



MEMORANDUM

Date: December 10, 2020

To: The Honorable Chairman and Members
Pima County Board of Supervisors

From: C.H. Huckelberry
County Administrator

A handwritten signature in black ink, appearing to read "CHH", is written over the printed name "C.H. Huckelberry".

Re: Pima County's Housing First Pilot Program

Housing First Pilot Program Background and Description

In 2017, Pima County collaborated with the Sorenson Impact Center (SIC) at the University of Utah to explore the feasibility of launching a housing first, permanent supportive housing project utilizing Pay for Success (PFS) as a financial model. Eligible program participants would have been individuals who are considered homeless, have been in jail more than twice in one year, qualify for Medicaid, and are diagnosed with mental health and/or substance use disorders. The PFS feasibility study estimated that, following the SIC plan, implementing 150-participant project would cost approximately \$12 million over a five-year period.

A Pima County stakeholder Steering Committee, which was formed to guide the feasibility phase, consisted of executive level participants from both Pima County and the City of Tucson. In December 2017, the Steering Committee unanimously recommended to develop a self-funded, 2-year pilot project in lieu of implementing the PFS model. Pima County Administration committed \$1.5 million annually (\$3 million total) and the City of Tucson committed 150 Housing Choice Vouchers to the pilot project. Through a competitive bid process, Old Pueblo Community Services was selected as the vendor and the two-year Housing First pilot program was launched in mid-2019. A year and a half into the pilot, 125 individuals have been accepted into the program and received permanent supportive housing.

Purpose Statement

Pima County is looking to support the greatest possible level of independence and self-sufficiency of its most vulnerable residents by promoting their physical, mental and social well-being to cultivate a safe and healthy community. This project seeks to lower the use of emergency rooms, calls for service to first responders, jail bookings and criminal justice system involvement among program participants.

Project Scope

The objective of the Housing First Program is creation of a Permanent Supportive Housing Pilot Project based on Housing First Principles by utilizing a minimum of 150 Housing Choice Voucher rental subsidies and implementing evidence-based community treatment for the purpose of transitioning program participants to stable housing.

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The Steering Committee directed the Pilot Program Manager to incorporate two Pay for Success fundamentals into the project's design: performance-based contracting and independent program evaluation. The service provider selected for this project is Old Pueblo Community Services.

The program evaluator is the RAND Corporation, a nationally recognized organization that has evaluation experience on similar housing programs and their impacts on criminal justice/healthcare system costs and utilization.

The program is receiving technical assistance from the Corporation for Supportive Housing (CSH) on targeted implementation strategies, performance-based contracting and development of a stakeholder learning collaborative.

Pima County Housing First Steering Committee

On December 1, 2020, the Pima County Housing First Steering Committee met to discuss its sustainability plan and a second Interim Report prepared by the RAND Corporation, the program evaluator. The project kicked off in June of 2019 and the "pilot" aspect is due to end on June 30, 2021.

To date, the program has successfully housed 125 participants in stable and secure housing and is on track to meet and exceed its initial goal of 150 by the time the pilot phase ends in June 2021. Due to the early positive outcomes for individuals participating in the program, it was decided to increase the pilot program's housing goal to 200 individuals (with the City of Tucson agreeing to provide an additional 50 vouchers). The program is in a sustainability phase and is seeking new partners to provide financial support in order for the program to continue after completion of pilot project.

Part of that sustainability effort relies on the evaluation of the program by RAND. RAND provided an interim report in May of 2020; however, at that point, RAND did not have 6 months' worth of data on program participants to provide a full review of the program's success. On November 24, 2020, RAND submitted its second report, a copy of which is attached to this memorandum. RAND used data as of July 2020.

It should be noted that **RAND does not consider this report as cleared for public release**, explaining that the document has not been reviewed, edited or cleared for public release.

Participant Eligibility

1. Have been booked into the Pima County Adult Detention Complex (PCADC), two or more times in the previous twelve months;
2. Have a substance use or mental health disorder; and
3. Are currently experiencing any form of homelessness.

One of the goals of RAND's evaluation was to determine the effect (if any) of having formerly incarcerated jail detainees safely and securely housed in permanent housing, and whether or not health care facilities or the criminal justice system realized any savings as a result.

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RAND's November 24, 2020, second interim report is quite detailed and includes information on participant demographics, prior housing and homelessness history and program progress. Because RAND used information through July of 2020, the report states that 187 participants have enrolled and 98 of those have obtained housing. That number has substantially increased since July 2020.

The report focused on health conditions and costs and criminal justice service utilization and costs. One of the limitations of the report is the unknown amount of medical care (and related costs) provided to these participants while they were incarcerated in the Pima County Adult Detention Complex (PCADC). We are attempting to provide that information to RAND for a subsequent amendment to the report.

Interestingly, while the RAND outcome analysis found "significant reduction in overall criminal justice service costs" (i.e., \$4,000) the reduction in overall health care costs was not "statistically significant" at \$751 (see: page 29 of the report).

RAND broke down the criminal justice costs by entity:

- Pima County Sheriff's Department \$1,538,753
- Tucson Police Department \$310,712
- Pima County Adult Probation \$195,856
- Pima County Attorney Programs \$84,041
- City of Tucson Public Defender \$33,401
- Pretrial Services \$25,450

RAND found that in comparing all of the criminal justice and health care entities providing data, the largest reductions were observed for the Tucson Police Department and the Pima County Sheriff's Department: the number of participants using these services decreased by more than 55% (see: **Table 5.1 Number of Participants Using Services Pre- and Post-Program Enrollment Periods**, at page 28).

RAND explains that the total service costs are affected by the costs attributable to the costs of implementation of the permanent support housing ("PSH") services. Figure 5.2 on page 32 demonstrates the Housing First Program costs reduce the overall costs savings to Criminal Justice and to Health Care; however, "[i]t is possible that health and criminal justice related costs savings could continue to accrue in future months and PSH program costs declines PSH costs shift from capital costs to lower recurrent costs for program maintenance." (see: page 31 of the report).

Longer Range Plans

RAND plans to conduct more analyses with a larger group over a longer timeframe in 2021 to provide more reliable estimates of the impact of the Housing First initiative on participant outcomes. We are expecting the final report from RAND after the pilot program is completed in June of 2021.

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In the meantime, the Housing First team and its partners are continuing to explore avenues for sustainability funding.

Please let me know if you have any questions related to Pima County's Housing First Pilot Program.

Attachment

CHH/dr

c: Jan Leshar, Chief Deputy County Administrator
Wendy Petersen, Assistant County Administrator for Justice and Law Enforcement
Kate Vesely, Director of Justice Reform Initiatives
Alejandro Martinez, Housing First Program Coordinator, Criminal Justice Reform Unit

Pima County Housing First Initiative: Interim Evaluation Report Fall 2020

Sarah B. Hunter, Adam Scherling, Ryan McBain, Brian Briscoombe

RAND Social and Economic Well-Being Division, Community Health and Environmental Policy Program

PR-A236-2
November 2020
Prepared for Pima County

NOT CLEARED FOR PUBLIC RELEASE

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Preface

This document is an interim evaluation report for Pima County's Housing First Pilot initiative, which consists of permanent supportive housing (PSH) placement and case management for individuals involved with the criminal justice system who are experiencing homelessness in Pima County, Arizona. Enrollment began in April 2019. This report presents program progress through July 2020. This includes information about participants enrolled to date in the program and their pre-program service utilization and associated costs across a number of city and county services, including health, law enforcement, and legal services. We also describe program progress to date, including progress towards housing stability among the enrolled population. We conduct an outcome analysis that consists of comparing service utilization in the 6 months prior to program referral and the 6 months post-enrollment among a cohort of participants who have reached their 6-month enrollment anniversary date. Interested stakeholders of this report include city and county representatives in Pima County as well as other municipalities or entities that provide supportive services to criminal justice populations or may be interested in implementing a similar program, both in and outside of Pima County, Arizona.

The research here was conducted by the Community Health and Environmental Policy Program within the RAND Corporation's Division of Social and Economic Well-Being. The program focuses on such topics as infrastructure, science and technology, community design, community health promotion, migration and population dynamics, transportation, energy, and climate and the environment, as well as other policy concerns that are influenced by the natural and built environment, technology, and community organizations and institutions that affect well-being. For more information, email chep@rand.org.

Abstract

Homelessness is a critical public health problem—affecting more than half a million individuals on any given night. Oftentimes, homelessness is intractably linked to the criminal justice system, with individuals cycling back and forth between incarceration and homelessness. In late 2017, Pima County decided to pilot a Housing First Permanent Supportive Housing program for individuals experiencing homelessness and frequently utilizing jail services who had behavioral health issues. After a year of planning including provision of program support and service provision, participants began enrolling in the program in April 2019. This report presents program progress through July 2020, describing the program referral, eligibility, housing voucher and housing obtainment process, using data provided by relevant legal, law enforcement and service entities. It also provides information on the participants that have enrolled to date, including demographics, service utilization and associated costs for the year prior to program entry. We also include a comparison of service utilization and associated costs for a cohort of clients ($n = 71$) who have reached their 6-month anniversary date. To date, 187 participants have been enrolled of which 98 have obtained housing. Participants are diverse in age and gender. Over 40 percent of participants were of Hispanic descent. Fewer than 20 percent of participants reported having income at program entry and most participants were receiving health benefits through Medicaid. In the year prior to program entry, participants utilized a range of criminal justice and health care services. We found that 97 percent had used one or more criminal justice service during those 12 months, for a total cost of almost \$2.2 million, or almost \$12,000 for an average participant. In terms of health care services, 56% of participants had utilized emergency, inpatient, or laboratory services in the year prior to program entry, with a total cost of over \$911,000 or an average participant cost of almost \$5,000. The services provided by the Housing First program have totaled a little over \$1,184,000 over the first 15 months of operation for a participant monthly expenditure rate of \$1,386. In terms of overall costs, criminal justice service costs decreased in the post-enrollment period but the costs of the supportive housing program ultimately resulted in higher total costs by participants in the first six months post-enrollment. It is possible that criminal justice and health cost savings may continue to accrue in future months and that PSH program costs decline as PSH expenditures shift from capital costs to lower, recurrent expenditures. These findings help to describe the initial impact of this Housing First initiative. Other regions interested in implementing a supportive housing program for individuals with similar needs may look to these findings for guidance on implementation.

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Acknowledgments

We would like to first thank Terrance Cheung, former Director of Pima County's Criminal Justice Unit, and Matt Pate, the first Program Manager for the Pima County Housing First Initiative, who helped orient us to the project and collaborated on early efforts to document program progress and outcomes. We also appreciate the consistent support from Wendy Peterson, the Assistant Pima County Administrator, throughout the course of the project and the assistance by Alejandro Martinez, the current Program Coordinator, for the Housing First Initiative.. This report would not have been possible without the comprehensive data provided by representatives from the following entities: City of Tucson's Police Department, City of Tucson's Public Defender's Office, Pima County Adult Probation Department, Pima County Attorney's Office, Pima County Pretrial Services, Pima County Public Defense Services, Pima County Sheriff's Department, and especially, Lindsay Eulberg, Ana Haley and Ellyn Langer from Old Pueblo Community Services. Maya Buenaventura assisted with the literature review presented in this report and Tiffany Hruby assisted in report preparation.

1. Project Description

Background

Permanent supportive housing (PSH) has emerged as a viable and potentially cost-effective option for communities attempting to address the needs of individuals with multiple chronic health conditions that are experiencing homelessness. PSH consists of a long-term housing subsidy coupled with case management services. However, the PSH approach has not been well tested to address the needs of individuals experiencing homelessness who are frequent users of the criminal justice system. Acknowledging barriers to reentry and reintegration for individuals with complex health and behavioral health conditions experiencing homelessness, Pima County committed to piloting a PSH program. This report represents the second interim evaluation deliverable of that program.

Recidivism and Housing

Past research demonstrates that the lack of stable housing is a strong predictor of recidivism and reincarceration. Recently released inmates who experience homelessness are at greater risk for recidivism than those who are stably housed (Metraux and Culhane, 2006; Metraux, Roman and Cho, 2008). Additionally, mental health and substance use disorders put individuals at increased risk for recidivism. Compared with the general population, justice-involved individuals have a greater prevalence of substance use disorders and complex physical and behavioral health issues (Cloud, Dougherty and May, 2014; Karberg and James, 2005; Prins, 2014). In fact, an estimated 75 percent of inmates with a mental health disorder have co-occurring substance use disorders (James and Glaze, 2006). Individuals with co-occurring disorders are at great risk of reincarceration in the year following their discharge (Peters, Wexler and Lurigio, 2015). More specifically, research has found that formerly incarcerated individuals reentering their communities who suffer from mental health and/or a substance use disorder face significant barriers in securing stable housing and necessary treatment, resulting in higher rates of recidivism, homelessness, and poor health outcomes (Baillargeon, Hoge and Penn, 2010; Messina et al., 2004; Osher and Steadman, 2007; Peters and Bekman, 2007).

Costs Associated with Homelessness

As compared with the general population, individuals experiencing homelessness report worse health status and are at a higher risk for acute and chronic illness and mental health disorders (Morrison, 2009; National Health Care for the Homeless Council, 2011). These individuals are often unable to regularly access health care services, which results in high rates of

emergency department visits and hospitalizations for preventable illnesses (Baggett et al., 2010; Kushel et al., 2002; Kushel, Vittinghoff and Haas, 2001). A small group of high utilizers accounts for most acute care usage. These high utilizers are more likely to experience chronic homelessness and to suffer from mental health, substance use issues and physical health comorbidities (D'Amore et al., 2001; Kushel et al., 2002).

Homelessness is also associated with social service and criminal justice service use and costs (Larimer et al., 2009). According to a recent report on the costs of homelessness in Los Angeles county, approximately 30.5 percent of the costs to the county were social service-related, which included cash benefits and homeless services through the General Relief Program, as well as benefits through the CalFresh food program (Wu and Stevens, 2016). Approximately 9.5 percent of the costs were criminal justice costs, including law enforcement spending on arrests and jail days and probation costs in providing rehabilitative services. The average annual costs to county departments was \$51,230 per person for the top 5 percent of service utilizers and \$33,540 per person for the top 10 percent, whereas the annual cost for the average homeless individual was \$6,480. These findings underscore that the needs of individuals experiencing homelessness affect multiple county service departments.

Several studies have shown that supportive housing programs can reduce hospital admissions, length of stay at hospitals, the use of acute care services, and incarceration among formerly homeless populations resulting in cost savings (Culhane, Metraux and Hadley, 2002; Martinez and Burt, 2006; Shern et al., 1997; Somers et al., 2013). Given these findings, the use of supportive housing to target incarcerated individuals with mental health, substance use and/or chronic medical conditions who are likely experiencing homelessness upon reentry has the potential to produce substantial cost savings through the reduction in the use of intensive acute care services.

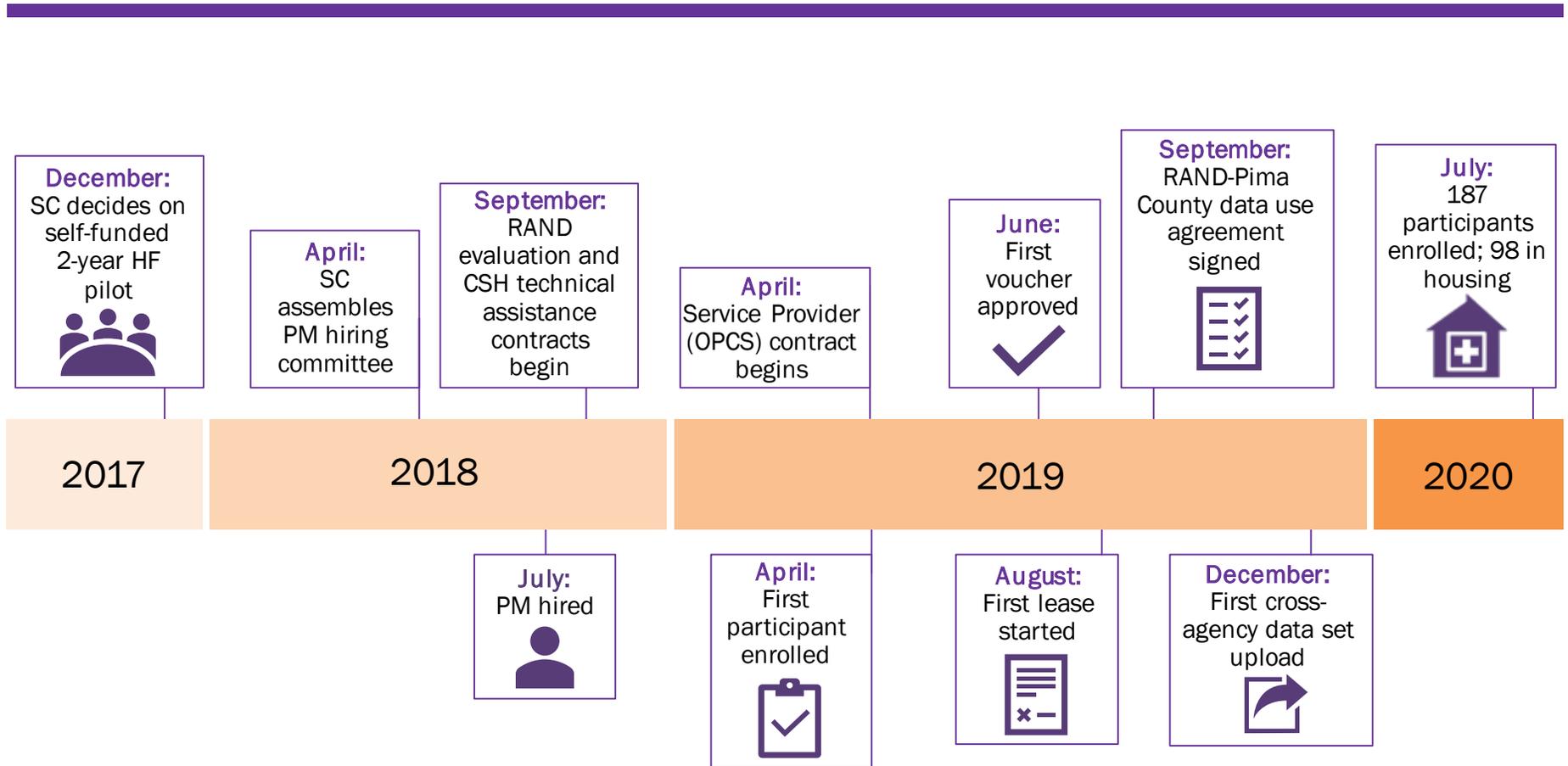
Program Overview

In order to address homelessness in Pima County, County leadership supported a gap analysis in 2015 that identified the need to increase the number of PSH units (The Sorenson Impact Center, 2017). Following the gap analysis, Pima County conducted a year-long feasibility assessment to determine whether and how a “Pay for Success” effort could serve as a tool to finance and implement a PSH initiative to serve high utilizers of justice, behavioral health and health systems. Pay for Success initiatives utilize private-sector funding to support initial program implementation. If the program proves successful as determined by an independent evaluation, the private sector investors receive a payout from the government (Dopp et al., 2019). The feasibility assessment included an analyses of data from individuals who had two or more bookings within calendar year 2016 in the Pima County jail and lacked a permanent address. These analyses found that 560 individuals met these criteria and could be found in the Homeless Management Information System (HMIS). Given this finding and the additional analyses done

by Sorenson Impact in partnership with Pima County, a PSH pilot project appeared feasible; however, it was decided by the Steering Committee overseeing the feasibility assessment to not pursue Pay for Success financial structuring. Instead, in December 2017, the County decided to sponsor a two-year pilot initiative that would provide housing support for up to 150 individuals experiencing homelessness with prior criminal justice involvement and behavioral health (i.e., mental health and/or substance use) issues.

Our previous report provides a program logic model, including resources, collaborating entities, program activities, outputs and outcomes related to program goals. A detailed program workflow is also available in our previous report. Figure 1.2 provides an overview of the Pima County Housing First initiative progress to date.

Figure 1.1 Pima County Housing First Pilot Initiative Timeline



Notes: SC = steering committee; PM = program manager

Outline of This Report

The remainder of this report describes our approach to examining program implementation and outcomes (Chapter 2), the characteristics of the first 187 enrolled program participants including their pre-program service use and associated costs (Chapter 3), the progress of the program to date (Chapter 4), an outcome analyses on participants that had been enrolled in the program at least 6 months (Chapter 5), and conclusions and next steps from this work (Chapter 6). The report appendix contains additional details about the criminal justice cost estimates, participants included in the outcome analyses, and preliminary analyses on participants who obtained housing at least six months prior to the end of our analytic period.

2. Methods

Our approach to this second interim report follows a four-part structure: first, describing all participants to date; second, tracking participants prior to and following program enrollment, to the extent that participants have progressed through components of the program; third, identifying the services and resources consumed by participants at each stage of this progression (e.g., 6 months prior to referral and 6 months following enrollment); and fourth, assigning cost estimates to each service and resource consumed prior to versus following program enrollment. In terms of our cost accounting framework, we followed an approach called activity-based costing, which identifies all activities involved in service delivery and assigns costs to activities according to the consumption of resources. Below, we describe each of these components, followed by a description of methods for statistical analyses comparing service utilization and expenditures before versus after program enrollment.

Describing Participant Characteristics

Overview

The nature and success of permanent supportive housing programs may vary considerably, depending on the needs and the personal histories of program participants. Participant characteristics such as age, race/ethnicity, gender, health status, prior homelessness experience, and prior history with the criminal justice system are all important considerations in program implementation and may all play a role in program success. Therefore, we took a broad look at the participants enrolled in the Pima County program in order to better understand the population being served to date.

Data Sources

Participant characteristics such as demographic information, participant receipt of income and benefits, and prior housing and homelessness experience were made available by Old Pueblo Community Services (OPCS). OPCS also provided an extract from the Pima County Homeless Management Information System (HMIS), allowing us to view participants' previous interactions with homeless service agencies.

Data on participant health were available in the form of health service records from the Arizona health information exchange, provided by OPCS. These records contained ICD-10 diagnosis codes, which allowed us to classify participants' health conditions using the Clinical Classifications Software Refined (CCSR) tool from the Healthcare Cost and Utilization Project (HCUP).

Lastly, information about participants' past interactions with the criminal justice system were provided from a variety of criminal justice and law enforcement agencies in Pima County and the City of Tucson.

Participant Tracking

Overview

Participant tracking comprised a review of participants' timelines from program referral through July 2020. Specifically, this progression encompassed: (i) program referral; (ii) case manager assignment and completion of enrollment documentation; (iii) receipt of a housing voucher; (iv) initiation of housing lease and (v) continuation of housing and supportive services; and, as relevant, (v) termination/exit from housing. For those who have received housing, there is a potential for lease termination due to noncompliance with program requirements, or program exit due to "graduation"—meaning that the participant has independently achieved stable housing, employment and income such that they no longer qualify for program support.

The impetus for participant tracking was to permit an assessment of the timeliness of participants' advancement into PSH from program referral, including time to program enrollment, receipt of a housing voucher, and housing placement. This assessment will help stakeholders understand the time and variation across participants in achieving these different program milestones as well as understand when in the process there is attrition from the program.

Data Sources

We tracked participant timelines based on data collected by Old Pueblo Community Services (OPCS)—the vendor responsible for coordinating housing and case management services. OPCS maintains an inventory of program milestone dates for each enrollee, and transmitted these dates to RAND via encrypted electronic files containing participant IDs in lieu of identifying information. Files were updated and re-submitted several times between December 2019 and August 2020 for inclusion in this report.

Quality Assurance

The research team performed five validation checks on data quality:

- I. Date sequencing: assessment that sequencing appropriately corresponded to logical progression with the program;
- II. Outlier values: inspection of dates that were implausibly early or late relative to program timelines.
- III. Missing client IDs: review of client IDs provided by each of the seven agencies, resulting in an inventory of missing IDs based on a participant enrollment file.
- IV. Missing values: examination of missing data fields. When missing values were not clarified by agencies, we provided interpolated estimates—for example, based on mean values.
- V. Typographical irregularities: in the event that data values were uninterpretable, we contacted agencies for clarification.

Services and Resources Consumed

Overview

The goal of this project is to provide PSH for individuals who have been involved with the criminal justice system, who often represent high utilizers of emergency county services, and who have been coping with housing insecurity. Thus, we examined services and resources consumed along these three axes: criminal justice system engagement, health care services, and housing/programmatic services. While participants were liable to generate additional costs in other social service domains, our objective was to observe service utilization and associated costs with respect to those domains on which participants were selected for enrollment.

Data Sources

We aggregated data from seven criminal justice system agencies, listed in Table 2.1. This table also provides a description of each agency with respect to the services they provide—including for program participants. In terms of data sharing, each agency provided a listing of case IDs matched to program participant IDs, a description of case or service type, and relevant dates such as intake date and termination date.

We received information on health care utilization from OPCS, originally provided by the Arizona health information exchange¹. This included a record of inpatient and emergency care provided to program participants, including: service start and end dates, facility name, and ICD codes representing medical diagnoses documented during the service period. All labs and tests administered over the course of services were separately recorded. Lastly, OPCS shared key service date information, including enrollment, housing voucher obtainment and PSH move-in dates along with their monthly invoices.

Table 2.1 Data Sources - Entities supporting the criminal justice system in Pima County

Entity	Description
Pima County Public Defense Services	Provides court-authorized legal defense services for individuals charged with felony, misdemeanor, or juvenile offenses in Pima County
Pima County Adult Probation Dept	Administers community correctional services by monitoring probationers and returning to court those who violate the terms and conditions of their sentence
Pima County Pre-trial Services	Assists the Pima County court system by assessing the release eligibility and suitability of pretrial defendants
Pima County Attorney's Office	Works with law enforcement in the investigation of criminal cases, including the prosecution of felonies and misdemeanor appeals
Pima County Sheriff's Dept	Works with community agencies to provide effective and professional public safety services, including law enforcement protection
City of Tucson Police Dept	Conducts law enforcement activities, including the arrest of criminals, detection and prevention of crime, and maintenance of law and order
City of Tucson Public Defender's Office	Appointed by the court on a case-by-case basis to represent indigent persons who are facing criminal prosecution

Quality Assurance

As a validation check on data quality, the research team inspected data files provided by entities from three vantage points: first, whether recorded dates aligned appropriately with dates according to the participant tracking exercise described above; second, whether there were any anomalous service intervals (start-to-end date) recorded; and third, instances in which typographical errors compromised data utility: for example, in instances that ICD codes pertaining to participant healthcare service utilization were not interpretable.

¹ According to OPCS, telephone interview 5 May 2020.

Cost Estimation

Overview

As a final stage of activity-based costing, costs were recorded or estimated for each line item that represented a service provided or resources consumed over the study period. These estimates were then aggregated at the participant and program level to generate a cost per participant and total program cost. Furthermore, this framework was applied to compare costs prior to and following receipt of program services. To do this, we examined service use and associated costs for participants during the 6 month interval before program referral (i.e., to serve as a baseline or pre-referral period), and the 6 month interval following program intake/enrollment (i.e., to serve as the intervention or post-enrollment period). There was a small cohort ($n = 27$) of participants who had obtained housing for at least 6 months at the time of analytic window closed (June 30, 2020). For this group, we also examined the 6 month pre-referral period to the 6-month post-housing period (see Appendix).

As a final step, we calculated monthly cost estimates for the baseline and intervention period by dividing aggregate costs by the 6 months that participants spent in each period. All costs were adjusted for inflation using the US Bureau of Labor Statistics Consumer Price Index (CPI) estimates, and reported in 2020 US dollars.

Data Sources

Cost estimates were derived using the following four approaches. First, several agencies—such as Pima County Public Defense Services, Pima County Sheriff, the City of Tucson Public Defender’s Office—provided cost estimates at the participant level based on average daily or per-service cost incurred (see Table 2.2, Approach 1). For example, Pima County Public Defense Services provided cost estimates for different case types (felonies, misdemeanors, or probation) across different fiscal years. These values were then applied across participants who utilized Pima County Public Defense Services, based on case type and fiscal year in which the case was processed.

Second, several entities—including the Pima County Adult Probation Department, Pima County Pretrial Services, Pima County Attorney’s Office, and the Tucson Police Department—did not track line item expenditures, but produced estimates by service type per diem or per case (Table 2.2, Approach 2). After comparing these estimates with secondary data sources to confirm their reliability, we then applied these cost estimates at the individual case level. In instances where a single estimate was offered for a given point in time (e.g., FY18), we adjusted estimates using the Bureau of Labor Statistic’s Consumer Price Index to align with the timing that an individual participant received a service.

Third, the health care utilization data did not include cost estimates (Table 2.2, Approach 3). As a result, these cost values were estimated based on secondary data sources. Specifically, we

converted ICD-10 primary diagnostic codes from emergency and inpatient medical visits into All Patients Refined Diagnosis Related Groups (APR-DRGs), and input APR-DRGs along with length of stay into Arizona's Medicaid DRG Pricing Calculator (FY20) (Arizona Health Care Cost Containment System, 2020b) to generate an estimated payment amount. When looking up emergency care costs using the Pricing Calculator, we set the length of stay to 1 day. As hospital charges were not documented, we assumed that charges were below cost outlier thresholds, and produced a payment equivalent to adjusted DRG base rates.

As a subsequent step, health care cost estimates were adjusted from national estimates produced by Centers for Medicare and Medicaid Services to estimates specific to Pima County using the 2018 Geographic Area Sample for the CPI produced by the U.S. Bureau for Labor Statistics (U.S. Bureau of Labor Statistics, 2018). In a similar manner, we interpolated cost estimates for participant lab tests based on Arizona's State Medicaid negotiated price list (Arizona Health Care Cost Containment System, 2020a). Using this approach, we were able to manually match all lab or imaging categories (n = 267 categories). X-rays for all parts of the body were matched with the price of X-rays for the spine/neck, since X-ray costs do not vary significantly depending on the part of the body. Likewise, the cost of CT scans for the head or brain was applied to all CT scans, regardless of body location (such as the chest), since the cost of CT scans does not significantly vary.

Table 2.2 Service Data Sources by Entity

Entity	Approach	Description
Pima County Public Defense Services	1	PCPDS provided cost estimates for three case types (felony, misdemeanor, probation/juvenile delinquency) for five fiscal years (FY15/16-FY19/20).
Pima County Adult Probation Dept	2	PCAPD average per diem cost for five types of probation supervision (drug court, standard DOC release, standard SMI, standard DV, revoked, IPC, and pre-sentencing), for FY19/20.
Pima County Pre-trial Services	2	PCPS estimated a flat per diem service fee per client for each fiscal year.
Pima County Attorney's Office	2	The Attorney's Office did not provide cost estimates in their service data, but they did provide via email an estimated cost per active participant in their Diversion Program.
Pima County Sheriff's Dept	1	The County Sheriff's Department estimated and applied cost estimates for two service types: booking and daily fees for each fiscal year.
City of Tucson Police Dept	2	The Tucson Police Department did provided cost estimates for four types of activities: active outreach, bookings, deflections and field releases.
City of Tucson Public Defender's Office	1	The Tucson Public Defender's Office provided average cost estimates per defendant by fiscal year that we applied to all defendants in the dataset.
Old Pueblo Community Services	3	OPCS did not provide cost estimates within their service datasets. Please see above for a detailed description of how we utilized third party data sources to estimate their medical and program-related costs.

Quality Assurance

As a validation check on data quality, the research team inspected data files provided by entities from two vantage points. First, for entities providing cost estimates at the line item level, outlier values (i.e. those that were anomalously high or low) were flagged for review. Second, for entities providing cost estimates as average values at the service type, case type, or resource type level, the team examined these estimates against the backdrop of secondary data sources at regional and national levels to verify reliability.

Statistical Analyses

For this interim report, statistical analyses focused primarily on the change in criminal justice and health care service utilization from a pre-referral period, consisting of the 6 months prior to program referral, to a post-enrollment period, consisting of the 6 months following program enrollment. The study population considered in these statistical analyses was limited to clients who were enrolled into the program by Dec 31, 2019, allowing the possibility of at least 6 months of enrollment prior to the end of June 2020. Clients who exited the program prior to June 30, 2020 were still retained in the sample. The collection of criminal justice services data for these individuals continued uninterrupted through the end of the study period despite their program exit. However, the collection of health care service data stopped following program exit. Therefore, health care utilization was pro-rated to a 6-month rate for clients enrolled in the program fewer than 6 months.

Statistical analysis of these data consisted of hypotheses tests to determine whether the observed changes in service utilization from the pre-referral period to the post-enrollment period were statistically significant, or whether the observed differences could instead be explained simply by natural variability in the data and were therefore unlikely to be associated with program enrollment. Notably, the tests did not seek to determine whether any change in utilization was *caused* by program enrollment. Unfortunately, such causal attributions are not possible given the observational nature of the study and the lack of a suitable comparison group.

Paired two-sided t-tests were performed comparing the post-enrollment utilization to pre-referral utilization for the study population. This was done separately for total criminal justice service utilization and total health care service utilization. These tests were run both for utilization defined as the number of service events, and utilization defined as the total cost of services.

3. Program Participant Characteristics

In this chapter we describe the characteristics of program participants. This includes information about the demographics, prior homelessness, housing history, income/benefits, and health status of program participants. We also provide details about participant healthcare and criminal justice service utilization and associated costs prior to program enrollment to serve as a baseline for future evaluations of program impact. More specifically, we examined the 12 months prior to referral to the program to serve as the baseline so that future evaluations can compare utilization and costs to this period prior to identification for program services.

Participant Demographics

Participants enrolled to date were relatively young compared to participants of supportive housing programs generally, with almost two-thirds of participants aged 18 to 35 and over a quarter aged 36 to 45 (see Table 3.1). Most participants were White, and about 40 percent were Hispanic. Participant gender was roughly balanced between men and women, with slightly more women. In terms of family structure, the majority of participants were single with no children in the household (81 percent). Only about 5 percent of clients reported living with a partner, and of those about half had children in their household.

Table 3.1 Participant Demographic Characteristics

Variable	Value	Percent
Age	18-25	16%
	26-35	47%
	36-45	28%
	46-55	9%
	56-65	1%
Race	American Indian/ Alaska Native	5%
	Asian	1%
	Black or African American	9%
	Native Hawaiian/ Pacific Islander	1%
	White	82%
	Client doesn't know/refused	3%
Ethnicity	Hispanic/ Latino	42%
	Non-Hispanic	57%
	Client refused	1%
Gender	Female	55%
	Male	45%
Veteran Status	No	99%
	Yes	1%
Household Type	Couple with no children	3%
	Female Single Parent	10%
	Male Single Parent	4%
	Non-Custodial Caregiver(s)	1%
	Single	81%
	Two Parent Family	2%
Vulnerability Index – Service Prioritization Decision Assistance Tool (VI-SPDAT)	2-3	1%
	4-7	12%
	8-11	13%
	12-15	11%
	16-18	2%
	Missing	61%

Note: Percentages may not sum to 100% due to rounding.

Prior Housing and Homelessness History

Administrative and self-reported data indicate that program participants have extensive prior experience with homelessness. One in three clients were found to have at least one service record in the Pima County Homeless Management Information System (HMIS) prior to program intake; amongst these, 53 percent received two or more services and about 15 percent received 5 or more services. At the time of program intake, almost 50 percent of participants reported being homeless four or more times in the prior three years, consistent with the definition of chronic

homelessness (Department of Housing and Urban Development, 2015). Similarly, over 50 percent of participants reported being homeless for more than 12 months in the three years prior to program intake. Less than 10 percent of clients reported being homeless for one month or less in the three years prior to program intake.

Immediately prior to enrolling in the program, about a third of program participants were staying with family or friends (Table 3.2); roughly one-fifth of clients were in jail or prison; about fifteen percent were living in a place not meant for human habitation; and the remaining participants were in shelters, treatment facilities, transitional housing, or other similar housing situations.

Table 3.2 Living Situation Prior to Program Entry

Location	Percent of Clients
Residence owned/rented by client or family/friends	32%
Jail, prison, or juvenile detention facility	21%
Transitional housing, safe haven, or halfway house	17%
Place not meant for habitation	15%
Substance use disorder treatment facility or detox center	9%
Emergency shelter, hotel, or motel	5%
Hospital or other residential non-psychiatric medical facility	2%

Note: Percentages do not sum to 100% due to rounding.

Participant Income and Benefits

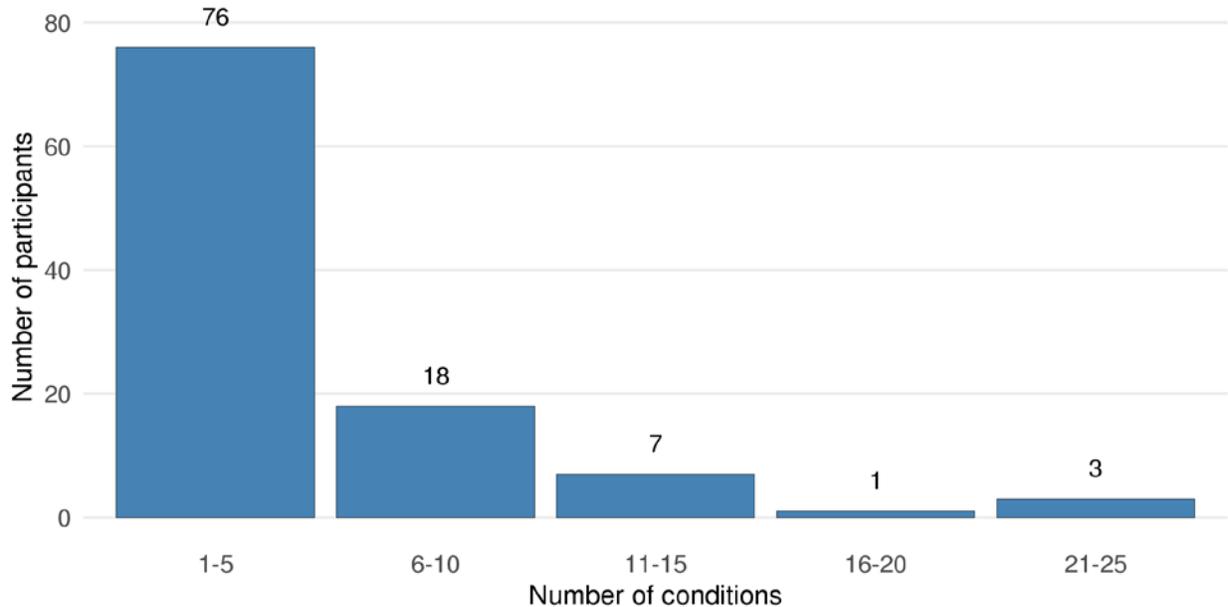
Only a minority of participants (17 percent) reported having income at the time of program intake. Amongst those with income, 62 percent reported receiving earned income, 28 percent reported receiving Social Security Disability Income (SSDI) or Social Security Income (SSI), and the remaining 10 percent had some other source of income. Amongst those participants who received income, income amounts varied from \$50 a month to \$3,920 a month, with a median of roughly \$800 a month. In terms of non-cash benefits, 62 percent of program participants reported receiving Supplemental Nutrition Assistance Program (SNAP) benefits at program intake. All enrolled participants with health insurance at time of intake had Medicaid.

Participant Health and Healthcare Costs

Health service data from the Arizona Health Information Exchange (AHIE) revealed a significant amount of variation in the health status of program participants. Seventy-nine percent had a record in the AHIE data, and 56 percent had a recorded healthcare service during the 12 months prior to program referral (see Figure 3.1). Linking these records to the Clinical Classification Software Refined (CCSR) classifications provided by the Healthcare Cost and Utilization Project (HCUP) (2020), we classified the number of distinct conditions each client

was diagnosed with in the year prior to program referral. Amongst those participants with at least one record in the 12 months prior to referral, about two-thirds had been treated for 1 to 5 distinct conditions; however, some participants had been treated for more than 10, or even more than 20 distinct conditions.

Figure 3.1 Number of Health Conditions Per Participant, 12 Months Prior to Program Entry



Note: The plot includes only participants with at least one health service record in the 12 months prior to program referral.

Next, we present information about the type of health conditions reported (see Table 3.3) and percentage of participants with physical, mental health and/or substance use conditions (Table 3.4). As shown in these Tables, there was a range of health conditions treated in the 12 months prior to referral to the program, the primary conditions were classified as mental, behavioral or neurological disorders.

Table 3.3 Types of Health Conditions, 12 Months Prior to Program Entry

Type of condition	Percentage of diagnoses
Mental, Behavioral, or Neurological Disorders	19%
Unclassified Symptoms	16%
Injury, Poisoning, or Other External Causes	11%
External causes	11%
Musculoskeletal Diseases	8%
Skin Diseases	6%
Infectious or Parasitic Diseases	5%
Respiratory Diseases	5%
Digestive System Diseases	4%
Circulatory Diseases	4%
Genitourinary Diseases	3%
Other or Missing	8%

Table 3.4 Participant Health Conditions, 12 Months Prior to Program Entry

Health Conditions	Percent of clients
Health Services in a Zero or One Health Category	
No Health Services	44%
Physical Condition Only	32%
Substance Use Condition Only	2%
Mental Health Condition Only	2%
Health Services in Multiple Health Categories	
Physical and Substance Use Conditions	11%
Physical and Mental Health Conditions	3%
Substance Use and Mental Health Conditions	0%
Physical, Substance Use, and Mental Health Conditions	7%

Note: Percentages do not sum to 100% due to rounding.

Next, we present cost estimates for the health care services received in the baseline period (see Figure 3.2). The left-hand figure shows that the typical health expenditure in the 12 months prior to program referral was below \$10,000, but there were several “super-users” with spending above \$20,000. The left-hand figure shows that the typical costs were between \$2,000-\$3,000 per health encounter, with a few outliers above \$4,000.

Figure 3.2 Health Service Utilization, 12 Months Prior to Program Entry: Expenditure by Per Service and Per Participant

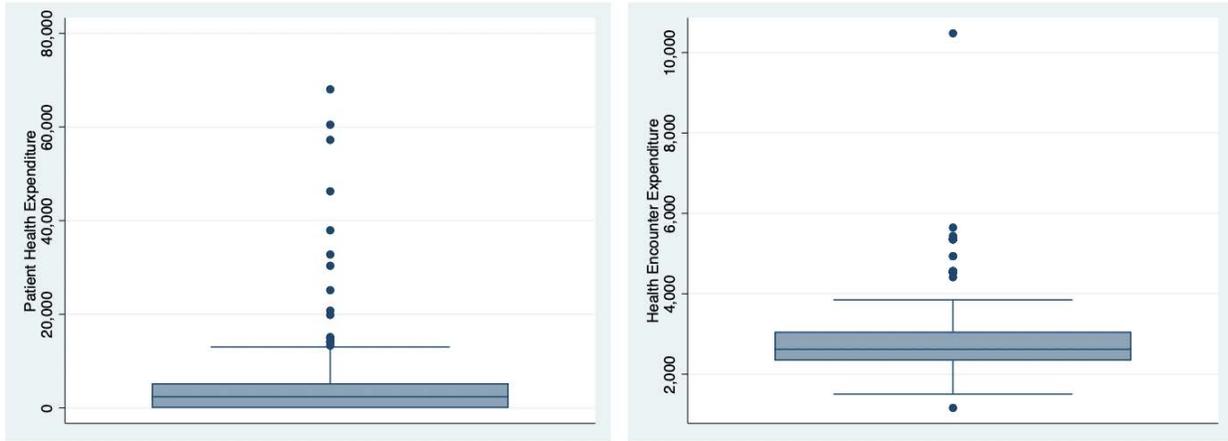


Table 3.5 provides a summary of laboratory and hospital costs incurred in the 12-month period prior to program referral. 105 of the 187 participants had health care service utilization in the 12-months prior to program entry. Health care service costs for this period were estimated as \$911,143 (as expressed in 2020 dollars) for an average cost per participant of \$4,872. The health care expenditures ranged from \$1,723 to \$70,324 across participants who had costs. Emergency room (ER) visits were more common than inpatient stays, with the vast majority of the costs incurred from ER visits. Testing services accounted for less than 2% of the estimated total health care costs during this period.

Table 3.5 Pre-Program Health Service Utilization and Expenditures

Health Costs During 12 Month Period Prior to Referral	Clients With Costs During This Period (From Cohort of 187)	Number of Services That Cohort Used During This Period	Cost During This Period (in 2020 \$)	Average Cost per Client, Among All Clients in Cohort	Lowest Cost During Period per Client Who Has Any Cost During Period	Highest Cost per Client
Healthcare - All	105	See Below	\$911,143	\$4,872	\$1,723	\$70,324
Testing – All	86	281*	\$18,022	\$96	\$9	\$1,918
Imaging (X-Rays, CT Scans, etc.)	58	104*	\$13,050	\$70	\$9	\$1,684
Laboratory (Blood, Urine, Swab, etc.)	78	177*	\$4,972	\$27	\$9	\$558
Hospital - All	105	313	\$893,012	\$4,776	\$1,723	\$69,383
Inpatient	16	20	\$51,114	\$273	\$1,655	\$5,563
Emergency Room	101	294	\$842,007	\$4,503	\$1,723	\$67,228

*These are the number of unique testing service-date-patient combinations. Often several testing services were performed on the same patient during 1 visit, so the number of labs or imaging tests is higher.

Criminal Justice Service Utilization and Costs

Next, we describe criminal justice service utilization and associated costs across participants in the baseline period (see Table 3.6). During this period, 97% of the sample had recorded utilization, with costs ranging from \$336 to \$39,172 among people who generated any costs. The total costs during this 12-month baseline period were estimated at \$2,227,171 for services across the seven different criminal justice entities for an average participant cost of \$11,910. The majority of the costs (69 percent) were associated with the Pima County Sheriff’s Department.

Table 3.6 Participant Pre-Program Criminal Justice Service and Expenditures

Criminal Justice Costs During 12 Month Period Prior to Referral	Clients With Costs During This Period (From Cohort of 187)	Number of Services That Cohort Used During This Period	Cost During This Period (in 2020 \$)	Average Cost per Client, Among All Clients in Cohort	Lowest Cost During Period per Client Who Has Any Cost During Period	Highest Cost per Client
All of the Below CJ Services	181	See Below	\$2,227,171	\$11,910	\$336	\$39,172
Pima County Public Defense Services, Total	158	368	\$310,712	\$1,662	\$11	\$6,920
Felony	147	301	\$298,030	\$1,594	\$96	\$6,920
Misdemeanor	13	21	\$6,068	\$32	\$11	\$1,358
Probation	32	46	\$6,614	\$35	\$29	\$617
Adult Probation Department, Total	101	105	\$195,856	\$1,047	\$21	\$7,691
Standard Supervision*	39	40	\$22,466	\$120	\$25	\$1,642
Drug Court (PCDC)	51	51	\$124,045	\$663	\$240	\$3,241
Revoked	0	0	\$-	\$-	\$-	\$-
IPS	14	14	\$49,346	\$264	\$21	\$7,691
Pre-Sentence (PSI)	0	0	\$-	\$-	\$-	\$-
Pretrial Services, Total	106	159	\$25,450	\$136	\$3	\$1,753
Standard Supervision	79	102	\$17,173	\$92	\$3	\$931
Enhanced Supervision	41	65	\$8,277	\$44	\$9	\$1,124
Pima County Attorney Programs, Total	13	13	\$38,957	\$208	\$233	\$5,744
Pima County Sheriff's Department, Total	175	475	\$1,538,753	\$8,229	\$336	\$37,599
TPD	136	318	\$1,091,123	\$5,835	\$330	\$37,599
OVPD	9	12	\$27,018	\$144	\$326	\$16,727
UAPD	3	5	\$7,875	\$42	\$330	\$6,430
MPD	7	8	\$8,748	\$47	\$330	\$5,851
APO	17	21	\$107,536	\$575	\$1,277	\$12,467

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Criminal Justice Costs During 12 Month Period Prior to Referral	Clients With Costs During This Period (From Cohort of 187)	Number of Services That Cohort Used During This Period	Cost During This Period (in 2020 \$)	Average Cost per Client, Among All Clients in Cohort	Lowest Cost During Period per Client Who Has Any Cost During Period	Highest Cost per Client
DPS	14	21	\$78,137	\$418	\$330	\$20,593
PCSD	51	84	\$203,421	\$1,088	\$330	\$19,246
SPD	4	6	\$14,895	\$80	\$336	\$10,379
Tucson Public Defender's Office, Total	60	80	\$33,401	\$179	\$18	\$1,787
Contract Attorney Representation	2	3	\$1,646	\$9	\$484	\$1,163
Public Defender Representation	59	77	\$31,754	\$170	\$18	\$1,787
Tucson Police Department, Total	131	439	\$84,041	\$449	\$116	\$5,335
Deflection	12	12	\$1,220	\$7	\$100	\$102
Active Outreach	0	0	\$-	\$-	\$-	\$-
Jail Booking	126	278	\$64,523	\$345	\$213	\$1,938
Field Release	57	149	\$18,298	\$98	\$116	\$3,397

*Includes Supervision Labels: Standard, Standard SMI, Standard DV, DOC release - Standard, Warrant Team...for which the Department has estimated the same cost per case.

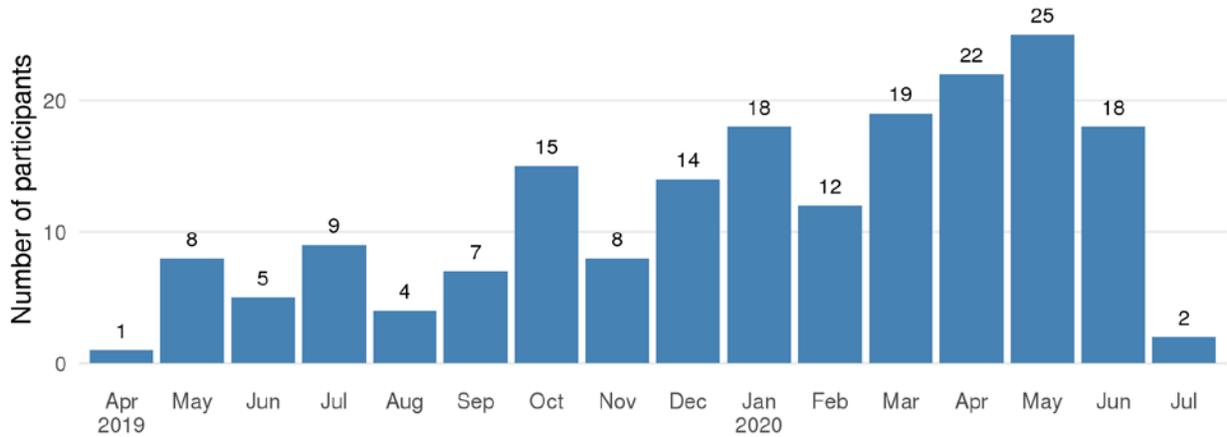
4. Program Progress

In this chapter we describe program progress to date. This includes information about program enrollment rates and progress on participant receipt of the different program components (i.e., housing vouchers and long-term housing).

Recruitment and Enrollment

From April 2019 through July 15 2020, 187 participants were enrolled into the program. Monthly enrollment rates, shown in Figure 4.1, reflect a gradual ramping up of the program with significant month-to-month variation. Most participants were referred to the program by either the Adult Probation Department (APD) in Pima County or by the Pima County Public Defender’s Office (PCPDS; see Figure 4.2). A minority of participants was referred by other criminal justice agencies, by law enforcement agencies, or by other sources.

Figure 4.1 Program Intake by Month



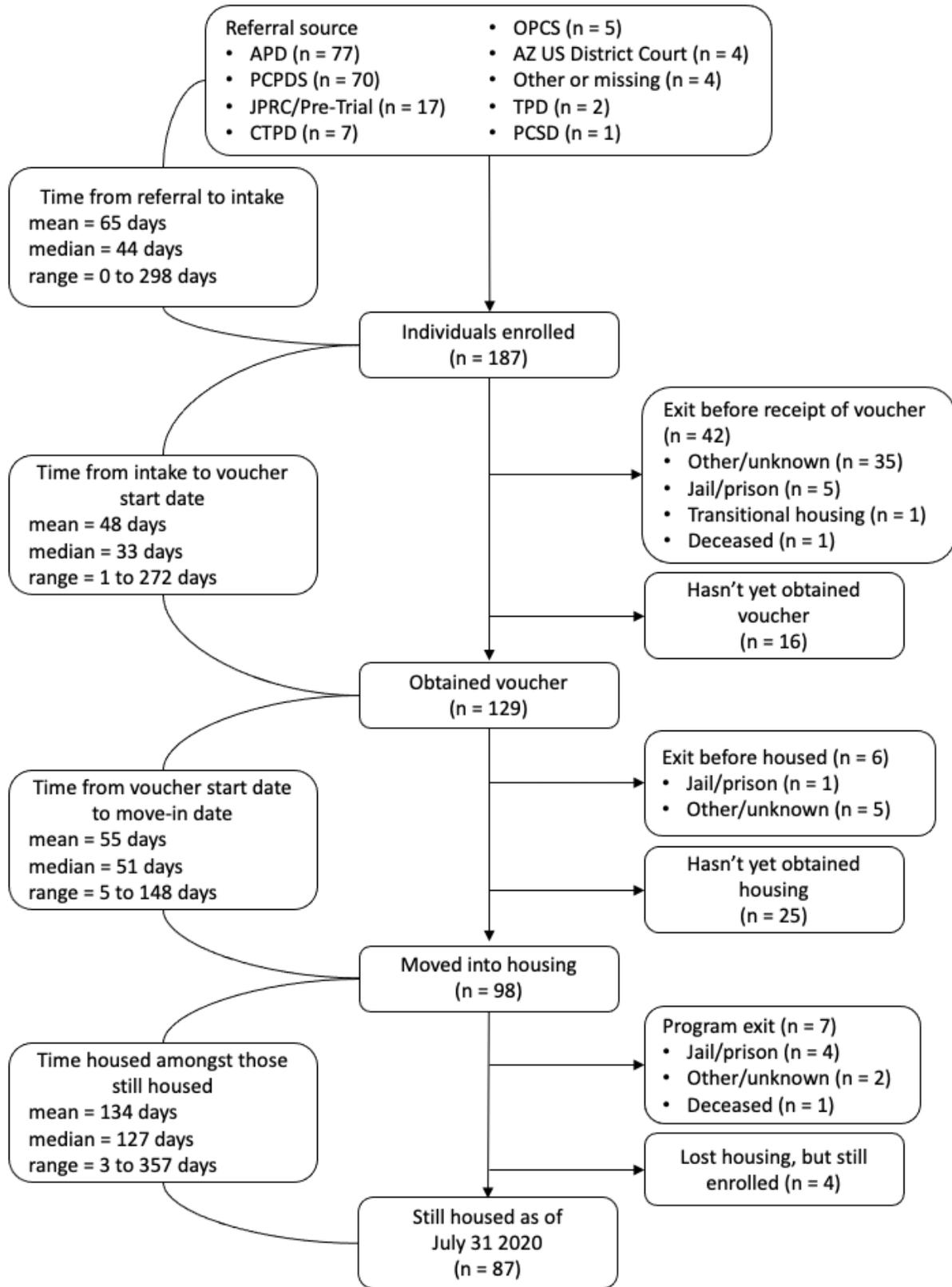
Note: The source data does not capture the entire month of July 2020.

Program Milestone Progress

Figure 4.2 also shows the time between the different program milestones (i.e., referral, enrollment, receipt of housing voucher, and housing move-in) in the boxes appearing on the left-hand side of the figure, while the reasons and number exiting the program between enrollment, voucher and housing are provided on the right-hand side of the figure. As shown here, about 69 percent of program participants had received a housing voucher, of which 76 percent had moved into housing. Because this program is ongoing with a rolling enrollment process, there were individuals still awaiting a voucher (9 percent) or had yet to obtain housing after voucher receipt (13 percent) at the time of this analysis. Twenty-six percent (n=48) had exited the program before housing receipt with the majority of exits occurring between program enrollment and housing voucher receipt (n=42). As shown here, known exits were for jail/prison (n=6), transitional housing (n=1), and death (n=1). Forty of the exits were coded as other/unknown.

The time between referral and intake typically took around 6-9 weeks. After an individual was enrolled, it took most participants 4-6 weeks to obtain a housing voucher. After receiving a housing voucher, participants were typically placed in housing in less than 2 months. Overall, the median time from referral to housing was between 4 and 5 months. It is important to note that there was a significant range in time for specific participants, in some cases the process between these milestones was much faster (within days) and other times, it took participants several months between milestones.

Figure 4.2 Program Progress



Programmatic Costs

We obtained cost information from Old Pueblo Community Services (OPCS) from program inception through June 2020. Table 4.1 summarizes programmatic costs during this period. Overall, OPCS spent \$1,184,764 representing a monthly cost of \$78,984 over the period. At the participant level, OPCS has spent on average a total of \$6,336 per participant, for a monthly participant cost rate of \$1,386.

Table 4.1 Program Services: Programmatic and Client-Level Cost

Cost Category	Program: Total Cost	Program: Monthly Cost	Client: Total Cost*	Client: Monthly Cost**
Personnel & Fringe	\$570,665	\$38,044	\$3,052	\$668
Equipment	\$27,508	\$1,834	\$147	\$32
Participant Services	\$238,621	\$15,908	\$1,276	\$279
Operating Costs	\$154,424	\$10,295	\$826	\$181
Admin Costs	\$193,546	\$12,903	\$1,035	\$226
Total	\$1,184,764	\$78,984	\$6,336	\$1,386

*Distributed evenly across all 187 clients; **Monthly cost based on client-months enrolled

We also disaggregated service costs according to service category: bridge housing costs, directed to housing services for program participants prior to receipt of permanent supportive housing; supportive housing costs, directed to housing support services for program participants after receipt of permanent supportive housing; and other support costs provided over the full period. As shown in Table 4.2, bridge and supportive housing services were relatively evenly distributed as a percentage of total program costs—46% and 45%, respectively—though bridge housing was more expensive on a per capita basis. As a function of bed days occupied in bridge housing, the average cost was \$76 per day in bridge housing.

Table 4.2 Program Services: Costs by Service Category

Cost Category	Program: Total Cost	Program: Monthly Cost	Client: Total Cost	Client: Monthly Cost
Bridge Housing Costs	\$550,458	\$36,697	\$4,475 ^b	\$2,331 ^e
Supportive Housing Costs	\$536,928	\$35,795	\$5,479 ^c	\$1,502 ^f
Other Support Costs	\$97,378	\$6,492	\$521 ^a	\$114 ^d
Total	\$1,184,764	\$78,984	\$6,336^a	\$1,386^d

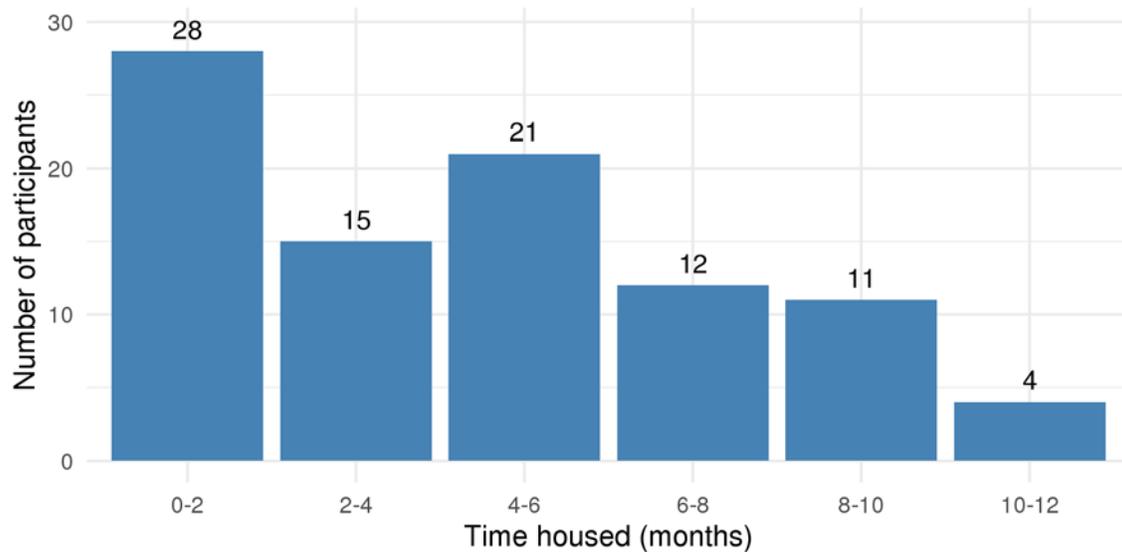
^a Distributed evenly across all 187 clients; ^b Based on number of clients (n=123) who have received bridge housing at any point during the analytic period; ^c Based on number of clients who have received PSH at any point during the analytic period; ^d Based on total person-months contributed; ^e Based on cost rate of 30.5 occupied bed days in bridge housing; ^f Based on person-months in permanent supportive housing.

Housing Status and Service Use

Eighty-seven of the 98 individuals that have been enrolled and placed into housing since program inception are still housed, giving the program an 89% housing stability rate so far. This finding is similar to results found in other PSH programs. As of the end of July 2020, participants who remained housed were in PSH for a median of only 127 days. Housing stability rates for these type of programs are typically examined at 6- and/or 12-months after move-in.

Figure 4.3 provides a summary of time since housing move-in for the participants who obtained housing. As of July 31 2020, 27 (30 percent) have been in housing for 6 months or longer. The majority of participants have accrued less time in housing.

Figure 4.3 Current Time Housed



5. Outcomes

Outcome Analyses

By the end of December 2019, 71 individuals had been enrolled into the program. Therefore, at the end of June 2020 (i.e., the end of our data analytic window for examining outcomes), we had six months of data post-program enrollment to examine from this cohort of 71 program participants. A description of the demographic characteristics of this cohort are provided in the Appendix. Overall, they were similar to the overall participant group (n =187, presented in Table 3.1) on these characteristics.

Next, we examined service utilization and related costs for this cohort for the 6-month period before they were referred into the program and compared it to the 6-month period following program enrollment to examine how service utilization changed before and after program intake. In Table 5.1, we present the number (and percentage) of participants in the cohort that utilized the different criminal justice and health care services in the pre-referral and post-enrollment periods along with the differences between the two periods. Generally, fewer participants utilized both criminal justice and health care services in the post-enrollment period as compared to the pre-referral period. An exception to this pattern was Probation and County Attorney services, where there was an increase in participants using these services in the post-enrollment period. The largest reductions were observed for Tucson Police and Pima County Sheriff services, where the number of participants using these services decreased by more than 55%.

Table 5.1 Number of Participants Using Services Pre- and Post-Program Enrollment Periods

Entity	Participants Utilizing Services (from Cohort of 71)		
	<i>Pre-Referral</i>	<i>Post-Enrollment</i>	<i>Difference</i>
Criminal Justice			
Pima County Adult Probation Dept	40 (56.3%)	58 (81.7%)	18 (45%)
Pima County Pretrial Services	33 (46.5%)	9 (12.7%)	-24 (-72.7%)
Pima County Public Defense Services	60 (84.5%)	46 (64.8%)	-14 (-23.3%)
Pima County Sheriff's Dept	62 (87.3%)	26 (36.6%)	-36 (-58.1%)
Tucson Police Dept	36 (50.7%)	14 (19.7%)	-22 (-61.1%)
Tucson Public Defender's Office	19 (26.8%)	18 (25.4%)	-1 (-5.3%)
Pima County Attorney	0 (0%)	2 (2.8%)	2 (NA)
Overall	69 (97.2%)	67 (94.4%)	-2 (-2.9%)
Health Care			
Hospitals	24 (33.8%)	22 (31%)	-2 (-8.3%)
Labs	19 (26.8%)	14 (19.7%)	-5 (-26.3%)
Overall	24 (33.8%)	22 (31%)	-2 (-8.3%)

In Table 5.2, we presented the results from examining the number of criminal justice and health care service events in the baseline and post-enrollment periods, along with the difference for each type of service and the overall significance test value for the criminal justice services and health care services. As shown, there was a significant reduction in the use of criminal justice services in the post-enrollment period as compared to the pre-referral period, but not for health care services, which remained quite similar in both periods.

Table 5.2 Number of Service Events in the Pre- and Post-Program Enrollment Periods

Entity	Number of Events			
	<i>Pre-Referral</i>	<i>Post-Enrollment</i>	<i>Difference</i>	<i>p-value</i>
Criminal Justice				
Pima County Adult Probation Dept	42	61	19	
Pima County Pretrial Services	42	11	-31	
Pima County Public Defense Services	120	82	-38	
Pima County Sheriff's Dept	124	44	-80	
Tucson Police Dept	122	37	-85	
Tucson Public Defender's Office	122	112	-10	
Pima County Attorney	0	2	2	
Overall	572	349	-223	< 0.01
Health Care				
Hospitals	84	73	-11	
Labs	66	69	3	
Overall	150	142	-8	0.82

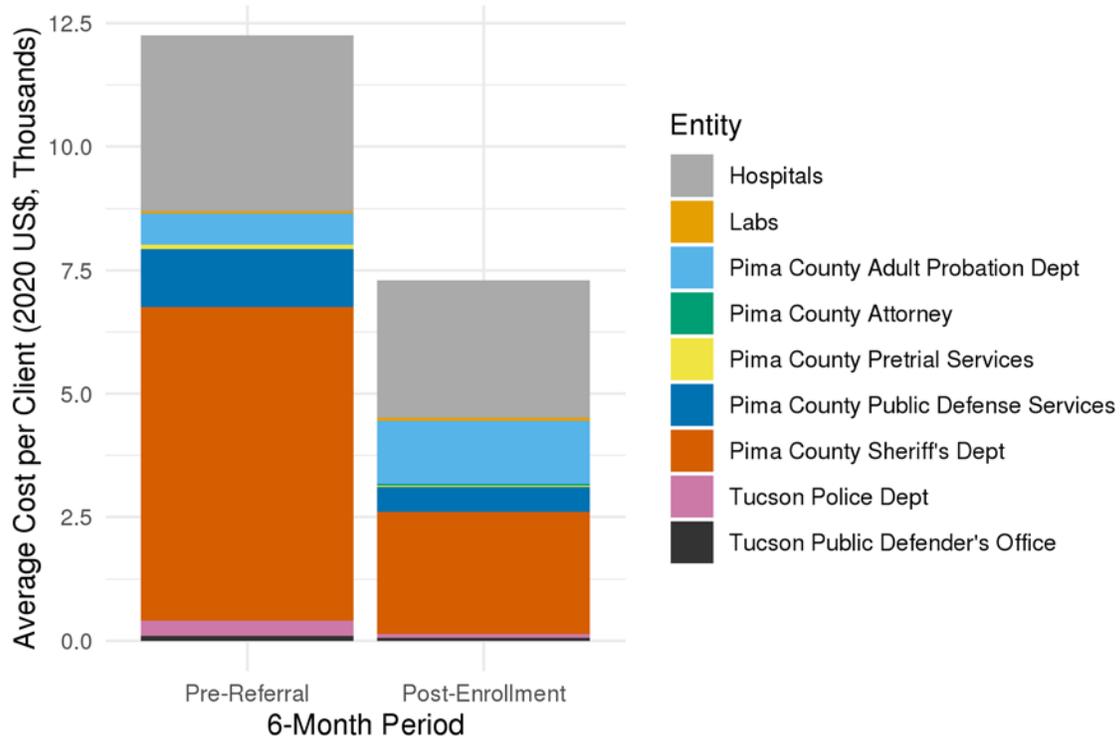
In Table 5.3, we present the average criminal justice and health care service cost per participant in the pre-referral and post-enrollment periods along with the difference for each type of service and the significance test value for the overall criminal justice services and health care services costs. We found a significant reduction in overall criminal justice service costs in the post-enrollment period as compared to the pre-referral period of over \$4,000. The reduction in overall health care costs between the post and pre-periods (\$751) was not statistically significant.

Table 5.3 Average Service Cost Per Participant in the Pre- and Post-Enrollment Periods

Entity	Average Service Cost Per Participant			
	<i>Pre-Referral</i>	<i>Post-Enrollment</i>	<i>Difference</i>	<i>p-value</i>
Criminal Justice				
Pima County Adult Probation Dept	\$630	\$1,283	\$653	
Pima County Attorney	\$0	\$30	\$30	
Pima County Pretrial Services	\$83	\$37	-\$46	
Pima County Public Defense Services	\$1,179	\$501	-\$677	
Pima County Sheriff's Dept	\$6,342	\$2,455	-\$3,887	
Tucson Police Dept	\$309	\$89	-\$220	
Tucson Public Defender's Office	\$105	\$55	-\$49	
Overall	\$8,647	\$4,450	-\$4,197	< 0.01
Health Care				
Hospitals	\$3,539	\$2,787	-\$752	
Labs	\$63	\$64	\$1	
Overall	\$3,602	\$2,851	-\$751	0.51

Figure 5.1 shows the average cost per participant across all service types in the 6-month pre- and post-program enrollment periods. As shown, overall costs were reduced in the post-enrollment period, primarily due to a reduction in Pima County Sheriff service costs. In summary, there was a 40% reduction in overall service costs from the post- to the pre-periods among this cohort of 71 participants.

Figure 5.1 Six-Month Costs by Service Type in the Pre-Referral and Post-Enrollment Periods

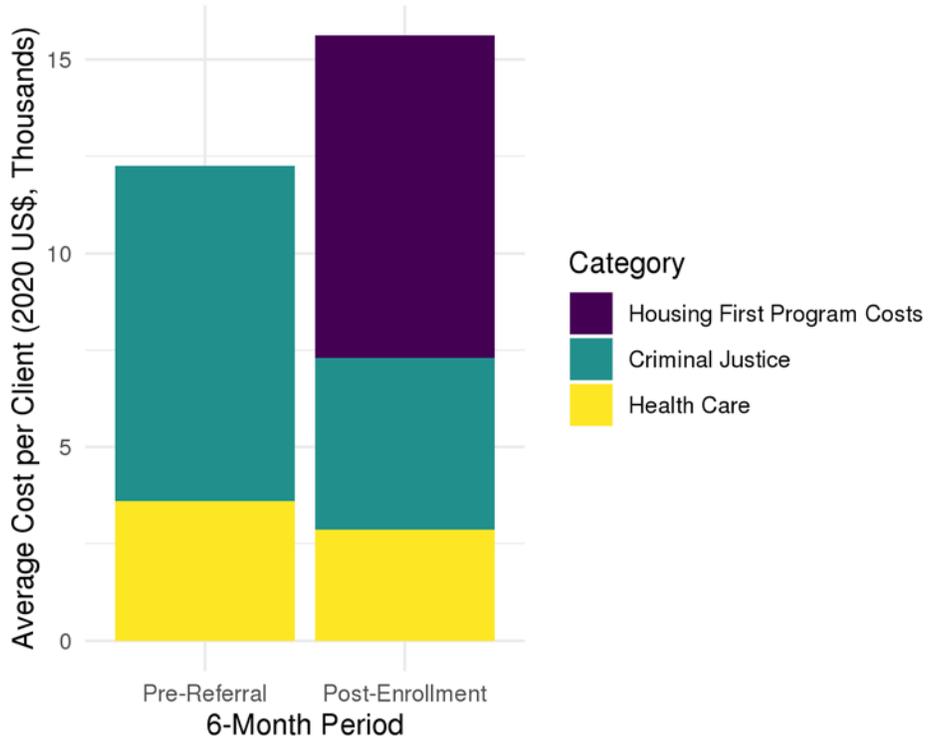


Total Costs Pre-Referral and Post-Enrollment

Total costs represent the combined, cumulative costs of permanent supportive housing services, health care services and criminal justice system services. To identify potential cost savings or additional costs attributable to implementation of the PSH program, we compared total costs during the pre-referral period and post-enrollment period.

As shown in Figure 5.2, the average total cost during the six-month pre-referral period was \$12,249, compared to \$7,301 during the post-enrollment period—a difference of \$4,948 per participant. One can also see that healthcare costs and criminal justice system-related costs declined between pre-referral to post-enrollment periods; however, the PSH costs (\$8,316) offset this difference and ultimately resulted in a higher total cost during post-enrollment (\$15,617). It is possible that health and criminal justice related cost savings could continue to accrue in future months and that PSH program costs decline as PSH costs shift from capital costs to lower recurrent costs for program maintenance. We plan to examine the program and its costs again in 2021 to help address this question.

Figure 5.2 Total Service Costs – Criminal Justice, Health Care and Housing First Program Costs



6. Summary and Conclusions

In this final chapter, we summarize our evaluation findings to date, the study's significance, and limitations to our evaluation. As noted earlier, this report is our second interim progress report; we anticipate the potential of making revisions based on stakeholder input. We also plan to produce a final evaluation report in 2021 that will allow us to examine outcomes over a longer time period and for a larger cohort.

Summary of Findings

- For this interim report, data from 187 individuals enrolled in the Housing First initiative between April 2019 - July 2020 was used to describe the participants receiving services to date and the timeline of receipt of program milestones, including housing voucher and placement in permanent supportive housing.
- In the 12 months prior to program referral, participants utilized a range of criminal justice services in Pima County that was estimated for a total cost of \$2,227,171, that is, \$11,910 per participant.
- In the 12 months prior to program referral, participants received care for a range of health conditions at an estimated total cost of \$911,143, or \$4,872 per participant.
- Twenty-nine percent of participants have exited the program at different time points; 42 exited before obtaining a housing voucher, 6 exited after obtaining a housing voucher but before housing placement, and 7 exited after housing placement.
- At time of receipt of the dataset, 98 participants had been placed in housing. Of those, 71 had been housed for at least 6 months. We used that cohort to compare service utilization pre-referral and post-program enrollment. We found significant reductions in criminal justice service utilization in the period after enrollment. Overall service costs reduced by 40%.
- Total service costs incurred by Old Pueblo Community Services through June 2020 was \$1,184,764, for a total cost per client per month of \$1,386. Taken into account the Housing First program costs, criminal justice and health care service costs for the six month period post-enrollment, program participants used on average \$15,617 in services during the post-enrollment period as compared to \$12,249 in the pre-referral period, showing a 27% increase in overall costs for the first six-month period after program enrollment.

Study Significance

This is one of the first studies of Housing First initiatives that specifically focuses on users of the criminal justice system who are experiencing homelessness. Many studies tend to target frequent and costly utilizers of the health care system who may or may not have some criminal justice service use. While some studies have examined criminal justice service costs among PSH study participants, the participants were not recruited directly from the criminal justice system and so are not likely to result in the same sort of program impacts. Therefore, this study is especially valuable to examine how well the PSH intervention works for individuals identified in the criminal justice system.

There are some indications that this study population is different from those enrolled in past PSH studies and therefore may respond differently or result in different service cost implications. For example, most PSH studies have had populations that have chronic health conditions, tend to be middle aged or older, have long history of homelessness and more likely to be male (Culhane, Metraux and Hadley, 2002; Hunter et al., 2017; Martinez and Burt, 2006; Shern et al., 1997; Somers et al., 2013). In contrast, this population tends to be much younger, is more than half female, and many have not incurred frequent and high health care service costs. As a result, the impact on criminal justice services and health care utilization may look quite different from those reported in previous studies. For example, a recent study of PSH participants identified by a health plan in inland Southern California showed an average pre-program 12-month health care service utilization cost of \$70,000 (McBain et al., 2020), compared to the participants in this study who had, on average, less than \$5,000 in pre-12 month health care service utilization.

Study Limitations

This interim report is limited in a variety of ways. First, the program is ongoing and the number of participants who have received the full intervention, including housing receipt, is a fairly small group from a perspective of evaluating outcomes. We plan to conduct more analyses with a larger group over a longer timeframe in 2021 to provide more reliable estimates of the impact of the Housing First initiative on participant outcomes.

Second, our estimates of health care service utilization and associated costs may be underestimated in the post-program period as OPCS does not capture health care service utilization after participants exit the program. For the results included in this report, we pro-rated our estimates of service utilization and associated costs for participants who exited the program prior to the end of the analytic time period, if the exit was not due to death, to take account for this missing data issue. There were a number of other assumptions we made about the health care service data that are outlined in our first interim report. This also speaks to a broader point that this evaluation relies on administrative data that are collected and shared with us by multiple entities in Pima County. As described earlier in the report, we performed several data quality checks before analyzing the data and producing the results presented in this report. However,

these data are subject to data collection, entry, and abstraction errors, some of which we are unable to identify through data quality checks and program entity staff review.

Third, we urge that readers use caution in the interpretation of changes in service utilization from the pre- and post-periods as due to the Housing First intervention as we do not know what service utilization would have looked like in the absence of the intervention. Previous studies of PSH have found that service utilization may decrease following enrollment due to a natural “regression to the mean” or, in other words, return to more normal values. That is, individuals are likely to be identified for program enrollment at a time when their service utilization is elevated, and even without an intervention an individual’s service utilization may decrease. Without including a cohort of similar individuals who do not receive the Housing First intervention over the same period of time in our study, it is difficult to make strong causal conclusions from this “treatment-only” sample.

Moreover, our results are limited in terms of generalizability of the findings to the broader population that may be appropriate for receiving PSH in Pima County. We understand that there were a few hundred individuals referred to the program; however, many were not enrolled, perhaps due to program ineligibility or other reasons determined at time of program intake. We did not receive any data on individuals referred but not enrolled, so we were unable to examine any differences between those referred but not enrolled or reasons for non-enrollment which could possibly influence program outcomes and help to generate knowledge about for whom the program is best suited.

References

- Arizona Health Care Cost Containment System, "AHCCCS Fee-For-Service Fee Schedules," 2020a. As of May 11, 2020:
<https://www.azahcccs.gov/PlansProviders/RatesAndBilling/FFS/>
- , "Inpatient Hospital APR-DRG Reimbursement Values," 2020b. As of May 11, 2020:
<https://www.azahcccs.gov/PlansProviders/RatesAndBilling/FFS/APRDRGrates.html>
- Baggett, Travis P., James J. O'Connell, Daniel E. Singer, and Nancy A. Rigotti, "The Unmet Health Care Needs of Homeless Adults: A National Study," *American Journal of Public Health*, Vol. 100, No. 7, 2010, pp. 1326–1333.
- Baillargeon, Jacques, Stephen K. Hoge, and Joseph V. Penn, "Addressing the Challenge of Community Reentry Among Released Inmates with Serious Mental Illness," *American Journal of Community Psychology*, Vol. 46, No. 3-4, 2010, pp. 361–375.
- Cloud, David, Michelle Dougherty, and Robert L. May, "At the Intersection of Health and Justice," *Perspectives in Health Information Management*, Vol. 11, No. Winter, 2014, p. 1c.
- Culhane, Dennis P., Stephen Metraux, and Trevor Hadley, "Public Service Reductions Associated with Placement of Homeless Persons with Severe Mental Illness in Supportive Housing," *Housing Policy Debate*, Vol. 13, No. 1, 2002, pp. 107-163.
- D'Amore, Jason, Oliver Hung, William Chiang, and Lewis Goldfrank, "The Epidemiology of the Homeless Population and Its Impact on an Urban Emergency Department," *Academic Emergency Medicine*, Vol. 8, No. 11, 2001, pp. 1051-1055.
- Department of Housing and Urban Development, "24 CFR Parts 91 and 578 [Docket No. FR–5809–F–01] RIN 2506–AC37 Homeless Emergency Assistance and Rapid Transition to Housing: Defining “Chronically Homeless”,” *Federal Register*, Vol. 80, No. 233, 2015, pp. 75791-75806.
- Dopp, Alex R., Cameron M. Perrine, Samantha Iovan, and Paula M. Lantz, "The Potential of Pay-for-Success as a Financing Strategy for Evidence-Based Practices: An Illustration with Multisystemic Therapy," *Administration and Policy in Mental Health*, Vol. 46, No. 5, 2019, pp. 629-635.
- Healthcare Cost and Utilization Project, "Archives for the CCSR," 2020. As of May 11, 2020:
https://www.hcup-us.ahrq.gov/toolssoftware/ccsr/ccsr_archive.jsp#ccsr
- Hunter, Sarah B., Melody Harvey, Brian Briscoombe, and Matthew Cefalu, *Evaluation of Housing for Health Permanent Supportive Housing Program*, Santa Monica, Calif.: RAND Corporation, RR-1694-BRC, 2017. As of May 12, 2020:
https://www.rand.org/pubs/research_reports/RR1694.html
- James, Doris J., and Lauren Glaze, *Mental Health Problems of Prison and Jail Inmates—Special Report, NCJ 213600*, Washington, D.C.: United States National Institute of Justice, Bureau of Justice Statistics, 2006.

- Karberg, Jennifer C., and Doris J. James, *Substance Dependence, Abuse, and Treatment of Jail Inmates, 2002*, Washington, D.C.: U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, 2005.
- Kushel, Margot B., Sharon Perry, David Bangsberg, Richard Clark, and Andrew R. Moss, "Emergency Department Use Among the Homeless and Marginally Housed: Results from a Community Based Study," *American Journal of Public Health*, Vol. 92, No. 5, 2002, pp. 778–784.
- Kushel, Margot B., Eric Vittinghoff, and Jennifer S. Haas, "Factors Associated with the Health Care Utilization of Homeless Persons," *JAMA*, Vol. 285, No. 2, 2001, pp. 200–206.
- Larimer, Mary E., Daniel K. Malone, Michelle D. Garner, David C. Atkins, Bonnie Burlingham, Heather S. Lonczak, Kenneth Tanzer, Joshua Ginzler, Seema L. Clifasefi, and William G. Hobson, "Health Care and Public Service Use and Costs Before and After Provision of Housing for Chronically Homeless Persons with Severe Alcohol Problems," *JAMA*, Vol. 301, No. 13, 2009, pp. 1349-1357.
- Martinez, Tia E., and Martha R. Burt, "Impact of Permanent Supportive Housing on the Use of Acute Care Health Services by Homeless Adults," *Psychiatric Services*, Vol. 57, No. 7, 2006, pp. 992-999.
- McBain, Ryan K., Sarah B. Hunter, Adam Scherling, Alina I. Palimaru, Matthew Cefalu, William McConnell, and Priya Batra, *Health Service Utilization and Costs at the Outset of a Permanent Supportive Housing Program: Baseline Evaluation Report*, Santa Monica, Calif.: RAND Corporation, RR-A374-1, 2020. As of November 23, 2020: https://www.rand.org/pubs/research_reports/RRA374-1.html
- Messina, Nena, William Burdon, Garo Hagopian, and Michael Prendergast, "One Year Return to Custody Rates Among Co-Disordered Offenders," *Behavioral Sciences and the Law*, Vol. 22, No. 4, 2004, pp. 503–518.
- Metraux, Stephen, and Dennis P. Culhane, "Recent Incarceration History Among a Sheltered Homeless Population," *Crime & Delinquency*, Vol. 52, No. 3, 2006, pp. 504–517.
- Metraux, Stephen, Caterina G. Roman, and Richard Cho, "Incarceration and Homelessness," in Dennis, Deborah, Gretchen Locke, and Jill Khadduri, eds., *Toward Understanding Homelessness: The 2007 National Symposium on Homelessness Research*, Washington D.C.: U.S. Department of Housing and Urban Development, 2008.
- Morrison, David S., "Homelessness as an Independent Risk Factor for Mortality: Results from a Retrospective Cohort Study," *International Journal of Epidemiology*, Vol. 38, No. 3, 2009, pp. 877–883.
- National Health Care for the Homeless Council, *Homeless & Health: What's the Connection*, Nashville, Tenn: National Health Care for the Homeless Council, 2011.
- Osher, Fred C., and Henry J. Steadman, "Adapting Evidence-Based Practices for Persons with Mental Illness Involved with the Criminal Justice System," *Psychiatric Services*, Vol. 58, No. 11, 2007, pp. 1472–1478.

- Peters, Roger H., and Nicole M. Bekman, "Treatment and Reentry Approaches for Offenders with Co-Occurring Disorders," in Greifinger, Robert, ed., *Public Health Behind Bars*, New York: Springer, 2007, pp. 368–384.
- Peters, Roger H., Harry K. Wexler, and Arthur J. Lurigio, "Co-Occurring Substance Use and Mental Disorders in the Criminal Justice System: A New Frontier of Clinical Practice and Research," *Psychiatric Rehabilitation Journal*, Vol. 38, No. 1, 2015, pp. 1-6.
- Prins, Seth J., "Prevalence of Mental Illnesses in U.S. State Prisons: A Systematic Review," *Psychiatric Services*, Vol. 65, No. 7, 2014, pp. 862–872.
- Shern, David L., Chip J. Felton, Richard L. Hough, Anthony F. Lehman, Stephen Goldfinger, Elie Valencia, Deborah Dennis, Roger Straw, and Patricia A. Wood, "Housing Outcomes for Homeless Adults with Mental Illness: Results from the Second-Round McKinney Program," *Psychiatric Services*, Vol. 48, No. 2, 1997, pp. 239-241.
- Somers, Julian M., Stefanie N. Rezansoff, Akm Moniruzzaman, Anita Palepu, and Michelle Patterson, "Housing First Reduces Re-Offending Among Formerly Homeless Adults with Mental Disorders: Results of a Randomized Controlled Trial," *PloS One*, Vol. 8, No. 9, 2013, p. e72946.
- The Sorenson Impact Center, *Pay for Success Feasibility Report, Pima County, AZ. (Published October 2017, Updated December 2017)*, Salt Lake City, Utah: The Sorenson Impact Center, University of Utah's David Eccles School of Business, 2017.
- U.S. Bureau of Labor Statistics, "Consumer Price Index," 2018. As of May 5, 2020: <https://www.bls.gov/cpi/additional-resources/geographic-revision-2018.htm>
- Wu, Fei, and Max Stevens, *The Services Homeless Single Adults Use and Their Associated Costs: An Examination of Utilization Patterns and Expenditures in Los Angeles County over one Fiscal Year*, Los Angeles, Calif.: Los Angeles County Chief Executive Office, 2016.

Appendix

Table A.1 Criminal Justice Services Cost Estimates by Entity and Fiscal Year

Entity	Approach	Description			
Pima County Public Defense Services	1	Fiscal Year	Felony	Misdemeanor	Probation or Juvenile Delinquency
		FY16/17	\$1,592	\$344	\$1,106
		FY17/18	\$1,524	\$342	
		FY18/19	\$1,520	\$418	
		FY19/20	\$1,520	\$418	
Pima County Adult Probation Dept	2	Type of Supervision			Average cost per day that the supervision is active (2020)
		Drug Court (PCDC)			\$8.88
		Standard, DOC Release, or Warrant Team			\$3.10
		Standard SMI			\$4.50
		Standard DV			\$4.50
		Revoked			\$72.46
		IPS			\$21.07
Pre-Sentence (21 days to complete a report)			\$21.50		
Pima County Pre-trial Services	2	\$3 per day			
Pima County Attorney's Office	2	Specialty Court program costs are estimated as \$17,000 for a three-year program, which is \$16 per day.			
Pima County Sheriff's Dept	1	Fiscal Year	Booking Fee	Daily Fee	
		FY16/17	\$299.53	\$89.02	
		FY17/18	\$315.18	\$94.94	
		FY18/19	\$324.98	\$99.79	
		FY19/20	\$348.81	\$102.84	
City of Tucson Police Dept	2	Arrest Type		Cost Including Overhead (2019)	
		Deflection		\$100.41	
		Active Outreach		\$119.19	
		Booked		\$213.09	
		Field Release		\$115.92	
City of Tucson Public Defender's Office	1	Fiscal Year	Average Cost/Defendant		
		FY16/17	\$545/Defendant		
		FY17/18	\$535/Defendant		
		FY18/19	\$577/Defendant		

Table A.2 Participant Demographic Characteristics, Outcomes Cohort (n = 71)

Variable	Value	Percent
Age	18-25	15%
	26-35	51%
	36-45	30%
	46-55	4%
Race	American Indian/ Alaska Native	3%
	Asian	1%
	Black or African American	7%
	Native Hawaiian/ Pacific Islander	1%
	White	87%
Ethnicity	Hispanic/ Latino	39%
	Non-Hispanic	61%
Gender	Female	49%
	Male	51%
Veteran Status	No	99%
	Yes	1%
Household Type	Couple with no children	3%
	Female Single Parent	13%
	Male Single Parent	7%
	Non-Custodial Caregiver(s)	1%
	Single	70%
	Two Parent Family	6%
VI-SPDAT	2-3	1%
	4-7	8%
	8-11	11%
	12-15	11%
	16-18	0%
	Missing	68%

Note: Percentages may not sum to 100% due to rounding.

Outcomes for Participants Housed 6 Months (n = 27)

In this section, we present results from program participants who obtained housing 6 months prior to the end of our analytic window (i.e., before January 1, 2020), so that we can examine whether the housing portion of the intervention was associated with changes in service utilization from the pre-referral period. Similar to our analyses presented earlier, we compare service utilization for the 6 month period before referral and compare that to the 6-month period after housing receipt.

Table A.3 Number of Participants Using Services Pre-Referral and Post-Housing Receipt

Category	Entity	Pre-Referral	Post-Housing	Difference
Criminal Justice	Overall	26 (96.3%)	24 (88.9%)	-2 (-7.7%)
Criminal Justice	Pima County Adult Probation Dept	19 (70.4%)	22 (81.5%)	3 (15.8%)
Criminal Justice	Pima County Pretrial Services	12 (44.4%)	2 (7.4%)	-10 (-83.3%)
Criminal Justice	Pima County Public Defense Services	25 (92.6%)	15 (55.6%)	-10 (-40%)
Criminal Justice	Pima County Sheriff's Dept	24 (88.9%)	4 (14.8%)	-20 (-83.3%)
Criminal Justice	Tucson Police Dept	10 (37%)	5 (18.5%)	-5 (-50%)
Criminal Justice	Tucson Public Defender's Office	4 (14.8%)	2 (7.4%)	-2 (-50%)
Health Care	Overall	8 (29.6%)	6 (22.2%)	-2 (-25%)
Health Care	Hospitals	8 (29.6%)	6 (22.2%)	-2 (-25%)
Health Care	Labs	7 (25.9%)	4 (14.8%)	-3 (-42.9%)

Table A.4 Number of Services Events Pre-Referral and Post-Housing Receipt

Category	Entity	Pre-Referral	Post-Housing	Difference
Criminal Justice	Overall	172	70	-102
Criminal Justice	Pima County Adult Probation Dept	21	23	2
Criminal Justice	Pima County Pretrial Services	17	2	-15
Criminal Justice	Pima County Public Defense Services	46	29	-17
Criminal Justice	Pima County Sheriff's Dept	41	5	-36
Criminal Justice	Tucson Police Dept	28	5	-23
Criminal Justice	Tucson Public Defender's Office	19	6	-13
Health Care	Overall	34	47	13
Health Care	Hospitals	20	22	2
Health Care	Labs	14	25	11

Table A.5 Service Costs Pre-Referral and Post-Housing Receipt

Category	Entity	Pre-Referral	Post-Housing	Difference
Criminal Justice	Overall	\$8360	\$2759	-\$5601
Criminal Justice	Pima County Adult Probation Dept	\$734	\$1256	522
Criminal Justice	Pima County Attorney	\$0	\$0	\$0
Criminal Justice	Pima County Pretrial Services	\$67	\$35	-\$32
Criminal Justice	Pima County Public Defense Services	\$1064	\$523	-\$541
Criminal Justice	Pima County Sheriff's Dept	\$6248	\$897	-\$5351
Criminal Justice	Tucson Police Dept	\$198	\$33	-\$165
Criminal Justice	Tucson Public Defender's Office	\$49	\$16	-\$34
Health Care	Overall	\$2391	\$2225	-\$166
Health Care	Hospitals	\$2363	\$2187	-\$177
Health Care	Labs	\$27	\$38	\$11