

**The Medication Assisted Treatment and Re-entry Initiative
Year 3 Evaluation Report**

**Submitted to
The Franklin County Sheriff's Office
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Table of Contents

Chapter I. Introduction[1-1](#)

Evaluation Component 1: Implementation Study

Chapter II. Focus Groups and Interviews Conducted with Staff[2-1](#)

Evaluation Component 2: Outcome Study

Chapter III. Status of Data Collection.....[3-1](#)

Chapter IV. Characteristics of Clients[4-1](#)

Chapter V. Services Provided.....[5-1](#)

Chapter VI. Status at Follow-Up[6-1](#)

Conclusion

Chapter VII. A Focus on Selected Populations[7-1](#)

Chapter VIII. Conclusion and Recommendations.....[8-1](#)

Appendices[A-1](#)

Chapter I. Introduction

The Medication Assisted Treatment (MAT) and Re-entry Initiative was one of a portfolio of projects funded in 2018 by the Center for Substance Abuse Treatment (CSAT), Substance Abuse and Mental Health Services Administration (SAMHSA) to expand capacity to deliver Medication Assisted Treatment (MAT) to treat opioid use disorder. In Massachusetts, the SAMHSA grant was awarded to the Franklin County Sheriff's Office (FCSO) to conduct the program over a three-year period. FCSO contracted with the University of Massachusetts Amherst (UMass) to conduct the research and evaluation of the program.

This report documents the history, implementation, and findings of the FCSO MAT and Re-entry Initiative during the project's third and final year, from October 2019 to September 2021. It is important to recognize that the COVID-19 pandemic began in March 2020, significantly disrupting operations during the second year of program operation which, in turn, continued to affect the third year of program operation. Note that the Year 1 and Year 2 Evaluation Reports provide details regarding the knowledge base that informs the research and evaluation design, an overview of the study design, and the perspectives and experiences of jail staff and other key stakeholder members were responsible for initial implementation of the program.

In the present Year 3 Evaluation Report, Chapter I provides information on the organization of the report. Chapter II contains a review of the impacts of the COVID-19 pandemic on the program from the perspective of staff operating the program. Chapter III offers a summary of the status of data collection, and a description of the sample sizes used in the analyses. Chapter IV describes the characteristics of program participants at intake. Chapter V provides information on services provided during incarceration. Chapter VI provides a summary of program outcomes, based on program participants who completed a follow-up interview three months post-exit from jail. Chapter VII examines the characteristics and needs of certain sub-groups of program participants. Finally, Chapter VIII summarizes next steps and recommendations for continued implementation and evaluation of the program, based on the lessons learned.

Chapter II. Adaptations to MOUD program implementation during the COVID-19 pandemic

By Calla Harrington, Amelia Bailey, Elizabeth Delorme, Samantha Hano, Elizabeth Evans

Introduction

After initiation of the MOUD program on April 1, 2019, implementation and operation mostly occurred as planned such that by March 2020, key MOUD program elements included: provision of all three MOUD types, MOUD induction or continuation at entry, treatment of both pre-trial and sentenced individuals, psychosocial treatment, and re-entry programming to support community based MOUD. The jails were engaged in MOUD program refinement (under House Bill 4742, "Chapter 208"), translation into practice of lessons learned thus far, and rigorous evaluation of program implementation, outcomes, and costs, when COVID-19 significantly disrupted operations (Donelan et al., 2021).

The Bureau of Substance Addiction Services (BSAS) in Massachusetts issued temporary waivers or 'blanket waivers' that all MOUD licensees, including licensees providing MOUD services to people living in these jails and post-release, could utilize during the state of emergency due to COVID-19, without a special application to BSAS. Examples of changes under these waivers included BSAS allowing 14 days-worth of take-home medication doses for non-stable clients and 28 days of take-home doses of MOUD for stable clients, waiving the 15 random drug screenings per year as long as other measures to prevent medication diversion were utilized, and waiving the requirement of in-person assessments for MOUD patients (BSAS, 2021). These waivers allowed jail staff to rapidly alter usual protocols. In this chapter, we summarize adaptations to the implementation and operation of the MOUD program that were made in response to COVID-19 as reported by staff who were implementing the program.

Methods

We used a qualitative research design to collect data from 29 staff via semi-structured focus groups (4 groups with 3-9 participants per group), after which participants completed a demographic questionnaire. Focus groups were supplanted with individual interviews when needed, for example to accommodate participants' schedules and to interview supervisors separately from other staff. Discussion prompts explored the following topics: the challenges posed by COVID-19 and the adaptations to the MOUD program that were made in response; the factors that enabled jails to pivot and adapt MOUD program operations; and MOUD program adaptations that staff wished to sustain going forward.

Data were collected from October 2020 through January 2021, that is, after COVID-19 mitigation practices were underway but immediately before COVID-19 vaccines became available. Each discussion lasted approximately 1 hour and was held on Zoom in a private meeting space. Participants were compensated \$100. Individuals who could not receive compensation were offered to have payment donated to their choice of charity. To maintain confidentiality, participants were assured that findings would be anonymized. Interviews were digitally recorded, professionally transcribed, and transcripts were reviewed for accuracy. All procedures were approved by the UMass Institutional Review Board.

Using thematic analysis methods (Braun et al., 2006; Glaser & Strauss, 1967), four research staff coded independently using Atlas.ti software, and then pairs met to compare codes and resolve discrepancies through discussion. If discrepancies remained, the entire group discussed them to decide a resolution. We analyzed patterns within and across the transcripts and identified major themes, allowing the data to dictate analytical categories. We grouped common responses. The resulting summary of themes was reviewed by the entire research team.

Results

Participant characteristics

The characteristics of participants are provided in Table 2.1. Among the 29 participants interviewed, 58.6% were women and most were white (96.6%). Most of the participants had at least a bachelor's degree (86.2%), 41.4% had a professional license, and 6.9% had a certificate or concentration in addictions.

Table 2.1 Participant Demographics (n =29)		%
Gender	Female	58.6
Race and Ethnicity	White (non-Hispanic)	96.6
	Hispanic, more than one race	3.4
Education	High School & Associates Degree	13.8
	Bachelor's Degree	37.9
	Graduate Degree or Higher	48.3
Highest Training	Licensed	41.4
	Concentration/Certification in Addictions	6.9
	Neither licensed or certificated	48.3
	Missing	3.4
Experience with Treating OUD or SUD	0 – 4 years	10.3
	5 – 10 years	51.7
	11+ years	37.9
Experience with Criminal Justice Populations	0 – 4 years	13.8
	5 – 10 years	51.7
	11+ years	34.5
Role	Medical Healthcare	6.9
	Behavioral Healthcare	27.6
	Correctional/Security Staff	24.1
	Re-entry, Casework Staff	27.6
	Administration	13.8

Next, we present results on the challenges of COVID-19 in relation to MOUD program implementation and operation and the adaptations that staff made in response. Before turning to these topics, it's important to acknowledge the factors that participants felt enabled jails to pivot and adapt MOUD program operations. Participants pointed to pre-existing partnerships between the criminal justice system and community providers as a key facilitator that enabled staff to coordinate services, share resources and information, and continue MOUD treatment under the added strains of COVID-19. A second key facilitating factor was the ability of jails to enact public health while also protecting public safety. Finally, participants valued leadership that recognized the traumas precipitated by COVID-19 and worked to create accommodating workspaces that enabled staff to continue to work with clients.

We divide the results into two sections, those factors that pertained to individuals while living in jail and those factors that affected individuals at release or after community re-entry. Where relevant, we highlight adaptations that participants wished to sustain going forward.

In-jail MOUD program: Challenges and adaptations

An immediate impact of COVID-19 was the need to institute *mitigation policies and practices* to reduce potential health risks. Jail administration created resources that were available to both residents and also staff. These included: COVID-19 educational podcasts, newsletters, and announcements; provision of personal protective equipment (e.g., masks, face visors); enhanced cleaning protocols inside the jails; reminders to practice hand hygiene; fewer staff on-site; fewer people incarcerated and many de-carcerated; and a vaccine educational campaign in preparation for vaccine roll-out. Participants also shared how COVID-19 altered the operation of the MOUD program. We highlight those program adaptations that participants wished to sustain, along with their perceptions of the benefits of these adaptations.

Telehealth capacity was created to offer a range of health and social services to incarcerated individuals who were living inside jail. This capacity enabled delivery of individual treatment to address behavioral and mental health conditions (e.g., MOUD education, psychosocial therapy, family planning, specialized services offered by community providers and other specialists). Participants also noted how telehealth capacity was used to deliver group treatment to address behavioral and mental health conditions, host group education sessions (e.g., COVID-19, MOUD, harm-reduction practices, HIV/HCV), and hold virtual staff meetings and treatment coordination. Telehealth capacity was perceived to be beneficial, and worth sustaining, for the following reasons. Telehealth decreased staffing demands for transportation of patients to off-site providers. It enhanced the ability of medical staff to attend appointments, ask questions, and ensure comprehensive assessment and treatment coordination between off-site specialists and facility medical staff. It made treatment more accessible for patients with difficulties engaging in large groups or interacting with others in face-to-face settings. It facilitated hosting guest speakers and health experts.

Also important, telehealth capacity established a technological infrastructure that could be used to host *tele-visitation*, that is, virtual visits between incarcerated individuals and their family and friends. Tele-visitation capacity was perceived to be beneficial because it decreased the opportunities for medication diversion and for illicit substances to be brought into the jails. At the same time, participants reported that clients seemed comforted by the ability to use tele-visits to see children, the adults who care for them, and other loved ones living in familiar places. For these reasons, participants expressed a desire to sustain tele-visit capacity in the future.

Participants shared how MOUD dosing protocols were changed to observe physical distancing for COVID-19 mitigation practices. For example, MOUD was administered in housing units instead of bringing clients to one central place. An adaptation that participants wished to sustain was the *in-jail provision of methadone* instead of the transportation of clients to off-site treatment providers for dosing. In-jail methadone provision was perceived to be beneficial because it reduced staffing demand for transportation and security that was required to transport clients off-site and it eliminated the social stigma that patients had experienced when treated in community settings while handcuffed or otherwise visibly indicated to be a person who is incarcerated.

Psychotherapy workbooks and reflections on personal patterns in substance use were used when access to counseling and group sessions was limited. Also, when in-person group counseling resumed, the size of each group was reduced. *Smaller sized group treatment and psychotherapy workbooks* were perceived to be beneficial because they increased client comfort and reflection which enhanced client engagement with treatment.

Release and community re-entry: Challenges and adaptations

Participants reported that staff found re-entry planning extremely challenging during the time period when jails were tasked with the *rapid release* of eligible individuals due to COVID-19 mitigation policies. Especially difficult was ensuring that clients being treated with MOUD while in jail could receive their medication in the community, particularly when access to public health insurance had been inactivated during incarceration. Participants were concerned that the effectiveness of MOUD and other services might be especially compromised for rapid release clients who had been incarcerated for a short time-period (e.g., pre-trial clients). While staff had adapted programming as soon as possible, individuals who had been released rapidly often received little to no re-entry services and thus may have increased overdose risks. As examples, participants reported an instance of a client released in the early stages of the pandemic who was now living in the community in a dumpster whereas others had returned to use and overdosed. Given the reality of rapid releases, a key program adaptation was the increased availability of *take-home MOUD doses at release* as a way to bridge the potential gap in care until individuals could receive MOUD in the community. Participants wished to sustain this adaptation, expecting that it could be potential life saver in the future, such as when an individual is released on a Friday and cannot access a clinic in the community until Monday. In such scenarios, it was believed a take-home prescription would give people time to get settled, make all the necessary appointments, and avoid a return to use that could result in an overdose.

Participants reflected on how the rules historically used by community treatment programs and government regulations, both once thought to be resolute, changed during COVID-19, and these changes *reduced barriers to care for clients*. Many hoped that programs and regulators would make it possible to continue the following changes: allowing for digital consent for treatment and intakes for new patients/clients who cannot attend in-person visits, tele-court for court sessions being held far from where clients live, and more flexible guidelines on take-home doses for medication.

Participants shared that many MOUD clients had limited or no access to technology in the community, and thus struggled to access medical care, peer-support, and other services. Staff expressed concerns that this increased social isolation likely increased the risks of substance use. One facility was able to provide smart phones to eligible individuals at release to facilitate access to needed telehealth services and supports. Clients in the community had access to some resources that provided outdoor Wi-Fi and device charging, which were viewed as essential when indoor dining, public libraries, and universities were closed.

Participants shared concerns that federal funds for COVID-19 relief might cause MOUD clients to return to substance use after release. Participants observed that while incarcerated during the pandemic, some clients were especially distressed and had “too much time on their hands.” While these clients could benefit from relief funds, it would be best if the MOUD program provided services to support goal-oriented decision making towards financial and housing stability. Thus, staff provided additional financial planning to prepare individuals for receipt of relief payments upon release.

Participants shared how *community-level risk factors* for opioid and other substance use were created by COVID-19 or exacerbated by it. Participants recognized these were factors that reinforced one another to worsen health risks of MOUD clients but that program staff were unable to change. For example, participants reflected on how prior to COVID-19 there were already few employment opportunities for people with a history of incarceration, especially if individuals had many appointments (such as counseling, treatment, court, etc.) that disrupted usual work hours. The types of jobs that clients could access post-release were often jobs that were eliminated by COVID-19 or placed workers at greater risk for infection (i.e. food service,

entertainment, etc.). Added to this challenge, participants highlighted how insufficient public transportation systems were worsened by COVID-19 and that this lack of transportation prevented some clients from remaining employed or using physical and mental health treatment. In another critical domain, residential treatment beds and shelters were limited before the COVID-19 pandemic, and the pandemic exacerbated these shortages. Participants described that the communities surrounding the jails had unusual shortages in low-income housing. The change in housing demand was thought to be related to people from more densely populated urban settings moving to more rural communities during COVID-19. Participants expressed that without stable housing, clients could not find employment or stay employed, or continue with their recovery. Participants who worked with women clients said the community housing and employment shortages contributed to women returning to exploitive and unsafe relationships, which increased the risks for intimate partner violence and sex-trafficking. Finally, participants shared the importance of comprehensive support for clients, such as parenting classes.

Discussion

Substance use and COVID-19

Participants were concerned about increased risks during COVID-19 for opioid overdose after jail release. Overdose deaths related to any drug are reported to have increased 30.5% from January 2020 to January 2021 nationally and 6% in Massachusetts in the same time-period (CDC, 2021). Overdose data that are specific to opioid use are not yet available from the Massachusetts Department of Public Health for this time-period (Massachusetts Department of Public Health, 2021).

Our findings are consistent with reports in the emerging literature that document the effects of COVID-19 on substance use. Other studies report that substance use is expected to have increased during COVID-19 (Li & Zhao, 2021; Mallet et al., 2021), for example due to prolonged isolation and attempts to self-soothe through substance use (Eaves et al., 2021) and limited access to needed health and social services (Volkow, 2020). Findings from Cales et al. (2021) suggest a relationship between new mental health problems and financial challenges during COVID-19 and initiation of opioid use. This growing body of evidence underscores the continued need for treatment of substance use disorders in criminal justice and community settings.

Criminal justice and public health

Participants highlighted how jail staff who are involved in the operation of MOUD programming perceive themselves as healthcare providers. Participants shared an intent to adapt usual program protocols for the health and safety of clients. They also sought new opportunities to increase access to community-based services and information. There is growing national interest in addressing COVID-19 in criminal justice settings while also providing treatment for opioid use disorders (Nguemni Tiako, 2021). Many of the MOUD program adaptations that were made at these two participating jails reflect the changes seen in non-criminal justice clinics (Caton et al., 2021; Li & Zhao, 2021). More research is needed to know whether these innovations provide added benefits and access to care beyond the current pandemic.

Telehealth and blanket waivers

Participants felt that the ability to provide MOUD services via telehealth allowed greater access to treatment in the jails and post-release, particularly for clients with limited transportation and

those who live in rural areas. Recent studies have documented the use of telehealth to conduct MOUD assessments and inductions, particularly with patients living in rural settings who often struggle with transportation or access to a sufficient supply of qualified providers (Caton et al., 2021; Cole et al. 2021; Eaves et al., 2021; Weintraub et al., 2021). In Massachusetts, the blanket waivers allowing these telehealth assessments ended in July 2021, though individual clinics may still apply for waivers (BSAS, 2021). Studies are needed to understand the impacts of these significant changes in practice and policy.

COVID-19 and vulnerable populations

Participants reported that provision of MOUD treatment continued during COVID-19, both in the jails and in the community. However, participants also noted how certain sub-groups within the MOUD program population, such as women, individuals who are homeless or houseless, and those with co-occurring mental health conditions, faced additional barriers to treatment and recovery services post-release which, in turn, may have exacerbated health vulnerabilities. Some research suggests that those who are most vulnerable to COVID-19 infection or are less able to access MOUD are also less likely to have access to telehealth, take-home MOUD doses (Eaves et al., 2021), and harm reduction services (Jacka et al., 2021). Indeed, early data from California indicates that telehealth during COVID-19 was reserved for more stable opioid treatment clients (Caton et al., 2021). Others report that in New England, those with polysubstance use had a harder time accessing harm-reduction services such as sterile needles and naloxone during COVID-19 (Jacka et al., 2021). In Chapter VII we examine the characteristics and outcomes of specific sub-groups served by the MOUD program. A topic for future research is whether access to MOUD and other services, and related outcomes, varied by socio-demographic characteristics, setting, or other factors.

Limitations and strengths

Findings are based on a sample of 29 individuals who operate the MOUD program at two correctional facilities in Western Massachusetts. Our study design is typical of qualitative research and intended to provide depth of information (Curtis et al., 2000; Creswell & Creswell, 2018). We did not collect data from clients who received MOUD services or analyze how participants were impacted by COVID-19, constituting two areas for future research. As study strengths, we collected data from staff with different roles and responsibilities and as based in two jails in Massachusetts, a state that is on the forefront of providing MOUD in correctional facilities. Also, the timing of data collection allowed us to capture emergent lessons learned on how to provide MOUD programming in the context of COVID-19.

Conclusion

During COVID-19, a number of adaptations were made to the operation of the MOUD program. These adaptations made it possible to continue to deliver MOUD to individuals during incarceration and after release. Nevertheless, COVID-19 worsened conditions in the communities that individuals were released to, which likely impacted access to care and treatment outcomes. During disruptive events, jails can adapt MOUD programming to ensure access for people living in jail and upon release. Findings also identify factors for understanding the outcomes of jail-based MOUD programming during COVID-19 and highlight opportunities to improve service delivery after COVID-19.

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Chapter III. Status of Data Collection

By Calla Harrington, Elizabeth Evans

During the third and final year of this project, the Franklin County Sheriff's office, in collaboration with the Hampshire County Sheriff's Office, continued to work to accomplish two overarching goals:

- (1) implement a program to expand capacity to provide medications to treat opioid use disorder to jail detainees (n=300) and
- (2) implement a comprehensive community reentry program.

The project maintained multi-sectoral collaborations with key community partners to ensure a continuity of care and an integrated behavioral health and opioid use treatment approach. Standardized client assessment tools were used by jail staff to collect data on individuals at intake into jail, during treatment while in jail, at discharge from jail, and at follow-up post-exit from jail. An additional participant interview was conducted at three months post-exit from jail by research staff at the University of Massachusetts Amherst.

The evaluation utilizes a mixed methods pre-post research design to evaluate project implementation and assess its effectiveness. Each component of the evaluation design is described in detail in the first year evaluation report. This chapter presents a summary of the status of data collection at the end of the third and final year of the project. We delineate the methodological limitations of the study. We conclude with comments on the evaluation design.

Evaluation Design

The evaluation consists of two components: (1) an Implementation and Process Study and (2) an Outcome Study. The status of data collected during year three of the project is described below.

Evaluation Component 1: Implementation and Process Study

The Implementation and Process Study was designed to understand how to expand capacity to provide MOUD to the target population. This study aims to use qualitative methods to (1A) describe and monitor plans and strategies to implement a program to deliver MOUD in jail and to support MOUD engagement in the community; (1B) assess changes in criminal justice processes, clinical practices, and organizational adaptations in response to program implementation, identifying factors that enable or impede the ability of criminal justice institutions to collaborate with community-based health and social services agencies to provide comprehensive treatment and recovery support services; and (1C) assess to what extent program activities are implemented as intended and result in desired outputs.

In March 2020, COVID-19 emerged and significantly disrupted program operations. In response, FCSO and HSO implemented mitigation policies and adapted MOUD programming. The stakeholder focus group discussions and one-on-one interviews that were needed to accomplish the evaluation aims were re-scheduled to occur after adaptations were underway, from October 2020 through January 2021. The discussion prompts for data collection focused on documenting program adaptations that were made in response to COVID-19, current operations, and next steps. A summary of findings are presented in this report.

Evaluation Component 2: Outcome Study

The Outcome Study is designed to assess MOUD utilization and outcomes, both during and after incarceration. This study aims to assess utilization of MOUD and other health and social services while incarcerated and in the community and assess health and social outcomes after jail exit.

Target Client Population

All adult clients with OUD admitted to the participating jail facilities in the designated counties were to be included in the evaluation, with the exception of: (1) clients who entered the jail for a brief period of time as part of the jail's function as a regional lock-up; (2) clients who were discharged or transferred from jail prior to completing an intake assessment or release of information forms; and (3) clients who refused to release their information to the research team for evaluation purposes. During implementation, however, it happened that clients who did not provide consent for their information to be shared with the research team for research purposes were not asked to complete the intake assessment and thus were omitted from the evaluation. In effect, the intake sample is a census of all clients with OUD who gave consent to participate in research. Staff estimated that during the first year of the project, approximately 30% of individuals with OUD who were admitted to the jail refused to participate in research and were thus omitted from the evaluation. During the second and third years of the project, staff worked to revise practices to ensure that enrollment protocols were implemented as originally planned. All clients entered into the SPARS data system during this period were targeted for data collection, including invitation to participate in the 3-month post-exit follow-up interview.

Data Collection Procedures, Schedule, and Instruments/Measurements

Staff at participating jails were asked to assess all entering adult clients with OUD using the study instruments (described in detail below) as part of the normal admission process. This data collection began on April 1, 2019. Program staff were also responsible for completing 3-month and 6-month post intake interviews (only with individuals who were still living in jail at these time-points), and for recording and reporting services received by these clients while in jail, and for assessing clients at exit from jail. Client data collected by jail was electronically transmitted to SAMHSA by data entry into the SPARS database.

In addition, staff recruited eligible clients for the follow-up interview by explaining the study and obtaining clients' informed consent to be contacted at a later date by UMass researchers for phone interviews at 3 months post-exit from jail. Staff asked clients who consented to participate for locator information. Those who completed the follow-up interview were paid up to \$40 in the form of a gift card mailed to their designated addresses.

Comparable standardized data were collected at each time-point during the project to measure change. See the year one evaluation report for a copy of the data collection forms and consent forms, and for a copy of the materials that were created to inform prospective participants about the re-entry component of the MOUD program.

Intake

Given COVID-19 mitigation policies, activities were adapted to deliver the MOUD program, for example via telemedicine, and to collect data from program participants. Activities did continue during the third year of the project, although with fewer participants than had been originally proposed given the efforts being conducted to decrease the numbers of people incarcerated in jail.

Baseline Interview at Intake

Jail staff aimed to complete intake/baseline interviews using the SAMHSA GPRA form within 3 days to 7 days after jail entry. Data was collected on paper and then data entered into the SAMHSA SPARS database. If an individual had been incarcerated for all of the 30 days prior to intake, for example due to transfer from one jail to another, staff adjusted the interview questions to ask about the time period prior to the current incarceration. The GPRA intake/baseline interview date was used to determine when the subsequent 3-month and 6-month post-intake interviews were due.

Recruiting Clients for the Follow-up Study

Jail staff were also responsible for recruiting clients for the 3-month post-exit-from-jail telephone interview. Staff were to explain the study and review the Informed Consent Form (ICF) with each eligible client. If the client agreed to participate, he or she signed the ICF, signed the Release of Information for research purposes form, and then provided information for the Locator Form. The ICF is a document that explains the follow-up study to eligible client participants and obtains permission for later contact and interviewing. The Locator Form collects information that UMass staff used to contact clients who agreed to participate in the follow-up study. Providers were asked to recruit clients into the follow-up study any time after intake, but ideally within the first 3 days after intake.

While Living in Jail

3-Month and 6-Month Post-Intake

Jail staff completed follow-up interviews at 3-months and 6-months post-intake with those individuals who were still living in jail at these time-points. Staff used the GPRA form for these interviews and data entered the information into SPARS. A significant proportion of individuals were released from the participating jails before these interviews were due. Staff did not seek to complete these interviews if individuals were not living in jail when these interviews were due.

Discharge from Jail

Jail staff completed a discharge record when a participant exited jail. "Discharge" was defined as the point at which participants stop receiving services at a single jail site. Staff did not discharge and readmit a client who transferred from one program to another within the same jail. Individuals without a discharge record have not yet exited jail.

Responses to discharge items were collected at exit from jail. Staff "administratively discharged" a participant who was not available for an exit interview by filling out the discharge items to the best of their ability. The date of the last face-to-face encounter and services provided was filled in from information contained in administrative jail records. The jail exit date was used to calculate when the subsequent 3-month post-exit from jail interview was due.

Sample sizes

Not all data elements were complete for all clients at each of the assessment points. Thus, sample sizes in this report vary depending on the combination of data elements and specific time points at which the analyses were conducted. To maximize the sample size and data utilization, we used the maximum number of clients for whom the complete data relevant to specific research

questions were available. Table 3.1 provides information on the numbers of clients who had data at each time-point during year one (April 1, 2019 to November 18, 2019), year two (November 19, 2019 to November 18, 2020) and year three (November 19, 2020 to July 30, 2021) of the project.

	Year 1 04/01/19 – 11/18/19			Year 2 11/19/19 – 11/18/20			Year 3 11/19/20 - 07/30/21			Total		
	FCSO	HSO	Total	FCSO	HSO	Total	FCSO	HSO	Total	FCSO	HSO	Total
Intake	76	87	162	89	53	142	51	28	80	216	168	384
3-mon post-intake	9	12	21	10	5	15	15	6	21	34	23	57
6-mon post-intake	0	0	0	4	10	14	7	0	7	11	10	21
Discharge	50	43	93	76	72	148	65	20	85	191	135	326
3-mon post-discharge	10	8	18	27	32	59	28	20	48	65	60	125

Follow-up Interview at 3 Months Post-Discharge

The 3-month post-discharge time frame was chosen to: (1) capitalize on the clients' ability to recall specific services received while in jail and after community re-entry and accurately rate satisfaction/treatment received; (2) allow researchers to stay in touch with clients and thereby increase the follow-up rate; and (3) allow a brief assessment of clients' status.

UMass interviewers conducted by phone one follow-up interview, lasting approximately 45 minutes, with clients at 3 months post-discharge from jail. To re-contact individuals for follow-up, UMass staff utilized methods presented in the SAMHSA Staying in Touch manual. The interview is composed of GPRA items and the In-Treatment Experience Survey. The survey also includes questions about clients' treatment satisfaction and treatment services received using the Treatment Services Review (TSR) (McLellan et al., 1992) which surveys clients with respect to the different types and frequencies of treatment services received in the past 3 months (both within and outside of the program). Data provide information on health services utilization and outcomes in the time-period after exit from jail.

Follow-up Rates for the 3-Month Interview

In this section, we present information on the follow-up rates for the 3-month post-exit-from-jail interview conducted by UMass staff. Rates reflect efforts made as of July 30, 2021. More details about the status of the follow-up are provided in Chapter 6. Of the 282 clients who had entered the 3-month post-discharge follow-up window and were thus eligible to complete this interview: 44.3% completed an interview, 4.3% were contacted but refused to participate, 14.9% were contacted but did not complete the interview (6.0% contacted directly, 8.9% friends or family contacted), 12.4% were not contacted, and 24.1% could not complete an interview because they were re-incarcerated (22.0%) or deceased (2.1%). If the latter group of people (i.e., those who could not complete the interview due to re-incarceration or death) were excluded from the denominator for calculation of the follow-up rate, then 58.4% of eligible participants completed the 3-month post-exit from jail follow-up interview.

Software Employed for Statistical Analyses

Quantitative data management and statistical analysis were conducted in Stata, a widely used statistical program for complex data management and multivariate analysis. Statistical analyses include descriptive statistics (frequency, percentage, mean, correlations), and comparative analysis. Descriptions of analyses conducted for addressing specific research questions are provided in the respective chapters.

Limitations of the Evaluation

Several practical limitations were considered in interpreting the results of the evaluation. Major issues are described here. Other issues that pertain to specific components of the evaluation are detailed in the corresponding chapters of this report. Clients under the age of 18, regional lock-up clients, and clients who exited jail prior to completing an intake assessment, have not been included in the evaluation. Therefore, no inferences should be drawn from the data regarding these client populations. In some instances, data were collected from individuals much later than planned, requiring individuals to remember events that had occurred some time before, which may have resulted in recall bias. The project includes jails located in two counties in Western Massachusetts who volunteered to participate in the program. Thus, the generalizability of the evaluation findings may be limited.

Chapter IV. Characteristics of Clients

By Amelia Bailey, Elizabeth Delorme, Elizabeth Evans

Staff collected data from participants at jail intake to assess for each participant their health and social status and needs. We examined the socio-demographics and other characteristics and experiences of program participants as reported at the intake assessment. For most variables, participant status was reported in relation to “the past 30 days” or “currently.” The characteristics and experiences of program participants were mostly similar by site and by year of the project. Thus, in this chapter we mostly summarize data on the total participant population, highlighting the characteristics of the group that enrolled in the program during the three years of the project, and we highlight differences by site only when notable. Finally, we summarize the most prevalent characteristic within each domain. Data for all categories that are encompassed by each variable are presented for reference in the tables that are appended to the report.

Sociodemographic characteristics

Table 4.1 presents sociodemographic characteristics of participants.

Gender

Most participants, 83.3%, are men, 16.2% are women, and 0.3% are transgender. There are gender differences by site. The Franklin County House of Corrections serves both men and women, whereas the Hampshire County House of Corrections serves only men. This explains why 100% of the participants in Hampshire are men. In Franklin, 70.7% of the participants are men and 28.8% are women.

Race and ethnicity

Participants are predominantly White (67.5%), followed by Hispanic (13.0%), other race/ethnicity (12.0%), African American (6.5%), and Asian (1.0%). Compared to Hampshire, Franklin has more participants who are White (72.7% vs. 60.7%) and Asian (1.4% vs 0.6%). Compared to Franklin, Hampshire has more participants who are Hispanic (19.1% vs. 8.3%) and other race/ethnicity (13.1% vs. 11.1%), and African American (6.6% vs. 6.5%).

Age

In Franklin, participants are 34 years old on average. In Hampshire, participants are 35 years old on average. The average age for all participants is 34. By age category, 7.6% of participants are age 18-24, 50.3% are age 25-34, 30.9% are age 35-44, and 9.2% are age 45-54. Relatively few participants are age 55-64 or older (2.1%).

Education

Most of the participants have a high school diploma or GED (49.3%), 24.3% have attained less than a high school education, and 13.5% have attained some college without a degree. More participants in Franklin than in Hampshire have a high school education or GED (52.6% vs. 45.2%) and have completed some college (16.1% vs. 10.1%).

Employment

Most participants are not in the labor force (69.8%) or unemployed (11.5%), with 9.9% working

full-time and 6.0% working part-time. More participants in Hampshire than in Franklin are working full- or part-time (24.9% vs. 8.8%), and fewer are not in the labor force (58.0% vs. 79.1%).

Income: Source, amount, and meeting basic needs

Slightly over one-third of participants receive income from public assistance (35.2%) and from employment (35.7%). Of the participants, 24.2% receive income from non-legal sources, 18.5% from family and/or friends, and 7.3% from disability. In Franklin compared to Hampshire, more participants receive income from employment (40.0% vs 30.2%) and public assistance (44.2% vs 23.7%). About 38.3% of participants report that their income is not at all or only a little of what is needed to meet basic needs.

Housing

Most participants lived in an institution (33.6%) and in their own residence (32.0%) in the prior 30 days. More participants in Franklin than in Hampshire lived in their own residence (38.6% vs 23.7%) and lived in someone else's residence (25.6% vs 12.4%). Participants are generally satisfied or very satisfied with their living space (57.6%).

Military service

Few participants, only 2.9%, are military veterans.

Parental status

Most participants, 71.4%, have children. The average number of children per participant is between 2 and 3 children. About 8.8% of participants have one or more children living with another person by court order. Almost one-sixth of participants (15.4%) have lost their parental rights to one or more children. In Franklin, more participants have two or more children living with someone else by court order than in Hampshire (11.0% vs. 6.8%).

Opioid and other substance use

Table 4.2 presents participant self-reported use of opioids, other drugs, and alcohol. Most participants self-reported illegal drug use (83.9%) in the prior 30 days. More participants in Franklin reported illegal drug use in the prior 30 days than in Hampshire (88.8% vs. 77.5%). About 40.4% reported use of alcohol and illegal drugs on the same day.

Opioids

More than half of participants self-reported use of any opioids (63.5%) in the prior 30 days. Participants self-reported use of heroin (57.0%), followed by Percocet (14.7%), OxyContin or Oxycodone (5.0%), morphine (3.7%), Diluadid (2.1%), Codeine (2.1%), Tylenol 2, 3, 4 (0.8%), and Demerol (0.3%). About 4.7% reported use of non-prescription methadone. More participants in Franklin reported use of heroin in the prior 30 days than in Hampshire (60.9% vs. 51.8%).

Other drugs

More than half of the participants self-reported use of cocaine/crack (58.9%) and cannabis (53.1%). Participants also reported illegal use of benzodiazepines (20%),

hallucinogens/psychedelics (10.5%), methamphetamine or amphetamines (7.9%), other illegal drugs (7.6%), ketamine (2.1%), inhalants (1.8%), and other tranquilizers (1.3%).

Alcohol

About 45.6% of participants self-reported any alcohol use in the prior 30 days. About one-third of participants reported use of alcohol to intoxication with 5 or more drinks in one sitting (29.7%). Fewer participants reported alcohol to intoxication with 4 or fewer drinks in one sitting and feeling high (16.2%).

Impacts of substance use

When asked whether alcohol or drug use caused stress in the prior 30 days, 37.5% of participants reported being extremely stressed, 16.2% were considerably stressed, 19.2% were somewhat stressed, and 16.8% were not at all stressed. Nearly half of participants reported alcohol or drug use caused them to give up important activities to an extreme (24.9%) or considerable degree (20.6%). Similarly, almost half of participants (45.2%) reported that alcohol or other drug use caused considerable or extreme emotional problems.

Opioid and other substance use disorder

Table 4.3 presents participant self-reported diagnosis of a substance use disorder by type of substance. Of all participants, 99.2% have a diagnosed opioid use disorder. In addition, 42.5% have an alcohol use disorder, 47.9% have a cocaine use disorder, and 27.9% have a cannabis-related use disorder. More participants in Franklin reported a diagnosis of alcohol use disorder than in Hampshire (45.6% vs. 38.7%).

Medications to treat opioid or alcohol use disorder

Table 4.4 presents participant self-reported utilization of medications received in the 30 days prior to intake to treat opioid or alcohol use disorder. Approximately 51.3% of participants entered jail already on MOUD. Approximately half (51.3%) of the participants entered jail on a medication for opioid use disorder, most commonly buprenorphine (30.5%) and followed by methadone (16.2%). Very few participants were receiving medications to treat alcohol use disorder (0.9%). Jail staff verified these self-reported medication history data against electronic health record data at one of the two sites. Future analyses will utilize verified data pertaining to MOUD received before incarceration for both sites.

Crime and involvement with the criminal justice system

Table 4.5 presents participant self-reported criminal activity and interactions with the criminal justice system in the 30 days prior to intake. Most participants, 97.6%, reported having committed a crime, 77.7% were arrested, 42.9% were arrested for a drug-related offense, and 67.9% had spent a night in jail or prison. More than two-thirds of participants were awaiting charges, trial, or sentencing (77.9%) and 37.7% were currently on parole or probation. More participants in Franklin than in Hampshire reported past 30 day arrest (94.4% vs. 56.0%) and arrest for drug-related offense (46.8% vs. 34.4%). More participants in Hampshire than in Franklin reported having spent a night in jail or prison (75.8% vs. 61.9%). These differences by site may, in part, be due to differences in data collection and should be used for data management purposes only.

Mental health conditions and symptoms

Table 4.6 presents mental health diagnoses and symptoms. Of those screened for co-occurring mental health and substance use disorder (70.7%), over half tested positive (68.2%). Few participants had a recorded mental health diagnosis. Specifically, 4.4% had a mood and anxiety disorder diagnosis and 1.3% had a bipolar diagnosis. In contrast, many participants self-reported symptoms of serious anxiety or tension (80.5%), depression (67.7%), and trouble understanding, concentrating, or remembering (48.2%). About 8.6% self-reported hallucinations. Few (3.4%) had attempted suicide in the prior 30 days. About 35.7% of participants were prescribed medication for psychological or emotional problems in the prior 30 days. Most participants were moderately to extremely bothered by their psychological or emotional problems (58.9%).

Exposure to violence and trauma

Table 4.7 presents experiences of violence or trauma in the lifetime. Many participants (81.5%) reported having experienced violence or trauma in their lifetime. Of those that had ever experienced violence or trauma, many reported experiencing mental and physiological effects. Specifically, 83.8% reported they had nightmares or thought about it when they did not want to, 84.9% reported they tried hard not to think about it or went out of the way to avoid situations that reminded them of it, 78.2% reported they were constantly on guard, watchful, or easily startled, and 75.3% reported they felt numb and detached from others, activities, or surroundings. About 20.1% of participants reported being hit, kicked, slapped, or otherwise physically hurt a few times in the prior 30 days.

HIV risk behaviors and testing

Table 4.8 presents self-reported data on participants' HIV risk behaviors, prevalence of HIV testing, and knowledge of HIV test results.

Sexual behavior

More than half of the participants reported engaging in sexual activity in the past 30 days (69.1%). Of those participants, 88.5% reported engaging in unprotected sex, 28.6% engaged in unprotected sex with someone who used injection drugs, and 48.8% engaged in unprotected sex with someone high on some substance.

Injection behavior

Many participants self-reported having injected drugs in the prior 30 days (41.9%). About one-third of participants, 27.5%, had recently used drug paraphernalia (e.g., syringe/needle, cooker, cotton, or water) that someone else had used.

HIV testing and knowledge of HIV test results

Most of the participants reported having been tested for HIV (97.4%). Most participants knew the results of the HIV testing (98.4%).

Social support

Table 4.9 presents information on source of social support and satisfaction with relationships.

Many participants (78.9%) had interactions with family and/or friends that are supportive of their recovery. Participants most commonly attended support groups hosted by non-religious or faith-based organizations (33.1%) or other organizations that support recovery (23.2%). About half of participants reported turning to a family member when having trouble (58.5%). About 15.4% of participants had no source of social support. About half of participants were satisfied or very satisfied with their personal relationships (56.2%).

Perceived health, wellness, and quality of life

Table 4.10 presents participants' self-reported perceptions of their health, wellness, and quality of life. Most participants rated their overall health as good (41.2%), were satisfied with their health (49.9%), mostly or completely had enough energy for everyday life (61.6%), were satisfied or very satisfied with ability to perform daily activities (68.9%), were satisfied or very satisfied with self (46.7%), and reported a good or very good quality of life (56.9%).

Health services utilization

Table 4.11 presents recent use of health services by modality (inpatient, outpatient, emergency room). Participants self-reported that they received outpatient treatment in the past 30 days (38.0%), inpatient treatment in the past 30 days (17.7%), and emergency room treatment in the past 30 days (18.8%).

Chapter V. Services Provided

By Amelia Bailey, Elizabeth Delorme, Calla Harrington, Elizabeth Evans

Jail staff collected data at jail exit to document for each participant the health and social services that were provided during incarceration. In this chapter, we summarize those data (see the Appendix for data tables). It is important to note that in most cases, staff extracted information from existing administrative jail records to document services provided. In this process, staff encountered challenges due to differences in the definitions of codes, uncertainty regarding where and how to document services provided, and variation by site in documentation practices. Staff worked to perform data quality checks to improve the accuracy, reliability, and validity of these data. Given this reality, some of the data presented in this chapter serves as a tool to perform data quality improvement activities, and should not be interpreted to accurately represent provision of services.

Medications to treat opioid use disorder (MOUD)

Of the individuals who participated in the MOUD program, 40.9% were prescribed buprenorphine to treat their opioid use disorder while incarcerated, 25.5% were prescribed methadone, 1.6% were prescribed naltrexone, and 32.0% did not receive a MOUD prescription (Table 5.1). There were differences by site in the proportion of individuals who received each type of MOUD. Specifically, more participants in FCSO than in HSO received a prescription for buprenorphine (52.3% vs. 26.2%) and methadone (37.0% vs. 10.7%) while living in jail, and fewer received a prescription for naltrexone (0.5% vs. 3.0%). More participants in HSO than in FCSO did not receive a MOUD prescription while incarcerated or were discharged without a MOUD prescription (60.1% vs. 10.2%).

It is important to note that individuals who received a prescription for more than one type of MOUD during incarceration, or had stopped receiving MOUD while incarcerated, were defined by their prescribed MOUD as documented at discharge or at latest point in treatment if they were not yet released. Also, Table 5.1 presents information on MOUD prescriptions, and does not indicate whether an individual who was prescribed MOUD actually took it. To explore this issue further, staff at FCSO compared data on MOUD prescriptions against actual use of MOUD, and confirmed that there were only two individuals who had been offered a MOUD prescription but did not take the medication. These results indicate that “MOUD prescription” is a useful indicator of use of MOUD while living in jail.

	FCSO (n=216)	HSO (n=168)	Total (n=384)
Buprenorphine	52.3	26.2	40.9
Methadone	37.0	10.7	25.5
Naltrexone	0.5	3.0	1.6
None	10.2	60.1	32.0

* $p \leq 0.05$ ** $p \leq 0.01$ *** $p \leq 0.001$

Sociodemographic characteristics by type of MOUD prescribed while in jail

Table 5.2 presents information on the baseline characteristics of clients by the type of MOUD that had been prescribed during incarceration. These data provide information on how use of each specific type of MOUD versus no MOUD varied by context, sociodemographic

characteristics, and use of MOUD and other experiences that had occurred prior to incarceration. We highlight a few examples of how individuals who did not receive MOUD while incarcerated were different from individuals who received buprenorphine or methadone. For example, compared to individuals who were not prescribed MOUD while incarcerated, fewer of the individuals who were prescribed buprenorphine or methadone while incarcerated had abstained from opioid use prior to incarceration (24.5%-39.5% vs. 42.3%) and more of them had received MOUD in the 30 days prior to incarceration (61.2%-69.4% vs. 25.2%). Furthermore, of the individuals who were prescribed buprenorphine or methadone while incarcerated, about half (52.0% - 54.1%) had received that same type of MOUD in the community in the 30 days prior to incarceration, i.e., these individuals were receiving MOUD in the community and continued to receive it after incarceration. Also, of the individuals who were prescribed buprenorphine or methadone while incarcerated, about one-third or more (30.6% - 38.9%) had not received any MOUD in the community in the 30 days prior to incarceration, i.e., these individuals were inducted onto buprenorphine or methadone when incarcerated. Finally, of the individuals who did not receive MOUD while incarcerated, most had not received any MOUD in the community in the 30 days prior to incarceration (74.8%); 16.3% had received buprenorphine prior to incarceration, 4.1% had received methadone, and 4.9% had received naltrexone.

Table 5.2 Baseline characteristics of clients by type of MOUD prescription while in jail				
	Buprenorphine	Methadone	Naltrexone	None
	(n=157; 40.9%)	(n=98; 25.5%)	(n=6; 1.6%)	(n=123; 32.0%)
Site, % ^{***}				
FCSO	72.0	81.6	16.7	17.9
HSO	28.0	18.4	83.3	82.1
Gender, % ^{**}				
Male	77.7	77.6	83.3	95.9
Female	22.5	22.5	16.7	4.1
Trans/non-binary/other	0.6	0.0	0.0	0.0
Race/Ethnicity, % ^{ns}				
White	67.5	75.5	50.0	61.8
Hispanic	15.9	11.2	0.0	19.5
African American	5.7	6.1	33.3	11.4
Other, Unknown	10.8	7.1	16.7	7.3
Age, %				
18 – 24	9.7	4.1	0.0	8.1
25 – 34	47.1	57.1	83.3	47.2
35 – 44	31.0	31.6	16.7	30.9
45 – 54	11.0	7.1	0.0	8.9
55-64	1.3	0.0	0.0	4.1
65+	0.0	0.0	0.0	0.8
Age, Mean (SD) ^{***}	33.8	33.9	32.3	35.2
Employment, % [*]				
Full time	11.5	3.1	0.0	13.8

Part time	7.0	5.1	16.7	4.9
Unemployed	16.6	6.1	0.0	15.5
Not in labor force	65.0	85.7	83.3	65.9
Missing	1.9	0.0	0.0	0.8
Enrolled in school or job training, % ^{ns}	8.9	4.1	16.7	12.2
Educational status, % ^{ns}				
Less than high school	22.9	20.4	0.0	29.3
High school/GED	47.1	53.1	50.0	47.2
At least some college	29.9	26.5	50.0	23.6
Where living most of the time in past 30 days, %				
Homeless/houseless	59.9	68.4	100.0	73.2
Own/rent apartment, room, or house	37.6	31.6	0.0	26.8
Refused/missing	2.6	0.0	0.0	0.0
Status in 30 days prior to jail entry				
Abstained from opioids *	39.5	24.5	33.3	42.3
Abstained from illegal drugs ^{***}	18.5	8.2	16.7	26.0
Abstained from alcohol	54.1	53.1	16.7	54.5
Attended self-help groups ^{ns}	49.4	36.7	66.7	48.4
Experienced mental health symptoms ^{ns}	89.2	85.7	66.7	89.4
On probation or parole	38.9	33.7	66.7	36.6
No arrests ^{***}	14.0	5.1	50.0	44.7
No incarcerations ^{***}	30.6	54.1	0.0	17.1
Received MOUD in community 30 days before incarceration (intake), % ^{***}	61.2	69.4	33.3	25.2
Type of MOUD received in community 30 days before incarceration, % ^{***}				
Buprenorphine	54.1	11.2	16.7	16.3
Methadone	3.8	52.0	0.0	4.1
Naltrexone	3.2	6.1	16.7	4.9
None	38.9	30.6	66.7	74.8

^a =includes crack/cocaine, cannabis, hallucinogens, inhalants, methamphetamines, and non-prescription benzodiazepines, barbiturates, GHB, Ketamine, other tranquilizers, or other illegal drugs.

Note: 4 individuals who were re-coded as not abstaining from opioids and 5 as not abstaining from other illegal drugs in the last 30 days who had refused to answer these questions when doing their intakes in the jail.

* $p \leq 0.05$ ** $p \leq 0.01$ *** $p \leq 0.001$; ns = not significant

Factors Associated with Use of MOUD While Incarcerated

We used logistic regression to examine factors associated with use of any MOUD while incarcerated. We present the results, stratified by site. At FCSO (Table 5.3a), receipt of a prescription for any type of MOUD while in jail (yes vs.no) was negatively associated with

having abstained from opioid use in the 30 days prior to incarceration and positively associated with having received MOUD in the 30 days prior to incarceration. Gender, age, race/ethnicity, and mental health symptoms were not associated with receipt of a prescription for any type of MOUD while in jail. Results suggest that at FCSO, an individual's need for MOUD (as indicated by recent opioid use and use of MOUD) determined whether MOUD was received while in jail, and that individuals had a similar likelihood of receiving MOUD, no matter their gender, age, or race/ethnicity.

Table 5.3a Factors associated with use of MOUD while in jail at FCSO (n=216)

	Received MOUD while in jail (ref: no), Odds Ratio (95% confidence ratio)
Male (ref: female) ^{ns}	0.71 (0.21 – 2.44)
Age (continuous) ^{ns}	0.99 (0.93 – 1.05)
Race/Ethnicity (ref: White)	
Hispanic ^{ns}	2.03 (0.20 – 20.93)
African American ^{ns}	0.25 (0.06 – 1.08)
Other, Unknown ^{ns}	0.43 (0.10 – 1.86)
Abstained from opioids in last 30 days ^{***}	0.11 (0.03 - 0.37)
Abstained from non-opioids in last 30 days ^a	1.18 (0.23 – 6.16)
Experienced mental health symptoms at baseline (ref: no) ^{ns}	1.08 (0.11 – 10.18)
MOUD received in 30 days prior to jail entry (ref: none) ^{***}	24.20 (4.80 – 122.00)

Note: One individual who identified as transgender was coded as sex at birth to include this case in analysis.

At HSO (Table 5.3b), receipt of a prescription for any type of MOUD while in jail (yes vs.no) was positively associated with having received MOUD in the 30 days prior to incarceration and an other/unknown race/ethnicity (vs. White). Age, opioid and other substance use prior to incarceration, and mental health symptoms were not associated with receipt of a prescription for any type of MOUD while in jail. Results suggest that at HSO, an individual's need for MOUD (as indicated by recent use of MOUD) determined whether MOUD was received while in jail and that individuals had a different likelihood of receiving MOUD based on race/ethnicity.

Table 5.3b Factors associated with use of MOUD while in jail at HSO (n=168)

	Received MOUD while in jail (ref: no), Odds Ratio (95% confidence ratio)
Age (continuous) ^{ns}	0.98 (0.94 – 1.03)
Race/Ethnicity (ref: White)	
Hispanic ^{ns}	1.84 (0.69 – 4.91)
African American ^{ns}	1.91 (0.40 – 9.04)
Other, Unknown [*]	4.93 (1.08 – 22.48)
Abstained from opioids in last 30 days ^{ns}	1.32 (0.53 – 3.25)
Abstained from non-opioids in last 30 days ^{a ns}	0.66 (0.24 – 1.83)
Experienced mental health symptoms at baseline (ref: no) ^{ns}	0.34 (0.11 – 1.05)
MOUD received in 30 days prior to jail entry (ref: none) ^{***}	14.58 (6.04 – 35.20)

* $p \leq 0.05$ ** $p \leq 0.01$ *** $p \leq 0.001$; ns= not significant

^a =includes crack/cocaine, cannabis, hallucinogens, inhalants, methamphetamines, and non-prescription benzodiazepines, barbiturates, GHB, Ketamine, other tranquilizers, or other illegal drugs.

For the remainder of this chapter, please see the Appendix for a presentation of data by year and by site.

Modality

In relation to modality type, all participants were provided with case management and most received residential treatment, aftercare, and recovery support. Fewer participants received day treatment, free standing residential treatment, or other modalities.

Treatment

Participants received a diversity of treatment services. For example, all or most participants received screening, brief intervention, assessment, treatment planning, and pharmacological interventions. Significant proportions of participants received brief treatment, referrals, individual counseling, and services for co-occurring conditions. Relatively few participants received family/marriage counseling services or counseling for HIV/AIDS.

Case management

Participants received case management services in a number of areas. For example, 73.6% received transportation services, 55.5% received employment coaching, 57.7% received HIV/AIDS services, and about 10% or less received family services, employment services, individual coordination services, and supportive transitional drug-free housing.

Medical

Almost all participants received medical care on site (96.3%). Most participants received alcohol and drug testing and medical care (93.6%). Relatively few received HIV and AIDS medical support and testing (13.5%) and over half received other medical services (50.9%).

After care

Aftercare services delivered to participants included continuing care (62.3%), relapse prevention (69.9%), self-help and support groups (22.4%), recovery coaching (13.2%), and other services.

Education

Most participants received substance abuse education (79.8%). Over one-third of participants received HIV and AIDS education (43.9%). Less participants received other education (16.6%).

Peer-to-peer recovery support

Sites delivered peer-to-peer support services such as information and referral services (88.3%), alcohol and drug free social activities (82.5%), housing support (68.4%), and peer coaching and mentoring services (26.1%).

Chapter VI. Status at Follow-Up and Factors Associated with Outcomes

By Calla Harrington, Elizabeth Evans

The evaluation used a pre- and post-exit-from-jail design to assess changes in client status from intake to follow-up. A detailed description of the overall study design can be found in the Year 1 Evaluation Report. In the Year 2 report, we assessed the types of services that are generally received by clients participating in the program, whether clients receive differential service components based on differential status at assessment, and whether clients satisfied with the services they received. In this report we assess the outcomes of participating clients at follow-up and the factors associated with outcomes.

Defining the analytic sample

Of the n=384 individuals who completed the assessment at jail entry, n=125 also completed the 3-month post-exit from jail follow-up interview and n=259 did not. Table 6.1 shows the reasons why a follow-up interview was not completed. Specifically, of the 259 individuals who were not interviewed, 17.0% had not been released from jail and thus were not eligible for a follow-up interview and another 8.4% had not entered their window of time for follow-up. Another group of individuals were unable to complete the interview because they were re- incarcerated (23.9%), declined participation (14.2% at intake; 4.6% at follow-up), or had died (2.3%). Research staff were in touch with individuals (6.6%) or their family/friends (9.7%), but did not complete an interview. Another 13.1% of clients were not interviewed because interview staff were not able to re-contact them.

Table 6.1 Status of individuals who did not complete the follow-up interview 3 months after jail exit			
	FCSO	HSO	Total
	N=151	N=108	N=259
	%	%	%
Not yet released	16.6	16.6	17.0
Not eligible for follow up as of 7/30/21	10.6	5.5	8.4
Reincarcerated	24.5	23.2	23.9
Declined at intake	15.9	12.0	14.3
Declined at follow up	4.0	5.6	4.6
Deceased	1.3	3.7	2.3
Contact made with participant	6.0	7.4	6.6
Contact made with support person of participant	8.0	12.0	9.7
No contact made	13.3	13.0	13.1

The characteristics of individuals who completed the follow-up interview compared to those who did not complete the follow-up interview are presented in the Year 2 report. Results suggest the ways in which the follow-up sample may not represent the characteristics of all people who participated in the program.

Assessment Schedule and Procedures

All adult clients entering MOUD treatment at the two jails participating in the project were assessed by each jail's program staff using the study instruments as part of the normal admission process. Jail staff also recorded and reported services received by these clients at exit from jail. Eligible clients were approached by jail staff to obtain informed consent to be contacted at a later date by UMass research staff for follow-up phone interviews at 3-months post-exit from jail. Clients consenting to follow-up were also asked for locator information. Those who completed the follow-up interviews were paid up to \$40 in the form of a gift card mailed to their designated addresses. Clients with multiple treatment admissions could enroll in the 3-month follow-up sample only once per site.

Data Sources/Instruments/Measures

Data sources for this chapter include: the GPRA admission form and the 3-month post-admission follow-up interview. A detailed description of these instruments can be found in the Year 1 Evaluation Report. MOUD in jail data has been verified through each sites' administrative records. MOUD received in the 30 days in the community before incarceration has been verified for one site through administrative records. Subsequent reports will have access to verified records for both sites. The focus of the next section of this chapter is on the 125 clients who completed both the admission assessment and 3-month post-exit from jail follow-up interview (n=65 clients from FCSO and n=60 clients from HSO).

Analysis

We provide descriptive statistics of the sample in terms of characteristics at admission and status at the 3-month follow-up interview. We use logistic regression to examine factors that are associated with the use of MOUD at follow-up.

Results

Use of MOUD and Other Outcome at 3-Month Follow-up Interview

At the 3-month follow-up interview, clients were asked to briefly describe their current treatment status (See Table 6.2). About 67.7% of clients were in a MOUD treatment program 3 months after exit from jail. Of those who were receiving MOUD at the follow-up (n=84), 52.4% were receiving buprenorphine, 36.9% were receiving methadone, and 10.7% were receiving naltrexone (data not shown on Table 6.2).

In the 30-days prior to the follow-up interview, 84.8% self-reported having abstained from opioids, 58.4% had abstained from "illegal" drugs, and 74.4% had abstained from alcohol. In the same time period, most reported no arrests (96.8%) and no incarcerations (95.2%) and 51.2% were on probation or parole. Many individuals reported mental health symptoms (88.0%). A significant proportion, 67.2%, were homeless. Half (50.0%) had attended self-help groups. About 36.0% were employed full- or part-time. Few were attending school or job training (4.0%).

Table 6.2 Status at 3-month follow-up interview			
	FCSO	HSO	Total
	(n = 65)	(n = 60)	(n = 125)
In MOUD treatment, % ^{ns}			
No	29.7	35.0	32.3
Yes	70.3	65.0	67.7
Type of MOUD treatment, % ^{ns}			
Buprenorphine	37.5	33.3	35.5
Methadone	29.7	20.0	25.0
Naltrexone	3.1	11.7	7.3
None	29.7	35.0	32.3
In the past 30 days, %			
Abstained from opioids ^{ns}	89.2	80.0	84.8
Abstained from illegal drugs ^{ns t}	63.1	53.3	58.4
Abstained from alcohol ^{ns}	75.4	73.3	74.4
No arrests ^{ns}	93.9	100.0	96.8
No incarcerations ^{ns}	95.4	95.0	95.2
On probation or parole ^{**}	61.5	40.0	51.2
Experienced mental health symptoms ^{ns}	83.3	92.3	88.0
Attended self-help groups ^{ns}	43.8	56.7	50.0
Homeless or houseless ^{ns}	63.1	71.7	67.2
Employed full- or part-time ^{ns}	35.4	36.7	36.0
Attending school or job training ^{ns}	6.2	1.7	4.0
^t = includes crack/cocaine, cannabis, hallucinogens, inhalants, methamphetamines, non-prescription benzodiazepines, barbiturates, GHB, Ketamine, other tranquilizers, or other illegal drugs.			

* $p \leq .05$; ** $p \leq 0.01$; *** $p \leq 0.001$; ns= not significant

Characteristics of Clients Who Used MOUD After Exit from Jail

The characteristics of clients who did and did not use MOUD after exit from jail as self-reported at the follow-up interview is provided in Table 6.3. Among those on MOUD, there was a higher proportion of participants who had already been on a MOUD in the community prior to their intake assessment for this study (67.9%) compared to those not on MOUD at follow-up (31.7%; $p \leq .0001$). A limitation of this result is that use of MOUD in the community prior to incarceration was verified with an examination of administrative data on treatment at one of the two sites. In addition, compared to people who did not use MOUD at follow-up, more of the people who did use MOUD at follow-up had received MOUD while incarcerated (77.4% vs. 34.1%, $p \leq .0001$). Those on MOUD at follow-up were offered buprenorphine (45.2%), methadone (29.8%), left the jail not on a MOUD (22.6%), and were the least likely to be on MOUD at follow-up if they had been offered naltrexone last in jail (2.4%).

Table 6.3 Characteristics of clients by use of MOUD after exit from jail			
	Used MOUD	Did not use MOUD	Total
	(n=84; 67.2%)	(n=41; 32.8%)	(n=125)
Site, % ^{ns}			
FCSO	53.6	48.8	52.0
HSO	46.4	51.2	48.0
Gender, % ^{ns}			
Male	82.1	85.4	83.2
Female	17.9	12.2	16.0
Trans/non-binary/other	0.0	2.4	0.8
Race/Ethnicity, % ^{ns}			
White	77.4	75.6	76.8
Hispanic	11.9	7.3	10.4
African American	2.4	7.3	4.0
Other, Unknown	8.3	9.8	8.8
Age, % ^{ns}			
18 – 24	6.0	12.2	8.0
25 – 34	54.8	48.8	52.8
35 – 44	28.6	29.3	28.8
45 – 54	7.1	2.4	5.6
55-64	3.6	4.9	4.0
65+	0.0	2.4	0.8
Age, Mean (SD) ^{ns}	34.9(8.3)	34.5(10.1)	34.8(8.9)
Employment, % ^{ns}			
Full time	23.8	39.0	28.8
Part time	4.8	12.2	7.2
Unemployed	42.9	22.0	36.0
Not in labor force	28.6	26.8	28.0
Enrolled in school or job training, % ^{ns}	4.8	2.4	4.0
Educational status, % ^{ns}			
Less than high school	16.7	17.1	16.8
High school/GED	42.9	53.7	46.4
At least some college	40.5	29.3	36.8
Where living most of the time in past 30 days, % ^{ns}			
Homeless/houseless	71.4	58.5	67.2
Own/rent apartment, room, or house	28.6	41.5	32.8
Status in 30 days prior to jail entry			
Abstained from opioids ^{ns}	39.3	43.9	40.8

Abstained from illegal drugs ^{ns a}	20.2	26.8	22.4
Abstained from alcohol ^{ns}	45.2	48.8	46.4
Attended self-help groups ^{ns}	44.1	43.9	44.0
Experienced mental health symptoms ^{ns}	89.3	87.8	88.8
On probation or parole ^{ns}	42.9	39.0	41.6
No arrests ^{ns}	25.0	39.0	29.6
No incarcerations ^{ns}	23.8	12.2	20.0
In MOUD in community 30 days before incarceration (intake), % ^{***}	67.9	31.7	56.0
Type of MOUD received in community 30 days before incarceration, % ^{***}			
Buprenorphine	38.1	22.0	32.8
Methadone	23.8	9.8	19.2
Naltrexone	6.0	0.0	4.0
None	32.1	68.3	44.0
Received MOUD while in jail, % ^{***}	77.4	34.1	63.2
Type of MOUD received in jail, % ^{***}			
Buprenorphine	45.2	24.4	38.4
Methadone	29.8	7.3	22.4
Naltrexone	2.4	2.4	1.6
None	22.6	65.9	36.8

^a =includes crack/cocaine, cannabis, hallucinogens, inhalants, methamphetamines, and non-prescription benzodiazepines, barbiturates, GHB, Ketamine, other tranquilizers, or other illegal drugs.

* $p \leq 0.05$ ** $p \leq 0.01$ *** $p \leq 0.001$; ns = not significant

Client-Reported Reasons For Not Being Treated with MOUD at Follow-up

At the follow-up interview, individuals who were not receiving MOUD treatment were asked to identify the primary reason why (Table 6.4). The most common primary reason for not being treated with MOUD was that participants had stopped using opioids previously without the help of medications or felt they no longer needed medications (22.0%), followed by not wanting to be dependent on what was perceived to be another drug (19.5%). Several other reasons were also provided to explain why participants were not receiving MOUD. When similar reasons were aggregated and re-coded into broader categories, the results indicated that the primary reasons for not receiving MOUD treatment after exit from jail was due to gaps in participant knowledge (26.9%), fear of social stigma or discrimination (24.4%), barriers posed by the health care delivery system (9.7%), active substance use (7.3%), lack of health insurance or legal barriers (7.2%), and other reasons.

Table 6.4 Primary reasons for not receiving MOUD treatment as reported at 3-month follow-up interview (n=41)	
	%
Stopped before without MOUD or feel no longer need it	22.0
I do not want to be dependent on another drug [^]	19.5
I am not sure where to go to get the medication	4.9
I have been on medication in the past and I started abusing other substances, other than an opioid	4.9
I am afraid my friends/family/community will treat me with disrespect if I use the medication; they/we don't think that is sobriety	4.9
I know other people who have stopped using opioids without a medication, I can too	4.9
I don't like the physical side effects of the medication	4.9
My insurance won't pay for the medication	2.4
I don't have transportation to attend follow-up visits for the medication	2.4
The rules for getting the medication are too strict	2.4
The wait list for getting the medication is too long	2.4
I do not take my prescription as prescribed	2.4
The medication prevents me from being able to feel the effects of opioids when I feel like using them	2.4
Never saw a doctor or received diagnosis	2.4
Court or legal barrier	2.4
MOUD withdrawal is harder than heroin withdrawal	2.4
Wasn't offered MOUD until released; was mad because already withdrawn in jail	2.4
No reason given or missing	4.9
[^] 1 participant uses medical cannabis and didn't want to be dependent on an opioid	

Factors Associated with Use of MOUD at Follow-up

We used logistic regression to examine factors associated with use of MOUD at follow-up. Results showed that use of MOUD at follow-up was positively associated with use of MOUD while in jail (compared to no use of MOUD while in jail) (odds ratio: 8.77; 95% confidence interval: 2.66-28.97) and use of MOUD in the 30 days prior to intake (odds ratio: 3.45; 95% confidence interval: 1.26-9.42), and that these associations remained after accounting for the effect of other factors.

	Used MOUD at Follow-up (ref: no) Odds Ratio (95% confidence interval)
Site: FCSO (ref: HSO) ^{ns}	0.42 (0.12 - 1.39)
Male (ref: female) ^{ns}	0.86 (0.20 - 3.62)
Race/Ethnicity: White (ref: non-white) ^{ns}	1.16 (0.37 - 3.61)
Age (continuous) ^{ns}	1.03 (0.98 - 1.09)
Employed full- or part-time at intake (ref: unemployed or not in labor force) ^{ns}	1.02 (0.27 - 3.96)
Educational status at baseline (ref: less than high school) ^{ns}	
High school/GED ^{ns}	0.29 (0.08 – 1.02)
At least some college ^{ns}	1.38 (0.30 – 6.31)
Experienced mental health symptoms at baseline (ref: no) ^{ns}	1.18 (0.27 – 4.79)
Received MOUD 30 days prior to intake (ref: none) [*]	3.45 (1.26 – 9.42)
Received MOUD while in jail (ref: none) ^{***}	8.77 (2.66 – 28.97)

* $p \leq 0.05$ ** $p \leq 0.01$ *** $p \leq 0.001$; ns= not significant

Note: One individual who identified as transgender was coded as sex at birth to include this case in analysis.

Discussion

In this chapter, we examined use of MOUD and other outcomes as self-reported by participants 3 months after exit from jail. Results indicated that after exit from jail, about 67.7% of participants self-reported receipt of medications to treat opioid use disorder (MOUD). Of those who were receiving MOUD at the follow-up interview (n=84), 52.4% were receiving buprenorphine, 36.9% were receiving methadone, and 10.7% were receiving naltrexone. These MOUD treatment utilization rates are on par with, or higher than, rates reported by other similar studies. Notably, preliminary results from a recent study of outcomes of MOUD provision in all Vermont correctional settings reported that of individuals who received MOUD while incarcerated, about 40% or more received MOUD within 30 days after release (47.8% in the time-period before COVID-19; 41.3% during COVID-19) (Klemperer, 2021).

Logistic regression analysis indicated that having received MOUD while incarcerated was associated with higher odds of use of MOUD at follow-up, and that this association remained after accounting for the effect of other factors. Results are consistent with other studies indicating that provision of MOUD in correctional settings is associated with continued treatment

post-release (Sharma et al., 2016). Taken together, findings suggest that many individuals who receive MOUD while incarcerated do indeed continue to receive MOUD after exit from jail.

As for other indicators of self-reported participant status after exit from jail, 84.8% of participants self-reported having abstained from opioids in the 30 days prior to the follow-up, 58.4% had abstained from “illegal” drugs, and 74.4% had abstained from alcohol. In the same time-period, most participants reported no arrests or incarcerations, and about half of participants were on probation or parole. Many individuals reported mental health symptoms (80.0%) and not living in a place they rented or owned (67.2%). More than one-third (36.0%) were employed full- or part-time. Half had attended self-help groups. Results are consistent with other findings (Evans et al., 2019), contextualize participant outcomes at follow-up, and underscore participants’ significant need for a diverse array of health and social services after exit from jail.

At the follow-up interview, individuals who were not receiving MOUD treatment were asked to explain why. Results indicated that the primary reasons for not receiving MOUD treatment after exit from jail was due to gaps in participant knowledge about MOUD, fear of social stigma or discrimination, barriers posed by the health care delivery system, active substance use, and lack of health insurance or legal barriers. These findings are consistent with reports by other studies (Blendon & Benson, 2018; Finlay et al., 2020; Kennedy-Hendricks et al., 2016, 2017; National Academies of Sciences, Engineering, and Medicine, 2019) and point to areas to target education and intervention efforts that are designed to increase MOUD initiation and engagement rates.

A significant proportion of follow-up interviews were conducted after Massachusetts had declared a state of emergency due to COVID-19. To reduce jail populations, the Massachusetts Supreme Judicial Court ordered the rapid release of eligible individuals. During follow-up interviews, some participants shared limited ability to receive services while incarcerated or after release due to COVID-19 mitigation safeguards. Ongoing research is examining whether and how use of MOUD after exit from correctional settings changed during COVID-19 compared to pre-COVID 19 (e.g., Klemperer et al., 2021).

Finally, an important caveat to keep in mind in relation to the results presented in this chapter is that results are based on only those individuals who did complete a follow-up interview (i.e., n=125, or 32.6% of all program participants). Re-contact efforts revealed that some participants had died or been re-incarcerated during follow-up, representing other outcomes that are not analyzed in-depth in this report. By September 15, 2021, out of 312 consented participants, 3.2% have been identified to have died, including some who had previously completed a follow-up interview. These latter results underscore the nature of opioid use disorder as a chronic health condition that is characterized by high mortality rates, interactions with the criminal justice system, and a need for continuing care.

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Chapter VII. A Focus on Selected Populations

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We examined the characteristics and outcomes of the MOUD client population by three groups: gender, race/ethnicity, and co-occurrence of an opioid and stimulant use disorder. These sub-populations were selected based on what had been proposed as a particular area of interest and emergent national trends in substance use.

Gender

Table 7.1 presents differences by gender in the characteristics of clients. In relation to socio-demographic characteristics, more women than men were White (82.3% vs. 63.4%) and fewer were Hispanic (4.8% vs. 17.8%) or African American (3.2% vs. 9.1%). Women were younger than men on average (mean age $31.92 \pm .76$) vs. $34.91 \pm .48$). More women than men had completed at least some college (37.7% vs. 24.4%). In the 30 days prior to intake, more women than men had abstained from alcohol (77.4% vs. 48.8%) and more were on probation or parole (59.7% vs. 32.8%). More women than men received MOUD while in jail (91.9% vs. 63.1%). Based on the follow-up sample ($n=125$), more women than men received MOUD in the three months after exit from jail (75.0% vs. 66.4%), but this difference was not statistically significant.

	Women (n=62; 16.2%)	Men (n=320; 83.8%)
Site, %*		
FCSO	100.0	47.5
HSO	0.0	52.5
Race/Ethnicity, %*		
White	82.3	63.4
Hispanic	4.8	17.8
African American	3.2	9.1
Other, Unknown	9.7	9.7
Age, Mean (SE)**	31.92 ($\pm .76$)	34.91 ($\pm .48$)
Employment, % ^{ns}		
Full time	4.8	10.9
Part time	1.6	6.9
Unemployed	16.1	10.6
Not in labor force	77.4	69.4
Enrolled in school or job training, % ^{ns}	9.7	8.8
Educational status, % *		
Less than high school	29.5	23.1
High school/GED	32.8	52.5
At least some college	37.7	24.4
Where living most of the time in past 30 days, % ^{ns}		
Homeless/houseless	59.7	69.1
Own/rent apartment, room, or house	40.3	30.9
Status in 30 days prior to jail entry ^{ns}		

Abstained from opioids ^{ns}	37.1	36.6
Abstained from illegal drugs ^{a ns}	11.3	19.7
Abstained from alcohol ^{***}	77.4	48.8
Attended self-help groups ^{ns}	38.7	31.9
Experienced mental health symptoms ^{ns}	93.6	87.8
On probation or parole ^{***}	59.7	32.8
No arrests ^{**}	8.1	25.2
No incarcerations ^{ns}	38.7	30.6
In MOUD treatment at entry, % ^{ns}	50.0	51.6
Type of MOUD received at entry, % ^{ns}		
Buprenorphine	25.6	31.6
Methadone	22.6	15.0
Naltrexone	3.2	5.0
None	50.0	48.4
Received MOUD while in jail, % ^{***}	91.9	63.1
Type of MOUD received in jail, % ^{***}		
Buprenorphine	54.8	37.8
Methadone	35.5	23.8
Naltrexone	1.6	1.6
None	8.1	36.9
Used MOUD after exit from jail, % ^{ns} (n=125 for sample in follow-up)	75.0	66.4

The sample size (n = 382) omits 2 individuals who either identified as transgender or did not disclose their gender.

^a =includes crack/cocaine, cannabis, hallucinogens, inhalants, methamphetamines, and non-prescription benzodiazepines, barbiturates, GHB, Ketamine, other tranquilizers, or other illegal drugs.

* p≤ 0.05 **p≤ 0.01 ***p≤.001 ns= not significant

Race/Ethnicity

Table 7.2 presents differences by race and ethnicity in participant characteristics and outcomes. MOUD program participants are predominantly White (67.5%). Of the remaining population, 15.6% is Hispanic, 8.1% is African American, and 8.9% is an other or unknown race/ethnicity. Hereafter, we focus on characteristics that distinguish the participants who are Hispanic or African American in comparison with participants who are White. We do not summarize the data on individuals with an other/unknown race/ethnicity.

More Hispanic participants than White participants were men (95.0% vs. 79.9%). More Hispanic participants than White participants had less than a high school degree (53.3% vs. 18.2%). In the 30 days prior to jail entry, fewer Hispanic participants than White participants abstained from opioids (22.3% vs. 42.1%), fewer attended self-help groups (26.7% vs. 51.7%), fewer experienced mental health symptoms (85.0% vs. 89.2%), and fewer were on probation or parole (22.0% vs. 44.0%). Compared with White participants, fewer Hispanic participants received MOUD in the 30 days prior to jail entry (46.7% vs. 56.8%). Fewer Hispanic participants than White participants received MOUD while living in jail (60.0% vs. 68.0%). Based on the follow-up sample (n=125), more Hispanic individuals than White individuals were

treated with MOUD in the three months after exit from jail (76.9% vs. 67.7%), but this difference was not statistically significant.

More African American participants than White participants were men (93.6% vs. 79.9%) and more had higher educational attainment (32.3% vs. 29.3% completed at least some college). In the 30 days prior to jail entry, fewer African American participants than White participants abstained from opioids (26.7% vs. 42.1%), fewer attended self-help groups (38.7% vs. 51.7%), and fewer were on probation or parole (29.0% vs. 44.0%). Compared with White participants, fewer African American participants received MOUD prior to intake into jail (29.0% vs. 56.8%). Fewer African American participants than White participants received MOUD while living in jail (54.8% vs. 70.7%). Based on the follow-up sample (n=125), fewer African American participants than White participants were treated with MOUD in the three months after exit from jail (40.0% vs. 67.7%), but this difference was not statistically significant.

	White	Hispanic	African American	Other, unknown
	(n=259; 67.5%)	(n=60; 15.6%)	(n=31; 8.1%)	(n=34; 8.9%)
Site, %**				
FCSO	60.2	36.7	58.1	55.9
HSO	39.8	63.3	41.9	44.1
Gender, %*				
Male	79.9	95.0	93.6	79.4
Female	19.7	5.0	6.5	17.7
Trans/non-binary/other	0.4	0.0	0.0	2.9
Age, Mean (SE) ^{ns}	34.71 (± .51)	33.78 (±1.01)	34.65 (±1.42)	31.44 (±2.08)
Employment, % ^{ns}				
Full time	9.3	8.3	12.9	14.7
Part time	4.6	6.7	6.5	14.7
Unemployed	12.4	13.3	16.1	17.7
Not in labor force	73.8	71.7	64.5	52.9
Enrolled in school or job training, % ^{ns}	6.5	17.0	12.5	7.0
Educational status, %***				
Less than high school	18.2	53.3	12.9	26.5
High school/GED	52.5	33.3	54.8	41.2
At least some college	29.3	13.3	32.3	32.4
Where living most of the time in past 30 days, % ^{ns}				
Homeless/houseless	68.2	64.4	58.1	77.4
Own/rent apartment, room, or house	31.8	35.6	41.9	22.6
Status in 30 days prior to jail entry				
Abstained from opioids*	42.1	22.3	26.7	29.0
Abstained from illegal drugs ^{ans}	92.3	91.5	96.7	90.6
Abstained from alcohol ^{ns}	54.4	58.3	38.7	61.8
Attended self-help groups**	51.7	26.7	38.7	38.2
Experienced mental health symptoms ^{ns}	89.2	85.0	90.3	82.4

On probation or parole**	44.0	22.0	29.0	25.0
No arrests ^{ns}	21.2	28.8	22.6	18.8
No incarcerations ^{ns}	28.7	33.9	48.4	40.6
In MOUD treatment at entry, %**	56.8	46.7	29.0	38.2
Type of MOUD received at entry, %**				
Buprenorphine	32.1	31.7	22.6	23.5
Methadone	20.1	8.3	0.0	14.7
Naltrexone	4.6	6.7	6.5	0.0
None	43.2	53.3	71.0	61.8
Received MOUD while in jail, % ^{ns}	70.7	60.0	54.8	73.5
Type of MOUD received in jail, % ^{ns}				
Buprenorphine	40.9	41.7	29.0	50.0
Methadone	28.6	18.3	19.4	20.6
Naltrexone	1.2	0.0	6.5	0.0
None	29.3	40.0	45.2	26.5
Used MOUD after exit from jail, % (n=125 for sample in follow-up) ^{ns}	67.7	76.9	40.0	63.6

^a =includes crack/cocaine, cannabis, hallucinogens, inhalants, methamphetamines, and non-prescription benzodiazepines, barbiturates, GHB, Ketamine, other tranquilizers, or other illegal drugs.

* $p \leq 0.05$ ** $p \leq 0.01$ *** $p \leq .001$ ns= not significant

Co-occurring opioid and stimulant use disorders

We examined the prevalence of co-occurring opioid and stimulant use disorders among the population at jail entry (Table 7.3). Results indicated that 50.0% of participants had a co-occurring opioid and stimulant use disorder, 35.7% had opioid use disorder only, and 14.3% had an opioid and an “other” substance use disorder (i.e., not stimulants). We highlight characteristics that differentiate individuals with a co-occurring opioid and stimulant use disorder from individuals with only an opioid use disorder.

Compared with individuals with only an opioid use disorder, more individuals with a co-occurring opioid and stimulant use disorder were not in the labor force (83.3% vs. 51.1%) and fewer were employed full-time (3.1% vs. 18.3%) in the 30 days prior to jail entry. In the same time-period, more individuals with a co-occurring opioid and stimulant use disorder were homeless (72.1% vs. 59.3%), fewer abstained from opioids (27.8% vs. 45.9%), fewer abstained from illegal drugs (10.9% vs. 24.8%), and more were not incarcerated (41.1% vs. 17.8%). Compared with individuals with only an opioid use disorder, fewer individuals with a co-occurring opioid and stimulant use disorder received buprenorphine in jail (33.3% vs. 54.0%) and more of them received methadone (33.3% vs. 12.4%). Based on the follow-up sample (n=125), there were similar rates of MOUD treatment in the three months after jail exit among individuals with only an opioid use disorder (66.0%) and individuals with a co-occurring opioid and stimulant use disorder (64.4%).

Table 7.3 Differences by co-occurring stimulant use disorder in participant characteristics and outcomes			
	Opioid and stimulant use disorder	Opioid use disorder only	Opioid and other substance use disorder
	(n=192; 50.0%)	(n=137; 35.7%)	(n=55; 14.3%)
Site, %*			
FCSO	57.3	61.3	40.0
HSO	42.7	38.7	60.0
Gender, % ^{ns}			
Male	82.7	81.0	92.7
Female	16.8	19.0	7.3
Trans/non-binary/other	0.5	0.0	0.0
Race/Ethnicity, % ^{ns}			
White	67.2	70.1	61.8
Hispanic	16.7	11.0	23.6
African American	6.8	9.5	9.1
Other, Unknown	9.4	9.5	5.5
Age, Mean (SE) ^{ns}	34.44 (± .61)	34.40 (± .79)	33.38 (± .97)
Employment, % ^{***}			
Full time	3.1	18.3	12.7
Part time	2.6	11.0	5.5
Unemployed	10.9	19.7	5.5
Not in labor force	83.3	51.1	76.4
Enrolled in school or job training, % ^{ns}	7.4	10.4	10.9
Educational status, % ^{ns}			
Less than high school	20.8	29.2	21.8
High school/GED	54.2	40.9	49.1
At least some college	25.0	29.9	29.1
Where living most of the time in past 30 days, %*			
Homeless/houseless	72.1	59.3	72.7
Own/rent apartment, room, or house	27.9	40.7	27.3
Status in 30 days prior to jail entry			
Abstained from opioids ^{**}	27.8	45.9	45.5
Abstained from illegal drugs ^{a**}	10.9	24.8	12.7
Abstained from alcohol ^{ns}	54.7	55.5	50.9
Attended self-help groups ^{ns}	43.8	48.9	43.6
Experienced mental health symptoms ^{ns}	99.4	97.7	100.0
On probation or parole ^{ns}	34.7	40.7	40.7
No arrests ^{ns}	25.1	17.8	23.6

No incarcerations***	41.1	17.8	36.4
In MOUD treatment at entry, % ^{ns}	47.9	51.8	38.2
Type of MOUD received at entry, % ^{ns}			
Buprenorphine	26.0	33.6	38.2
Methadone	16.2	15.3	18.2
Naltrexone	5.7	2.9	5.5
None	52.1	48.2	38.2
Received MOUD while in jail, % ^{ns}	68.2	68.6	65.5
Type of MOUD received in jail, % ^{***}			
Buprenorphine	33.3	54.0	34.6
Methadone	33.3	12.4	30.9
Naltrexone	1.6	2.2	0.0
None	31.8	31.4	34.6
Used MOUD after exit from jail, % (n=125) ^{ns}	64.4	66.0	81.3

^a =includes crack/cocaine, cannabis, hallucinogens, inhalants, methamphetamines, and non-prescription benzodiazepines, barbiturates, GHB, Ketamine, other tranquilizers, or other illegal drugs.

* $p \leq .05$; ** $p \leq 0.01$; *** $p \leq 0.001$; ns= not significant

Discussion

Results point to variation in participant characteristics and outcomes by gender and race/ethnicity. Prior studies have identified factors that contribute to gender differences in rates of MOUD utilization and retention (Tuchman, 2010; van Reekum et al., 2020; Weinstein et al., 2017). Also, studies of populations being treated in non-criminal justice settings have also documented lower rates of MOUD utilization and retention among African American (Hollander et al., 2021; Samples et al., 2018; Stahler et al., 2021; Weinstein et al., 2017) and Hispanic (Guerrero et al., 2014; Samples et al., 2018; Weinstein et al., 2017; Zhu et al., 2018) populations. Finally, studies of individuals with co-occurring stimulant and opioid use disorder have documented factors such as higher rates of unemployment (Chawarski et al., 2020) and incarceration (Chawarski et al., 2020; Gjersing & Bretteville-Jensen, 2021) which, in turn, may contribute to negative health outcomes (Farnia et al., 2016; McKetin et al., 2018). More research is needed to understand whether there are gender, racial/ethnic, or disorder-specific differences in factors that are associated with use of MOUD while in jail and after community re-entry.

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Chapter VIII. Accomplishments and Recommendations

This report documents the history, implementation, and findings of the delivery of a MOUD program to jail detainees in two Houses of Correction over a three-year project. In this chapter, we provide a summary of the accomplishments and recommendations for implementation and evaluation for the future.

Accomplishments

Implementation study

Data collected over the three years of the project provides critical insights into the barriers, facilitators, and challenges of MOUD program implementation and sustainment in these jail settings. In the second year, program implementation was disrupted by the COVID-19 pandemic. We documented the ways in which the MOUD program was adapted in response to COVID-19. We also collected qualitative data from key stakeholders to assess how key implementation factors changed over time and to identify the emergence, implementation, and sustainment of new program elements.

Outcome study

In Year 3 of the project, data collection continued at each site, with changes made to the established protocols to adapt to COVID-19. We assessed participant status at jail intake, 3-months and 6-months post-intake, and jail discharge. Also, UMass staff continued to re-contact eligible participants and completed a 3-month post-exit from jail interview. Data were analyzed to assess use of MOUD and outcomes.

Recommendations

Implementation study

Participating sites are among the first Houses of Correction in the nation to implement a comprehensive MOUD program. Lessons learned during the project could help criminal justice settings in Massachusetts and elsewhere to implement similar programs. Thus, it is recommended that the team disseminate findings via presentations, reports, publications, and other engagement activities and work together to translate results into policy and practice.

Outcome study

Sites collected intake data on the target number of participants. However, the evaluation sample represents an estimated 70% of the population that was served by the MOUD program. Thus, results generated from the evaluation sample may not generalize to the broader population. To maximize the data that are available, future analyses should focus on use of MOUD while incarcerated as a key outcome of interest. Another option is to analyze administrative data on all program participants as a complementary source of information.

In the second year of the project, staff identified that some data collected at intake and some of the data collected at the discharge interview may not be accurate. The team conducted data

quality assessments, for example by cross-checking intake and discharge data against electronic health records and other administrative data sources. Through these efforts, staff identified strategies to improve the reliability and validity of data collected for research and evaluation purposes.

Regarding the 3-month post-exit from jail interview, it was challenging to re-contact individuals after jail exit. Also, a significant proportion of prospective participants could not be re-contacted because of re-incarceration or death. To increase the re-contact and follow-up rates, UMass staff worked closely with jail staff to better inform prospective participants prior to jail exit about the purpose and nature of the post-discharge follow-up interview. Related to this effort, the team completed this interview in incarcerated settings with individuals who had been re-incarcerated. Experiences provide lessons learned on how to design similar studies in the future to maximize follow-up rates.

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Less than high school	28.3	29.9	21.4	26.2	18.7	30.8	20.4	29.2	24.3
High school or GED	43.3	56.7	46.4	34.4	54.0	41.1	52.6	45.2	49.3
Some college	25.0	7.5	26.2	27.9	15.8	10.3	16.1	10.1	13.5
Undergraduate degree	9.1	11.1	10.8	7.1	10.8	11.2	10.4	10.7	10.6
Some vocational/technical program	0.0	1.5	0.0	3.3	0.0	2.8	0.0	1.8	0.8
Vocational/technical program certificate or diploma	0.0	4.5	0.0	1.6	0.7	3.7	0.5	3.0	1.6
Income source									
Employed	31.7	11.9	47.6	42.6	40.6	33.6	40.0	30.2	35.7
Public assistance	50.0	17.9	40.5	31.2	39.2	23.4	44.2	23.7	35.2
Retirement	0.0	0.0	1.2	3.3	1.4	2.8	0.9	1.8	1.3
Disability	15.0	4.5	2.4	11.5	6.3	10.3	6.5	8.3	7.3
Non-legal income	23.3	6.0	23.8	34.4	28.0	23.4	23.7	24.9	24.2
Family and/or friends	25.0	11.9	11.9	19.7	18.9	16.8	20.0	16.6	18.5
Other	1.7	3.0	0.0	3.3	0.0	4.7	0.5	4.1	2.1
Average month income (SD)	1385.00 (± 651.69)	265.73 (± 114.62)	2286.81 (± 706.42)	817.90(± 186.73)	767.13 (± 157.61)	557.74 (± 130.52)	683.27 (± 120.54)	599.05 (± 172.79)	646.20 (± 101.56)
Has enough money to meet needs									
Not at all	40.0	31.3	21.4	16.4	24.5	18.7	26.5	21.3	24.2
A little	21.7	17.9	8.3	21.3	11.9	17.8	11.6	17.2	14.1
Moderately	13.3	20.9	19.1	8.2	15.4	13.1	16.3	13.0	14.8
Mostly	16.7	13.4	25.0	18.0	26.6	23.4	24.7	19.5	22.4
Completely	8.3	16.4	26.2	29.5	20.3	22.4	20.0	24.9	22.1
Where living most of the time, past 30 days									
Shelter	0.0	4.5	1.2	3.3	0.7	2.8	0.5	4.1	1.8
Street/outdoors	5.0	3.0	2.4	4.9	4.2	5.6	5.1	46.2	4.7
Institution	26.7	67.2	42.9	52.5	23.8	42.1	23.7	44.4	33.6
Own/rent apartment, room, or house	41.7	16.4	27.4	16.4	40.6	23.4	38.6	23.7	32.0
Someone else's apartment, room, or house	21.7	6.0	21.4	16.4	25.2	15.9	25.6	12.4	19.8

Dormitory/college residence	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Halfway house	0.0	0.0	1.2	0.0	0.0	0.0	0.5	0.0	0.3
Residential treatment	3.3	0.0	0.0	3.3	0.7	0.9	1.4	1.2	1.3
Other	1.7	3.0	3.6	1.6	4.2	8.4	4.2	7.1	5.5
Satisfaction with living space									
Very dissatisfied	20.0	16.4	8.3	16.4	14.7	16.8	14.4	17.8	15.9
Dissatisfied	8.3	10.5	11.9	16.4	8.4	15.0	9.8	13.0	11.2
Neither satisfied nor dissatisfied	16.7	16.4	23.8	1.6	18.2	9.4	18.6	8.9	14.3
Satisfied	26.7	38.8	34.5	45.9	27.3	38.3	28.8	37.9	32.8
Very satisfied	28.3	17.9	21.4	18.0	30.8	19.6	27.9	20.7	24.7
Military service	3.3	1.5	0.0	9.8	1.4	5.6	1.4	4.7	2.9
Parental status									
Has children	81.7	70.2	66.7	70.5	71.3	70.1	72.6	69.8	71.4
Currently pregnant	0.0	0.0	4.0	0.0	2.4	0.0	3.2	0.0	3.2
Mean no. of children (SD)	2.5 (\pm 0.3)	2.4 (\pm 0.2)	2.1 (\pm 0.2)	2.5 (\pm 0.2)	2.3 (\pm 0.2)	2.6 (\pm 0.2)	2.3 (\pm 0.1)	2.5 (\pm 0.2)	2.4 (\pm 0.1)
One child living with other by court order	6.3	10.6	10.7	2.3	10.8	6.7	10.3	6.8	8.8
Two or more children living with other by court order	6.3	8.5	7.1	7.0	10.8	4.0	11.0	6.8	9.2
Lost parental rights to one or more children	21.3	23.8	25.5	17.5	16.8	10.3	18.1	11.8	15.4

Table 4.2 Opioid and other substance use

	Year 1		Year 2		Year 3		Total		Total
	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	
Alcohol and other substance use, past 30 days									
Any alcohol	41.7	44.8	50.0	39.3	46.2	49.5	45.1	46.2	45.6
Alcohol to intoxication (5+ drinks in one sitting)	35.0	31.3	26.2	29.5	27.3	31.8	27.4	32.5	29.7
Alcohol to intoxication (4 or fewer drinks in one sitting and felt high)	8.3	4.5	26.2	11.5	19.6	15.9	19.1	12.4	16.2
Illegal drugs	88.3	77.6	84.5	70.5	91.6	77.6	88.8	77.5	83.9
Both alcohol and illegal drugs on the same day	38.3	41.8	38.1	32.8	40.6	44.9	39.1	42.0	40.4
Cocaine/crack	66.7	55.2	63.1	41.0	65.7	45.8	66.5	49.1	58.9
Cannabis	60.0	55.2	46.4	42.6	54.6	50.5	54.9	50.9	53.1
Any Opiates	60.0	64.2	59.5	49.2	72.0	60.6	66.5	59.2	63.3
Heroin	50.0	56.7	57.1	47.5	65.7	51.9	60.9	51.8	57.0
Morphine	5.0	3.0	3.6	1.7	3.5	3.8	4.2	3.0	3.7
Dilaudid	3.3	3.0	0.0	3.4	1.4	2.9	1.9	2.4	2.1
Demerol	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.6	0.3
Percocet	15.0	16.4	11.9	11.9	15.4	16.2	14.0	15.8	14.7
Darvon	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Codeine	0.0	0.0	1.2	3.4	2.8	3.8	1.9	2.4	2.1
Tylenol 2, 3, 4	0.0	3.0	0.0	0.0	0.0	1.9	0.0	1.8	0.8
OxyContin/Oxycodone	3.3	4.5	3.6	5.2	6.3	4.8	5.1	4.9	5.0
Non-prescription methadone	10.0	3.0	6.0	1.7	6.3	2.9	6.5	2.4	4.7
Hallucinogens/psychedelics, PCP, MDMA, LSD, mushrooms, mescaline	5.0	11.9	7.1	8.5	10.5	14.3	9.8	11.5	10.5
Methamphetamine or other amphetamines	6.7	4.5	8.3	8.5	12.6	6.7	9.3	6.1	7.9
Benzodiazepines	11.7	17.9	19.1	27.1	22.4	22.9	19.1	21.2	20.0
Barbiturates	0.0	0.0	0.0	1.7	0.0	1.0	0.0	0.6	0.3
Non-prescription GHB	0.0	0.0	0.0	1.7	0.0	1.9	0.0	1.2	0.5

Ketamines	0.0	0.0	3.6	0.0	3.5	1.0	2.8	1.2	2.1
Other tranquilizers	3.3	0.0	1.2	0.0	3.5	0.0	2.3	0.0	1.3
Inhalants	3.3	0.0	1.2	0.0	2.8	1.0	2.3	1.2	1.8
Other illegal drugs	6.7	7.5	6.0	6.8	8.4	6.7	7.9	7.3	7.6
Alcohol or drug use caused stress, past 30 days									
Not at all	6.7	7.7	22.6	12.1	20.3	15.4	17.8	15.4	16.8
Somewhat	28.3	13.9	10.7	17.2	18.2	15.4	20.1	17.9	19.2
Considerably	16.7	13.9	25.0	12.1	17.5	16.4	19.2	12.4	16.2
Extremely	40.0	44.6	32.1	41.4	37.8	39.4	35.5	40.1	37.5
Alcohol or drug use caused giving up important activities, past 30 days									
Not at all	18.3	15.4	30.1	31.0	31.0	30.8	29.1	28.0	28.6
Somewhat	21.7	10.8	18.1	10.3	16.9	11.5	17.8	11.2	15.0
Considerably	21.7	20.0	28.9	13.8	23.9	15.4	23.5	16.8	20.6
Extremely	30.0	33.9	13.3	25.9	21.8	26.9	22.1	28.6	24.9
Alcohol or other drug use caused emotional problems, past 30 days									
Not at all	21.7	11.1	19.1	20.7	24.5	19.1	24.3	20.0	22.5
Somewhat	23.3	20.6	31.0	15.5	21.7	19.1	24.8	17.5	21.7
Considerably	18.3	20.6	26.2	24.1	23.8	19.1	21.5	21.3	21.4
Extremely	28.3	27.0	14.3	22.4	23.8	27.6	22.0	26.3	23.8

Table 4.3 Opioid and other substance use disorder

	Year 1		Year 2		Year 3		Total		Total
	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	
Opioid use disorder	100.0	100.0	100.0	98.4	100.0	98.1	100.0	98.2	99.2
Cocaine-related diagnosis	6.7	59.7	56.0	36.1	51.1	40.2	48.4	47.3	47.9
Alcohol-related diagnosis	50.0	43.9	56.0	36.1	39.2	36.8	45.6	38.7	42.5
Cannabis-related diagnosis	0.0	35.8	31.0	16.4	31.5	28.0	28.4	27.2	27.9
Sedative-, hypnotic-, or anxiolytic-related diagnosis	0.0	3.0	0.0	3.3	4.2	3.7	3.3	2.4	2.9

Table 4.5 Crime and involvement with the criminal justice system

	Year 1		Year 2		Year 3		Total		Total
	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	
In the past 30 days									
committed a crime	100.0	100.0	100.0	95.7	99.3	95.4	99.5	94.9	97.6
arrested	90.0	40.3	95.2	70.0	96.5	61.3	94.4	56.0	77.7
arrested for drug-related offense	50.0	25.9	42.5	35.7	49.3	32.3	46.8	34.4	42.9
spent night in jail/prison	96.7	90.9	79.8	78.3	55.9	77.1	61.9	75.8	67.9
Currently awaiting charges, trial, or sentencing	98.3	53.7	88.1	65.6	88.1	71.0	88.8	63.9	77.9
Currently on parole or probation	46.7	30.8	40.5	36.7	35.7	29.5	41.4	32.9	37.7

Table 4.6 Mental health conditions and symptoms

	Year 1		Year 2		Year 3		Total		Total
	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	
Mood and anxiety	3.3	0.0	9.5	6.6	5.6	6.5	3.7	5.3	4.4
Manic episode	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bipolar disorder	0.0	0.0	1.2	6.6	0.7	2.8	0.5	2.4	1.3
Major depressive disorder, single episode	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Major depressive disorder, recurrent	0.0	0.0	1.2	0.0	0.0	0.9	0.0	0.6	0.3
Persistent mood [affective] disorders	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unspecified mood [affective] disorder	0.0	0.0	2.4	0.0	1.4	0.0	0.9	0.0	0.5
Anxiety, dissociative, stress-related, somatoform, and other nonpsychotic mental disorders	3.3	0.0	4.8	0.0	3.5	2.8	2.3	2.4	2.3
Personality disorder	0.0	1.5	0.0	1.6	0.0	2.8	0.0	1.8	0.8
Schizophrenia	0.0	1.5	0.0	0.0	0.0	0.9	0.0	0.6	0.3
Schizotypal disorder	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delusional disorder	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Brief psychotic disorder	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Shared psychotic disorder	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Schizoaffective disorders	0.0	0.0	0.0	1.6	0.0	0.9	0.0	0.6	0.3
Other psychotic disorder not due to a substance or known physiological condition	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.6	0.3
Unspecified psychosis not due to a substance or know physiological condition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Antisocial personality disorder	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Borderline personality disorder	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other personality disorders	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Conduct disorders	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Childhood onset	1.7	0.0	2.4	0.0	0.0	0.0	1.4	0.0	0.8
Intellectual disabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pervasive and specific developmental disorders	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Attention-deficit hyperactivity disorders	1.7	0.0	2.4	0.0	0.0	0.0	1.4	0.0	0.8

Emotional disorders with onset specific to childhood	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Disorders of social functioning with onset specific to childhood or adolescence	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tic disorder	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other behavioral and emotional disorders	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Eating disorders	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sleep disorders not due to a substance or know physiological condition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unspecified mental disorder	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mental health symptoms, past 30 days									
Experienced serious depression	73.3	68.7	70.2	75.4	69.9	67.3	69.8	65.1	67.7
Experienced serious anxiety or tension	85.0	83.6	83.3	73.8	83.9	82.2	84.2	75.7	80.5
Experienced hallucinations	11.7	7.5	3.6	13.1	9.1	10.3	7.0	10.7	8.6
Experienced trouble understanding, concentrating, or remembering	53.3	50.8	51.2	42.6	50.4	43.9	49.8	46.2	48.2
Attempted suicide	1.7	0.0	1.2	6.6	4.2	5.6	2.8	4.1	3.4
Was prescribed medication for psychological/emotional problem	48.3	34.3	35.7	36.1	37.8	33.6	38.6	32.0	35.7
Bothered by these psychological or emotional problems, past 30 days	93.3	91.0	91.7	83.6	89.5	89.7	89.8	84.6	87.5
Not at all	5.0	11.9	4.8	6.6	5.6	11.2	6.1	11.2	8.3
Slightly	21.7	19.4	23.8	21.3	19.6	17.8	21.4	18.9	20.3
Moderately	25.0	23.9	27.4	21.3	25.2	19.6	24.2	18.3	21.6
Considerably	21.7	16.4	23.8	11.5	23.1	18.7	23.7	16.0	20.3
Extremely	20.0	19.4	11.9	23.0	16.1	22.4	14.4	20.1	16.9
Screened positive for co-occurring mental health and substance use disorder	98.3	38.8	100.0	21.1	100.0	36.2	100.0	32.7	70.7
Tested positive for co-occurring mental health and substance use disorder	31.6	100.0	60.7	100.0	68.3	91.4	62.6	92.0	68.2

Table 4.7 Exposure to violence and trauma

	Year 1		Year 2		Year 3		Total		Total
	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	
Ever experienced violence or trauma in any setting, home, work, school, community	80.0	78.8	79.8	88.1	83.9	84.8	81.4	81.7	81.5
Experience was so frightening that									
had nightmares or thought about it when you did not want to	85.1	82.7	81.8	80.8	85.7	80.5	83.8	80.3	83.8
tried hard not to think about it or went out of the way to avoid situations that reminded you of it	85.4	84.6	84.6	82.7	85.6	85.1	85.0	84.7	84.9
were constantly on guard, watchful, or easily startled	79.2	71.2	73.1	84.6	78.3	80.5	78.3	78.0	78.2
felt numb and detached from others, activities, or surroundings	81.3	60.0	72.7	80.4	78.3	70.6	77.6	72.1	75.3
Was hit, kicked, slapped or otherwise physically hurt, past 30 days	32.2	10.5	14.5	15.8	23.8	17.8	25.1	13.6	20.1
Never	68.3	89.6	79.8	77.1	75.5	78.5	74.4	81.7	77.6
A few times	31.7	10.5	16.7	14.8	18.9	15.9	20.9	11.8	16.9
More than a few times	0.0	0.0	3.6	4.9	4.9	1.9	4.2	1.8	3.1

Table 4.8. HIV risk behaviors

	Year 1		Year 2		Year 3		Total		Total
	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	
Engaged in sexual activity, past 30 days	64.4	56.1	72.3	62.3	73.6	63.4	73.9	62.7	69.1
Unprotected sexual contacts	89.5	89.2	85.7	93.8	89.7	86.7	89.5	87.1	88.5
Unprotected sexual contacts with someone who is HIV positive or has AIDS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unprotected sexual contacts with an injection drug user	29.4	30.3	26.5	29.0	30.4	24.1	28.3	28.9	28.6
Unprotected sexual contacts with someone high on some substance	52.9	57.6	38.8	41.9	50.6	51.9	46.7	51.8	48.8
Tested for HIV	98.3	97.0	100.0	96.7	99.3	95.3	99.1	95.3	97.4
Knows results of HIV testing	100.0	96.9	100.0	94.9	99.3	100.0	99.5	96.9	98.4
Injected drugs, past 30 days	48.3	38.8	47.6	31.2	50.4	34.6	49.8	32.0	41.9
Used a syringe/needle, cooker, cotton, or water that someone else used, past 30 days									
Always	0.0	3.9	2.5	21.1	4.2	11.1	2.8	11.3	5.6
More than half the time	3.5	0.0	0.0	0.0	1.4	0.0	0.9	0.0	0.6
Half the time	3.5	3.9	10.0	5.3	2.8	5.6	4.7	3.8	4.4
Less than half the time	13.8	23.1	20.0	10.5	16.7	16.7	17.8	15.1	16.9
Never	79.3	69.2	67.5	63.2	75.0	66.7	73.8	69.8	72.5

Table 4.9. Social support									
	Year 1		Year 2		Year 3		Total		Total
	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	
Had interaction with family and/or friends supportive of recovery, past 30 days	81.7	77.6	81.0	75.4	79.0	72.9	80.5	76.9	78.9
Attended any support groups, past 30 days									
Non-religious or faith based organization	40.0	41.8	27.4	52.5	24.5	35.5	27.9	39.6	33.1
Religious or faith affiliated self-help groups	10.0	17.9	13.1	13.1	10.5	14.0	10.2	13.0	11.5
Other organization that support recovery	35.0	20.9	28.6	13.1	30.1	16.8	29.3	15.4	23.2
Source of support when having trouble									
Clergy member	1.7	1.5	0.0	1.7	0.7	0.0	0.5	1.2	0.8
Family member	51.7	54.6	65.9	48.3	58.9	57.7	62.9	52.8	58.5
Friends	6.7	18.2	11.0	18.3	12.1	18.3	10.8	18.4	14.1
Other	28.3	9.1	7.3	15.0	12.1	10.6	11.3	11.0	11.2
No one	11.7	16.7	15.9	16.7	16.3	13.5	14.6	16.6	15.4
Satisfaction with personal relationships									
Very dissatisfied	15.0	6.0	3.6	1.8	9.1	1.9	9.3	3.7	6.9
Dissatisfied	21.7	23.9	13.1	29.8	14.7	25.2	14.9	25.3	19.4
Neither	13.3	14.9	21.4	15.8	25.2	11.7	20.5	13.6	17.5
Satisfied	30.0	37.3	41.7	29.8	31.5	35.0	34.4	32.1	33.4
Very satisfied	20.0	17.9	20.2	22.8	19.6	26.2	20.9	25.3	22.8

Table 4.10 Perceived health and wellness, and quality of life

	Year 1		Year 2		Year 3		Total		
	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	Total
Current overall health right now									
Excellent	6.7	19.4	8.3	11.5	5.6	18.9	6.1	16.3	10.5
Very Good	13.3	20.9	15.5	14.8	18.2	16.0	19.1	17.5	18.4
Good	40.0	35.8	42.9	37.7	45.5	41.5	43.3	38.6	41.2
Fair	25.0	17.9	23.8	21.3	20.3	9.4	20.9	16.9	19.2
Poor	15.0	6.0	9.5	13.1	10.5	14.2	10.7	10.8	10.8
Satisfaction with health									
Very dissatisfied	5.0	3.0	3.6	5.2	5.6	3.8	4.7	4.3	4.5
Dissatisfied	21.7	14.9	6.0	10.3	9.8	15.2	12.1	12.2	12.1
Neither	25.0	13.4	25.0	25.9	31.5	17.1	27.9	19.5	24.3
Satisfied	46.7	53.7	59.5	46.6	46.2	52.4	49.3	50.6	49.9
Very satisfied	1.7	14.9	6.0	12.1	7.0	11.4	6.1	13.4	9.2
Has enough energy for everyday life									
Not at all	11.9	7.5	7.1	5.0	6.3	2.8	7.9	5.4	6.8
A little	18.6	10.5	13.1	10.0	18.3	9.4	15.0	9.6	12.6
Moderately	27.1	10.5	20.2	11.7	21.8	10.4	25.2	10.8	19.0
Mostly	22.0	35.8	38.1	31.7	33.1	35.9	31.8	36.1	33.7
Completely	20.3	35.8	21.4	41.7	20.4	41.5	20.1	37.4	27.9
Satisfaction with ability to perform daily activities									
Very dissatisfied	6.7	4.6	1.2	1.7	4.9	1.9	3.7	3.0	3.4
Dissatisfied	11.7	10.6	7.2	6.7	9.9	9.5	9.8	8.5	9.2
Neither	23.3	9.1	18.1	15.0	26.1	12.4	22.4	13.3	18.5
Satisfied	45.0	53.0	57.8	43.3	40.1	43.8	46.7	46.1	46.4
Very satisfied	13.3	22.7	15.7	33.3	19.0	32.4	17.3	29.1	22.4
Satisfaction with self									
Very dissatisfied	20.0	15.2	4.8	8.5	9.1	13.3	9.8	11.0	10.3
Dissatisfied	30.0	10.6	21.4	25.4	22.4	16.2	22.3	17.7	20.3
Neither	23.3	15.2	25.0	20.3	25.2	17.1	26.1	18.3	22.7

Satisfied	21.7	47.0	39.3	32.2	30.1	38.1	31.2	39.6	34.8
Very satisfied	5.0	12.1	9.5	13.6	13.3	15.2	10.7	13.4	11.9
Quality of life									
Very poor	3.4	3.1	2.4	6.7	4.9	4.7	3.3	5.5	4.3
Poor	17.0	12.3	16.7	16.7	14.8	17.9	16.4	14.7	15.7
Neither	37.3	24.6	25.0	18.3	21.8	18.9	25.4	20.3	23.1
Good	28.8	43.1	45.2	46.7	41.6	42.5	40.4	42.3	41.2
Very good	13.6	16.9	10.7	11.7	16.9	16.0	14.6	17.2	15.7

Table 4.11 Health services utilization

	Year 1		Year 2		Year 3		Total		Total
	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	
Received inpatient treatment, past 30 days									
physical complaint	0.0	3.0	1.2	1.6	0.7	2.8	0.5	2.4	1.3
mental or emotional difficulties	15.0	3.0	3.6	3.3	4.2	2.8	5.6	3.0	4.4
alcohol or substance abuse	30.0	10.5	7.1	13.1	18.9	9.4	18.6	11.2	15.4
Received outpatient treatment, past 30 days									
physical complaint	3.3	4.5	1.2	4.9	1.4	6.5	1.4	5.3	3.1
mental or emotional difficulties	11.7	9.0	13.1	21.3	10.5	21.5	12.1	17.2	14.3
alcohol or substance abuse	23.3	32.8	21.4	50.8	31.5	41.1	28.4	39.1	33.1
Received emergency room treatment, past 30 days									
physical complaint	11.7	7.5	14.3	4.9	11.2	7.5	12.1	7.1	9.9
mental or emotional difficulties	1.7	7.5	3.6	4.9	2.1	5.6	3.3	5.9	4.4
alcohol or substance abuse	8.3	9.0	6.0	3.3	4.2	9.4	6.1	7.1	6.5
Received inpatient treatment, past 30 days	33.3	13.4	11.9	14.8	21.0	11.2	21.4	13.0	17.7
Received outpatient treatment, past 30 days	35.0	35.8	26.2	52.5	37.1	45.8	34.4	42.6	38.0
Received emergency room treatment, past 30 days	21.7	20.9	21.4	11.5	16.8	18.7	20.0	17.2	18.8

Table 4.12 Health services utilization reported at discharge

	Year 1		Year 2		Year 3		Total		Total
	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	
Program tested client for HIV	0.0	47.6	11.1	19.4	7.4	28.6	7.3	26.2	14.7
Program referred client for HIV testing	0.0	18.2	0.0	74.1	0.0	100.0	0.0	74.4	25.1
Modality:									
Case management	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Day treatment	92.3	77.3	44.4	18.4	0.0	0.0	7.3	23.7	14.1
Inpatient	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Outpatient	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Outreach	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intensive Outpatient	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Methadone	0.0	4.6	26.4	11.8	66.7	21.4	34.6	11.1	24.9
Residential Rehab	97.4	9.1	97.2	65.8	100.0	100.0	98.4	62.2	83.4
Hospital Inpatient detox	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Free standing residential	69.2	0.0	58.3	15.8	53.7	28.6	57.1	16.3	40.2
Ambulatory detox	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.7	0.3
After care	94.9	45.5	100.0	67.1	100.0	100.0	100.0	70.4	87.7
Recovery support	94.9	54.6	100.0	54.0	100.0	100.0	100.0	66.7	86.2
Other modalities	0.0	68.2	0.0	15.8	0.0	0.0	0.0	20.7	8.6
Treatment:									
Screening	100.0	95.5	100.0	100.0	98.2	100.0	99.5	99.3	99.4
Brief intervention	79.5	40.9	100.0	71.1	100.0	100.0	97.4	73.3	87.4
Brief treatment	59.0	40.9	81.9	61.8	96.3	92.9	81.7	67.4	75.8
Referral treatment	33.3	77.3	73.6	63.2	72.2	100.0	68.1	74.1	70.6
Assessment	82.1	95.5	98.6	94.7	98.2	92.9	95.8	95.6	95.7
Treatment/recovery planning	89.7	68.2	100.0	76.3	100.0	100.0	99.0	80.7	91.4
Individual counseling	20.5	72.7	25.0	69.7	75.9	100.0	39.3	77.0	54.9
Group counseling	69.2	72.7	81.9	68.4	94.4	85.7	82.7	74.1	79.1
Family/marriage counseling	0.0	4.6	1.4	25.0	0.0	42.9	0.5	25.9	11.0
Co-occurring treatment/recovery services	64.1	13.6	88.9	10.5	100.0	7.1	91.1	16.3	60.1
Pharmalogical interventions	92.3	86.4	94.4	76.3	100.0	78.6	93.2	80.0	87.7

HIV/AIDS counseling	0.0	18.2	1.4	19.7	0.0	21.4	0.5	23.7	10.1
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Case management:									
Family (marriage, education, parenting, child development)	0.0	4.6	8.3	6.6	14.8	21.4	9.4	9.6	9.5
Child care	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Employment, pre-employment	2.6	31.8	2.8	9.2	0.0	7.1	9.4	9.6	5.8
Employment coaching	7.7	54.6	65.3	44.7	90.7	42.9	62.3	45.9	55.5
Individual coordination	0.0	22.7	1.4	6.6	0.0	0.0	0.5	9.6	4.3
Transportation	69.2	45.5	90.3	67.1	68.5	42.9	82.7	60.7	73.6
HIV/AIDS services	7.7	13.6	56.9	6.6	100.0	0.0	92.2	8.9	57.7
Supportive transitional drug-free housing	0.0	13.6	0.0	19.7	1.9	21.4	0.5	18.5	8.0
Other	0.0	0.0	0.0	5.3	0.0	0.0	0.0	3.0	1.2
Medical:									
Medical care	100.0	86.4	100.0	89.5	100.0	100.0	99.5	91.9	96.3
Alcohol/drug testing	87.2	81.8	98.6	8.2	100.0	100.0	96.3	89.6	93.6
HIV/Aids medical support and testing	0.0	31.8	11.1	13.2	7.4	28.6	7.3	22.2	13.5
Other	7.7	27.3	31.9	39.5	51.9	50.0	59.7	38.5	50.9
After care:									
Continuing Care	23.1	40.9	95.8	39.5	72.2	71.4	70.7	50.4	62.3
Relapse prevention	15.4	45.5	72.2	60.5	94.4	85.7	73.8	64.4	69.9
Recovery coaching	7.7	9.1	16.7	21.1	0.0	28.6	6.8	22.2	13.2
Self-help and support groups	0.0	40.9	5.6	59.2	0.0	28.6	1.6	51.9	22.4
Spiritual support	0.0	9.1	0.0	11.8	0.0	0.0	0.0	11.1	4.6
Other	0.0	0.0	0.0	1.3	1.9	0.0	0.5	0.7	0.6
Education:									
Substance abuse education	66.7	81.8	72.2	80.3	94.4	85.7	78.0	82.2	79.8
HIV/Aids education	2.6	59.1	37.5	43.4	68.5	21.4	44.0	43.7	43.9
Other	0.0	13.6	0.0	47.4	0.0	28.6	0.0	40.0	16.6
Peer-to-peer recovery support									
Peer coaching or mentoring	10.3	18.2	18.1	44.7	0.0	92.9	7.9	51.9	26.1
Housing support	15.4	18.2	84.7	38.2	96.3	92.9	82.2	48.9	68.4
Alcohol and drug free social activities	18.0	31.8	52.8	69.7	100.0	85.7	92.7	68.2	82.5

Table 5.4 Sociodemographic characteristics at intake of those discharged

	Year 1		Year 2		Year 3		Total		Total
	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	
Gender									
Male	66.7	100.0	70.2	100.0	70.6	100.0	70.7	100.0	83.3
Female	33.3	0.0	28.6	0.0	29.4	0.0	28.8	0.0	16.2
Transgender	0.0	0.0	1.2	0.0	0.0	0.0	0.5	0.0	0.3
Other	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.3
Race/Ethnicity									
White	69.0	75.8	78.6	57.1	69.9	54.2	72.1	59.2	66.4
Hispanic	5.3	18.2	11.9	25.0	11.2	25.2	10.2	22.5	15.6
African American	12.1	4.6	2.4	8.9	9.1	10.3	8.4	7.7	8.1
Other	12.1	1.5	6.0	7.1	8.4	10.3	7.9	10.1	8.9
Asian	1.7	0.0	1.2	1.8	1.4	0.0	1.4	0.6	1.0
Age									
18-24	11.7	9.0	9.5	3.3	9.8	4.7	8.8	6.0	7.6
25-34	41.7	46.3	51.2	56.4	51.8	49.5	51.2	49.1	50.3
35-44	33.3	29.9	33.3	26.2	29.4	33.6	30.2	31.7	30.9
45-54	8.3	10.5	6.0	11.5	7.7	11.2	7.9	10.8	9.2
55-64	3.3	4.5	0.0	1.6	0.7	0.9	1.4	2.4	1.8
65 +	1.7	0.0	0.0	0.0	0.7	0.0	0.5	0.0	0.3
Age, mean (SD)	35.05(±1.3)	35.1(±1.0)	33.3(±0.8)	35.1(±1.0)	33.74 (±0.7)	35.03 (±0.8)	34.06 (±0.6)	34.56 (±0.7)	34.28 (±0.4)
Employment									
Full time	16.7	6.0	1.2	19.7	4.2	16.8	5.1	16.0	9.9
Part time	10.0	0.0	2.4	16.4	3.5	10.3	3.7	8.9	6.0
Unemployed	40.0	9.0	1.2	11.5	9.1	10.3	11.6	11.2	11.5
Not in Labor Force	31.7	82.1	95.2	47.5	83.2	57.0	79.1	58.0	69.8
Enrolled in school or job training	11.7	17.9	4.8	16.7	4.9	14.2	5.1	13.9	9.0
Education level									
Less than high school	28.3	29.9	21.4	26.2	18.7	30.8	20.4	29.2	24.3
High school or GED	43.3	56.7	46.4	34.4	54.0	41.1	52.6	45.2	49.3

Some college	25.0	7.5	26.2	27.9	15.8	10.3	16.1	10.1	13.5
Undergraduate degree	9.1	11.1	10.8	7.1	10.8	11.2	10.4	10.7	10.6
Some vocational/technical program	0.0	1.5	0.0	3.3	0.0	2.8	0.0	1.8	0.8
Vocational/technical program certificate or diploma	0.0	4.5	0.0	1.6	0.7	3.7	0.5	3.0	1.6
Income source									
Employed	31.7	11.9	47.6	42.6	40.6	33.6	40.0	30.2	35.7
Public assistance	50.0	17.9	40.5	31.2	39.2	23.4	44.2	23.7	35.2
Retirement	0.0	0.0	1.2	3.3	1.4	2.8	0.9	1.8	1.3
Disability	15.0	4.5	2.4	11.5	6.3	10.3	6.5	8.3	7.3
Non-legal income	23.3	6.0	23.8	34.4	28.0	23.4	23.7	24.9	24.2
Family and/or friends	25.0	11.9	11.9	19.7	18.9	16.8	20.0	16.6	18.5
Other	1.7	3.0	0.0	3.3	0.0	4.7	0.5	4.1	2.1
Average month income (SD)	1385.00 (± 651.69)	265.73 (± 114.62)	2286.81 (± 706.42)	817.90 (± 186.73)	767.13 (± 157.61)	557.74 (± 130.52)	683.27 (± 120.54)	599.05 (± 172.79)	646.20 (± 101.56)
Has enough money to meet needs									
Not at all	40.0	31.3	21.4	16.4	24.5	18.7	26.5	21.3	24.2
A little	21.7	17.9	8.3	21.3	11.9	17.8	11.6	17.2	14.1
Moderately	13.3	20.9	19.1	8.2	15.4	13.1	16.3	13.0	14.8
Mostly	16.7	13.4	25.0	18.0	26.6	23.4	24.7	19.5	22.4
Completely	8.3	16.4	26.2	29.5	20.3	22.4	20.0	24.9	22.1
Where living most of the time, past 30 days									
Shelter	0.0	4.5	1.2	3.3	0.7	2.8	0.5	4.1	1.8
Street/outdoors	5.0	3.0	2.4	4.9	4.2	5.6	5.1	46.2	4.7
Institution	26.7	67.2	42.9	52.5	23.8	42.1	23.7	44.4	33.6
Own/rent apartment, room, or house	41.7	16.4	27.4	16.4	40.6	23.4	38.6	23.7	32.0
Someone else's apartment, room, or house	21.7	6.0	21.4	16.4	25.2	15.9	25.6	12.4	19.8
Dormitory/college residence	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Halfway house	0.0	0.0	1.2	0.0	0.0	0.0	0.5	0.0	0.3

Residential treatment	3.3	0.0	0.0	3.3	0.7	0.9	1.4	1.2	1.3
Other	1.7	3.0	3.6	1.6	4.2	8.4	4.2	7.1	5.5
Satisfaction with living space									
Very dissatisfied	20.0	16.4	8.3	16.4	14.7	16.8	14.4	17.8	15.9
Dissatisfied	8.3	10.5	11.9	16.4	8.4	15.0	9.8	13.0	11.2
Neither satisfied nor dissatisfied	16.7	16.4	23.8	1.6	18.2	9.4	18.6	8.9	14.3
Satisfied	26.7	38.8	34.5	45.9	27.3	38.3	28.8	37.9	32.8
Very satisfied	28.3	17.9	21.4	18.0	30.8	19.6	27.9	20.7	24.7
Military service	3.3	1.5	0.0	9.8	1.4	5.6	1.4	4.7	2.9
Parental status									
Has children	81.7	70.2	66.7	70.5	71.3	70.1	72.6	69.8	71.4
Currently pregnant	0.0	0.0	4.0	0.0	2.4	0.0	3.2	0.0	3.2
Mean no. of children (SD)	2.5 (\pm 0.3)	2.4 (\pm 0.2)	2.1 (\pm 0.2)	2.5 (\pm 0.2)	2.3 (\pm 0.2)	2.6 (\pm 0.2)	2.3 (\pm 0.1)	2.5 (\pm 0.2)	2.4 (\pm 0.1)
One child living with other by court order	6.3	10.6	10.7	2.3	10.8	6.7	10.3	6.8	8.8
Two or more children living with other by court order	6.3	8.5	7.1	7.0	10.8	4.0	11.0	6.8	9.2
Lost parental rights to one or more children	21.3	23.8	25.5	17.5	16.8	10.3	18.1	11.8	15.4

Table 5.5 Opioid and other substance use

	Year 1		Year 2		Year 3		Total		Total
	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	
Alcohol and other substance use, past 30 days									
Any alcohol	41.7	44.8	50.0	39.3	46.2	49.5	45.1	46.2	45.6
Alcohol to intoxication (5+ drinks in one sitting)	35.0	31.3	26.2	29.5	27.3	31.8	27.4	32.5	29.7
Alcohol to intoxication (4 or fewer drinks in one sitting and felt high)	8.3	4.5	26.2	11.5	19.6	15.9	19.1	12.4	16.2
Illegal drugs	88.3	77.6	84.5	70.5	91.6	77.6	88.8	77.5	83.9
Both alcohol and illegal drugs on the same day	38.3	41.8	38.1	32.8	40.6	44.9	39.1	42.0	40.4
Cocaine/crack	66.7	55.2	63.1	41.0	65.7	45.8	66.5	49.1	58.9
Cannabis	60.0	55.2	46.4	42.6	54.6	50.5	54.9	50.9	53.1
Any Opiates	60.0	64.2	59.5	49.2	72.0	60.6	66.5	59.2	63.3
Heroin	50.0	56.7	57.1	47.5	65.7	51.9	60.9	51.8	57.0
Morphine	5.0	3.0	3.6	1.7	3.5	3.8	4.2	3.0	3.7
Dilaudid	3.3	3.0	0.0	3.4	1.4	2.9	1.9	2.4	2.1
Demerol	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.6	0.3
Percocet	15.0	16.4	11.9	11.9	15.4	16.2	14.0	15.8	14.7
Darvon	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Codeine	0.0	0.0	1.2	3.4	2.8	3.8	1.9	2.4	2.1
Tylenol 2, 3, 4	0.0	3.0	0.0	0.0	0.0	1.9	0.0	1.8	0.8
OxyContin/Oxycodone	3.3	4.5	3.6	5.2	6.3	4.8	5.1	4.9	5.0
Non-prescription methadone	10.0	3.0	6.0	1.7	6.3	2.9	6.5	2.4	4.7
Hallucinogens/psychedelics, PCP, MDMA, LSD, mushrooms, mescaline	5.0	11.9	7.1	8.5	10.5	14.3	9.8	11.5	10.5
Methamphetamine or other amphetamines	6.7	4.5	8.3	8.5	12.6	6.7	9.3	6.1	7.9
Benzodiazepines	11.7	17.9	19.1	27.1	22.4	22.9	19.1	21.2	20.0
Barbiturates	0.0	0.0	0.0	1.7	0.0	1.0	0.0	0.6	0.3
Non-prescription GHB	0.0	0.0	0.0	1.7	0.0	1.9	0.0	1.2	0.5

Ketamines	0.0	0.0	3.6	0.0	3.5	1.0	2.8	1.2	2.1
Other tranquilizers	3.3	0.0	1.2	0.0	3.5	0.0	2.3	0.0	1.3
Inhalants	3.3	0.0	1.2	0.0	2.8	1.0	2.3	1.2	1.8
Other illegal drugs	6.7	7.5	6.0	6.8	8.4	6.7	7.9	7.3	7.6
Alcohol or drug use caused stress, past 30 days									
Not at all	6.7	7.7	22.6	12.1	20.3	15.4	17.8	15.4	16.8
Somewhat	28.3	13.9	10.7	17.2	18.2	15.4	20.1	17.9	19.2
Considerably	16.7	13.9	25.0	12.1	17.5	16.4	19.2	12.4	16.2
Extremely	40.0	44.6	32.1	41.4	37.8	39.4	35.5	40.1	37.5
Alcohol or drug use caused giving up important activities, past 30 days									
Not at all	18.3	15.4	30.1	31.0	31.0	30.8	29.1	28.0	28.6
Somewhat	21.7	10.8	18.1	10.3	16.9	11.5	17.8	11.2	15.0
Considerably	21.7	20.0	28.9	13.8	23.9	15.4	23.5	16.8	20.6
Extremely	30.0	33.9	13.3	25.9	21.8	26.9	22.1	28.6	24.9
Alcohol or other drug use caused emotional problems, past 30 days									
Not at all	21.7	11.1	19.1	20.7	24.5	19.1	24.3	20.0	22.5
Somewhat	23.3	20.6	31.0	15.5	21.7	19.1	24.8	17.5	21.7
Considerably	18.3	20.6	26.2	24.1	23.8	19.1	21.5	21.3	21.4
Extremely	28.3	27.0	14.3	22.4	23.8	27.6	22.0	26.3	23.8

Table 5.8 Crime and involvement with the criminal justice system

	Year 1		Year 2		Year 3		Total		Total
	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	
In the past 30 days									
committed a crime	100.0	100.0	100.0	95.7	99.3	95.4	99.5	94.9	97.6
arrested	90.0	40.3	95.2	70.0	96.5	61.3	94.4	56.0	77.7
arrested for drug-related offense	50.0	25.9	42.5	35.7	49.3	32.3	46.8	34.4	42.9
spent night in jail/prison	96.7	90.9	79.8	78.3	55.9	77.1	61.9	75.8	67.9
Currently awaiting charges, trial, or sentencing	98.3	53.7	88.1	65.6	88.1	71.0	88.8	63.9	77.9
Currently on parole or probation	46.7	30.8	40.5	36.7	35.7	29.5	41.4	32.9	37.7

Attention-deficit hyperactivity disorders	1.7	0.0	2.4	0.0	0.0	0.0	1.4	0.0	0.8
Emotional disorders with onset specific to childhood	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Disorders of social functioning with onset specific to childhood or adolescence	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tic disorder	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other behavioral and emotional disorders	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Eating disorders	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sleep disorders not due to a substance or know physiological condition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unspecified mental disorder	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mental health symptoms, past 30 days									
Experienced serious depression	73.3	68.7	70.2	75.4	69.9	67.3	69.8	65.1	67.7
Experienced serious anxiety or tension	85.0	83.6	83.3	73.8	83.9	82.2	84.2	75.7	80.5
Experienced hallucinations	11.7	7.5	3.6	13.1	9.1	10.3	7.0	10.7	8.6
Experienced trouble understanding, concentrating, or remembering	53.3	50.8	51.2	42.6	50.4	43.9	49.8	46.2	48.2
Attempted suicide	1.7	0.0	1.2	6.6	4.2	5.6	2.8	4.1	3.4
Was prescribed medication for psychological/emotional problem	48.3	34.3	35.7	36.1	37.8	33.6	38.6	32.0	35.7
Bothered by these psychological or emotional problems, past 30 days	93.3	91.0	91.7	83.6	89.5	89.7	89.8	84.6	87.5
Not at all	5.0	11.9	4.8	6.6	5.6	11.2	6.1	11.2	8.3
Slightly	21.7	19.4	23.8	21.3	19.6	17.8	21.4	18.9	20.3
Moderately	25.0	23.9	27.4	21.3	25.2	19.6	24.2	18.3	21.6
Considerably	21.7	16.4	23.8	11.5	23.1	18.7	23.7	16.0	20.3
Extremely	20.0	19.4	11.9	23.0	16.1	22.4	14.4	20.1	16.9
Screened positive for co-occurring mental health and substance use disorder	98.3	38.8	100.0	21.1	100.0	36.2	100.0	32.7	70.7
Tested positive for co-occurring mental health and substance use disorder	31.6	100.0	60.7	100.0	68.3	91.4	62.6	92.0	68.2

	Year 1		Year 2		Year 3		Total		Total
	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	
Ever experienced violence or trauma in any setting, home, work, school, community	80.0	78.8	79.8	88.1	83.9	84.8	81.4	81.7	81.5
Experience was so frightening that									
had nightmares or thought about it when you did not want to	85.1	82.7	81.8	80.8	85.7	80.5	83.8	80.3	83.8
tried hard not to think about it or went out of the way to avoid situations that reminded you of it	85.4	84.6	84.6	82.7	85.6	85.1	85.0	84.7	84.9
were constantly on guard, watchful, or easily startled	79.2	71.2	73.1	84.6	78.3	80.5	78.3	78.0	78.2
felt numb and detached from others, activities, or surroundings	81.3	60.0	72.7	80.4	78.3	70.6	77.6	72.1	75.3
Was hit, kicked, slapped or otherwise physically hurt, past 30 days	32.2	10.5	14.5	15.8	23.8	17.8	25.1	13.6	20.1
Never	68.3	89.6	79.8	77.1	75.5	78.5	74.4	81.7	77.6
A few times	31.7	10.5	16.7	14.8	18.9	15.9	20.9	11.8	16.9
More than a few times	0.0	0.0	3.6	4.9	4.9	1.9	4.2	1.8	3.1

Table 5.11 HIV risk behaviors

	Year 1		Year 2		Year 3		Total		Total
	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	
Engaged in sexual activity, past 30 days	64.4	56.1	72.3	62.3	73.6	63.4	73.9	62.7	69.1
Unprotected sexual contacts	89.5	89.2	85.7	93.8	89.7	86.7	89.5	87.1	88.5
Unprotected sexual contacts with someone who is HIV positive or has AIDS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unprotected sexual contacts with an injection drug user	29.4	30.3	26.5	29.0	30.4	24.1	28.3	28.9	28.6
Unprotected sexual contacts with someone high on some substance	52.9	57.6	38.8	41.9	50.6	51.9	46.7	51.8	48.8
Tested for HIV	98.3	97.0	100.0	96.7	99.3	95.3	99.1	95.3	97.4
Knows results of HIV testing	100.0	96.9	100.0	94.9	99.3	100.0	99.5	96.9	98.4
Injected drugs, past 30 days	48.3	38.8	47.6	31.2	50.4	34.6	49.8	32.0	41.9
Used a syringe/needle, cooker, cotton, or water that someone else used, past 30 days									
Always	0.0	3.9	2.5	21.1	4.2	11.1	2.8	11.3	5.6
More than half the time	3.5	0.0	0.0	0.0	1.4	0.0	0.9	0.0	0.6
Half the time	3.5	3.9	10.0	5.3	2.8	5.6	4.7	3.8	4.4
Less than half the time	13.8	23.1	20.0	10.5	16.7	16.7	17.8	15.1	16.9
Never	79.3	69.2	67.5	63.2	75.0	66.7	73.8	69.8	72.5

Table 5.12 Social support

	Year 1		Year 2		Year 3		Total		Total
	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	
Had interaction with family and/or friends supportive of recovery, past 30 days	81.7	77.6	81.0	75.4	79.0	72.9	80.5	76.9	78.9
Attended any support groups, past 30 days									
Non-religious or faith based organization	40.0	41.8	27.4	52.5	24.5	35.5	27.9	39.6	33.1
Religious or faith affiliated self-help groups	10.0	17.9	13.1	13.1	10.5	14.0	10.2	13.0	11.5
Other organization that support recovery	35.0	20.9	28.6	13.1	30.1	16.8	29.3	15.4	23.2
Source of support when having trouble									
Clergy member	1.7	1.5	0.0	1.7	0.7	0.0	0.5	1.2	0.8
Family member	51.7	54.6	65.9	48.3	58.9	57.7	62.9	52.8	58.5
Friends	6.7	18.2	11.0	18.3	12.1	18.3	10.8	18.4	14.1
Other	28.3	9.1	7.3	15.0	12.1	10.6	11.3	11.0	11.2
No one	11.7	16.7	15.9	16.7	16.3	13.5	14.6	16.6	15.4
Satisfaction with personal relationships									
Very dissatisfied	15.0	6.0	3.6	1.8	9.1	1.9	9.3	3.7	6.9
Dissatisfied	21.7	23.9	13.1	29.8	14.7	25.2	14.9	25.3	19.4
Neither	13.3	14.9	21.4	15.8	25.2	11.7	20.5	13.6	17.5
Satisfied	30.0	37.3	41.7	29.8	31.5	35.0	34.4	32.1	33.4
Very satisfied	20.0	17.9	20.2	22.8	19.6	26.2	20.9	25.3	22.8

Table 5.13 Perceived health and wellness, and quality of life

	Year 1		Year 2		Year 3		Total		Total
	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	
Current overall health right now									
Excellent	6.7	19.4	8.3	11.5	5.6	18.9	6.1	16.3	10.5
Very Good	13.3	20.9	15.5	14.8	18.2	16.0	19.1	17.5	18.4
Good	40.0	35.8	42.9	37.7	45.5	41.5	43.3	38.6	41.2
Fair	25.0	17.9	23.8	21.3	20.3	9.4	20.9	16.9	19.2
Poor	15.0	6.0	9.5	13.1	10.5	14.2	10.7	10.8	10.8
Satisfaction with health									
Very dissatisfied	5.0	3.0	3.6	5.2	5.6	3.8	4.7	4.3	4.5
Dissatisfied	21.7	14.9	6.0	10.3	9.8	15.2	12.1	12.2	12.1
Neither	25.0	13.4	25.0	25.9	31.5	17.1	27.9	19.5	24.3
Satisfied	46.7	53.7	59.5	46.6	46.2	52.4	49.3	50.6	49.9
Very satisfied	1.7	14.9	6.0	12.1	7.0	11.4	6.1	13.4	9.2
Has enough energy for everyday life									
Not at all	11.9	7.5	7.1	5.0	6.3	2.8	7.9	5.4	6.8
A little	18.6	10.5	13.1	10.0	18.3	9.4	15.0	9.6	12.6
Moderately	27.1	10.5	20.2	11.7	21.8	10.4	25.2	10.8	19.0
Mostly	22.0	35.8	38.1	31.7	33.1	35.9	31.8	36.1	33.7
Completely	20.3	35.8	21.4	41.7	20.4	41.5	20.1	37.4	27.9
Satisfaction with ability to perform daily activities									
Very dissatisfied	6.7	4.6	1.2	1.7	4.9	1.9	3.7	3.0	3.4
Dissatisfied	11.7	10.6	7.2	6.7	9.9	9.5	9.8	8.5	9.2
Neither	23.3	9.1	18.1	15.0	26.1	12.4	22.4	13.3	18.5
Satisfied	45.0	53.0	57.8	43.3	40.1	43.8	46.7	46.1	46.4
Very satisfied	13.3	22.7	15.7	33.3	19.0	32.4	17.3	29.1	22.4

Satisfaction with self									
Very dissatisfied	20.0	15.2	4.8	8.5	9.1	13.3	9.8	11.0	10.3
Dissatisfied	30.0	10.6	21.4	25.4	22.4	16.2	22.3	17.7	20.3
Neither	23.3	15.2	25.0	20.3	25.2	17.1	26.1	18.3	22.7
Satisfied	21.7	47.0	39.3	32.2	30.1	38.1	31.2	39.6	34.8
Very satisfied	5.0	12.1	9.5	13.6	13.3	15.2	10.7	13.4	11.9
Quality of life									
Very poor	3.4	3.1	2.4	6.7	4.9	4.7	3.3	5.5	4.3
Poor	17.0	12.3	16.7	16.7	14.8	17.9	16.4	14.7	15.7
Neither	37.3	24.6	25.0	18.3	21.8	18.9	25.4	20.3	23.1
Good	28.8	43.1	45.2	46.7	41.6	42.5	40.4	42.3	41.2
Very good	13.6	16.9	10.7	11.7	16.9	16.0	14.6	17.2	15.7

Table 5.14 Health services utilization

	Year 1		Year 2		Year 3		Total		Total
	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	
Received inpatient treatment, past 30 days									
physical complaint	0.0	3.0	1.2	1.6	0.7	2.8	0.5	2.4	1.3
mental or emotional difficulties	15.0	3.0	3.6	3.3	4.2	2.8	5.6	3.0	4.4
alcohol or substance abuse	30.0	10.5	7.1	13.1	18.9	9.4	18.6	11.2	15.4
Received outpatient treatment, past 30 days									
physical complaint	3.3	4.5	1.2	4.9	1.4	6.5	1.4	5.3	3.1
mental or emotional difficulties	11.7	9.0	13.1	21.3	10.5	21.5	12.1	17.2	14.3
alcohol or substance abuse	23.3	32.8	21.4	50.8	31.5	41.1	28.4	39.1	33.1
Received emergency room treatment, past 30 days									
physical complaint	11.7	7.5	14.3	4.9	11.2	7.5	12.1	7.1	9.9
mental or emotional difficulties	1.7	7.5	3.6	4.9	2.1	5.6	3.3	5.9	4.4
alcohol or substance abuse	8.3	9.0	6.0	3.3	4.2	9.4	6.1	7.1	6.5
Received inpatient treatment, past 30 days	33.3	13.4	11.9	14.8	21.0	11.2	21.4	13.0	17.7
Received outpatient treatment, past 30 days	35.0	35.8	26.2	52.5	37.1	45.8	34.4	42.6	38.0
Received emergency room treatment, past 30 days	21.7	20.9	21.4	11.5	16.8	18.7	20.0	17.2	18.8

Table 5.15 Health services utilization reported at discharge

	Year 1		Year 2		Year 3		Total		Total
	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	Franklin	Hampshire	
Program tested client for HIV	0.0	47.6	11.1	19.4	7.4	28.6	7.3	26.2	14.7
Program referred client for HIV testing	0.0	18.2	0.0	74.1	0.0	100.0	0.0	74.4	25.1
Modality:									
Case management	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Day treatment	92.3	77.3	44.4	18.4	0.0	0.0	7.3	23.7	14.1
Inpatient	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Outpatient	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Outreach	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intensive Outpatient	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Methadone	0.0	4.6	26.4	11.8	66.7	21.4	34.6	11.1	24.9
Residential Rehab	97.4	9.1	97.2	65.8	100.0	100.0	98.4	62.2	83.4
Hospital Inpatient detox	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Free standing residential	69.2	0.0	58.3	15.8	53.7	28.6	57.1	16.3	40.2
Ambulatory detox	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.7	0.3
After care	94.9	45.5	100.0	67.1	100.0	100.0	100.0	70.4	87.7
Recovery support	94.9	54.6	100.0	54.0	100.0	100.0	100.0	66.7	86.2
Other modalities	0.0	68.2	0.0	15.8	0.0	0.0	0.0	20.7	8.6
Treatment:									
Screening	100.0	95.5	100.0	100.0	98.2	100.0	99.5	99.3	99.4
Brief intervention	79.5	40.9	100.0	71.1	100.0	100.0	97.4	73.3	87.4
Brief treatment	59.0	40.9	81.9	61.8	96.3	92.9	81.7	67.4	75.8
Referral treatment	33.3	77.3	73.6	63.2	72.2	100.0	68.1	74.1	70.6
Assessment	82.1	95.5	98.6	94.7	98.2	92.9	95.8	95.6	95.7
Treatment/recovery planning	89.7	68.2	100.0	76.3	100.0	100.0	99.0	80.7	91.4
Individual counseling	20.5	72.7	25.0	69.7	75.9	100.0	39.3	77.0	54.9
Group counseling	69.2	72.7	81.9	68.4	94.4	85.7	82.7	74.1	79.1
Family/marriage counseling	0.0	4.6	1.4	25.0	0.0	42.9	0.5	25.9	11.0
Co-occurring treatment/recovery services	64.1	13.6	88.9	10.5	100.0	7.1	91.1	16.3	60.1

