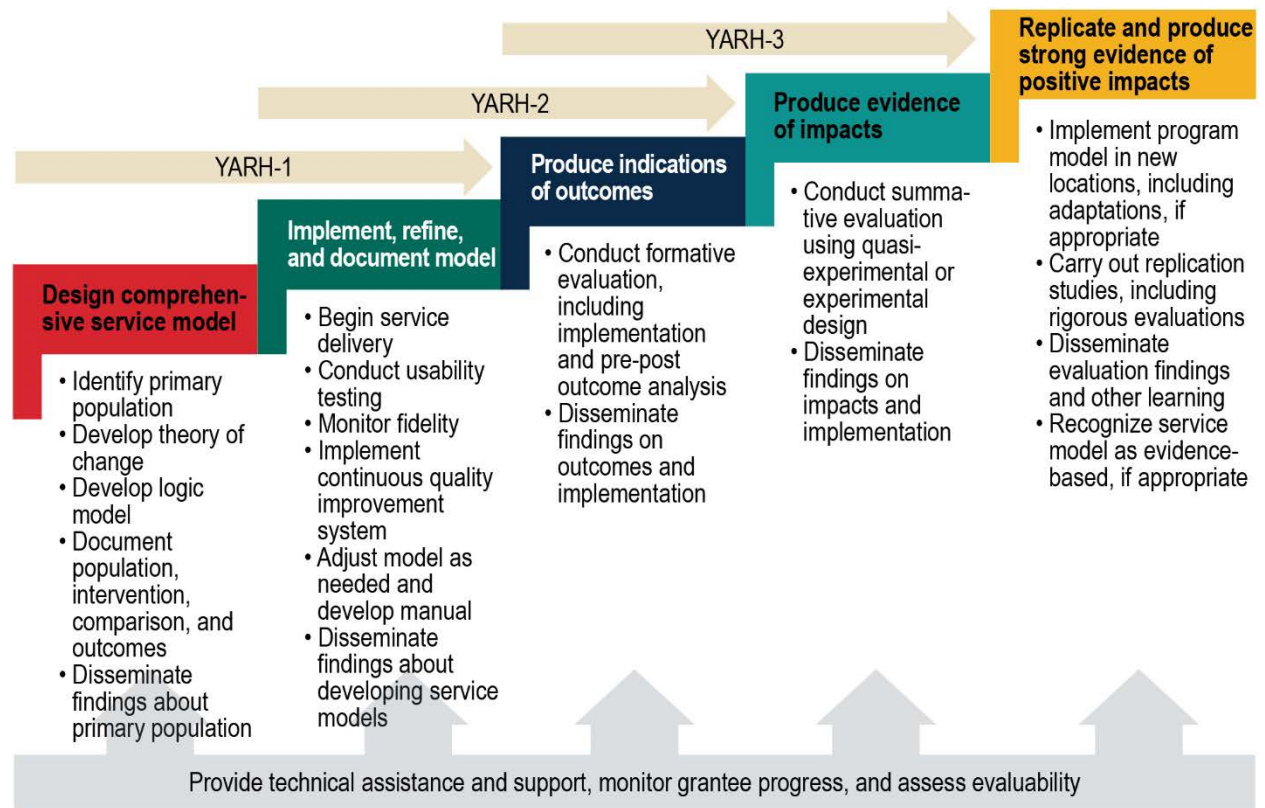
Adapted from: Langford, B.H., M. Flynn-Khan, and B. S. Lyght. *Investing in Evidence-Based Approaches for Youth Transitioning Out of Foster Care*. n.d. Available at http://www.ytfg.org/wp-content/uploads/2015/02/FCWG_Funder_Guide_Investing.pdf

The impact study will provide the first rigorous impact evaluation of Colorado's Pathways comprehensive service model. The goal of the impact study is to expand the evidence base for programs intended to prevent homelessness among youth and young adults with foster care histories at age 14 and older. It aims to provide evidence of program effectiveness on policy-relevant outcomes, including stable housing, education and employment, permanent connections to caring adults, and social-emotional well-being. It also aims to examine Pathways' effectiveness in short- and long-term follow-up periods and estimate the extent to which the program is more or less effective for key subgroups. Finally, the study originally proposed to explore linking features of program implementation (for example, dosage, quality, or adherence of the program delivery) to youth and young adult outcomes. However, this last analysis might no longer be feasible, given the limited variability in youth and young adult Pathways experiences and projections for the number of youth and young adults expected to enroll in Pathways by the end of the study. For more details, please see the impact study design report (Cole et al. 2022) and foundational analytic plan (Fung et al. 2023) on the YARH project page.

C. This analytic plan

Fifteen hubs,[1] encompassing 37 counties in Colorado, are participating in the summative evaluation. Nine of the hubs are training their staff to implement Pathways—they are the intervention hubs. Six hubs are continuing with business-as-usual program services and not training their caseworkers to implement Pathways—they are the comparison hubs. Enrollment for the summative evaluation began in September 2021. About a year into the enrollment period (through August 2022), the YARH descriptive report (Shiferaw et al. 2023) takes stock of the services delivered through Pathways and comparison programs, the characteristics of the hubs in the evaluation, and the characteristics of the youth enrolled.[2] The report briefly summarizes the data and analytic approach we use and describes the programs we are studying and the youth and young adults the programs are serving. This analytic plan provides supplemental information about the data and analytic methods used in the descriptive report.

Chapter II of this analytic plan describes the data sources and analytic samples used in the analysis for the descriptive report. Chapter III summarizes the analytic methods used to describe programs in the descriptive report, and Chapter IV explains the analytic methods used to describe youth and young adults in the descriptive report.

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[1] Some counties in the state have a small number of youth and young adults who need child welfare services. In these cases, adjacent counties form a hub for service provisions. In some hubs, a county provides the child welfare services only to its own county; we still consider it a hub for the purposes of the implementation study. Some hubs also contract with other local organizations to provide child welfare services in the hub.
[2] One of the 15 hubs was still recruiting and had not enrolled youth in the study as of August 2022.
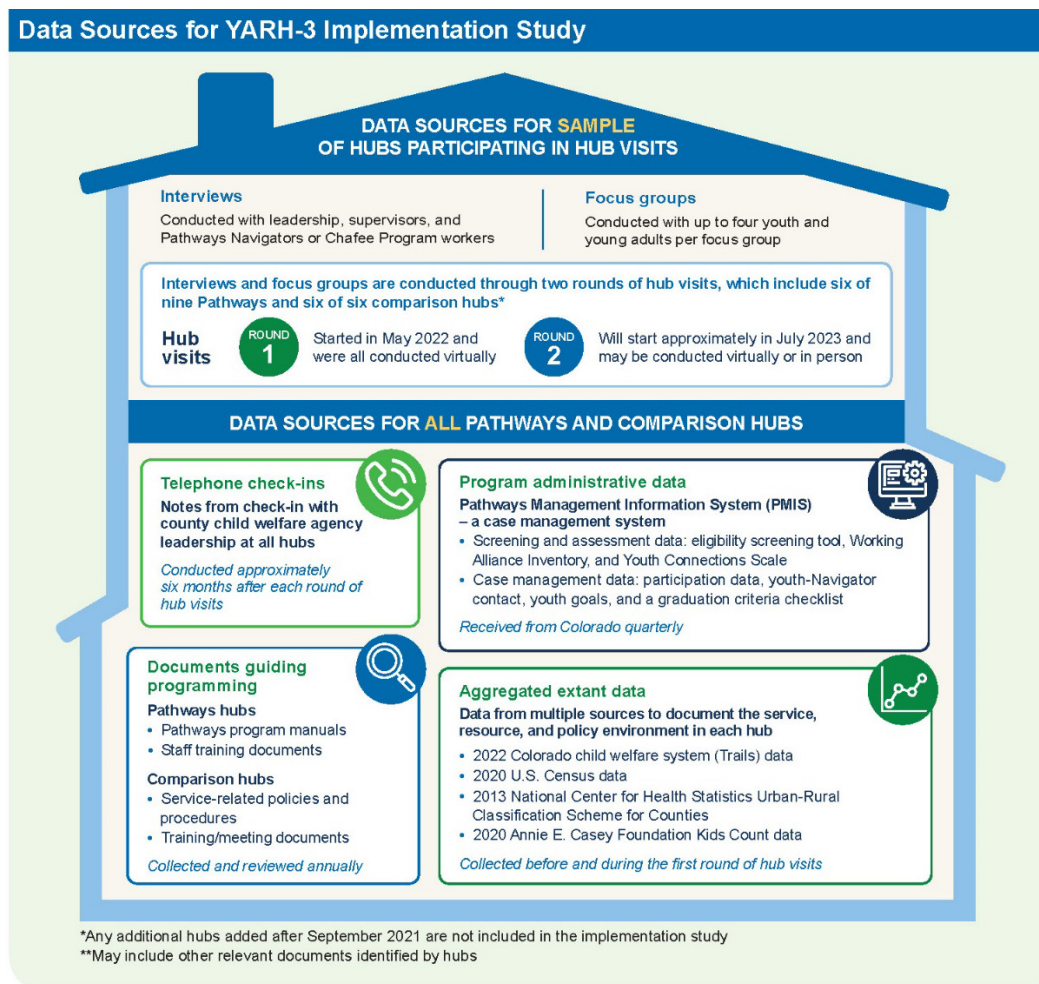
II. Data Sources and Analytic Samples

This chapter identifies the data sources and analytic samples used to describe the services and youth and young adults participating in the summative evaluation.

A. Implementation study

Exhibit II.1 presents the data sources that the implementation study, part of the summative evaluation, will use. The descriptive report relies on some of the same data sources. These data sources can be conceptualized as a house, with data building from the foundation up. Specifically, the descriptive report uses the following: (1) data to describe hub characteristics (bottom right corner); (2) documents guiding programming (bottom left corner in the foundation); and (3) data from the first of two virtual hub visits, including interviews and focus groups (top floor). Future summative evaluation products will use all data sources identified in Exhibit II.1.

Exhibit II.1. Data sources for describing programs

Data Sources for YARH-3 Implementation Study

DATA SOURCES FOR SAMPLE OF HUBS PARTICIPATING IN HUB VISITS

Interviews
Conducted with leadership, supervisors, and Pathways Navigators or Chafee Program workers

Focus groups
Conducted with up to four youth and young adults per focus group

Interviews and focus groups are conducted through two rounds of hub visits, which include six of nine Pathways and six of six comparison hubs*

Hub visits
ROUND 1 — Started in May 2022 and were all conducted virtually
ROUND 2 — Will start approximately in July 2023 and may be conducted virtually or in person

DATA SOURCES FOR ALL PATHWAYS AND COMPARISON HUBS

Telephone check-ins
Notes from check-in with county child welfare agency leadership at all hubs
Conducted approximately six months after each round of hub visits

Program administrative data
Pathways Management Information System (PMIS) – a case management system
- Screening and assessment data: eligibility screening tool, Working Alliance Inventory, and Youth Connections Scale
- Case management data: participation data, youth-Navigator contact, youth goals, and a graduation criteria checklist
Received from Colorado quarterly

Documents guiding programming
Pathways hubs
- Pathways program manuals
- Staff training documents

Comparison hubs
- Service-related policies and procedures
- Training/meeting documents
Collected and reviewed annually

Aggregated extant data
Data from multiple sources to document the service, resource, and policy environment in each hub
- 2022 Colorado child welfare system (Trails) data
- 2020 U.S. Census data
- 2013 National Center for Health Statistics Urban-Rural Classification Scheme for Counties
- 2020 Annie E. Casey Foundation Kids Count data
Collected before and during the first round of hub visits

*Any additional hubs added after September 2021 are not included in the implementation study
**May include other relevant documents identified by hubs

Note: This exhibit presents all the data sources the implementation study will use. The descriptive study uses only a subset of these sources.

Aggregated extant data

We used hub-level data to document the populations in need, services, and policy environment in the 15 hubs included in the implementation study. Specifically, we drew on the following:

- 2022 Colorado's Statewide Automated Child Welfare Information System (Trails) data, to understand the populations that received child welfare services at each hub

- 2020 U.S. Census data, to understand the populations that might receive services from each hub, including hub poverty levels and the proportion of the hub population without health insurance

- 2013 National Center for Health Statistics Urban-Rural Classification Scheme for Counties, to compare the various sizes (large, medium, or small) of hubs

- 2020 Annie E. Casey Foundation Kids Count Data, to calculate the proportion of students who are homeless by hub

Documents guiding programming

We reviewed four documents that described the services included in Pathways and comparison programs. We reviewed the following:

- The Pathways Intervention Manual
- Pathways training materials
- Description of Colorado's business-as-usual approach (the John H. Chafee Foster Care Program for Successful Transition to Adulthood) and frequently asked questions about the approach
- Meeting notes from quarterly staff meetings with comparison program workers

Reviewing these documents informed our understanding of services provided in the intervention and comparison conditions and plans for start-up activities in hubs. These documents also provided background information about the implementation of services and helped us prepare for interviews with hub staff and youth and young adults.

### Interviews and focus groups with hub staff, youth, and young adults

From May to August 2022, we conducted 12 virtual hub visits, which included qualitative interviews and focus groups to assess how Pathways hubs are supporting program implementation and initial service delivery. During each visit, we interviewed child welfare agency leaders, supervisors, and the Navigators (staff trained in Pathways) and comparison program workers working directly with youth. We also conducted small focus groups with youth and young adults receiving Pathways or comparison services. We documented the interviews by collecting notes during each interview. 51 respondents participated in the interviews and 13 respondents participated in the focus groups.

B. Impact study

Exhibit II.2 presents the data sources the summative evaluation impact study will use. We analyzed only a portion of these data sources for the descriptive report. Specifically, the descriptive report relied on the following: (1) a baseline youth survey and (2) the Pathways Management Information System (PMIS), an

administrative data system implemented as part of the evaluation. Future summative evaluation products will use all data sources identified in Exhibit II.2.

Exhibit II.2. Data sources for YARH-3 impact study
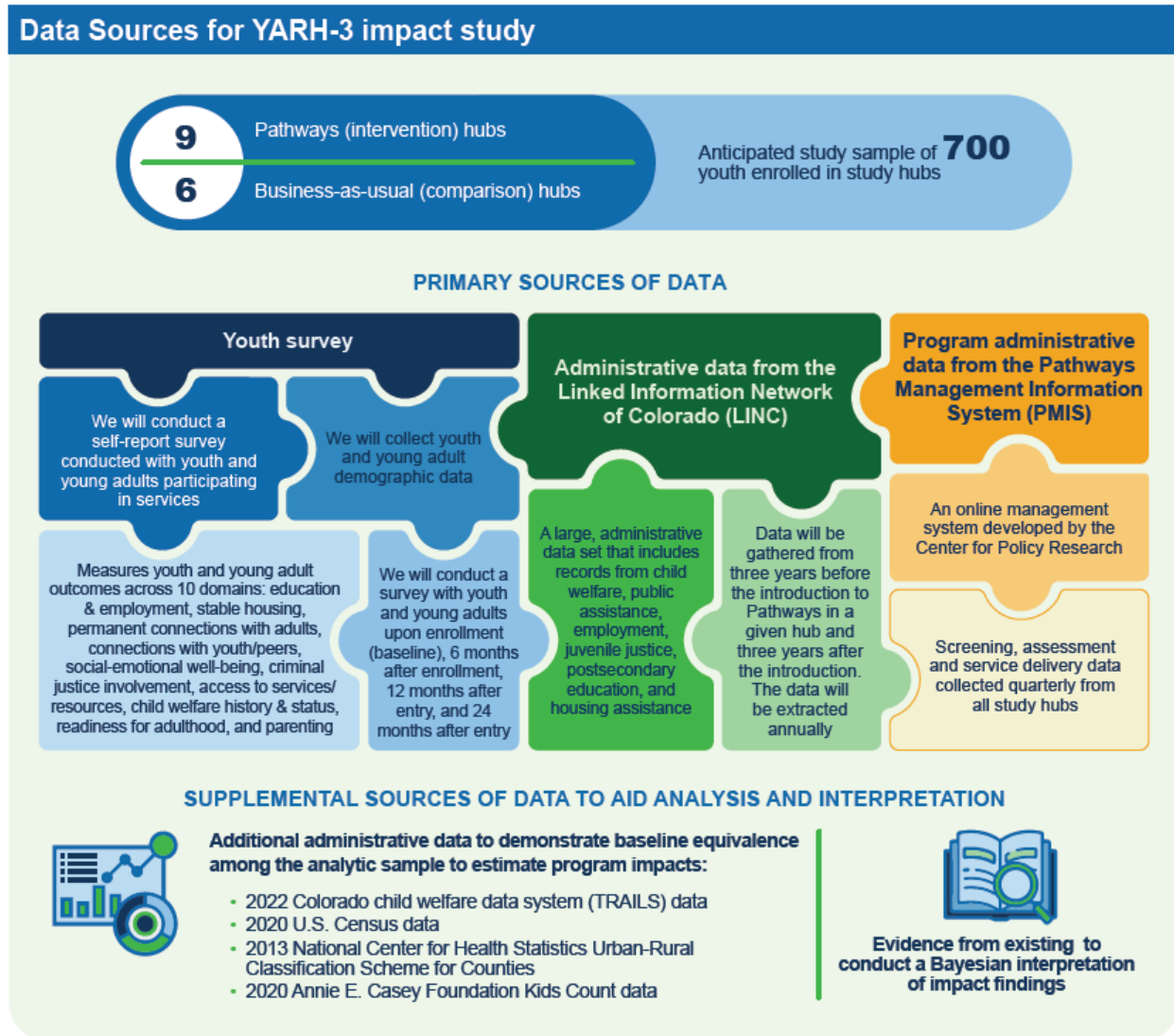
Note: This exhibit presents all the data sources the implementation study will use. The descriptive study uses only a subset of these sources.

Youth baseline survey

One of the sources that the summative evaluation impact study will use is the youth baseline survey, which is the primary data source we use to describe youth and young adults in the descriptive report. The baseline survey is administered to youth and young adults via the web. Mathematica trains program staff to administer the survey on-site during the intake process.[3]

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[3] Youth receive a $40 gift card and a gift, such as a water bottle, for completing the baseline survey.

The survey examines characteristics of youth and young adults across the domains listed in the bottom left puzzle piece under "Primary Sources of Data" in Exhibit II.2.

Enrollment for the summative evaluation began in September 2021. For the evaluation, the target sample size for the baseline survey is 700 youth enrolled over about 30 months. The survey analytic sample for the descriptive report included 116 youth and young adults across 14 of the 15 hubs who enrolled in the study from September 2021 to August 2022. One hub is still recruiting and has not enrolled participants in the evaluation as of August 31, 2022.

C. Data source for implementation and impact studies

Program administrative data—Pathways Management Information System

The implementation and impact study teams will use data from the online Pathways Management Information System (PMIS). The Center for Policy Research[4] developed the PMIS during early implementation of Pathways as a case management system. All hubs will use PMIS during the summative evaluation.

The implementation study will use data collected about the quality of the relationship between the youth and program worker and about the contact between the youth and program worker. The impact study will use other data, such as demographic characteristics and education and employment status.

In the descriptive report, we use demographic, education, and employment data from PMIS to supplement the youth survey data by checking for inconsistencies across the data sources and borrowing from PMIS when survey data are missing. One hundred and twelve youth and young adults across 14 hubs who enrolled in the study from September 2021 to August 2022 have available PMIS data.

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[4] The Center for Policy Research is an independent external evaluator working with the Colorado Department of Health and Human Services to plan and support implementation of the Pathways intervention.

III. Analytic Methods Used to Describe Programs

In this chapter, we identify the analytic methods used to describe Pathways and comparison program services in the descriptive report. We describe data collection and analysis for hub-level data used to understand the populations in each hub and the qualitative data we collected to understand services provided by each hub.

A. Hub characteristics

We used hub-level characteristics, including characteristics of the population, services available to youth and young adults, and the policy environment of each hub. Specifically, we examined the following 11 characteristics:

1. Race and ethnicity
2. Average age of youth and young adults at intake
3. Number of youth and young adults receiving business-as-usual services
4. Average caseload size
5. Urbanicity
6. Parental history of child welfare involvement
7. Proportion of total population in poverty
8. Proportion of children younger than age 18 in poverty
9. Proportion of students qualifying for free or reduced-price lunch
10. Proportion of population without health insurance
11. Proportion of homeless students

To summarize characteristics across Pathways and comparison hubs (Exhibit III.1 and III.2 in the descriptive report), we calculated averages and, in some cases, ranges across the 15 hubs participating in the implementation study. Here we present detailed information on each hub to demonstrate the diversity of hubs participating in the implementation study and how they compare with one another. We present additional information about the demographics of youth and young adults receiving services in hubs. Exhibits III.1 shows the variety of youth and young adults eligible for Pathways or comparison services by individual hubs. Exhibit III.2 examines the context of individual hubs based on characteristics associated with homelessness and child welfare.

Exhibit III.1. Characteristics of youth receiving services in participating hubs

Hub	Race and ethnicity (percentages)				Average age at intake	Number of youth receiving business-as-usual services	Average caseload size	Urbanicity	Percentage of cases with at least one parent with prior child welfare involvement
	Hispanic or Latino	White	Black or African American	Other					
Adams	34.0	38.0	11.0	17.0	18.9	67	55	Medium	64.0
Arapahoe	25.3	27.7	21.7	25.0	18	58	10	Medium	50.6
Boulder	24.4	56.1	4.8	14.6	16.8	4	1	Medium	68.3
Broomfield	50.0	50.0	0	0	15.5	1	4	Medium	75.0
Delta and Montrose	0	100	0	0	16	0	2	Small	16.0
Denver	30.1	21.7	37.3	9.6	17.9	52	10	Large	69.9
El Paso	24.4	44.3	22.7	8.5	16.8	120	26	Medium	40.3
Garfield	60.0	40.0	0	0	15.4	5	5	Small	100
Jefferson	31.0	31.0	25.9	12.1	19.1	43	22	Medium	63.8
La Plata	20.0	70.0	0	10.0	15.9	7	5	Small	90.0
Larimer	23.7	62.7	3.4	10.2	16.4	22	7	Medium	61.0
Mesa	21.7	63.8	5.8	8.7	17.2	48	11	Medium	68.1
Morgan	NA	NA	NA	NA	NA	NA	NA	Small	NA
Pueblo	53.6	39.3	7.1	0	16.9	14	15	Medium	67.9
Weld	41.7	38.9	5.6	13.9	16.8	23	39	Medium	77.8
Average across all hubs	**31.4**	**48.8**	**10.4**	**13.9**	**17.0**	**33.8**	**15.4**	**NA**	**65.3**

Sources: 2022 Trails data for the state of Colorado; U.S. Census 2020 American Community Services five-year estimates; and 2013 National Center for Health Statistics Urban-Rural Classification Scheme for Counties.

Note: Data for the smaller counties within hubs were unavailable for most characteristics. Therefore, the characteristics presented above are only for the hub and are not an aggregate across all counties within a hub. Categories for urbanicity include large (areas with populations of 1 million or more), medium (areas with populations of 999,999 or less), or small (areas with populations between 10,000 to 49,999). The Pathways condition has nine hubs, and the comparison condition has six hubs. Exhibit III.1 in the descriptive report summarizes the characteristics in the table above across all 15 hubs.

NA = not available.

Exhibit III.2. Characteristics of hubs participating in site visits

Hub	Percentage of total population living in poverty	Percentage of children younger than age 18 living in poverty	Percentage of students qualifying for free or reduced-price lunch	Percentage of population without health insurance	Percentage of homeless students
Adams	9.4	12.1	44.0	12.7	4.0
Arapahoe	7.0	8.4	42.0	8.9	2.0
Boulder	9.5	6.3	24.0	5.3	1.0
Broomfield	4.2	4.1	NA	4.4	NA
Delta and Montrose	10.4	15.1	51.0	14.4	4.0
Denver	12.4	17.3	60.0	10.1	2.0
El Paso	9.1	11.4	33.0	6.5	2.0
Garfield	6.7	9.4	40.0	18.8	2.0
Jefferson	6.1	6.6	28.0	5.3	3.0
La Plata	10.0	12.2	25.0	12.0	1.0
Larimer	9.9	7.6	26.0	6.3	5.0
Mesa	11.1	13.6	44.0	9.7	3.0
Morgan	10.5	12.4	49.0	16.3	9.0
Pueblo	14.1	17.9	63.0	5.8	2.0
Weld	8.9	9.8	NA	7.8	2.0
Average across all hubs	**9.3**	**11.0**	**40.7**	**9.6**	**3.0**

Sources: 2020 Annie E. Casey Foundation Kids Count Data Center.

Note: Data for the smaller counties within hubs were unavailable for most characteristics. Therefore, the characteristics presented above are only for the hub and are not an aggregate across all counties within a hub. The Pathways condition has nine hubs, and the comparison condition has six hubs. See Exhibit III.2 in the descriptive report for more information.

NA = not available.

B.   Data collection through hub visits

During the first hub visits, we collected information about the services generally available to youth and young adults in the evaluation sample (both intervention and comparison groups) and the child welfare policies that might affect these youth and young adults. To collect this information, we interviewed Pathways leaders, supervisors, and Navigators; county child welfare agency leaders; and caseworkers delivering comparison services. We also conducted focus groups with youth and young adults participating in Pathways or comparison services. For all interviews and focus groups, we used semi-structured protocols.[5] Interview topics included recruitment and enrollment, partnerships that support Pathways, policy context, implementation experience, program resources, and continuous quality improvement. Focus group topics focused on youth and young adults' experiences participating in

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[5] For information about interview protocols, see the YARH implementation study design report.

Pathways or comparison services. Through the hub visits, we conducted virtual interviews and focus groups with 64 total respondents. Exhibit III.3 shows the number of respondents by type and condition.

Exhibit III.3. Number of respondents by type and condition

Respondent type	Pathways	Comparison
Administrative leader	5	6
Supervisor	6	6
Frontline staff	11	17
Youth and young adults	6	7

Note: Frontline staff included Navigators, comparison program workers, and case aids.

C. Process for cleaning and analyzing descriptive qualitative data from hub visits

During interviews and focus groups, the interview team took notes to capture the conversations. After the interview or focus group was complete, one team member cleaned the notes, and the other reviewed the notes to confirm they accurately captured the conversation. After finalizing the notes, we used a grounded coding approach to organize data on the various Pathways and comparison program components that appeared in the data. Chapter III of the descriptive report describes these components in detail.

Based on the document review, we had developed codes connected to the components of the Pathways and comparison services. Coding the individual service model components enabled us to describe the variety of services offered to youth and young adults in the hubs. We coded notes using a qualitative analysis program, NVivo. Exhibit III.4 shows the codes used to organize the data. Throughout coding, members of the implementation study team reviewed and coded notes independently, but we regularly met to discuss how codes were used, to refine codes and definitions, and clarify questions. We analyzed individual codes for each condition using reports from NVivo that organized segments of data by individual code. Based on this analysis, we summarized the services offered to youth and young adults in the descriptive report.

Exhibit III.4 Component codes used to organize qualitative data

Code	Definition
Identifying and screening	This code applies to responses describing the process for identifying and screening youth and young adults as eligible for either Pathways or comparison services. Youth and young adults who are identified as potentially Pathways eligible (based on eligibility criteria) must complete the Pathways screening assessment.
Waitlist after screening	A waitlist that youth and young adults are placed on after being screened for either program. Examples of a reference to a waitlist include responses that mention whether hubs have a waitlist and the services offered to youth and young adults in the interim.
Recruiting and enrolling	How staff describe the program to youth and young adults and obtain their consent or assent to participate in the program. This happens after identification and screening for eligibility are complete. This code is also used when a respondent describes how they pitch or sell the program to the youth or young adult.
Baseline assessment	The process of completing the baseline assessment or subsequent follow-up assessments. All youth and young adults enrolled will complete a baseline assessment, which collects information about the youth and young adults' experiences with foster care and how well foster care has prepared them for independent living.

Code	Definition
Staff assignment	Respondents' description of how cases are assigned to staff.
Pathways	
Coach-like engagement	How Navigators engage with youth and young adults. Navigators provide case management that is driven by the youth and young adults. When Navigators act as coaches, they build a supportive relationship with the youth or young adult that encourages them to set their own goals, plan, and pace. The Navigator focuses on helping youth and young adults develop the skills and capacities to achieve those goals. Interviewers coded references to goal development to the establishing goals code.
Crisis stabilization	Any efforts by the Navigator to use all other components of Pathways to address immediate safety and/or housing needs, often before developing goals. This code applies to any description of Navigators helping youth and young adults respond to emergencies.
Establishing goals	Youth and young adults work with the Navigator to develop two goals while participating in Pathways. The Navigator tracks progress toward these goals and maintains regular contact with the youth or young adult and guides them through next steps. This code applies to references to establishing goals, working toward them, and tracking progress.
Securing safe and stable housing	Respondents' description of supports provided by Navigators to help youth and young adults access and maintain safe and stable housing.
Case planning and assessment tools	Tools designed to help Navigators and youth and young adults understand what they most need to focus on to be ready to transition to self-sufficiency after graduation. Examples of these assessments include: the Youth Connections Scale, Empowerment and Engagement Scale, and the Graduation Criteria Assessment.
Flexible funds	Immediate financial assistance (flex funds) that Navigators can provide to youth and young adults when all other resources have been used and they have an unmet need.
Referrals	Partners or connections in the community who provide services that youth and young adults need. Navigators tap into a wide referral network of partners in the human services field to support the youth and young adults. The primary responsibility of the Navigator is to help the youth or young adult find solutions and refer them to the appropriate service agencies. Referrals could be related to service needs, goals, or both.
Roundtables	Convening or participating in Community or Permanency Roundtables. Roundtables involve setting up a team of internal and external experts, developing permanency goals, brainstorming barriers to permanency, and developing an action plan.
Advancing permanency	Helping youth and young adults develop a relationship with at least one supportive adult they can turn to for help when needed. Pathways defines "supportive adult" as any adult that a young person identifies as a supportive connection who is not providing them professional support.
Identifying and transitioning youth to other supports	Navigators' identification of community connections and other supports that youth or young adult will be able to rely on following graduation.
Comparison	
One-on-one meetings	Scheduling and conducting one-on-one meetings with youth and young adults.
Group meetings	Youth and young adults attend group meetings offered by the comparison program. Attending group meetings is considered fulfilling the requirement for comparison program workers to contact youth or young adult at least one time per month. This code applies to all references to these group meetings.
Assessment	Completion of assessments to inform the independent living plan developed with the youth and young adults. References to the independent living plan also apply to this code. Assessments include the Youth Connection Scale and the Ansell-Casey Life Skills Assessment.

Code	Definition
Establishing goals	Comparison program workers work with youth and young adults to establish goals. This code applies to descriptions of how youth and young adults are informed about or establish goals during the assessment process. This code is also used when respondents mention determining services based on youth needs, the Roadmap to Success workbook, and the development of the independent living plan.
Responding to emergencies	How youth and young adults work with comparison program workers to respond to emergencies.
Stable housing	General housing needs or supports, affordable housing, and housing vouchers. Comparison program workers help youth and young adults find, access, and maintain stable housing. References to providing financial support for housing were coded to financial support.
Financial support	Financial assistance provided to support any Chafee services (accessing and maintaining housing, COVID-19 pandemic funding, and so on). Youth and young adults use financial support available through Chafee.
Roundtables or meetings for goals	Roundtables that comparison program workers coordinate with youth and young adults and the adults involved in their lives to work toward and assess progress toward goals. This code also applies if the worker was invited to and participated in meetings to support youth but did not organize or coordinate it.
Connecting to other services	Comparison program workers connect youth and young adults to other services. This code applies to the discussion of the process for referring youth and young adults to other services. This includes following up with and participating in meetings with providers.
Array of services	Services provided by Chafee that do not fall into any of the above categories. This code includes general supports that comparison program workers provide to youth and young adults to accomplish their goals, such as education support and financial management training.

Chafee = John H. Chafee Foster Care Program for Successful Transition to Adulthood.

IV. Analytic Methods Used to Describe Youth and Young Adults

This chapter discusses the analytic methods we used to describe the characteristics of the 116 youth and young adults enrolled in the YARH-3 summative evaluation, as of August 2022. Specifically, we discuss the survey measures we created across eight survey domains, the quality of the survey data, and survey measures we supplemented with administrative data.

A.   Description and source of survey measures

The descriptive report describes the characteristics of youth and young adults in the evaluation across eight of the 10 survey domains listed in Exhibit II.2:

1. Stable housing

2. Education and employment

3. Permanent connection with adults

4. Connections with youth and peers

5. Social-emotional well-being

6. Involvement in justice system

7. Child welfare system status and history

8. Parenting

The primary data source for these characteristics is the youth and young adult baseline survey, which is discussed in Chapter II of this analytic plan. To construct survey measures, when possible, we used items that were previously included in surveys from other studies completed by a similar age group. If there was no existing item, we developed an item for this evaluation.

Exhibit IV.I describes the measures we constructed across the eight survey domains used in the descriptive report. It includes the description of the measures, source of the measures, expected sample size of youth and young adults for that measure, and the response rate.

Exhibit IV.1. Measure definitions and construction

(1)	(2)	(3)	(4)	(5)
Measure	Description	Source	Expected sample size	Measure response rate (as a percentage of expected sample size)
Demographics				
Age	Age at baseline. Constructed using date of birth and date youth or young adult took the baseline survey.	Developed by YARH team	116	100%

(1)	(2)	(3)	(4)	(5)
Measure	**Description**	**Source**	**Expected sample size**	**Measure response rate (as a percentage of expected sample size)**
Gender identity	Three binary indicators for whether youth or young adult is male (including transgender male), female (including transgender female), or other.	Survey of Youth Transitioning from Foster Care September 2019 Draft Gender Identity in U.S. Surveillance Group two-step approach	116	100%
Race and ethnicity	Five mutually exclusive binary indicators for race and ethnicity. One indicator for ethnicity (Hispanic) and four indicators for race, non-Hispanic (Black, White, multiracial, and other). "Other" includes American Indian or Alaska Native, Asian, or Native Hawaiian or Other Pacific Islander.	Developed by YARH team	116	100%
Sexual orientation	Binary indicator for whether youth or young adult identified as straight or LGBTQIA2s+ (includes gay, lesbian, bisexual, and other).	Survey Youth Transitioning from Foster Care September 2019 Draft	116	89.7%
Stable housing				
Number of times moved in past three months	Number of times that youth or young adult moved or changed living situations during the three months before taking the survey.	Pathways to Success Follow-Up Survey (Center for Policy Research)	116	97.4%
Ever homeless	Binary indicator for whether youth or young adult reported having ever been homeless. Includes couch surfing; doubling up; and living in a car, on the street, in a homeless shelter, or other place not meant to be a residence.	Developed by YARH team	116	94.8%
Where youth or young adult slept most nights in the past 30 days	Location of where youth or young adult slept most nights in the past 30 days before taking the survey. Locations include own apartment; foster parents; non-immediate family or friends; immediate family; transitional housing or group home, hotel, or motel; or other.	Life Experiences Survey (Urban Institute)	116	91.4%
Permanent connections				
Has an adult connection	Binary indicator for whether youth or young adult has at least one person in their life other than a professional whom they can call to help in an emergency.	Thrive@25 Exit Survey University of Maryland	116	96.6%

(1)	(2)	(3)	(4)	(5)
Measure	Description	Source	Expected sample size	Measure response rate (as a percentage of expected sample size)
Strength of relationship with family and friends	Seven variables that indicate the average strength of youth or young adult's relationship with mother, father, older sibling, younger sibling, other adult relatives, cousins, and friends on a scale of 1 (very weak) to 5 (very strong).	Youth Connections Scale (Center for Advanced Studies in Child Welfare at University of Minnesota)	116	94.8%
Education and employment				
Enrolled in school	Binary indicator for whether youth or young adult was enrolled in school at baseline. Grade or level include 9th to 12th grade, GED course, vocational training or trade school, college, and other.	Developed by YARH team	116	94.0%
Education level for enrolled youth and young adults	Current grade or level of school. Education levels include 9th to 12th grade, GED course, vocational training classes or trade school, college, and other. Only asked if enrolled in school at baseline.	Developed by YARH team	56	98.2%
Chronically absent	Binary indicator for whether enrolled youth or young adult was absent more than one day per month (including excused and unexcused absences) during the three months before taking the survey. Only asked if education level is from 9th to 12th grade[a]	Education and Employment Questionnaire	36	94.4%
Highest education for non-enrolled youth and young adults	Four binary indicators for the highest education level completed among youth and young adults not enrolled in school. Education levels included less than a high school diploma, some vocational training or trade school but no credential or certificate, a high school diploma or GED, and certification.	Developed by YARH team	53	100%
Employed	Binary indicator for whether youth or young adult was employed full time (35 hours a week or more at one or multiple jobs) or part time (fewer than 35 hours per week).	Youth Transitions Partnership Assessment	116	96.6%

(1)	(2)	(3)	(4)	(5)
Measure	Description	Source	Expected sample size	Measure response rate (as a percentage of expected sample size)
Social-emotional well-being				
Feelings of depression in the past 30 days	Average constructed from six survey responses on how often youth or young adult had feelings of depression in the past 30 days on a scale of 1 (all of the time) to 6 (none of the time).	Survey Youth Transitioning from Foster Care September 2019 Draft National Health Interview Survey 2018 (Centers for Disease Control and Prevention)	116	92.2%
Substance use in the past 30 days	Three binary indicators for whether youth or young adult drank alcohol, used marijuana, or used other drugs in the last 30 days before taking the survey.	Developed by YARH team	116	92.2%
Involvement in justice system				
Ever arrested	Binary indicator for whether youth or young adult had ever been arrested.	Life Experience Survey (Urban Institute)	116	90.5%
Ever convicted	Indicators for whether youth or young adult had ever been convicted of a misdemeanor, felony, both, or neither. Only asked if arrested before.	Youth Transitions Partnership Assessment	47	93.6%
Arrested recently	Binary indicator for whether youth or young adult was ever arrested during the three months before taking the survey. Only asked if arrested before.	Youth Transitions Partnership Assessment	47	100%
Child welfare system status and history				
Currently in foster care	Binary indicator for whether youth or young adult was in foster care at baseline.	Life Experience Survey (Urban Institute)	116	92.2%
Foster care among youth and young adults who were homeless	Binary indicator for whether youth or young adult was homeless before or after they entered foster case, or both. Only asked if homeless before.	Developed by YARH team	83	95.2%
Parenting				
Is a parent	Binary indicator for whether youth or young adult reported having one or more children.	Survey Youth Transitioning from Foster Care September 2019 Draft	116	88.8%

Notes: Column 3 lists sources used in the development of survey instruments. We modified some items slightly to accommodate the YARH context. Sources without hyperlinks are not available publicly on the web; these instruments are available upon request from Mathematica. The expected sample size (Column 4) is the number of youth and young adults we would expect to have non-missing data for, based on the number who took the survey and were asked the question. The measure response rate (Column 5) is the

percentage of youth and young adults out of the expected sample size who have non-missing data. This response rate is calculated after we supplement missing survey data with PMIS data (see Section IV.C for more details).

[a]The Colorado Department of Education defines chronically absent as missing about two days per month (about 18 days per year) (n.d.).

LGBTQIA2s+ = Lesbian, Gay, Bisexual, Transgender, Queer and/or Questioning, Intersex, Asexual, Two-Spirit.

B. Measure response rates—baseline survey and item-level

Column 4 of Exhibit IV.1 shows the number of expected responses for each measure included in the descriptive report. For some measures, every youth and young adult in the analytic sample (N= 116) *should* have a response because they were constructed from survey questions that were asked to all study participants. For example, the baseline survey asked all study participants about their demographic characteristics. Other measures are based on survey items that are asked to only some youth, depending on their responses to previous questions in the baseline survey. For example, only youth and young adults who indicated they had ever been arrested (n = 47) were asked if they had ever been convicted of a crime or if that arrest happened in the previous three months.

The response rate (Column 5, Exhibit IV.1) indicates the percentage of respondents with non-missing data for each measure, given the number of respondents we expected for that measure. Response rates for each measure in the baseline data analyzed in the descriptive report range from 88.8 to 100 percent. The lowest response rate is for the measure indicating whether the youth or young adult reported being a parent.

C. Measures we supplement with PMIS data

We used demographic, education, and employment data from the PMIS to supplement the youth survey data by checking for inconsistencies across the data sources and borrowing from PMIS when survey data were missing. To do this, we matched youth and young adults across the two data sources.

1. Matching across survey and PMIS data

Youth and young adults in the baseline survey data and PMIS data are intended to be linked using a unique identifier in both sources. However, as of August 2022, 51.5 percent of youth and young adults in the PMIS data and 6.8 percent of youth and young adults in the baseline survey data are missing this identifier.

Instead of only relying on this variable, we used other identifying information to match youth and young adults across the two sources via probabilistic linking. Probabilistic linking is a powerful tool used to link two or more files when they do not share unique or reliable identifiers. The approach involves choosing a set of variables to match across the files and assigning weights to those variables. When linking two data files, these weights are used to give a "score" to each pair of records, where positive weights add to the score and negative weights subtract from it. Higher scores indicate a greater probability that the two records are a match.

In addition to the unique identifier between the baseline survey and PMIS data, we used the youth or young adult's first and last name, age, date of birth, race and ethnicity, gender identity, and study enrollment and residence hubs as matching variables. With this method, we were able to match the PMIS data to 114 of the 116 youth and young adults (98.2 percent) who completed the baseline survey. For more information on the probabilistic linking method that we used, please see Kranker (2018).

2. Measures supplemented with PMIS data

After matching youth and young adults from the PMIS administrative data to their baseline survey responses, we supplemented missing survey responses with PMIS data, when available. Specifically, we used PMIS data to supplement missing information on age, ethnicity, race, gender identity, and highest education. We were able to supplement all but one nonresponse cases in the survey with non-missing PMIS data.

The descriptive report did not impute values for data missing from both the survey and PMIS data. If a youth or young adult did not answer a survey question (item nonresponse) and that information was unavailable in the PMIS, we coded that item as missing for the youth or young adult and excluded them from analysis of the item. Missingness, or item nonresponse, could have occurred for several reasons—for example, when youth and young adults (1) did not understand the question, (2) could not retrieve information needed to answer the question, (3) could not identify an accurate response category, or (4) did not want to answer the question.

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