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HOUSE: Homeless Opioid User Service Engagement Program. Year 1 Report

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April 2022

HOUSE:
Homeless Opioid User Service Engagement Program

Year 1 Report

GREATER PORTLAND HEALTH
CARING FOR THE WHOLE COMMUNITY

Preble Street

CUTLER INSTITUTE
MUSKIE SCHOOL OF PUBLIC SERVICE

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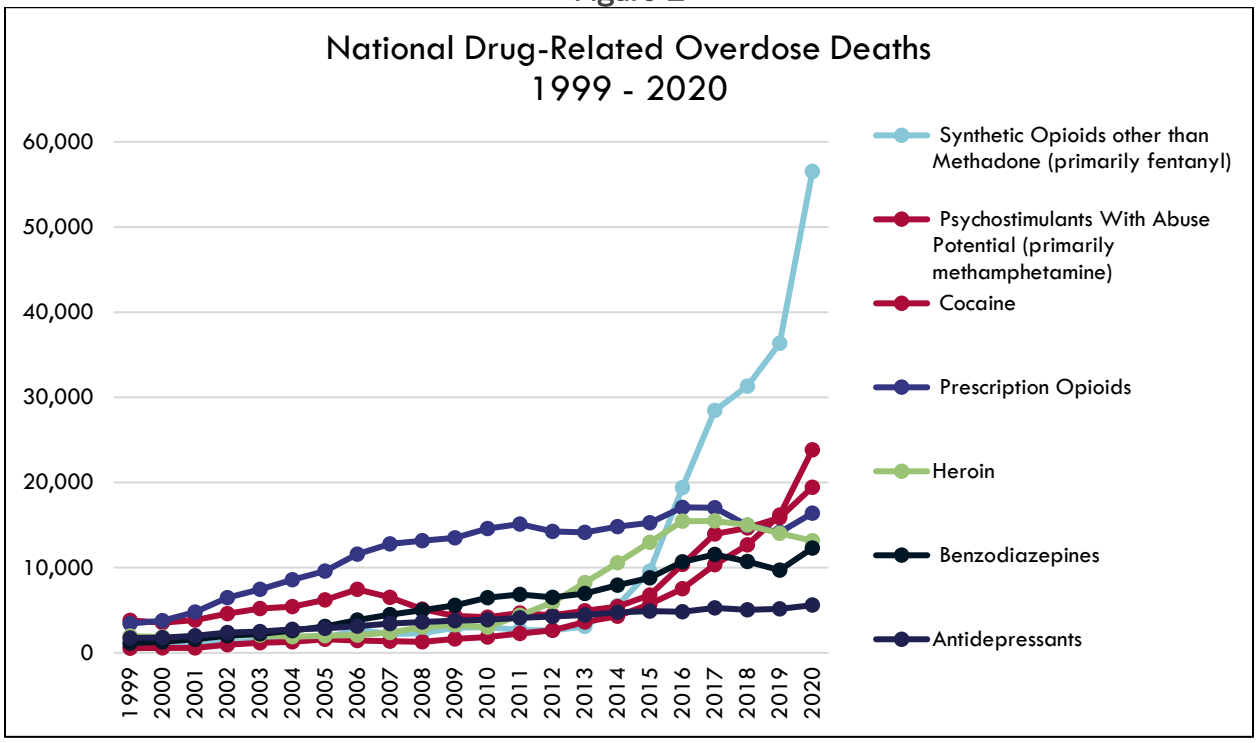
Introduction

The high rate of opioid misuse and subsequent addiction is a national and local public health crisis with significant impacts on morbidity and mortality, health care expenditures, crime, and health outcomes. Maine has been particularly hard hit by the opioid epidemic; overdose deaths have increase dramatically since 2014. In 2018, Maine had the 10th highest rate of opioid-related overdose deaths in the nation and but below the national average rate of prescribing opioid.[1] The introduction of COVID-19 has only exacerbated the problem, in 2020 there were 504 drug related deaths in Maine, a 33% increase from 2019, and most deaths were caused by opioids (83%).[2] This number only continues to rise with an estimated 636 people dying from overdoses in 2021, the highest rate of recorded overdose deaths in the state's history, largely the result of fentanyl.[3]

The CDC's Injury Center tracks overdoses involving natural & semi-synthetic opioids, methadone, synthetic opioids, and heroin. National drug-related overdose death trends mirror those in Maine with sharp increases in synthetic opioid use driving overdose deaths beginning in 2014 (Figure 1).

Figure 1

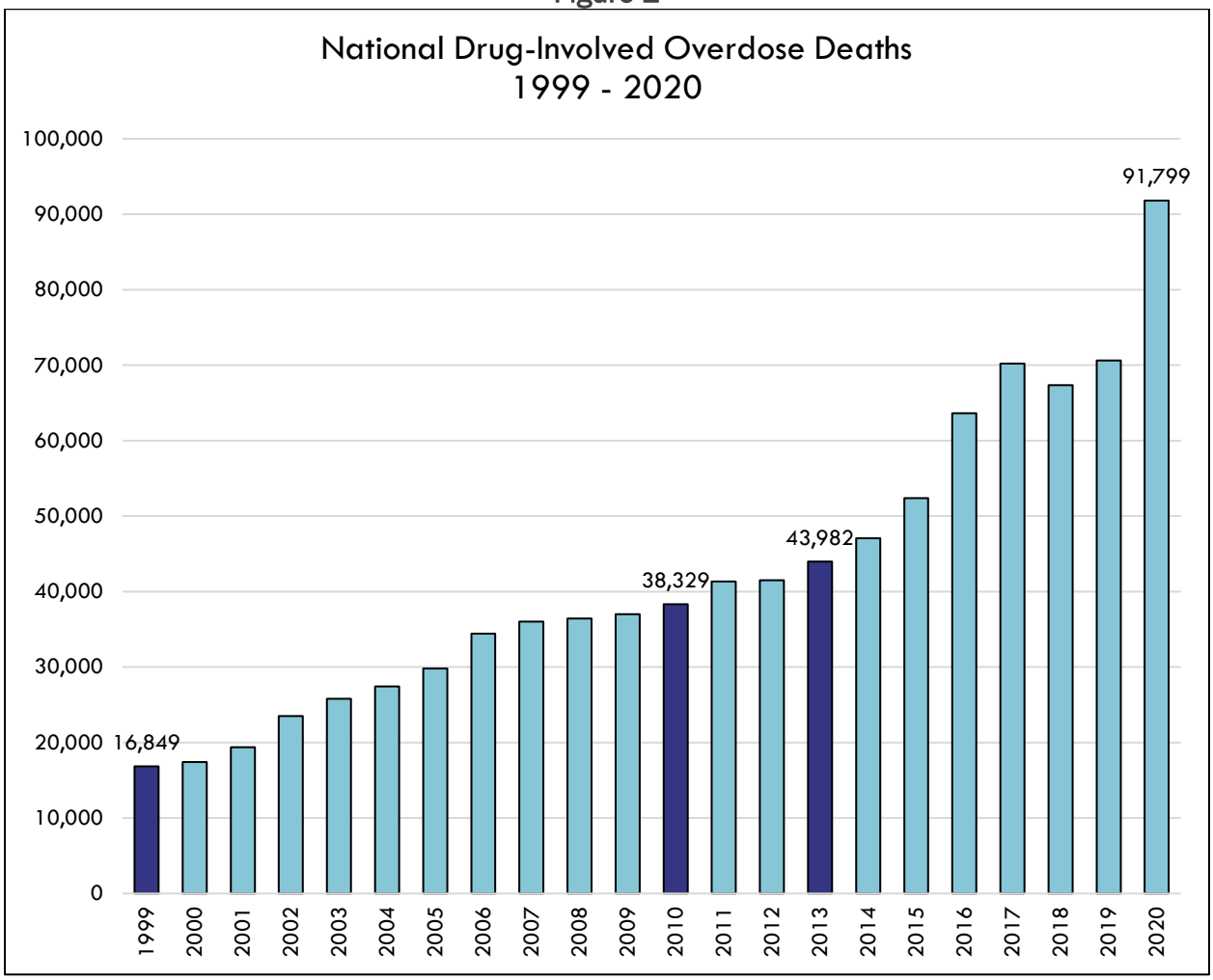


(Source: CDC WONDER)

[1] National Institute on Drug Abuse. Opioid Summaries by State. National Institutes of Health. Updated April 16, 2020. Accessed March 28, 2022. https://nida.nih.gov/drug-topics/opioids/opioid-summaries-by-state.
[2] Sorg, M. (2021). Maine Drug Death Report for 2020. file:///C:/Users/m.lindsey.smith/AppData/Local/Temp/2020_Annual_ME_Drug_Death_Rpt-Final-508.pdf.
[3] National Center for Health Statistics. Provisional Drug Overdose Death Counts. Center for Disease Control and Prevention. Updated March 16, 2022. Accessed March 28, 2022. https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm.

The CDC has identified three waves of overdoses in the past 30 years, indicated by dark blue bars in the chart below (Figure 2). The first wave of overdoses has been associated with an increase in deaths involving prescription opioids during the 1900s. The second wave occurred in 2010 with an increase in Heroin-involved overdose deaths. Soon after, in 2013, the third and most recent wave of overdoses involved a rise in deaths involving synthetic opioids (fentanyl) which has increased exponentially (Figure 1).[4]

Figure 2



(Source: CDC WONDER)

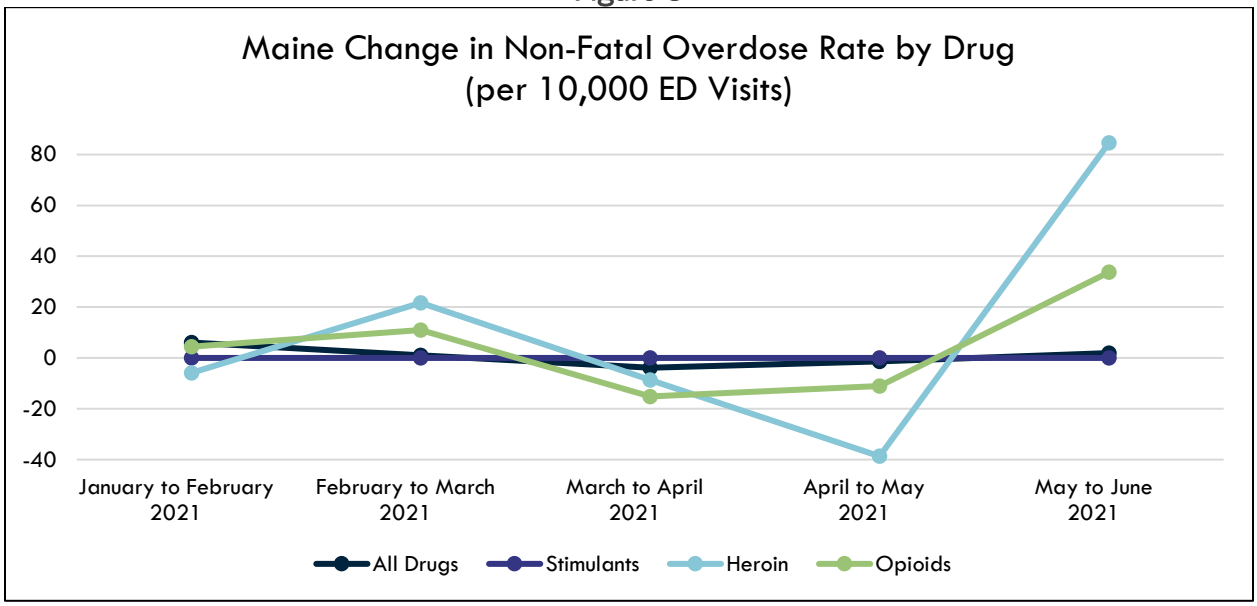
In 2020, almost 92,000 Americans died from drug overdoses involving any illicit or prescription opioid drug, which is nearly 5.5 times the number of drug overdose deaths in 1999. During 2019 in Maine, the age-adjusted drug overdose death rate was 39.7 deaths per 100,000 people. The total number of drug overdose deaths in Maine was 496 in 2020.[5]

[4] U.S. Department of Health & Human Services. Opioids. Center for Disease Control and Prevention. Updated March 10, 2021. Accessed March 28, 2022. https://www.cdc.gov/opioids/data/analysis-resources.html#anchor_data_analysis.

[5] National Center for Health Statistics. Drug Overdose Mortality by State. Center for Disease Control and Prevention. Updated March 1, 2022. Accessed March 28, 2022. https://www.cdc.gov/nchs/pressroom/sosmap/drug_poisoning_mortality/drug_poisoning.htm.

In 2021, there were some changes in the non-fatal overdoses rate, nationally and in Maine. Nationally, there was an increase in non-fatal overdoses between February to March 2021; then, the trend decreases and stabilizes. Maine experienced a similar trend pattern. Maine observed a decrease in non-fatal heroin overdoses between April to May 2021 but an increase in non-fatal heroin and opioid overdoses between May to June 2021 that was not seen on the same scale nationally (Figure 3).

Figure 3



It is important to note that information on non-fatal overdoses is limited due to incomplete/missing data, change in reporting, updates over time, suspected overdoses, unreported/undercounted overdoses, and visits that are not mutually exclusive. Maine non-fatal overdoses for stimulants are not available since this data was suppressed; this data was suppressed due to small sample size.

Living in high stress situations with limited access to healthcare makes individuals who are experiencing homelessness (IWAEH) particularly vulnerable to both opioid use disorder (OUD) and opioid overdoses. While data is currently not available on rates of overdoses and overdose deaths among IWAEH in Maine, recent data from other states suggests that IWAEH are at increased risk for opioid related morbidity and mortality. For example, in a recent study in Massachusetts, researchers found that fatal overdoses are 9 times more likely among IWAEH when compared to those in stable housing. The majority of these overdose deaths among IWAEH (81%) were caused by opioids, significantly higher than the national rate of 61%.[6] Moreover, recent large cohort study of IWAEH in Boston found that drug overdoses accounted for 1 in 4 deaths, with synthetic opioid and polysubstance being the primary contributors to mortality in recent years.[7] These studies point to the importance of

[6] Poe B and Boyer A. Addressing the Opioid Epidemic: How the Opioid Crisis Affects Homeless Populations. National Health Care for the Homeless Council. 2017; (August). https://nhchc.org/wp-content/uploads/2019/08/nhchc-opioid-fact-sheet-august-2017.pdf. Accessed March 18, 2022.
[7] Fine DR, Dickins KA, Adams LD, et al. Drug Overdose Mortality Among People Experiencing Homelessness, 2003 to 2018. JAMA Netw Open. 2022;5(1):e2142676. doi:10.1001/jamanetworkopen.2021.42676.

increasing access to comprehensive evidence-based programming that includes including harm reduction, treatment, case management and ongoing recovery supports to meet multifaceted needs of this highly vulnerable population.

Homelessness and lack of stable housing is often a barrier to achieving stability for individuals who are experiencing homelessness with an OUD. In order to meet the complex needs of IWAEH with OUD, the Department of Health and Human Services funded a pilot program in 2021, the Homeless Opioid Users Service Engagement (HOUSE) Program. The services resulting from this pilot are intended to provide comprehensive treatment, case management, housing services and peer support in an effort to support long-term recovery and reduced opioid related morbidity and mortality among IWAEH with OUD.

HOUSE Program Overview

With funds from the State of Maine, Greater Portland Health and Preble Street are collaborating to implement the HOUSE Program in Portland; clinicians at Greater Portland Health provide clients with low-barrier Medication Assisted Treatment (MAT), while staff at Preble Street provide casework support and rapid housing assistance to individuals who have been identified as being at high risk of overdose, are experiencing homelessness, and are diagnosed with an OUD.

HOUSE Program Objectives and Outcomes

The ultimate goal of the HOUSE Program is to assist IWAEH with attaining and sustaining recovery using the Substance Abuse and Mental Health Services Administration working definition of "a process of change through which individuals improve their health and wellness, live a self-directed life, and strive to reach their full potential".[8] For IWAEH with OUD, this process can be lengthy and require setting realistic, achievable outcomes, while offering all the support and resources necessary for each individual to progress in self-direction toward personal short and long-term goals. For this population, ensuring access, assertive outreach and harm reduction psychotherapy is key to engagement and progress toward stability and recovery. The short-term goal of the HOUSE Program is to help high risk vulnerable individuals with OUD reach stabilization so that they are in turn eligible for other treatment and recovery services in the community. Program objectives include:

- minimizing risk of opiate poisoning in vulnerable homeless population by providing low barrier, patient focused access to HOUSE Program services;
- providing a safe learning environment where individuals can identify individualized short and long terms goals and develop new skills and tools for healthy living; and
- connecting individuals with the recovery community and its associated resources.

[8] Substance Abuse and Mental Health Services Administration (2014). Recovery: National and Regional Resources: Region VIII. Retrieved from: https://www.samhsa.gov/sites/default/files/samhsa-recovery-5-6-14.pdf.

In addition, the program aims to use the Housing Assistance Fund to provide up to 40 individuals, who are among the most vulnerable and unstable in Maine, with rapid access to low-barrier treatment and stable housing to support their recovery.

Program Evaluation

Overview

The primary goals of the HOUSE Program evaluation are to: (1) document implementation strategies and identify barriers and facilitators to implementation; (2) evaluate the efficacy of the intervention strategies at increasing access to prevention, treatment and recovery supports for IWAEH with OUD; (3) examine the impact of housing liaison services and Assistance Funds on housing stability among IWAEH with OUD; (4) assess the cost effectiveness and return on investment of the intervention strategies and (5) examine the impact of the intervention strategies on participant engagement and outcomes.

The HOUSE Program evaluation uses a convergent mixed-methods design which involves the collection of multiple qualitative and quantitative data points overtime which are analyzed, triangulated, and reported throughout the course of the project. To ensure we gain a robust and multi-dimensional understanding of the HOUSE program, data collection efforts are designed to systematically examine the resources, activities, and processes affecting the implementation, adoption, and efficacy of the project. Key data sources for the HOUSE Program process and outcomes evaluation include: administrative and clinical data, client assessments, key stakeholder interviews, and survey data.

Qualitative Data Collection

Staff and Provider Feedback Survey

A brief survey was distributed to key project staff including case managers, housing liaisons, peer support specialists and medical staff to document program implementation and inform the process evaluation. Key domains included: key project milestones; modifications to implementation approach or program design; programmatic successes or challenges; and lessons learned. Surveys allowed HOUSE Program staff and providers to offer anonymous open-ended feedback about program information; surveys were distributed through the online survey software Qualtrics. Overall survey response rate was 50% (n=7).

Key Stakeholder Interviews

Key stakeholder interviews were conducted with staff from Greater Portland Health and Preble Street including doctors, nurses, case managers, social workers, Directors, Project Coordinators, as well as counselors (n=9). These interviews covered a broad range of topics and were designed to elicit more in-depth feedback on program implementation and progress (See Appendix A for interview protocol). All interviews were conducted over Zoom and were transcribed verbatim for analysis.

Quantitative Data Collection

Greater Portland Health and Preble Street served 29 clients [“client(s)”] during Year 1 (2021) of the HOUSE pilot program. Of those, 13 clients consented to participate in further in-depth research and evaluation of the HOUSE project [“participant(s)”]. The majority of the administrative and clinical data presented in this report is reflective of this subset of participants.

Administrative and Clinical Data

Greater Portland Health sent the Cutler Institute HOUSE participant files such as Intake forms, Level of Care questionnaires, Self-Sufficiency Matrices, Case management notes, Service Plans, Health Information Network records (HINs), Client Track records, Attestation sheets, and Performance Measuring Reports.

Data was extracted from files and analyzed for Demographics (age, sex, race/ethnicity, insurance coverage), Service Engagement (extent of MAT engagement, discharge, hospital & emergency services, crisis intervention), Social Determinants (employment status, housing status, community engagement, social connection, resources), and Other Outcomes (criminal justice & law enforcement, overdose).

Demographics are taken from the Intake form and the Level of Care questionnaire. The age demographic is calculated by subtracting participants’ DOB from January 1, 2021 and categorized by age groups. The sex is determined from self-reported data along with race/ethnicity which are both extracted from the Intake form. Insurance coverage is based on a yes/no question with a follow-up question “If yes, what insurance coverage type” at intake.

Service Engagement referred to Level of Care questionnaire, attestation sheets, Performance Measuring Reports, and HINs. The extent of MAT service engagement is evaluated by prior MAT experience, # of visits with MAT prescriber, and case management services engagement. The discharge of service engagement is defined as completing or terminating the HOUSE program for a client which was provided in the Performance Measuring Reports. Hospital & Emergency Services are distinguished by inpatient visits, emergency department visits, and emergency medical services (EMS) from Health Information Network records. Crisis Intervention is identified by searching for “crisis” and “withdrawal” in Case Manager notes and Health Information Network records.

Social Determinates is based on information from the Intake form, Levels of Care questionnaire, the Self-Sufficiency Matrix, and Performance Measuring Reports. Employment is evaluated by a yes/no question and a follow-up question of employment type or situation. Participants also self-reported their sufficiency in employment. Housing is examined by reviewing prior residence, stable housing chronic homelessness, and self-sufficiency. Community engagement and social connections are self-reported through the Self-Sufficiency Matrix. Social connections are further explored on the Levels of Care questionnaire by a question about supportive family/friends. Resources are gauged on the amount invoiced to department, the expenditures of the Housing Fund, Client Assistance Fund, and the average amount spent monthly and, on each participant/client.

Other outcomes are taken from the Level of Care questionnaire, the Self-Sufficiency Matrix, HINs, Performance Measuring Reports, and Case management notes. Criminal justice & law enforcement are examined by asking participants if they have any legal troubles and if yes, then two follow-up questions inquiring if the legal trouble has to do with drug trafficking and/or on probation. Participants are also asked to score (on a 1-5 scale) their legal situation. Overdoses are identified through the HINs and the case management notes by the word "overdose". Hospitalization & fatal overdoses for the overall program are provided in the Performance Measuring Reports.

Data Analysis

Descriptive Statistics

Quantitative data were analyzed using appropriate descriptive statistics including frequencies and means.

Cost Analysis

The purpose of the cost analysis is to assess the cost benefit effectiveness of the HOUSE intervention with clients who engage in services and housing. The first year of the grant, January to December 2021, will serve as the baseline. For these purposes of this study, baseline is defined as client costs associated with the first year of engagement in the program as well as the frequency of hospital in patient stays, emergency room visits and medical transports. From baseline, we measure change in cost and service use, arrest, jail, and emergency room data over the course of the next 12 months, January 2022 through December 2022. This is a similar process which has been used in other evaluative measures to assess cost benefit effectiveness of social service interventions.[9]

The benefit of this methodology comes from the fact that clients in this program receive case support and medical services through providers associated with the grant. As such, data on social service visits, medical appointments and hospitalizations will reside with these providers and are accessible through data agreements and Institutional Review Board approval for this project. Data on law enforcement contacts and jail nights was collected separately.

Qualitative Analyses

Qualitative data from key informant interviews and surveys was systematically coded to explore implementation process and the efficacy of the HOUSE Program prevention, treatment and recovery activities. Qualitative data analysis was done iteratively to build a coding scheme for all textual data based on the grounded theory technique, in which codes are drawn from the text and coding involves frequent comparative analysis of the data.

[9] Osborne S, Harrison G, O'Malia A, Barnett AG, Carter HE, Graves N. Cohort study of a specialist social worker intervention on hospital use for patients at risk of long stay. BMJ Open. 2018 Dec 22;8(12):e023127. doi: 10.1136/bmjopen-2018-023127. PMID: 30580267; PMCID: PMC6307584.

All qualitative data files were reviewed by at least two members of the evaluation team and coding discrepancies were resolved through discussion and/or enhanced definition of codes.

Methodological Limitations

The HOUSE program proposes to build existing treatment infrastructure as well as expand upon this structure to address pressing social needs, including housing, for a highly vulnerable and complex population- IWAEH with OUD. Systemic change does not occur quickly and, in this case, will likely take longer than the two years for which the project has been approved. Therefore, all findings must be interpreted with sensitivity toward the scope of the attempted change in the system and its long-term potential beyond the project period. There are a number of limitations to the year one evaluation of the HOUSE program including:

- Delays in project start up due to administrative delays and COVID-19, the evaluation team was not able to start work until September of 2021. Therefore, evaluation activities did not occur simultaneously with project implementation as originally intended and some activities had to be modified to meet the condensed evaluation timeline.
- Changes to the evaluation timeline led to the evaluation using a more retrospective lens to examine program implementation in year one, which may have increased the misrepresentation of historical knowledge and events and decreased the pool of persons with day-one knowledge of the program. However, these methodological issues may be partially mitigated by adjustments to the program implementation timeline which also experienced delays.
- The evaluation only includes information on individuals who consented to participate in the evaluation; consent to participate was originally intended to be obtained at intake but due to delays in start-up of evaluation activities, consent needed to be obtained retroactively. While all attempts were made to obtain consent from the 29 individuals who had obtained services in the first year of the project, the HOUSE Coordinator and evaluation team where only able to obtain consent from 13 participants.
- All the data derived from qualitative interviews are subject to the standard interview limitations and biases.
- This evaluation relies heavily on administrative and clinical data derived from screening tools, electronic medical records, case management notes and Maine's Health Information Exchange. Not all the administrative and clinical data available for this evaluation is ideal. Many of the program participants have missing or incomplete data on key performance measures of interest.
- The majority of HOUSE program participants entered into the program in the last two quarters of 2021, therefore most of the data presented in the year one evaluation report represents program participants profiles at initial engagement in the program. Limited information is available on ongoing engagement and outcomes at this.
- The results of the cost analysis are preliminary and serve as baseline data.

The information presented in this report should be interpreted within the context of these limitations.

Year One Program Implementation

Implementation Successes and Challenges

Feedback from HOUSE Program staff and providers indicates that while there have been some challenges with program implantation in the first year of the project, the program has had a number of successes and has largely been implemented as planned. The majority of key stakeholder who provided feedback through interview and/or surveys indicated that the implementation of the HOUSE program has gone according to the outlined plan without modification, highlighting the benefits of partner collaboration which were supported by the accessibility of Greater Portland Health partners and close physical proximity. While COVID-19 did present some barriers to program implementation, discussed in more detail below, some participants reported that the COVID-19 pandemic helped the implementation of the HOUSE program, largely through increasing the number of resources available to their clients and enhancing their awareness of and collaboration with partnering organizations, working more closely with Preble Street case managers and enhancing cross-organizational learning. Participants also shared that they became more comfortable working with individuals with polysubstance use and learned that they needed to be flexible with their clients as new and changing methods of recovery don't work for everyone. Overall, participants shared that the COVID-19 pandemic pressed their organization to improve communication and encouraged the dynamism required to address the urgent needs of their clients.

> *"I think the case managers really did a great job during COVID…we did a great job, there was a lot of communication. We all had the same focus, the same goal."*
>
> - Key Informant Interviewee

Successes	Challenges
– Enhanced collaboration and improved referral systems across HOUSE Partners	– Delays in project start up
– Expanded use of harm reduction strategies	– Shifting grant administrative and reporting requirements
– Facilitated transparent conversations about SUD	– Lack of clarity around Maine State Housing fund requirements
– Increased capacity to meet client needs through individualized care plans	– Difficulty hiring and retaining key staff
– Attainment of housing for clients	– Limited capacity to fund long-term treatment programs for clients
– Addressed social determinants of health needs of clients	– Low availability of appropriate housing options

Participants widely reported challenges with the implementation of the program which delayed the delivery of this service to individuals in need. Initially, partners reported that they were simply unable to access any of the funding from the program since it took several months longer than anticipated for the grant to be approved. In addition, partners largely experienced challenges with grant-related administrative paperwork and reporting requirements which were, at times, unclear, and often took away from time that HOUSE program staff could have been spending with clients. Partners also reported a lack of clarity regarding the inspection requirement for accessing Maine State Housing funds which could have been avoided with further clarification up front at the start of the grant. Several participants indicated that it might be helpful to be trained in the grant details and how to implement the grant prior to program start up as this is a complicated project with administrative and reporting requirements.

> *"People who are on the ground that are dealing with client crises every day are also responsible for helping connect them with this resource, there has to be quick and very clear, upfront guidelines."*
>
> - Key Informant Interviewee

In addition to administrative challenges, the most frequently cited challenge to program implementation was staff shortages and turnover.

For some, these implementation challenges were also compounded general unwillingness for patients to meet with social workers. These issues where further compounded by the pandemic. The COVID-19 pandemic has had an enormous impact on social services and other concurrent issues in the community. Many participants shared that the isolating nature of the pandemic had a negative impact on the implementation of the HOUSE program as it made clients harder to reach when in-person visits and group counseling halted. Also, telehealth was not always an option because clients often don't have access to phones or other means of communication, making it difficult to aid the people who need it the most. Further, participants speculated that the COVID-19 pandemic may have been the cause of the initial delay of the HOUSE program while similarly increasing staff turnover.

Access to Care and Care Integration

HOUSE Program Successes

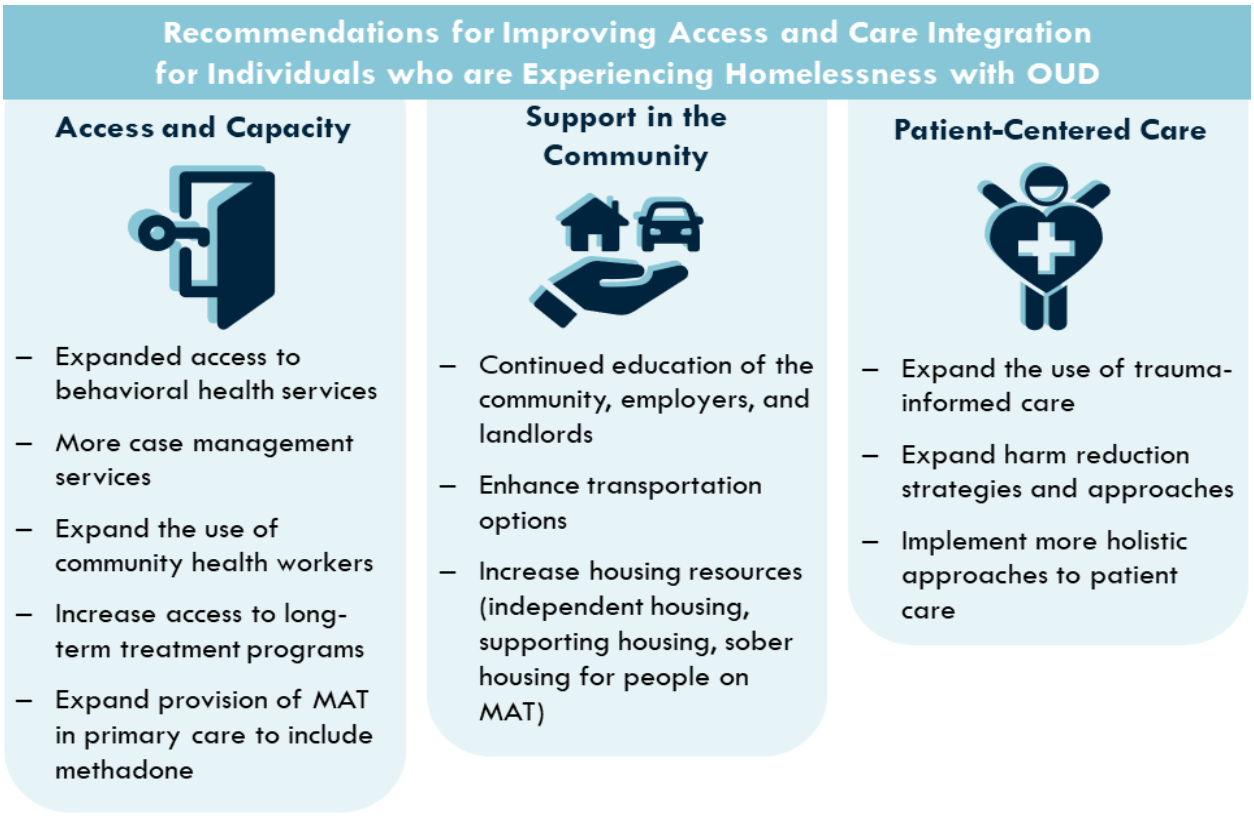
Participants reported that the HOUSE program has effectively helped to expand access to MAT for unsheltered individuals, sharing successes with building connections in the community and opening the conversation regarding substance use. Thus increasing transparency surrounding substance use and the resources available, as a result of the HOUSE program, has reportedly made it easier for clients to access MAT. Participants shared that the program has helped build connections with both clients and other organizations in the area; improved client relationships help to ensure individuals are receiving the best pathway to treatment, while improved interorganizational relationships expand the availability of those services and the funding needed to support unsheltered individuals. Interorganizational collaboration improvements were described as improving access to MAT in a few different ways, including: organizations work together closely and determine which clients truly need the program, improved MAT philosophy to see each client

as an individual, warm handoffs, and navigating different ways to get clients access to services.

Interviewees reported improvements in care integration in developing a more caring and compassionate relationship with their clients, which was facilitated by warm handoffs and a newfound ease of accessing services. They are also continuing to bring in new X-waivered providers and can provide a more intensive case management in conjunction with services provided by Greater Portland Health. A key area of success highlighted by key informants was facilitating 13 people getting housing at recovery residences, group homes, and independent housing.

Stakeholder Recommendations for Improving Access and Integration

HOUSE program staff and providers offered a number of recommended areas of focus for next steps in year two of the program for continuing to improve access to care and care integration for IWAEH with OUD include implementing strategies that focus on increased reimbursement and access to behavior health services, enhanced staffing capacity including increasing the use of case managers and community health workers, as well as the expansion of services to support social determinants of health during and after treatment.



HOUSE Participant Overview, Engagement & Outcomes

Participant Demographics

The HOUSE program served 29 clients during its first year. Of those 13 clients who consented to participate in the HOUSE project's evaluation ["participant(s)"]. The characteristics of this project's study population are primarily between the ages of 35-44 years old, male, non-Hispanic/Latino, and White (Figure 4 and Figure 5). All of the project's participants had health insurance through Medicaid and 17% had additional health insurance from Medicare.

Figure 4

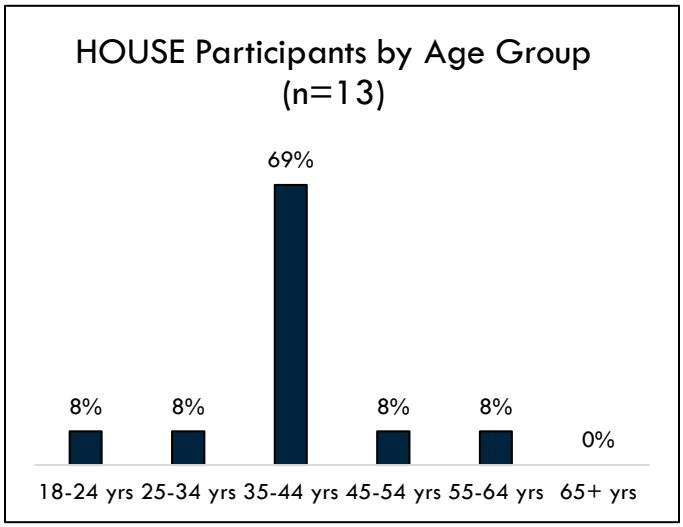
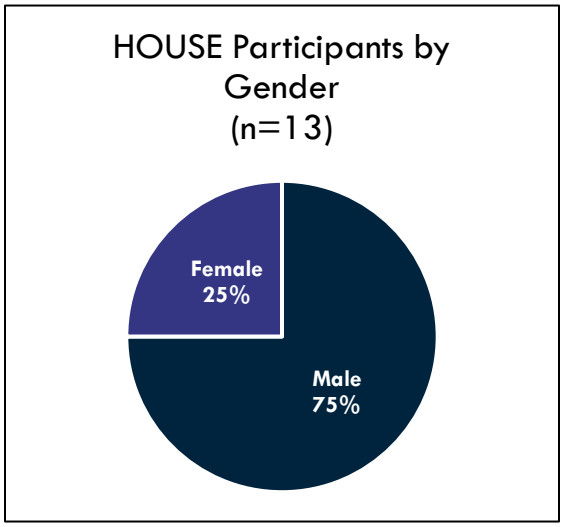


Figure 5

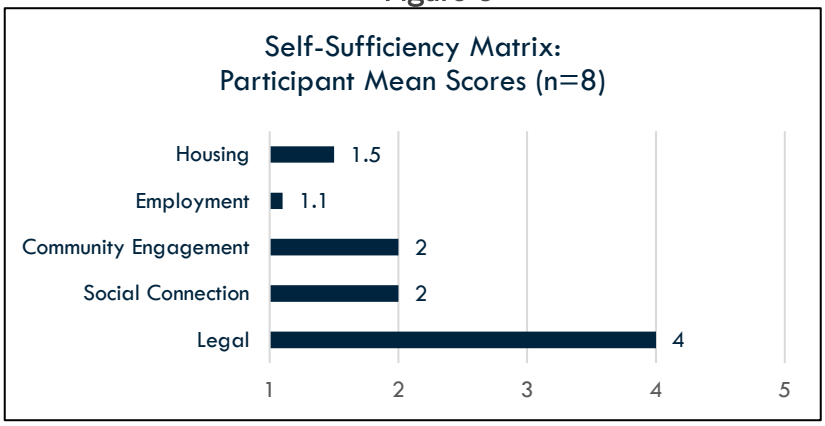


**Values were rounded to the whole percent therefore the accumulated total may not equal 100%*

Social Determinants

As a part of the intake process, over half of the program participants filled out the Arizona Self-Sufficiency Matrix[10] that describes several indicators of social determinants of health on a five-point scale. Mean ratings of Self-Sufficiency Matrix domains across participants are shown in Figure 6. At intake, HOUSE Program participants reported being in crisis with both housing and employment. They were also vulnerable with little social relations or community connections. However, most reported having no legal issues.

Figure 6



[10] Arizona Self-Sufficiency Matrix. Mass.gov. Accessed March 31, 2022. https://www.mass.gov/doc/accs-self-sufficiency-matrix-0/download.

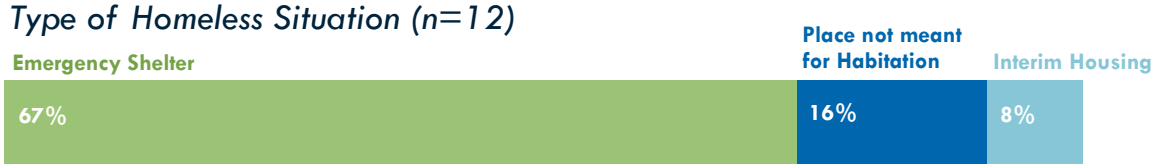
Housing Status

During the intake process, nearly all participants were experiencing a homeless situation. Specifically, 67% were staying in an emergency shelter, 16% were living in a place not meant for habitation, 8% were in interim housing, and none were staying at a safe haven. Of the participants who filled out the Self-Sufficiency Matrix at intake (n=8), nearly all reported being in crisis situations of homelessness or being threatened with eviction for housing, but half of these participants indicated that they wanted to make housing a personal goal. Only 15% of participants reported stable housing and of the participants who answered the chronic homelessness question (n=8) half reported homelessness for over 5 years; 12.5% reported homelessness for 2-5 years; and 37.5% reported homelessness for 1-2 years.

Figure 7

Housing Situation at Intake (n=12)

Type of Homeless Situation (n=12)



Employment Status

At intake, only 18% of participants reported being employed. Specifically, 36% were unemployed and looking for work, 36% were unemployed and unable to work, and 9% were unemployed and not looking for work. Of the 8 participants who filled out the Self-Sufficiency Matrix, all reported that they were “in crisis” situations regarding employment.

Figure 8

Employment Status at Intake (n=11)

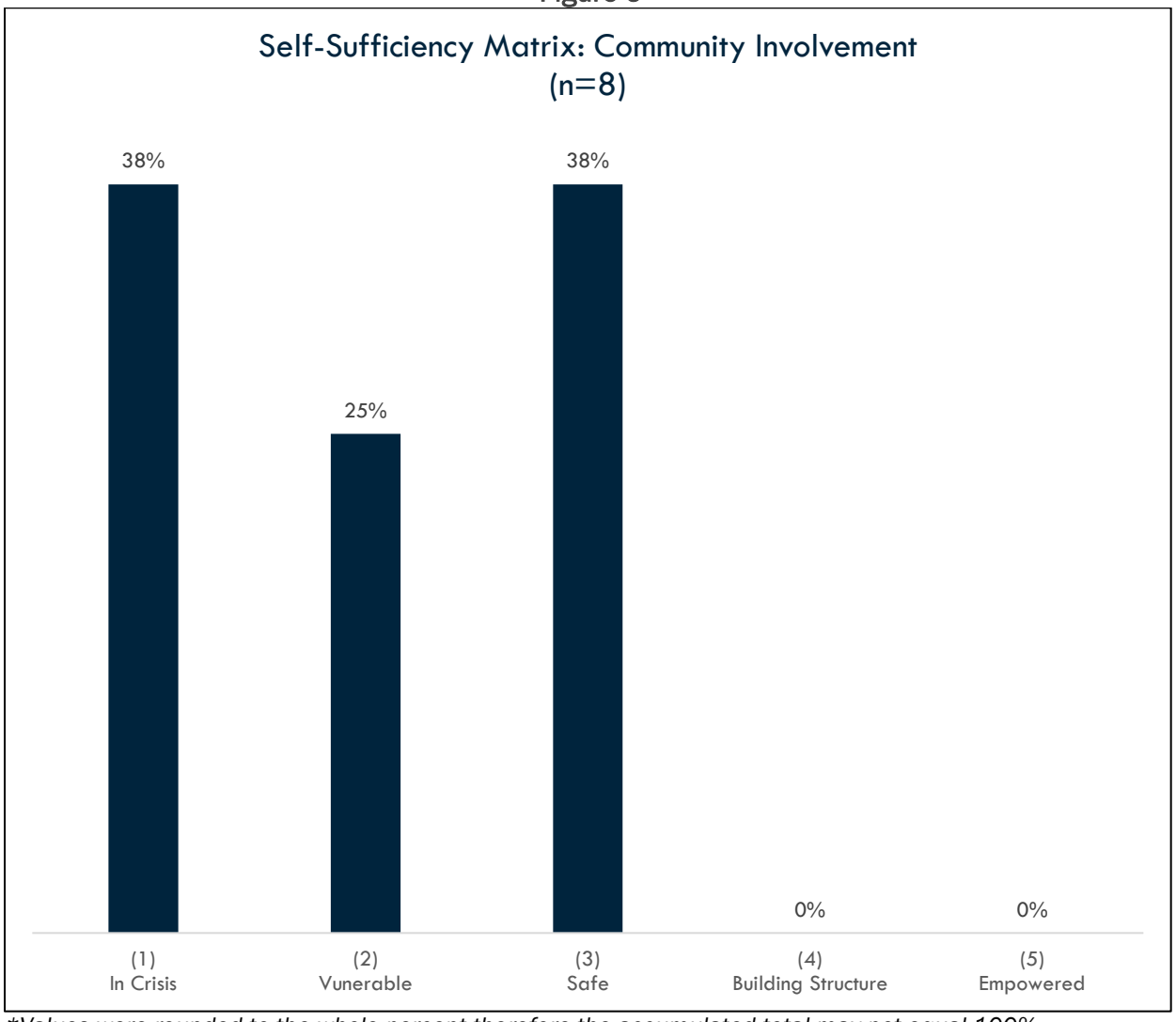
Unemployment Status (n=11)

Several participants indicated on the matrix that they wanted to make employment a personal goal. Given the programs target population these finding are not unexpected.

Community Engagement

Of the participants who filled out the Self-Sufficiency Matrix, 37.5% reported being in crisis situations or "survival" mode; 25% reported being vulnerable including being socially isolated, having no social skills, and/or lacking motivation to become involved with their community; and 37.5% reported being in safe situations but lacking the knowledge of ways to become more engaged with their community. The average Community Involvement score was 2 out of 5 (See Figure 9).

Figure 9

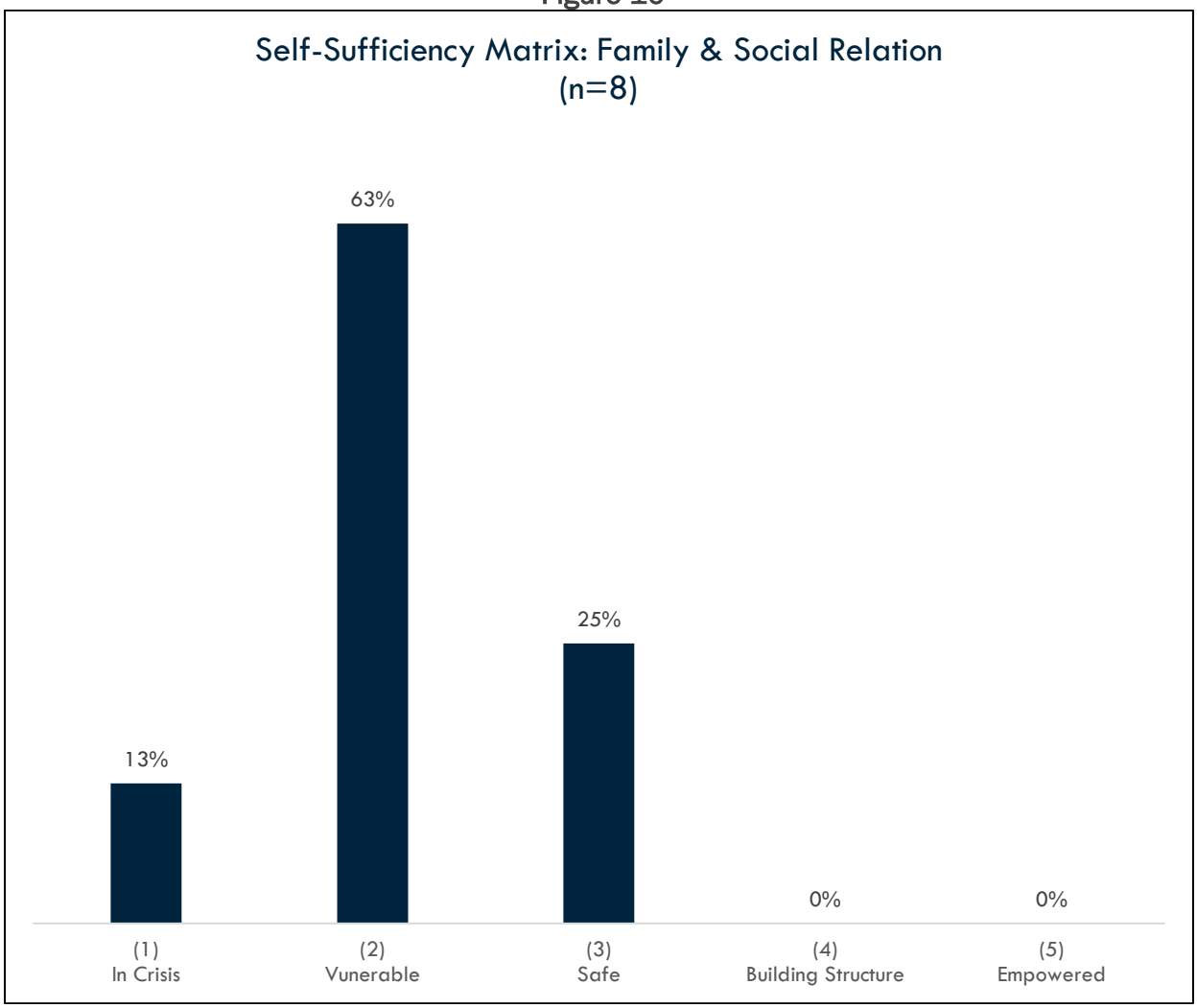


**Values were rounded to the whole percent therefore the accumulated total may not equal 100%*

Social Connection

Of the participants who filled out the Self-Sufficiency Matrix (n=8), 12.5% reported being in crisis situations in which they lack the necessary support from family and/or friends, abuse (domestic violence and/or child) is present, or there is child neglect. 62.5% reported being in vulnerable situations in which family/friends may be supportive but lack ability/resources to help, family members do not relate well with one another, or potential for abuse/neglect. 25% reported being in safe situations in which there is some support from family/friends, and family members acknowledge and seek to change negative behaviors and are learning to communicate and support. None of the participants indicated that they were in higher levels of family and social relations, such as building structure situations in which there is strong support from family or friends or in empowered situations characterized by healthy or expanding support network in which household is stable and communication is consistently open (Figure 10). The average Family & Social Relations score was 2. 12.5% of the participants who responded indicated that they wanted to make family/social relations a goal for improving.

Figure 10

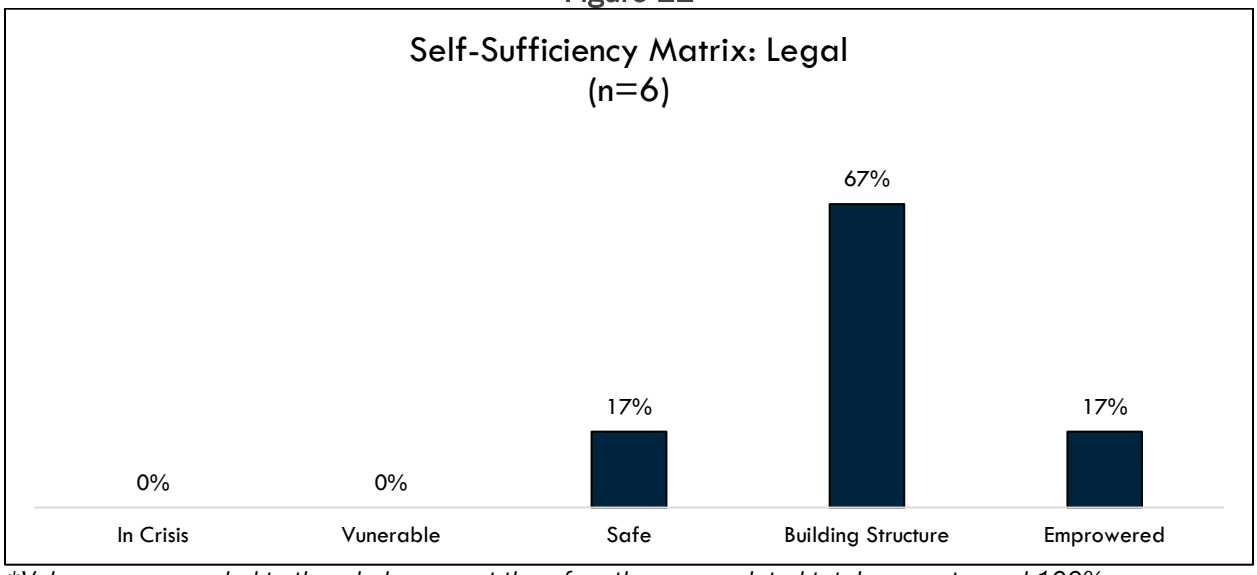


**Values were rounded to the whole percent therefore the accumulated total may not equal 100%*

Criminal Justice & Law Enforcement

On the Level of Care questionnaire, most participants reported not having any legal troubles. Among the three participants who reported legal trouble, two were on probation and one had a conviction for drug trafficking.

Figure 11



**Values were rounded to the whole percent therefore the accumulated total may not equal 100%*

Of the participants who filled out the Self-Sufficiency Matrix and answered the legal category, 16.7% reported being in safe situations in which they are fully compliant with probation/parole terms; 67% reported being in building capacity situations in which they have successfully completed probation/parole within 12 months and have had no new charges filed; and 16.7% reported being in empowered situations of no active criminal justice involvement in more than 12 months and/or no felony criminal history.
None of the participants indicated being in crisis situations in which they had current outstanding tickets or warrants; nor being in vulnerable situations in which they had current charges/trial pending, or noncompliance with probation/parole. The average Legal score was 4.

Service Engagement

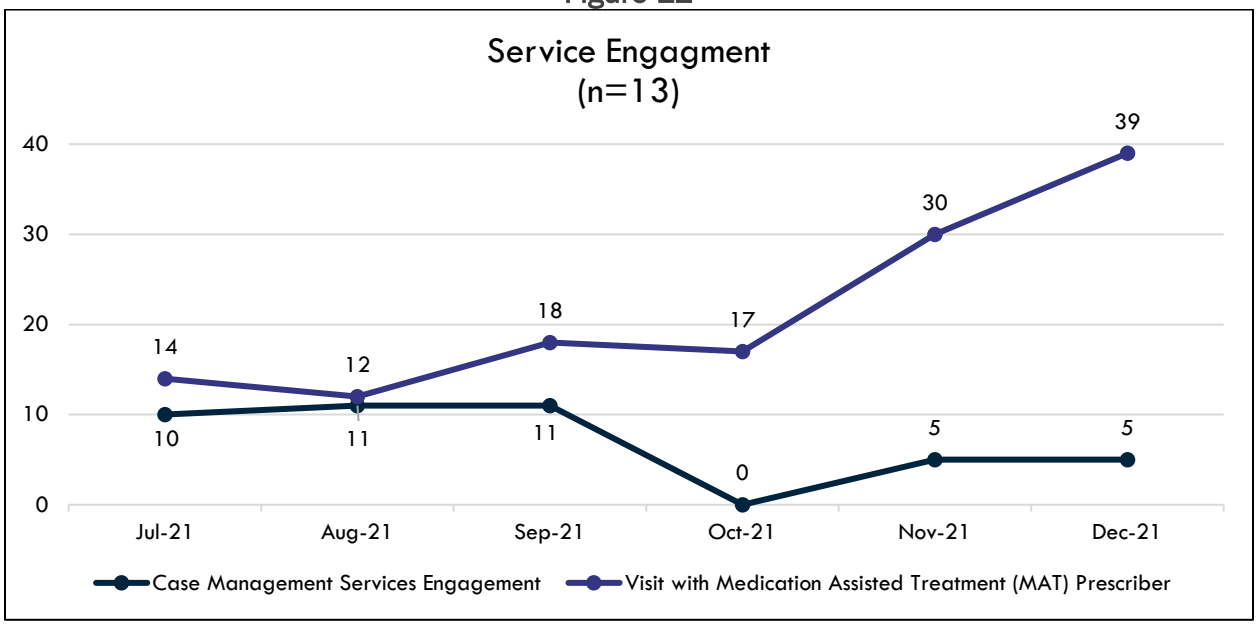
MAT and Case Management Engagement

Medicated assisted treatment (MAT) is a patient-centered holistic treatment approach involving medication, counseling, and behavioral therapies. This approach is specifically used to treat opioid use disorder (OUD).[11] As a part of the intake process at Greater Portland Health, clients perform a Level of Care questionnaire to assess the level of buprenorphine treatment that is appropriate for their treatment plan. Of the project's participants (n=13), 92% had previously received MAT and of these participants (n=12), 91.7% self-reported prior success of the prior MAT.

[11] SAMHSA. Medication-Assisted Treatment (MAT). SAMHSA. Updated March 30, 2022. Accessed March 31, 2022. https://www.samhsa.gov/medication-assisted-treatment.

Greater Portland Health provided a total of 130 MAT prescriber visits and 42 case management services engagement visits from July to December of 2021 to participants. Each participant received an average of 10 visits with the MAT prescriber and 3 visits for case management during this period. GPH provided an average of 22 MAT prescriber visits and 7 case management services monthly to each program participant. As described in their Individualized Treatment Plan, 44% of HOUSE Program participants met their treatment goals in the first year of the program.

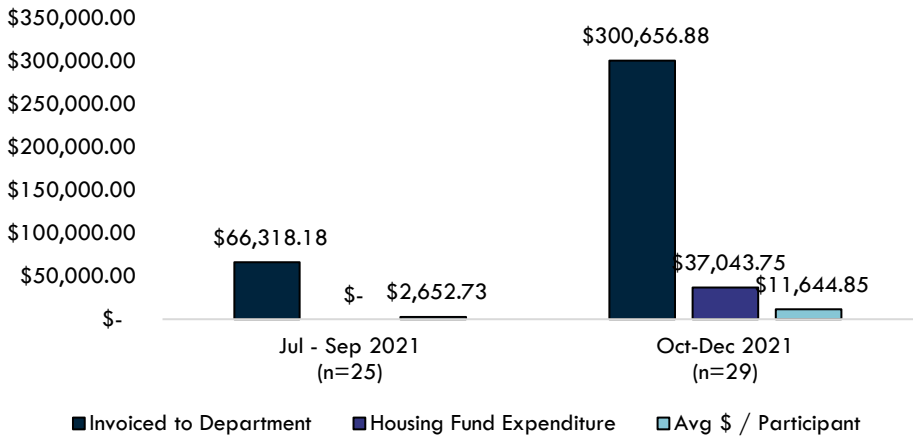
Figure 12



Program Expenditures

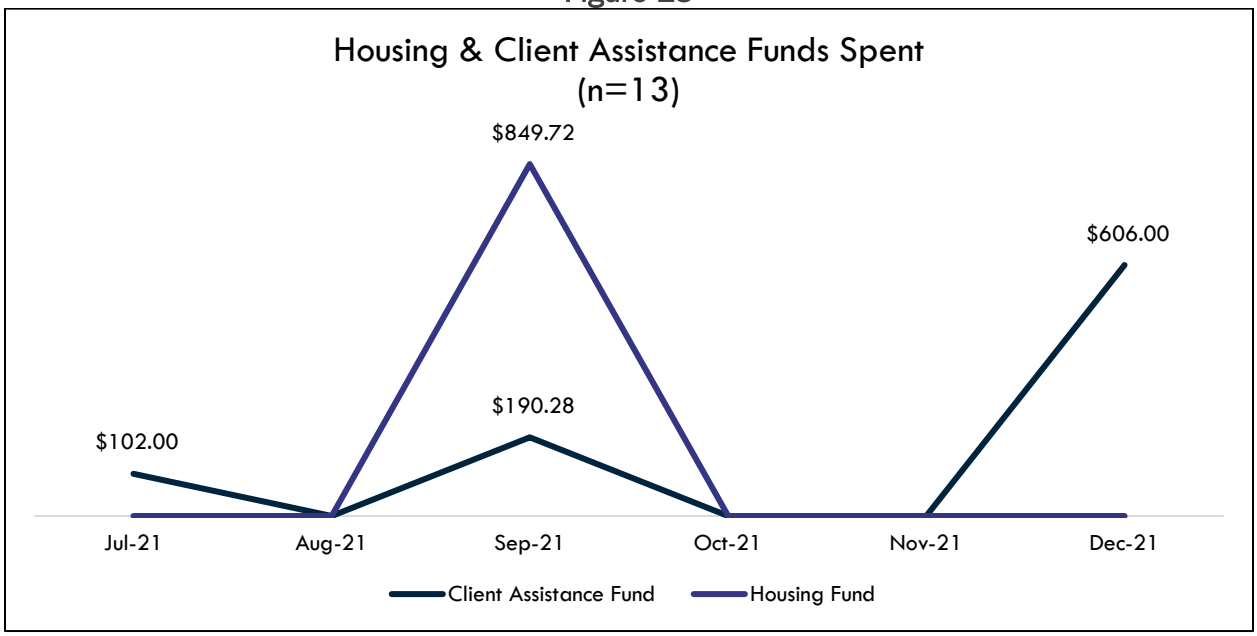
According to Greater Portland Health's HOUSE Performance Measuring Reports from July to December of 2021, the Department invoiced $37,043.75 of which $366,975.06 was spent from the Housing Fund on clients. It is estimated that the average cost for each program client was $7,148.79 for this time period. The "Aggregated Expenditures from PMR" chart shows quarterly program expenditures for the first year of the HOUSE Program.

Figure 13
Aggregated Expenditures from PMR



Greater Portland Health provided $849.72 from the Housing Fund and $1,145.75 from the Client Assistance Fund to the project's participants from July to December of 2021. The Housing and Client Assistance Funds helped acquire birth certificates, identifications, transportation, household items, phones, and rent.

Figure 13

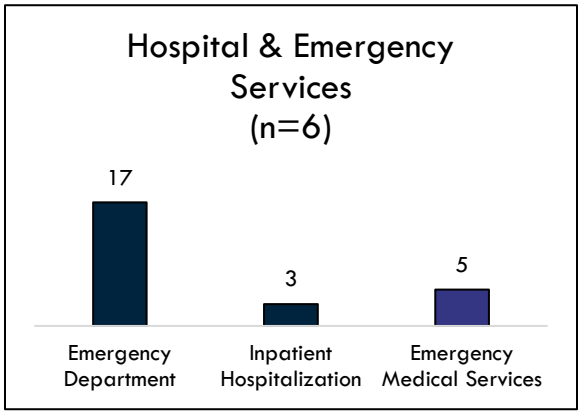


Participant Outcomes

Hospital & Emergency Services

Hospitalization

Figure 14



Health Information Network records were used to identify utilization of hospital and emergency services among participants. There were 17 emergency department incidents and 3 inpatient incidents. Among participants who utilized the emergency department, each averaged close to 3 visits (2.8 visits) (Figure 14). The majority of inpatient hospitalizations and emergency department incidents were related to behavioral health, substance use and/or associated conditions. Participants who used the emergency department primarily sought care for substance use related issues (47%), other medical issue (29%), or behavioral health crisis (24%), with withdrawal symptoms being the primary reason for accessing emergency medical services. The primary reason for hospitalization was Cellulitis (67%).

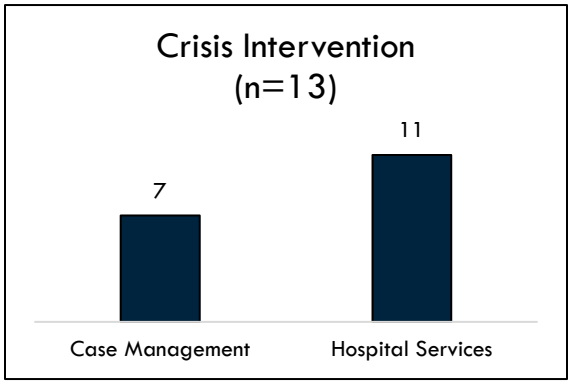
EMS

Health Information Network records from HealthInfo Net were used to identify emergency medical services (EMS). There were 5 emergency medical service incidents documented among HOUSE participants in the first year of the program (Figure 14). Similar to inpatient hospitalizations and emergency department use, while the reasons for EMS services varied, the majority were related to substance use or associated conditions such as withdrawal, Cellulitis or medical wound treatment.

Crisis Intervention

Crisis Intervention was identified by searching for "crisis" and "withdrawal" in Case Manager notes and Health Information Network records. Within the Case Manager notes, 7 sessions were identified relating to crisis. Within the Health Information Network records of hospital visits, services were reportedly rendered for 11 crisis interventions (Figure 15). The majority of crisis interventions were for mental distress including anxiety/mood and suicidal thoughts as well as paranoia (33%) and withdrawal symptoms (29%).

Figure 15



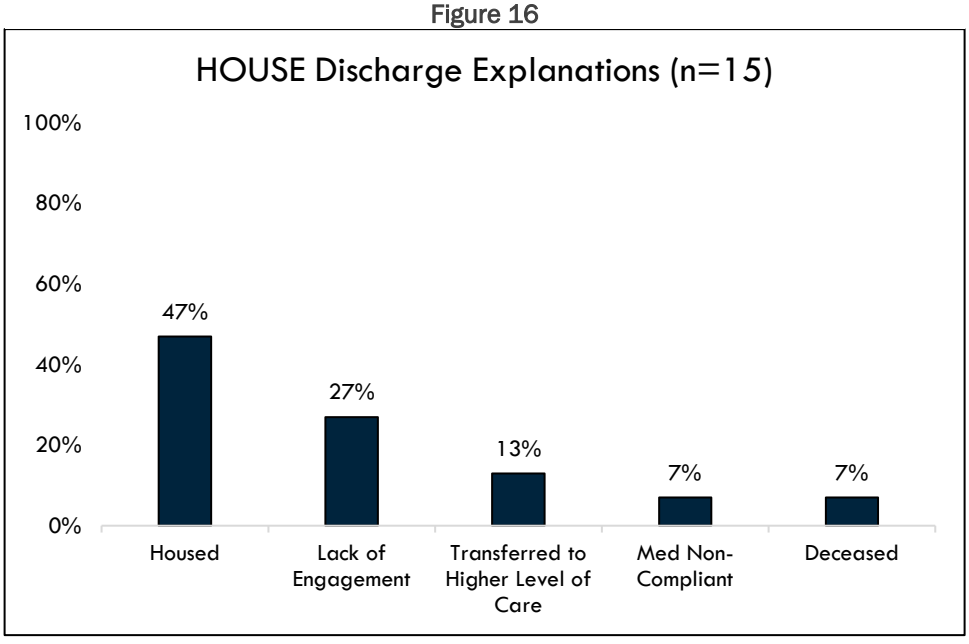
Overdose

According to Greater Portland Health's HOUSE Performance Measuring Reports, there have not been any hospitalizations for overdoses nor fatal overdoses among the present clients between July to December of 2021. However, there was one overdose check in session identified through the Case Manager notes for a project participant.

Program Discharge

Information on reason for discharge from the HOUSE Program was available for 15 of the 29 participants who completed or terminated the program in the first year (Figure 16). Of those, the primary reason for discharge was being stably housed.

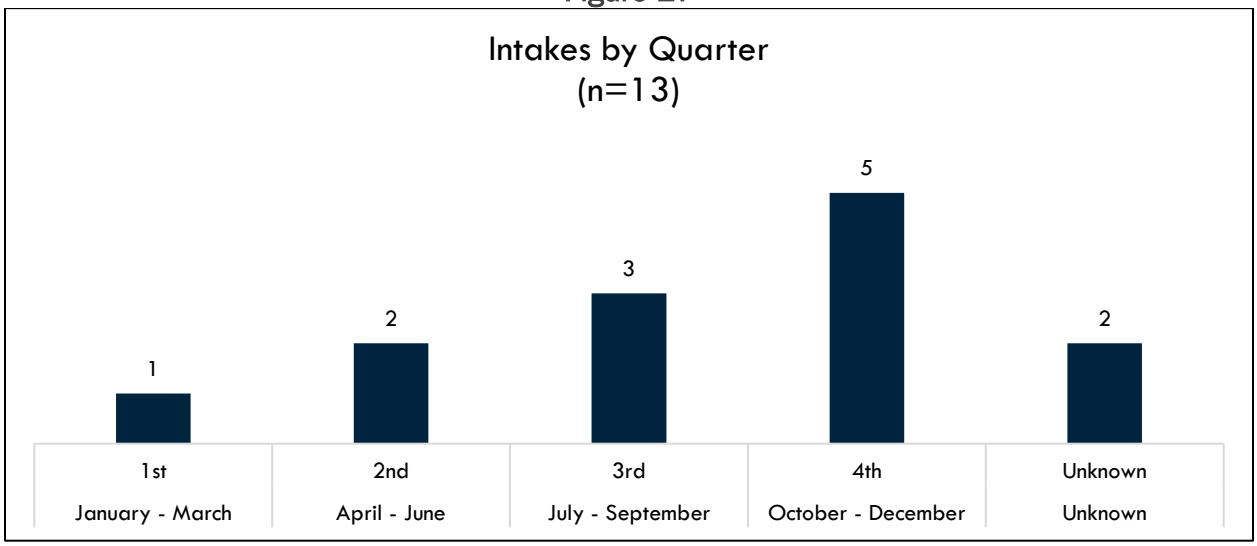
Figure 16



Cost Analysis

The data provides an overview of the number of intakes, client activity data and costs associated with engagement in the program during the first year. As Figure 17 suggests, most clients who continue in the program, 61%, started in the 3rd and 4th quarters.

Figure 17



During the third quarter, one client accounted for all 9 days in the hospital, 2 transports and 3 emergency room visits (See. Figure 18). During the 4th quarter, 6 clients accounted for 18 of the emergency room visits and 2 clients accounted for the 3 transports.

Figure 18

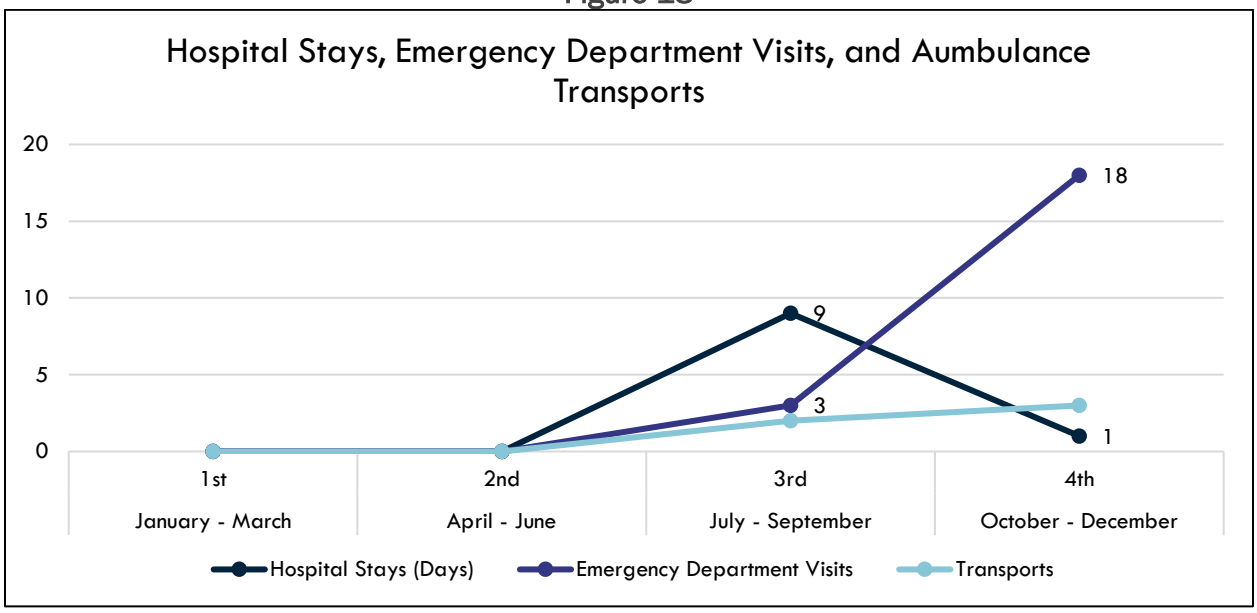


Table 1 below provides a more in-depth look at the baseline cost data for the 13 clients who are currently engaged in the HOUSE program. Emergency room costs and hospital stays are reported in units and not what the costs of these services are as these data were not available.

Table 1. Costs/Activity by Participant

Client	Social service/ MAT costs	Hospital stays/ER visits/Transports	Arrests/jail nights
1	$2,130	9 days/2 transports/13 emergency room visits	1 arrest/1 jail night
2	$2,170	1 emergency room visit/2 transports	1 arrest/1 jail night
3	$ 866	1 emergency room visit	0
4	$ 431	1 emergency room visit	0
5	$1,683	1 emergency room visit	0
6	$1,323	1 emergency room visit	0
7	$ 952	0	0
8	$2,463	0	0
9	$ 561	0	0
10	$ 367	0	0
11*	0	0	0
12	$ 756	0	0
13*	0	0	0

*Note: Participants entered the HOUSE program in December of 2021 and therefore did not have an opportunity to utilize activities/services.

This is the baseline data in total which will be used to measure changes in activity and/or costs during the second year of the program. Given that the program began in earnest during the 3rd and 4th quarters, there may be some continued increases in costs as clients continue to engage in the program and begin to utilize the services provided. Estimates of emergency room costs, transports and hospital stays will be used in the final analysis of the second year.

Baseline data suggests most clients were not fully engaged in the program until the third quarter. This aligns with the start of the grant funding for the program. The data also suggests that 2 of the clients engaged in emergency services and transports at a higher rate than others in the program. Because the HOUSE program is relatively, new in its start up, we will also track cost and service-related data for clients who enter the program during the 2022 grant year. However, developing a full understanding of the cost benefit of the intervention for these new clients will be difficult as we will not have baseline data from these clients to measure changes over time.

Summary

Individuals who are experiencing homelessness who are opioid dependent face high levels of social instability, greater comorbidities, and more chronic drug use putting them at increased risk for opioid related morbidity and mortality. The HOUSE Program is a comprehensive program designed to address both the medical and social needs of IWAEH in the Portland area. Early learnings from the first year of the initiative demonstrate while there remain challenges to engaging this population, the use of evidence-based treatments in combination with intensive case management and peer supports can be an effective way to maintain stabilize patients and address both their medical and housing needs.

APPENDIX A

Key Stakeholder Interview Guide

INTRODUCTION

As a part of the Cutler Institute's evaluation of the HOUSE Program, we would like to gain a better understanding of the implementation process from the project partners. This is a state initiative designed to help increase access to treatment and support services for individuals experiencing homelessness with opioid use disorder (SUD) treatment/services in Southern Maine and we are interested in hearing your thoughts on the first year.
Participation: This should take approximately 45 minutes of your time. Your participation is voluntary. No names or identifying information will be included in our summary report. There are no anticipated risks with this interview. Your answers will help the Greater Portland Health (GPH) and Maine DHHS understand and improve upon implementation efforts made thus far. Your answers will not affect your relationship with GPH or the State of Maine.
Questions: Do you have any additional questions before we get started?
We record these conversations for note taking purposes only. No one else has access to the audio recording outside of our Cutler team. Is it OK to proceed?
Okay, let's begin… [start recorders]

1. Program Implementation: Successes and Challenges

We'd like to ask you about the first year of the HOUSE Program and your general feedback on the "big picture," successes and challenges.

1. In your experience, has the implementation of the HOUSE Program gone according to the outlined plan? If not, what modifications to the program were necessary?

2. In your opinion, what factors (positive or negative) have influenced the implementation of this project?

PROBES:
Internal (e.g. organizational characteristics or training)
External (e.g. structural, reimbursement)
Individual (e.g. provider attitudes)
COVID/ Pandemic

3. We would like to get more information on how COVID-19 pandemic may have been a factor over the last year and a half. Did it affect the implementation of this project? Why/why not?

4. What is the one thing you learned about your own agency or organization's ability to meet the needs of individuals with OUD during the COVID-19 pandemic? (positive or negative)

   Probes: How did you adapt? Are there plans to keep COVID-specific changes in place going forward?

2. Project Strategies, Access to Care/ Care Integration

These next questions focus on the strategies deployed as part of this project, and how they may or may not have translated to real-time improvements.

5. Thus far, what project strategies and processes have been the most successful in expanding access to Medication-Assisted Treatment and support services as part of the HOUSE Program?

PROBE: If you had to pick your number one success so far, what would it be?

6. Have you observed any improvements in access to care and/or care integration for individuals with opioid use disorders as a result of the HOUSE Program?

PROBE: Do you have any recommendations for what is needed in order to improve access and care integration? (resources, outreach activities, policy updates, workflows)

7. In your opinion, what activities or strategies have been the least successful in expanding access to Medication-Assisted Treatment and support services as part of the HOUSE Program?

PROBE: What were the challenges to expanding and enhancing access to high quality MAT services as part of this Project?

3. Wrap Up

8. Is there anything else you think we should know about your work that we have not asked about?

APPENDIX B

Staff & Provider Feedback Survey

Introduction:

Greater Portland Health has contracted with Muskie School of Public Service at the University of Southern Maine to evaluate the HOUSE program. The goals of the evaluation are to understand the barriers and facilitators to expanding access to medication-assisted treatment (MAT) and housing supports for individuals with opioid use disorder experiencing homelessness, and to assess the outcomes of the initiative. As part of this effort, the Cutler is conducting surveys for each of the participating sites to gather information from HOUSE program staff and providers on the roll out of the program to document successes, challenges and lessons learned to inform both the implementation and evaluation of this project.

Participation:

This survey should take approximately 5-10 minutes of your time. The survey is completely voluntary; your participation will have no impact on your relationship with your employer, Greater Portland Health, or the Cutler Institute. Additionally, your position and work performance will not be judged or impacted by your answers to the questions on this survey. You can choose to answer all, some, or none of the questions. **Your participation is voluntary, and you may withdraw from the study at any time without penalty.**

Individual responses will be kept confidential to the maximum extent permitted by law. Completed surveys will be stored on secure drives at the Cutler Institute; only the core research team will have access to the survey data. A summary of our findings from the survey will be included in evaluation reports, which will be submitted to the Maine Department of Health and Human Services and Greater Portland Health.

Risks and Benefits of Participation:

There are no anticipated risks associated with participating in this survey. Although there are no direct benefits to participating in this survey by completing the questionnaire you will be providing important feedback that could help influence the implementation of the initiative. Participation is voluntary. You may discontinue your participation at any time without penalty.

If you have any questions or concerns about your rights as a research subject, you may call the Research Compliance Administrator, Office of Research Integrity and Outreach, USM at (207) 780-4517, or usmorio@maine.edu

If you chose to participate, please click yes to consent, and proceed to the survey.

I. Progress Narrative

Please provide a brief overview of key achievements and whether, in your opinion, the HOUSE program is on/off track in terms of (1) overall program progress for year and (2) meeting programmatic goals.

II. Implementation Status

a) Were there any changes in the project implementation approach or program design in the first year of the HOUSE program? If so, please describe.

b) Where there any challenges associated with program implementation during the first year of the HOUSE program? If so please describe.

III. LESSON LEARNED

Please provide a few examples of highlights of HOUSE project learnings. These can either be successes or challenges, but show how adaptive learning is used in the program to improve HOUSE program delivery.

IV. Partnership and collaboration

Are there any aspects of the partnership or stakeholder engagement that have occurred over the last year that you would like to highlight?

V. Other relevant information

Is there any other activities or relevant information that you would like to document related to the HOUSE program from the past year?

The Greater Portland Health and Preble Street HOUSE Year One Program Evaluation Report was developed for the Maine Department of Health and Human Services: Office of Behavioral Health.