HEALing Franklin County
Year 1 Evaluation Report

Submitted to
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Chapter I. Introduction

HEALing Franklin County Initiative

The HEALing Franklin County (HFC) initiative was one of a portfolio of projects funded in 2021 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, a SAMHSA grant was awarded to the Franklin County Sheriff's Office (FCSO) to conduct the HFC program over a five-year period. A key focus of the HFC program is increased initiation and engagement with medications for opioid use disorder (MOUD) treatment by justice-involved individuals via delivery of trauma-informed and gender responsive care. FCSO contracted with the University of Massachusetts Amherst (UMass) to conduct research and evaluate the program.

This report documents the history, implementation, and findings of the HFC initiative during the project's first year, from September 2021 to September 2022. In the present Year 1 Evaluation Report, Chapter I provides information on the organization of the report. Chapter II contains a review of the program's progress and current context. 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 the characteristics of program participants by trauma history and examines best practices for providing trauma-informed and gender-responsive care. Finally, Chapter VII summarizes the next steps and recommendations for continued implementation and evaluation of the program, based on the lessons learned thus far.

Chapter II. Year 1 Progress

By Amelia Bailey

Recent literature on MOUD utilization in correctional settings

People involved in the criminal justice system have increased risk for overdose and other adverse health effects related to substance use, especially during the few weeks immediately post-release (Joudrey et al., 2019). Medications to treat opioid use disorder (MOUD, i.e., methadone, buprenorphine, naltrexone) are an effective treatment for opioid use disorder (Strang et al., 2020). In Massachusetts, a current focus is on the expanded provision of MOUD within justice settings and linkage to continued use of MOUD and other healthcare in the community after release. An added contextual dimension of this focus is provided by recent statewide data that reveal differences in Massachusetts by age, race, and gender in the rising rate of opioid-related overdose (Massachusetts Department of Public Health, 2022) and also in receipt of MOUD prescriptions (Wakeman et al., 2022).

To understand how to best provide care for justice-involved people with opioid use disorder (OUD), it is important to recognize factors that influence MOUD access and use. Justice-involved patients may prefer short-term MOUD treatment or treatment without MOUD (Vail et al., 2021). These preferences are often informed by interpersonal and structural realities such as MOUD-related stigma, lack of information about MOUD, and dislike of medication side effects (Kaplowitz et al., 2022; Madden et al., 2021). Aside from patient preferences that influence MOUD utilization, individuals also face structural barriers to care. These include, for example, criminal-legal system interactions (i.e., parole violations which result in rapid reincarceration) and social factors, such as housing instability, unemployment, and limited to no transportation access, that make it harder to continue to engage with MOUD after release from carceral settings (Matsumoto et al., 2022; Stopka et al., 2022; Vail et al., 2021). These experiences can combine to reduce motivation for MOUD treatment and reduce rates of MOUD use (Vail et al., 2021).

It is essential to assess participant use of MOUD prior to, during, and after incarceration. Haas and colleagues (2021) found that continuation of MOUD (methadone) from jail entry to during incarceration is related to better health outcomes (reduction in non-fatal overdose) and to a greater likelihood of continuation of MOUD upon release. Continuation of MOUD upon release has been reported to reduce risk of fatal (Haas et al., 2021) and non-fatal overdose (Brinkley-Rubinstein et al., 2018). Understanding the characteristics and experiences of justice-involved people with OUD can help to design programming that meets patients' health and social needs and enables continued use of MOUD.

Particular populations of interest are justice-involved individuals with experiences of trauma, particularly women. People who have experienced trauma often have worsened substance use severity and related poor health outcomes (Renaud et al., 2021; Simpson et al., 2019), especially of those who are involved in the criminal justice system (Saxena & Messina, 2021). In the United States, women account for a growing proportion of the incarcerated population (Sawyer & Wagner, 2018). Yet, there is an overall lack of accessible care provided for women in correctional settings (Shirley-Beavan et al., 2020). Many justice-involved women have histories of trauma and violence, and women can also face harsh social stigma that can impede use of MOUD and other healthcare (Becker et al., 2017; Fiddian-Green et al., 2022; Meyers et al., 2021; Saxena & Messina, 2021). Co-occurring health conditions of women with opioid use disorder, such as sexually transmitted infections, can be worsened by justice system involvement (Scheidell, Ataiants, & Lankenau, 2022). Pregnant women face unique barriers to accessing care for their opioid use disorder, including structural and anticipated stigma while

using MOUD during pregnancy (Syvertsen et al., 2021). Often, systems of care for addiction do not account for the multiple or "intersecting" identities women have, which can compound and reduce access to care. For example, women involved in the criminal justice system who seek treatment also require care that is responsive to their experiences of physical and/or sexual violence as it relates to their substance use histories (Syvertsen et al., 2021). In consideration of the barriers to care that women and people who have experienced trauma face, especially within Franklin County, these populations have become of special interest for the present HFC program.

Program development and future directions

From 2018 to 2021, the Franklin County Sheriff's Office received a grant from SAMHSA to evaluate and expand medications to treat opioid use disorder (MOUD) programming within the jail and upon community re-entry (Evans et al., 2021). Under the current SAMHSA-funded HFC Initiative, the Sheriff's Office will work with their key partners to continue this work to expand, strengthen, and evaluate programming for people with OUD. In this report, we highlight a few achievements related to programming and evaluation capacity during the first year and plans for future work.

Programming achievements

HFC involves a new community partner, the Salasin Project. The Salasin Project providers peer support for women who have experienced trauma in a variety of settings (e.g., within institutions, experiences of intimate partner violence). In addition to peer support, the Salasin Project provides evidence-based programming (i.e., Beyond Trauma) and healing arts classes (Salasin Project, 2022). The mission of this organization aligns with the key goals of this grant to create trauma-informed and gender-responsive programming. The HFC team discussed ways to achieve continued engagement with the Salasin Project for women after release from jail.

Another effort to support trauma-informed and gender-responsive programming within the jail setting was the training and consultation provided by Dr. Abigail Judge, a licensed clinical psychologist who works as a clinician, educator, and expert on treatment for individuals with histories of commercial sexual exploitation, sex trafficking, and intimate partner violence. In June 2022, Dr. Judge conducted a four-part seminar series for behavioral health clinicians on commercial sexual exploitation. A detailed summary of this training is provided in the Appendix. The HFC team is currently working to design care settings and services provision with the ideas from these seminars in mind.

To further address trauma in the community, a related development is the creation of a new caseworker position in the Greenfield area to support victims and survivors of trauma. Activities include a psychoeducation group for women recovering from opioid use disorder and individual assessment meetings to identify those who need more intensive wraparound services. These services start with women during incarceration and are designed to continue after release. Funded by an Opioid Response grant, this caseworker will coordinate with jail staff and patients who are involved with the HFC Initiative.

A major programmatic accomplishment was the establishment of a new resource in the community, the Community Justice Support Center and the Franklin County Reentry Center. Opened in July 2022, this new center serves justice-involved individuals to improve community re-entry and integration. A goal is to provide access to evidence-based treatment and other services. Services include, for example, planning for community re-entry at jail booking, case

management, intensive skills building, trauma-informed care, and educational and vocational training. Treatment approaches feature mindfulness-based cognitive behavioral therapy, dialectical behavioral therapy, and use of contingency management. In relation to the HFC Initiative, the team has identified a need for future evaluation activities to assess patient perceptions and experiences with this new center.

Evaluation capacity

A key element to strengthen the evaluation of programming under the HFC Initiative is clarified paths to collect data on participant status, services received, and outcomes while in-jail and upon release. To further develop systems to track services received by program participants while incarcerated, staff identified all services that are available and created documentation to detail how services would be coded within an electronic log. Protocols were established to capture data on provision of services within existing data capture systems. The goal is to track the type, frequency, and number of services received for each individual. At this time, the service log is operational and currently being pilot-tested by clinical staff working within the jail. The level of detail provided by the services log will enable assessment of services use among individuals with OUD, any need-services gaps, and associations between use of services and outcomes.

To assess participant outcomes post-release, the HFC team identified outcomes that could be assessed via existing administrative data sources (i.e., mortality, recidivism). A current topic of discussion is options for obtaining administrative data from community-based treatment providers on use of MOUD after release from jail. In particular, the team is interested in the use of services after jail released as provided by an organization that is partnered with the HFC Initiative, the Community Health Center of Franklin County. During meetings, jail staff and partners discussed best approaches for obtaining this data while abiding by participant confidentiality concerns and assuring data quality.

In addition, the team considered which populations should be selected for follow-up after release from jail to assess participant health and social outcomes and experiences with jail programming. During meetings, jail staff and partners discussed following up with those populations that are specifically targeted by the HFC Initiative, that is, women and people who have experienced trauma, to assess the jail's trauma-informed and gender-responsive programming. To advance this aim, jail staff, partners, and evaluators identified tools for assessing participant experiences of trauma. Questions on trauma history are included in the baseline GPRA assessment. Additionally, FCSO routinely uses an Adverse Childhood Experiences (ACE) questionnaire at intake, which was identified as a potential method for evaluators to analyze trauma severity. The team discussed the strengths, limitations, and challenges of the tools and system needs for including this type of assessment as part of the intake.

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Chapter III. Status of Data Collection

By Amelia Bailey and Rithika Senthilkumar

During the first year of this project, the Franklin County Sheriff's Office initiated work to accomplish five goals:

(1) Increase program engagement and retention through adopting gender and trauma responsive practices: additional trauma treatment, enhanced transitional supportive services, and improved coordination with community-based providers

(2) Expand and enhance MAT services through provision of clinical assessments, behavioral health treatment, and community transitional services to MOUD justice-involved individuals in ATAR-Y

(3) Increase physical health and wellness for program participants through screenings and educational programming

(4) Increase abstinence from alcohol, opioids, tobacco, and other substances

(5) Improve treatment and service delivery through evaluation of processes and outcomes

The evaluation utilizes a mixed methods pre-post research design to evaluate project implementation and assess its effectiveness. This chapter presents a summary of the status of data collection during year one 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 one 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 (i) plans and strategies to adapt the protocols, knowledge, and skills that are currently being used to deliver MAT to be more responsive to gender-specific needs and trauma histories (ii) plans and strategies for supporting MAT engagement and retention in jail and in the community following release and (iii) the characteristics of the target population. (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. (1C) Assess to what extent program activities are implemented as intended and result in desired outputs.

Evaluation Component 2: Outcome Study

The Outcome Study is designed to assess MOUD utilization and other health and social services and outcomes, both during and after incarceration. This study aims to (2A) Assess social services (i) while incarcerated as measured in-person at jail intake, 3- and 6-months post-intake, and at jail exit (discharge) and (ii) in the community within 3 months after jail exit. (2B). Assess health and social outcomes (e.g., opioid, alcohol, tobacco, and other substance use; physical and mental health status; employment and housing; recidivism; infectious disease risk [HIV, hepatitis C]; social support) of a randomly selected sub-sample of individuals via an in-

person follow-up interview (self-reported with urine test for opioid and other substance use) conducted 3 months post-exit from jail. (2C) Assess outcomes of all participants at 3 months after program discharge as documented in existing administrative data, i.e., electronic health records (e.g., MAT type, dosage, duration; physical and mental health diagnoses), criminal justice system (e.g., recidivism), and public health (e.g., date and cause of death) data systems.

Target Client Population

All adult clients with OUD admitted to the Franklin County House of Corrections are to be included in the evaluation, with the exception of individuals who are discharged or transferred from jail prior to completing an intake assessment or release of information forms.

Data Collection Procedures, Schedule, and Instruments/Measurements

Contracted staff at the jail assess all entering adult clients with OUD using theinstruments (described in detail below) as part of the usual admission process. This data collection began on February 28, 2022. These staff are 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 staff is electronically transmitted to SAMHSA by data entry into the SPARS database.

In addition, staff recruit 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 post-exit from jail. Staff ask clients who consent to share locator information for later re-contact.

Intake

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 initial incarceration. The GPRA intake/baseline interviewdate was used to determine when the subsequent 3-month and 6-month post-intake interviewswere due.

Recruiting Clients for the Follow-up Study

Jail staff are also responsible for recruiting clients for the post-exit-from-jail phoneinterview. Staff explain the study and review the Informed Consent Form (ICF) with eacheligible client. If the client agrees to participate, he or she signs the ICF, signs the Release ofInformation for research purposes form, and then provides information for the Locator Form. TheICF 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 UMassstaff used to contact clients who agreed to participate in the follow-up study. Jail staff aim to inform clients about the follow-up study any time after intake.

While Living in Jail

3-Month and 6-Month Post-Intake

Jail staff complete follow-up interviews at 3-months and 6-months post-intake with those individuals who are still living in jail at these time-points. Staff use the GPRA form for these

interviews and data enter the information into SPARS. Thus far, a significant proportion of individuals were released from the participating jail before these interviews were due. Staff did not seek tocomplete these interviews if individuals were not living in jail when these interviews were due.

Discharge from Jail

Jail staff complete a discharge record when a participant exits jail. “Discharge” is defined as the point at which participants stop receiving services. Staff do not discharge and readmit a client who transfers from one program to another within the same jail.Individuals without a discharge record have not yet exited jail.

Responses to discharge items are collected at exit from jail. Staff “administratively discharge”a participant who is 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 is filledin from information contained in administrative jail records.

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 during year one of the project, starting February 28, 2022 and ending July 25, 2022.

Table 3.1. Sample size

	Total **(February 28, 2022 – July 25, 2022)**
Intake	49
3-mon post-intake	0
6-mon post-intake	0
Discharge	24

Follow-up Interview

In the upcoming years of the project, UMass interviewers plan to conduct one follow-up phone interview, lasting approximately 45 minutes, with clients post-discharge from jail. To re-contact individuals for follow-up, UMass staff will utilize methods presented in the SAMHSA Staying in Touch manual. Participants will be selected to represent subgroups of particular interest to program implementers, for example based on gender or experiences of trauma. The interview will be 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, Alterman, Cacciola, Metzger, & O’Brien, 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). Other components of the interview are being discussed by the jail staff and evaluators. Data will provide informationon health services utilization and outcomes in the time-period after exit from jail among different populations.

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 (e.g., paired t-tests, ANOVA) when appropriate. Descriptions of analyses conducted for addressing specific research questions are provided in the respective chapters.

Limitations of the Evaluation

Several practical limitations should be considered in interpreting the results of the evaluation. Major issues are described here. Other issues that pertain to specific components of the evaluation aredetailed 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, and clients whorefused participation have not been included in the evaluation. Therefore, no inferences should be drawn from the data regarding these client populations. In some instances, data may have been collected from individuals later than planned, requiring individuals to rememberevents that had occurred some time before, which may have resulted in recall bias. The project features data on individuals incarcerated in a single jail located in rural 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 Taylor Parduhn

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.” In this chapter we summarize data on the participant population. Data for all categories that are encompassed by each variable are presented for reference in the tables located in the Appendix.

Sociodemographic characteristics

Table 4.1 presents sociodemographic characteristics of participants.

Gender

Most participants, 75.5%, are men, and 24.5% are women.

Race and ethnicity

Participants predominantly identified as White (77.5%), followed by Hispanic (8.2%) and other race/ethnicity (8.2%), and then Black (6.1%).

Age

The age of participants was 36.34 on average. By age category, 2.0% of participants are aged 18-24, 46.9% are aged 25-34, 38.8% of participants are aged 35-44, 8.2 of participants are aged 45-54, and 4.1% are aged 55-64.

Education

Most of the participants have a high school diploma or GED (53.1%), 22.5% have attained less than a high school education, 14.3% have attained some college without a degree and 10.2% attained an undergraduate degree.

Employment

Most participants are not in the labor force and are not looking to be (67.4%), 18.4% are unemployed but looking for work, 12.2% are employed full time, and 2.0% are employed part time.

Income: Source, amount, and meeting basic needs

A majority of participants receive income from public assistance (65.3%), 28.6% are employed, 14.3% receive income from disability, 10.2% receive income from non-legal sources and 14.3% receive income from family and or friends. Monthly income among participants is on average $242.1. In relation to having enough money to meet needs, 34.7% of participants reported mostly, 24.5% reported not at all, 18.4% reported moderately, 12.2% reported a little, and 10.2% reported completely.

Housing

In the past 30 days, 38.8% of participants reported living most of the time in a residence that they own or rent themselves, 30.6% in someone else's residence, 10.2% on the street or outdoors, 4.1% in an institution, 4.1% in residential treatment, 2.0% in a shelter, and 8.2% reported other.

Military service

Few participants, 4.1%, reported having served in the military.

Parental status

Most participants, 79.6%, 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 (11.8%) have lost their parental rights to one or more children.

Opioid and other substance use

Table 4.2 presents participants self-reported use of opioids, other drugs, and alcohol. Most participants self-reported illegal drug use (79.6%) in the prior 30 days.

Opioids

Most participants self-reported use of heroin (65.3%) within the past 30 days along with Percocet (6.1%), OxyContin / Oxycodone (4.1%), Tylenol 2,3,4 (4.1%), Codeine (2.0%), and morphine (2.0%). About 6.1% reported use of non-prescription methadone.

Other drugs

Participants self-reported use of cocaine/crack (65.3%) and cannabis (51.0%) along with methamphetamine or other amphetamines (20.4%), benzodiazepines (20.4%), hallucinogens/psychedelics (8.2%), inhalants (4.1%), ketamine (2.0%), barbituates (2.0%) and other illegal drugs (6.1%).

Alcohol

About 40.8% of participants self-reported any alcohol use in the prior 30 days. Participants reported use of alcohol to intoxication with 5 or more drinks in one sitting (18.4%) and alcohol to intoxication with 4 or fewer drinks in one sitting and feeling high (20.4%).

Impacts of substance use

When asked whether alcohol or drug use caused stress in the prior 30 days, 40.8% of participants reported being extremely stressed, 12.2% were considerably stressed, 16.3% were somewhat stressed, and 10.2% were not at all stressed. While when asked whether alcohol or drug use caused giving up important activities in the past 30 days, 24.5% reported extremely, 18.4% reported considerably, 12.2% reported somewhat, and 24.5% reported not at all. When asked whether alcohol or drug use caused emotional problems in the past 30 days, 24.5% of

participants reported extremely, 14.3% reported considerably, 20.4% reported somewhat, and 20.4% reported not at all.

Opioid and other substance use disorder

Table 4.3 presents participant self-reported diagnosis of a substance use disorder by type of substance. All of the participants have a diagnosed opioid use disorder, 65.3% have a diagnosis of cocaine-related disorder, 32.7% have a diagnosed cannabis-related disorder, 16.3% have a diagnosis for alcohol-related disorder, and 4.1% have a diagnosed sedative, hypnotic, or anxiolytic-related diagnosis.

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. Of individuals with an opioid use disorder, approximately 40.8% entered jail already on methadone and 10.2% were receiving buprenorphine. No participants were receiving medications to treat alcohol use disorder at jail entry.

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, 89.8%, reported having committed a crime, 79.6% were arrested, 48.7% were arrested for a drug-related offense, and 22.5% had spent a night in jail or prison. About 77.6% of participants were awaiting charges, trial, or sentencing and 44.9% were currently on parole or probation.

Mental health conditions and symptoms

Table 4.6 presents mental health diagnoses and symptoms.

All participants were screened for co-occurring mental health and substance use disorder and 63.3% of participants screened positive.

No participants had a recorded mental health disorder diagnosis.

In contrast, many participants self-reported mental health symptoms in the prior 30 days such as symptoms of serious anxiety or tension (85.7%), depression (73.5%), and trouble understanding, concentrating, or remembering (69.4%), and hallucinations (8.2%). About 32.7% of participants reported having been prescribed medication for psychological or emotional problems and 6.1% of participants reported attempting suicide in the past 30 days.

Most participants reported being bothered by psychological or emotional problems (93.9%), about a quarter reported being extremely bothered (24.5%), considerably (14.3%), moderately (26.5%), slightly (14.3%), and not at all (14.3%).

Exposure to violence and trauma

Table 4.7 presents experiences of violence or trauma in the lifetime. Many participants (87.8%) reported having experienced violence or trauma in their lifetime in any setting such as home, work, school or community. Of those that had ever experienced violence or trauma, many

reported experiencing mental and physiological effects. Specifically, 79.6% reported they had nightmares or thought about it when they did not want to, 81.6% reported they tried hard not to think about it or went out of the way to avoid situations that reminded them of it, 79.6% reported they were constantly on guard, watchful, or easily startled, and 73.5% reported they felt numb and detached from others, activities, or surroundings. Participants reported being hit, kicked, slapped, or otherwise physically hurt in the prior 30 days, 28.8% reported a few times, 2.0% reported more than a few times, and 65.3% reported never.

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 (61.2%). Of those participants, 44.9% reported engaging in unprotected sex, 16.3% engaged in unprotected sex with someone who used injection drugs, and 26.5% engaged in unprotected sex with someone high on some substance.

Injection behavior

Over half of participants self-reported having injected drugs in the prior 30 days (59.2%). Participants reported their usage of drug paraphernalia (e.g., syringe/needle, cooker, cotton, or water), indicating that 75.9% never used drug paraphernalia, 10.3% reported less than half the time, 6.9% reported half the time, 3.5% reported half the time, and 3.5% reported always.

HIV testing and knowledge of HIV test results

Most of the participants reported having been tested for HIV (93.9%). Most participants knew the results of the HIV testing (91.8%).

Social support

Table 4.9 presents information on sources of social support and satisfaction with relationships. Many participants (65.3%) 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 (24.5%) or other organizations that support recovery (10.2%). Close to half of the participants reported turning to a family member when having trouble (44.9%). About 10.2% of participants had no source of social support. When it came to satisfaction with personal relationships, 57.2% of participants reported being either satisfied or very satisfied.

Perceived health, wellness, and quality of life

Table 4.10 presents participants' self-reported perceptions of their health, wellness, and quality of life.

Many participants rated their current overall health as good (51%). Participants rated their satisfaction with their health as either very satisfied (4.1%), satisfied (34.7%), neither (49%), dissatisfied (8.2%), or very dissatisfied (4.1%). Only 10.2% of participants reported having a very good quality of life and 6.1% reported being very satisfied with self.

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 (34.7%), inpatient treatment in the past 30 days (14.3%), and emergency room treatment in the past 30 days (24.5%).

Chapter V. Services Provided

By Amelia Bailey

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).

Medications to treat opioid use disorder (MOUD)

Most individuals received one type of MOUD while incarcerated. Participants who received more than one type of MOUD or discontinued MOUD during incarceration were assigned to their initial MOUD status. Of the individuals who participated in the program and had a discharge record on file (n=24), 16.7% received buprenorphine to treat their OUD while incarcerated, 75.0% received methadone, and 4.2% did not receive a MOUD. No individuals received naltrexone.

Table 5.1 Type of MOUD received in jail, %

	Total (n=24)
Buprenorphine	16.7
Methadone [a]	79.1
Naltrexone	0.0
None	4.2

[a] = one participant began on methadone and switched to buprenorphine while incarcerated. The participant was coded as having received methadone while in jail.

Of the 24 individuals with a discharge record on file, 23 received MOUD while incarcerated and 1 did not receive any type of MOUD. We examined the baseline characteristics of the sample by type of medication received (Table 5.2).

About three-quarter of the patients receiving methadone or buprenorphine were male, and one-quarter was female. The mean age for individuals receiving each medication was comparable, 37.3 years for methadone and 36.6 years for buprenorphine. A majority of individuals receiving either medication was unemployed or not in the labor force prior to incarceration. Of the individuals receiving methadone, 50% had earned a high school or GED equivalent degree as their highest level of education and 22.2% had completed at least some college or earned a college degree. Of the individuals receiving buprenorphine, 80% completed a high school or GED equivalent degree.

In the 30 days prior to incarceration,16.7% of individuals receiving methadone and 20% of individuals receiving buprenorphine were unhoused. Prior to jail entry, 38.9% of individuals who received methadone and 20% of individuals who received buprenorphine in jail had abstained from using opioids; 22.2% and 20% respectively had abstained from using illegal drugs; and 61.1% and 80% respectively had attended self-help groups. Large majorities, 88.9% of those receiving methadone and 100% of those receiving buprenorphine, experienced mental health symptoms in the 30 days prior to incarceration.

Prior to entry into the jail, 50% of individuals receiving methadone and 60% of individuals receiving buprenorphine were not receiving any MOUD; 50% and 20% respectively maintained the same medication type while receiving MOUD in jail. Of the individuals receiving buprenorphine while in jail, 20% had switched medication types during incarceration, initially receiving methadone at jail entry.

Table 5.2 Characteristics of clients by MOUD type received while in jail			
MOUD Type	Methadone (n=18)	Buprenorphine (n=5)	Naltrexone/None (n=1)
Gender, %			
Male	72.2	80.0	0.0
Female	27.8	20.0	100.0
Trans/non-binary/other	0.0	0.0	0.0
Race/Ethnicity, %			
White	83.3	80.0	0.0
Hispanic	5.6	20.0	0.0
African American	5.6	0.0	0.0
Other, Unknown	5.6	0.0	100.0
Age, Mean (SD)	37.3 (9.5)	36.6 (4.5)	27
Employment, %			
Full time	5.6	0.0	0.0
Part time	0.0	0.0	0.0
Unemployed	22.2	0.0	0.0
Not in labor force	72.2	100.0	100.0
Enrolled in school or job training, %	0.0	0.0	0.0
Educational status, %			
Less than high school	27.8	20.0	0.0
High school/GED	50.0	80.0	100.0
At least some college	11.1	0.0	0.0
College degree	11.1	0.0	0.0
Where living most of the time in past 30 days, %			
Homeless/houseless	16.7	20.0	0.0
Own/rent apartment, room, or house	83.3	80.0	100.0
Status in 30 days prior to jail entry, %			
Abstained from opioids	38.9	20.0	100.0
Abstained from illegal drugs[a]	22.2	20.0	0.0
Abstained from alcohol	66.7	20.0	100.0
Attended self-help groups	61.1	80.0	100.0
Experienced mental health symptoms	88.9	100.0	100.0
On probation or parole	55.6	40.0	0.0
No arrests	16.7	0.0	0.0

No incarcerations	83.3	80.0	100.0
In MOUD treatment at entry, %	50.0	40.0	0.0
Type of MOUD received at entry, %			
Buprenorphine	0.0	20.0	0.0
Methadone	50.0	20.0	0.0
Naltrexone	0.0	0.0	0.0
None	50.0	60.0	100.0

[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 service.

Modality

In relation to modality type, all participants were provided with case management, residential treatment, aftercare, and recovery support during incarceration. Fewer participants received free standing residential treatment (50.0%) or treatment in other modalities.

Treatment

For treatment services, all participants received screening, brief intervention, assessment, and treatment planning. Most participants received brief treatment (91.7%), referrals (66.7%), individualcounseling (91.7%), services for co-occurring conditions (91.7%), and pharmacological interventions (95.8%). Few participants received counseling for HIV/AIDS (8.3%) and no participants received family/marriage counseling services.

Case management

Participants received case management services, including transportation services (87.5%), employment coaching (91.7%), HIV/AIDS services (100.0%), and less than 10% received family services, and supportive transitional drug-free housing.

Medical

All participants received medical care on site and alcohol and drug testing. Over one-fourth received HIV and AIDS medical support and testing (29.2%) and fewer received other medical services (20.8%).

Aftercare

Aftercare services delivered to participants included continuing care (70.8%), relapse prevention (79.2%), and recovery coaching (8.3%). No participants received self-help and support group, spiritual support, or other after care.

Education

Most participants received substance abuse education (83.3%). Almost two-thirds of participants received HIV and AIDS education (62.5%). No participants received other education.

Peer-to-peer recovery support

All participants received peer-to-peer support services such as information and referral services, alcohol and drug free social activities, and housing support, while few received peer coaching and mentoring services (4.2%).

Chapter VI. A Focus on Selected Populations: Trauma History

By Kiel McGowan and Elizabeth Evans

Introduction

Trauma is a complex issue that is known to have health and social consequences. While the full impacts of trauma on health are not yet fully understood, it is well-established that trauma can often begin with exposure to childhood adversity. The Appendix presents a review of the literature on the relationship between childhood adversity and substance use disorders, especially in relation to women. Experiences of trauma during adulthood are associated with many different types of physical health conditions and mental health symptoms and disorders. Individuals with trauma experiences have higher rates of post-traumatic stress disorder (PTSD), dissociative disorders, depressive disorders, and other mental health problems. Incarcerated individuals are more likely to have experienced trauma than the general population (Liu et al., 2021). In this section, we examine the study subpopulation that has a history of trauma to understand their characteristics and experiences. Then, we summarize findings from relevant research on trauma-informed gender-sensitive care for incarcerated populations. The goal is to provide information that may be useful for designing trauma-informed and gender-sensitive care for incarcerated individuals with opioid use disorder in Franklin County.

Characteristics and experiences of incarcerated individuals with opioid use disorder and a history of trauma

The Franklin County Sheriff's Office is actively working to provide trauma informed care to incarcerated individuals, including those with opioid or other substance use disorders. At entry into jail, staff conduct a comprehensive assessment. One of the assessment questions from the GPRA tool asks individuals whether they have ever experienced violence or trauma in any setting. Table 6.1 shows the characteristics and experiences of individuals who reported ever experiencing violence or trauma compared with those who did not report these experiences.

It is important to note that most individuals that were assessed with the GPRA tool, 87.8%, reported a trauma history. Also, the sample size for the group with no trauma history is too small (n=4) for interpretation. Thus, we provide data on both groups in Table 6.1 to illustrate the potential for future analysis as the sample size increases during year 2 of the project. In addition, in future years we will assess the utility of assessing trauma exposure by using data from the Adverse Childhood Experience (ACE) survey that FCSO staff conduct with all individuals. Consistent with other studies (Salina et al., 2017, Liu et al., 2021), the ACE data in combination with the GPRA trauma questions enable better measurement of the timing, frequency, and intensity of traumatic events.

Table 6.1 Differences by trauma history in the characteristics of clients		
	Trauma History (n= 43, 87.8%)	No Trauma History (n= 4, 10.8%)
Gender, %		
Male	72.1	100.0
Female	27.9	0.0
Trans/non-binary/other	0.0	0.0
Race/Ethnicity, %		
White	74.4	100.0
Hispanic	9.3	0.0
African American	7.0	0.0
Other, Unknown	9.3	0.0
Age, Mean (SE)	36.1	37.3
Employment, %	14.0	25.0
Full time	11.6	25.0
Part time	2.3	0.0
Unemployed	16.3	50.0
Not in labor force	69.8	25.0
Enrolled in school or job training, %	2.3	0.0
Educational status, %		
Less than high school	20.9	25.0
High school/GED	51.2	75.0
At least some college	16.3	0.0
Where living most of the time in past 30 days, %		
Homeless/houseless	18.6	0.0
Own/rent apartment, room, or house	81.4	100.0
Status in 30 days prior to jail entry		
Abstained from opioids	32.6	50.0
Abstained from illegal drugs[a]	16.3	25.0
Abstained from alcohol	60.5	50.0
Attended self-help groups	65.1	50.0
Experienced mental health symptoms	91.3	50.0
On probation or parole	41.9	100.0
No arrests	20.9	25.0
No incarcerations	23.3	25.0
In MOUD treatment at entry, %	53.5	25.0
Type of MOUD received at entry, %		
Buprenorphine	9.3	0.0
Methadone	44.2	25.0
Naltrexone	0.0	0.0
None	46.5	75.0

Statistical tests were not conducted due to small sample sizes.

Need for trauma-informed gender-sensitive care within carceral settings

Experiences with trauma, and associated mental and physical health effects, are very common among individuals living in incarcerated settings in the United States. Incarcerated populations with a history of trauma, for example, have high rates of posttraumatic stress disorder (PTSD) (Facer-Irwin et al., 2021), mental health conditions (i.e., major depressive disorder, bipolar disorder, schizophrenia spectrum disorder) (Nowotny et al., 2014; Stanton & Rose, 2020), and substance use disorders (Nowotny et al., 2014). Despite the higher prevalence of trauma and consequent conditions, trauma is often inadequately identified and treated within carceral settings. Many have recognized that the implementation of trauma-informed healthcare in jails and prisons has the potential to improve the health and safety of incarcerated individuals and also the communities that they live in (Erickson et al., 2020; Facer-Irwin et al., 2021; Moreland & Ressler, 2021; Nowotny et al., 2014).

In addition to trauma-informed care within carceral settings, experts also call for comprehensive healthcare that is sensitive to gender identity, particularly incarcerated women's experiences of violence and trauma (Blair-Lawton et al., 2020; Messina et al., 2014; Messina, 2022). Incarcerated women have significantly less access to treatment and health services while incarcerated than men, demonstrating a substantial unmet need (Nowotny et al., 2014). Most incarcerated women are mothers who report high rates of mental health issues and traumatic experiences, yet their needs are often overlooked because they comprise a smaller proportion of the incarcerated population compared with men (Stanton & Rose, 2020). Lessons learned from other service systems that have sought to create and assess gender-sensitive healthcare settings, such as within community-based addiction treatment systems (Evans et al., 2013; Greenfield & Grella, 2009; Grella, 2008, 2018; Hser et al., 2011) and the veterans affairs healthcare administration (Carlson et al., 2022; Hamilton et al., 2016; Yano et al., 2016), are resources that may assist carceral systems to provide this type of care.

Complex health and social needs

Much of the research on incarcerated women with histories of trauma has focused on experiences of commercial sexual exploitation (CSE), documenting how CSE is more common among justice-involved girls and women. CSE is recognized as a form of human trafficking, with anti-trafficking federal laws providing protective measures for trafficking victims that include access to healthcare (Toney-Butler et al., 2022). Seminal research has documented the complex set of factors that influence how individuals enter and exit CSE (Wilson & Butler, 2013). Recent health services research has focused on understanding the healthcare needs of girls and women with histories of CSE. This work has documented, for example, that in addition to substance use and co-occurring mental health conditions among women and girls with histories of CSE (Barnert et al., 2020; Ravi et al., 2017), there are also high pregnancy rates (Barnert et al., 2020). This latter finding suggests the importance of applying a reproductive justice approach to deliver reproductive education, family planning services, prenatal care, and parenting support (Barnert et al., 2020). Other needs among CSE survivors are presented by exposure to sexually transmitted infections and other infectious diseases (Ravi et al., 2017; Richie-Zavaleta et al., 2020), the extremely unstable living situations of this population (Dierkhising et al., 2022) and that CSE survivors may continue to engage in trading sex to escape familial abuse or are forced to do so by others (Reed et al., 2019). Taken together, findings underscore the ranges of services that should be offered to meet the complex health and social needs among incarcerated women with CSE and other trauma.

Outcomes of trauma-informed care within carceral settings

Limited research has been conducted to assess the impact of trauma-focused gender-sensitive interventions delivered in jails and prisons. The evidence that does exist shows that incarcerated women and men with histories of trauma and abuse can be responsive to trauma-specific treatment. For example, incarcerated women who participate in trauma-informed care have lower recidivism rates than women who do not (Lehrer, 2021). A meta-analysis of 16 studies reported that trauma-focused interventions in prisons were associated with a reduction in PTSD symptoms, particularly when the interventions offered trauma processing and delivered the intervention in an individual treatment modality rather than in groups (Malik et al., 2021). Interpersonal psychotherapy among incarcerated individuals with PTSD significantly decreased symptoms of hopelessness and depression (Felton et al., 2020). A group treatment for incarcerated women who are survivors of sexual violence, called "Survivors Healing through Abuse: Recovery through Exposure," (SHARE) decreased symptoms of PTSD, depression, and generalized anxiety disorder (Karlsson et al., 2020).

Much of the evidence on the outcomes of trauma informed gender-sensitive treatment for substance use disorders within legal-carceral-justice settings has been provided by Messina and colleagues. Messina and colleagues (2014) assessed the outcomes of a gender-sensitive addiction treatment model for women incarcerated in prison or involved in drug court. The program incorporated trauma-informed curricula and other services oriented towards meeting the needs of women. Results indicated that women who received services had decreased PTSD symptoms (Messina et al., 2014). Related research provided evidence of the effectiveness of integrating trauma-informed approaches into treatment for substance use disorders among justice-involved women (Saxena et al., 2016). More recently, assessment of two gender-responsive and trauma-specific brief interventions (e.g., Healing Trauma for Women and Exploring Trauma for Men) have demonstrated feasibility, consistency and efficacy among incarcerated populations, with a strong positive impact for the trauma-specific brief interventions, particularly for those with the highest levels of trauma (Messina & Schepps, 2021). In a study of incarcerated men, a trauma-specific peer-facilitated intervention was reported to improve mental health functioning, and reduce anger and anxiety (Messina, 2022). A recent commentary by Messina & Esparza (2022) offers a review of salient research findings on outcomes and outlines how systems can be re-designed to create a gender- and trauma-responsive approach.

Accessing care - barriers

Understanding where and why survivors of trauma access healthcare helps to identify barriers and facilitators of healthcare utilization. Jails (Gerassi, 2018; Ravi et al., 2017), along with emergency departments and community clinics, are settings where individuals with CSE histories seek healthcare (Ravi et al., 2017; Richie-Zavaleta et al., 2020). While much of this research has focused on understanding access to healthcare in community-based settings and as reported by trafficked girls and young women who are involved with the child welfare or justice system, findings can help inform the design and delivery of appropriate healthcare within carceral systems.

Prior negative experiences with the healthcare system is a major barrier to seeking care among trafficked individuals (Panda et al., 2021). Gerassi & Skinkis (2020) documented how organizations that aim to serve survivors of sex trafficking may be perceived to exclude marginalized groups, such as people of color, English language learners, or LGBTQ+ individuals, and cause some members of those groups to feel as though services do not apply

to them (Gerassi & Skinkis, 2020). Additionally, complex registration process, limited appointment times, and healthcare providers that do not screen or assess for trauma experiences are aspects of the healthcare system itself that impede use of care (Garg et al., 2020; Richie-Zavaleta et al., 2020). A barrier to care that is specific to women with CSE experiences and also opioid or other substance use disorders are the “sobriety requirements” of addiction treatment or residential service agencies that mandate the eviction of individuals who use substances (Gerassi, 2018).

Other barriers to care operate at the individual level. These include, for example, trafficker control and threat of violence if the CSE survivor were to seek care (Barnert et al., 2019; Garg et al., 2020; Ravi et al., 2017), feelings among CSE survivors of being judged, ashamed, and unwilling to disclose CSE history (Ijadi-Maghsoodi et al., 2018; Richie-Zavaleta et al., 2020), fear of bad diagnoses (Barnert et al., 2019), being "on the run" (Barnert et al., 2019), active substance use (Ravi et al., 2017), a desire to be self-reliant (Ijadi-Maghsoodi et al., 2018), perceived low quality of services (Ijadi-Maghsoodi et al., 2018), low trust in healthcare providers (Garg et al., 2020), and concerns about patient confidentiality and privacy (Ijadi-Maghsoodi et al., 2018; Richie-Zavaleta et al., 2020).

In relation to the creation of trauma-informed care within jails and prisons, some have pointed to how incarceration itself is often a traumatic event and that new traumas can be created as individuals live within the carceral setting (Elumn et al., 2021). A major concern arises when the healthcare that is provided within the carceral system to treat mental health conditions, including substance use disorders, is perceived to be designed to advance the goals of that system to control and punish more than therapeutic goals of healing and empowerment (Preston et al., 2022). Others point to how the physical design of jails and prisons often constrains the ability of staff to create a therapeutic environment (Oostermeijer et al., 2022). For example, attempts to create trauma-sensitive care within these settings may be challenged by hostile architecture, overt security paraphernalia, and dilapidated fixtures and fittings (Jewkes et al., 2019). A related and growing body of research is focused on assessment of treatment availability and access by pregnant women with opioid use disorder who are living in carceral settings (Knittle et al., 2022; Peeler et al., 2020; Sufrin et al. 2022).

Accessing care - facilitators

As for facilitators of healthcare access by justice-involved girls and women with CSE histories who are living in the community, Barnert and colleagues (Barnert et al., 2019, 2020; Godoy et al., 2020) propose a “fierce autonomy” conceptual model for behavioral health treatment engagement. The model is informed by observation of how participants' past traumas and absence of control led the girls and young women to exercise agency and reclaim autonomy over decisions affecting their health. Substance use is viewed as a coping mechanism for experiences of abuse, survival, and sexual exploitation. Recommendations for improving care for CSE young women call for health professionals and health systems that prioritize the cultivation of trusted relationships between patients and providers and navigable health systems that encourage patient autonomy and self-determination in health care decisions while meeting patients’ basic needs, such as safety and shelter. Recommendations are consistent with others who have proposed a shared decision making approach to working with trafficked individuals to increase their voice and participation in care and to prevent revictimization (Sahl & Knoepke, 2019).

Similar themes and recommendations were identified by Ijadi-Maghsoodi and colleagues (Ijadi-Maghsoodi et al., 2016, 2018) based on studies of CSE youth perspectives on health care. In

this work, youth described the availability of services, such as screening for sexually transmitted infections, as a facilitator of care access, along with knowledge about sexual health, and a strong motivation to stay healthy. Also, youth emphasized self-reliance and "street smarts" for survival and de-emphasized "victimhood," which shaped their interactions with health care. Clinicians are identified as playing a key role in the identification, assessment, and treatment of commercially sexually exploited individuals (Ijadi-Maghsoodi et al., 2016). A key recommendation is that providers can raise awareness of the needs of CSE youth and meet their health needs through creating non-judgmental health care settings that validate the experiences of these youth (Ijadi-Maghsoodi et al., 2018). More recently, a study of justice-involved girls and young women with self-identified CSE histories identified mHealth as a potential tool to increase self-management skills, fulfill judicial obligations, and improve access and engagement in health and social services (Bath et al., 2021).

Nurses have been identified as a group that can create trauma-informed care for current and former incarcerated individuals (Mollard & Hudson, 2016; Stanton & Rose, 2020). Activities might include, for example, provision of trauma-informed assessment and treatment, education on mental health topics, and advocacy for mental health treatment prerelease and postrelease (Stanton & Rose, 2020). Harner & Burgess (2011) propose a trauma-informed framework that can be used to guide clinical interactions with incarcerated women (Harner & Burgess, 2011).

Systems-level approaches

Comprehensive trauma-informed care for justice-involved individuals involves transformation on a systems level. The Substance Abuse and Mental Health Services Administration articulates six evidence-based trauma principles for service providers: safety; trustworthiness and transparency; peer support; collaboration and mutuality; empowerment, voice, and choice; and cultural, historical, and gender issues (SAMHSA, 2014). Others have offered variations on these ideas. For example, Chaudhri and colleagues (2019) calls for educating providers and transforming practices to incorporate safety, trust, peer support, collaboration, empowerment, and cultural perspectives into everyday operations and care delivery (Chaudhri et al., 2019). Moreland & Ressler (2021) focus on transformation of the criminal juvenile justice system, arguing that for it to become trauma-informed, it should (1) meet basic needs of clients, (2) check and change narratives, and check underlying assumptions, (3) focus on skill building/habilitation, (4) move away from punishment and toward rehabilitation and humanitarian approaches, and (5) heal and support members that work in and for the system (Moreland & Ressler, 2021).

These concepts highlight how there are opportunities across the legal-carceral-justice system continuum (Bonfine et al., 2018; Brinkley-Rubenstein et al., 2018) to implement trauma-informed policies and practices. Community re-entry after release from carceral settings is a critical aspect of a trauma informed systems-level approach. As an example, Thomas and colleagues (2019) report on a program that is designed to help women who have been recently released from incarceration to access needed health services and social services during community re-entry. The Women's Initiative Supporting Health Transitions Clinic (WISH-TC) is a primary care program that facilitates treatment access for re-entering women. Strategies include support and navigation assistance from peer community health workers. WISH-TC helped women feel supported, motivated, and competent to address their substance use, physical, and mental health conditions (Thomas et al., 2019).

Prevention efforts have concentrated on assessment of risk factors for trauma and early detection of trauma to prevent future traumatic events. For example, the Boston-based My Life

My Choice (MLMC) program offers a multisession psychoeducation group to girls who are identified as "at-disproportionate-risk" for CSE victimization and trains other agencies throughout the U.S. to offer this curriculum. The curriculum is designed to improve knowledge about the commercial sex industry and shift-related attitudes and behaviors (Rothman et al., 2021). Specialty courts (Bath et al., 2020; Cole & Sprang, 2020; Cook et al., 2018) and specialty medical home models of care (Kappel et al., 2020) have been designed to screen for CSE among youth and deliver interventions to engage impacted youth in healthcare and other services.

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Chapter VII. Next Steps

By Rithika Senthilkumar and Elizabeth Evans

This report documents the activities during the first year of a five year project that aims to increase initiation and engagement with medications for opioid use disorder (MOUD) treatment by justice-involved individuals via delivery of trauma-informed and gender responsive care . In this chapter, we provide a summary of the next steps for evaluation activities in the upcoming time-period.

Next steps

Implementation study

Data collected in the first year of the project provides insights into the operation of the program and summarizes preparations to further develop gender-responsive and trauma-informed programming. In the next year of the project, we will collect qualitative data from key stakeholders to identify core aspects of programming and document implementation processes and experiences. Two other evaluation goals related to program implementation is to better understand from the perspective of staff and patients why there are changes in MOUD medications (e.g., type, dosage) during incarceration and why participants continue to engage with services via the Community Justice Center after release from jail. We will continue to identify specific topics of interest as the project evolves in the upcoming time-period.

Outcome study

In the next years of the project, data collection will continue, per the established protocols, to assess participant status at jail intake, 3-months and 6-months post-intake, and jail discharge. Also, UMass staff will continue to receive and monitor re-contact materials on eligible participants for the intention of completing a post-exit from jail interview with a select sample of participants. In addition to collection of survey data, we will explore the utility of using in-depth qualitative interviews or focus groups with patients to assess their experiences and perceptions of programming as received in jail and upon re-entry. Methods for data collection will be designed to be sensitive to trauma histories, as informed by lessons learned through consultation with Dr. Abigail Judge and others, and in accordance with best practices identified in the literature.

Due to the utilization of a restructured SAMHSA GPRA form beginning in 2023, we anticipate changes in data collection and, in particular, changes to the indicators of trauma history. In the upcoming year, UMass will arrange to obtain and analyze existing data from the adverse childhood experiences (ACE) questionnaire that is routinely used by jail staff as well as administrative data on participants as maintained in jail records and other sources on health services received. We will conduct analyses to understand how use of services is associated with trauma history and treatment with MOUD.

Appendices

Appendix A

Table 4.1 Sociodemographic characteristics	
	Total
Gender	
Male	75.5
Female	24.5
Transgender	0.0
Other	0.0
Race/Ethnicity	
White	77.5
Hispanic	8.2
Black	6.1
Other	8.2
Asian	0.0
Age	
18-24	2.0
25-34	46.9
35-44	38.8
45-54	8.2
55-64	4.1
65 +	0.0
Age, mean (SD)	36.3 (1.1)
Employment	
Full time	12.2
Part time	2.0
Unemployed, looking	18.4
Not in Labor Force, not looking	67.4
Enrolled in school or job training	2.0
Education level	
Less than high school	22.5
High school or GED	53.1
Some college	14.3
Undergraduate degree	10.2
Some vocational/technical program	0.0
Vocational/technical program certificate or diploma	0.0
Income source	
Employed	28.6
Public assistance	65.3

Retirement	0.0
Disability	14.3
Non-legal income	10.2
Family and/or friends	14.3
Other	0.0
Monthly income in dollars, Mean	242.1
Has enough money to meet needs	
Not at all	24.5
A little	12.2
Moderately	18.4
Mostly	34.7
Completely	10.2
Where living most of the time, past 30 days	
Shelter	2.0
Street/outdoors	10.2
Institution	4.1
Own/rent apartment, room, or house	38.8
Someone else's apartment, room, or house	30.6
Dormitory/college residence	0.0
Halfway house	2.0
Residential treatment	4.1
Other	8.2
Satisfaction with living space	
Very dissatisfied	26.5
Dissatisfied	8.2
Neither satisfied nor dissatisfied	18.4
Satisfied	26.5
Very satisfied	20.4
Military service	4.1
Parental status	
Has children	79.6
Currently pregnant (women only)	0.0
Mean no. of children (SD)	2.2
One child living with other by court order	8.2
Two or more children living with other by court order	6.1
Lost parental rights to one or more children	11.8

Table 4.2 Opioid and other substance use	
	Total
Alcohol and other substance use, past 30 days	
Any alcohol	40.8
Alcohol to intoxication (5+ drinks in one sitting)	18.4
Alcohol to intoxication (4 or fewer drinks in one sitting and felt high)	20.4
Illegal drugs	79.6
Both alcohol and illegal drugs on the same day	36.7
Cocaine/crack	65.3
Cannabis	51.0
Any Opiates, past 30 days	
Heroin	65.3
Morphine	2.0
Dilaudid	0.0
Demerol	0.0
Percocet	6.1
Darvon	0.0
Codeine	2.0
Tylenol 2, 3, 4	4.1
OxyContin/Oxycodone	4.1
Non-prescription methadone	6.1
Hallucinogens/psychedelics, PCP, MDMA, LSD, mushrooms, mescaline	8.2
Methamphetamine or other amphetamines	20.4
Benzodiazepines	20.4
Barbituates	2.0
Non-prescription GHB	0.0
Ketamines	2.0
Other tranquilizers	0.0
Inhalants	4.1
Other illegal drugs	6.1
Alcohol or drug use caused stress, past 30 days	
Not at all	10.2
Somewhat	16.3
Considerably	12.2
Extremely	40.8
Alcohol or drug use caused giving up important activities, past 30 days	
Not at all	24.5
Somewhat	12.2
Considerably	18.4
Extremely	24.5
Alcohol or other drug use caused emotional problems, past 30 days	
Not at all	20.4

Somewhat	20.4
Considerably	14.3
Extremely	24.5

Table 4.3 Opioid and other substance use disorder	
	Total
Opioid use disorder	100.0
Cocaine-related diagnosis	65.3
Alcohol-related diagnosis	16.3
Cannabis-related diagnosis	32.7
Sedative-, hypnotic-, or anxiolytic-related diagnosis	4.1

Table 4.4 Received medication to treat opioid or alcohol use disorder	
	Total
Has opioid use disorder, past 30 days	100.0
Received methadone	40.8
Received buprenorphine	10.2
Received naltrexone	0.0
Received extended-release naltrexone	0.0
Has alcohol use disorder, past 30 days	16.3
Received naltrexone	0.0
Received extended-release naltrexone	0.0
Received disulfiram	0.0
Received acamprosate	0.0

Table 4.5 Crime and involvement with the criminal justice system	
	Total
In the past 30 days	
committed a crime	89.8
arrested	79.6
arrested for drug-related offense	48.7
spent night in jail/prison	22.5
Currently awaiting charges, trial, or sentencing	77.6
Currently on parole or probation	44.9

Table 4.6 Mental health conditions and symptoms	
	Total
Mood and anxiety	0.0
Manic episode	0.0
Bipolar disorder	0.0
Major depressive disorder, single episode	0.0
Major depressive disorder, recurrent	0.0
Persistent mood [affective] disorders	0.0
Unspecified mood [affective] disorder	0.0
Anxiety, dissociative, stress-related, somatoform, and other nonpsychotic mental disorders	0.0
Personality disorder	0.0
Schizophrenia	0.0
Schizotypal disorder	0.0
Delusional disorder	0.0
Brief psychotic disorder	0.0
Shared psychotic disorder	0.0
Schizoaffective disorders	0.0
Other psychotic disorder not due to a substance or known physiological condition	0.0
Unspecified psychosis not due to a substance or know physiological condition	0.0
Antisocial personality disorder	0.0
Borderline personality disorder	0.0
Other personality disorders	0.0
Conduct disorders	0.0
Childhood onset	0.0
Intellectual disabilities	0.0
Pervasive and specific developmental disorders	0.0
Attention-deficit hyperactivity disorders	0.0
Emotional disorders with onset specific to childhood	0.0
Disorders of social functioning with onset specific to childhood or adolescence	0.0
Tic disorder	0.0
Other behavioral and emotional disorders	0.0
Other	0.0
Eating disorders	0.0
Sleep disorders not due to a substance or know physiological condition	0.0
Unspecified mental disorder	0.0
Mental health symptoms, past 30 days	
Experienced serious depression	73.5

Experienced serious anxiety or tension	85.7
Experienced hallucinations	8.2
Experienced trouble understanding, concentrating, or remembering	69.4
Attempted suicide	6.1
Was prescribed medication for psychological/emotional problem	32.7
Bothered by these psychological or emotional problems, past 30 days	93.9
Not at all	14.3
Slightly	14.3
Moderately	26.5
Considerably	14.3
Extremely	24.5
Screened positive for co-occurring mental health and substance use disorder	100.0
Tested positive for co-occurring mental health and substance use disorder	63.3

Table 4.7 Exposure to violence and trauma	
	Total
Ever experienced violence or trauma in any setting, home, work, school, community	87.8
Experience was so frightening that	
had nightmares or thought about it when you did not want to	79.6
tried hard not to think about it or went out of the way to avoid situations that reminded you of it	81.6
were constantly on guard, watchful, or easily startled	79.6
felt numb and detached from others, activities, or surroundings	73.5
Was hit, kicked, slapped or otherwise physically hurt, past 30 days	
Never	65.3
A few times	28.6
More than a few times	2.0

Table 8. HIV risk behaviors	
	Total
Engaged in sexual activity, past 30 days	61.2
Unprotected sexual contacts	44.9
Unprotected sexual contacts with someone who is HIV positive or has AIDS	0.0
Unprotected sexual contacts with an injection drug user	16.3
Unprotected sexual contacts with someone high on some substance	26.5
Tested for HIV	93.9
Knows results of HIV testing	91.8
Injected drugs, past 30 days	59.2
Used a syringe/needle, cooker, cotton, or water that someone else used, past 30 days	
Always	3.5
More than half the time	3.5
Half the time	6.9
Less than half the time	10.3
Never	75.9

Table 9. Social support	
	Total
Had interaction with family and/or friends supportive of recovery, past 30 days	65.3
Attended any support groups, past 30 days	
Non-religious or faith based organization	24.5
Religious or faith affiliated self-help groups	14.3
Other organization that support recovery	10.2
Source of support when having trouble	
Clergy member	0.0
Family member	44.9
Friends	4.1
Other	34.7
No one	10.2
Satisfaction with personal relationships	
Very dissatisfied	6.1
Dissatisfied	12.2
Neither	22.5
Satisfied	49.0
Very satisfied	8.2

Table 4.10 Perceived health and wellness, and quality of life	
	Total
Current overall health right now	
Excellent	6.1
Very Good	16.3
Good	51.0
Fair	22.5
Poor	4.1
Satisfaction with health	
Very dissatisfied	4.1
Dissatisfied	8.2
Neither	49.0
Satisfied	34.7
Very satisfied	4.1
Has enough energy for everyday life	
Not at all	8.2
A little	8.2
Moderately	16.3
Mostly	49.0
Completely	18.4
Satisfaction with ability to perform daily activities	
Very dissatisfied	8.2
Dissatisfied	6.1
Neither	24.5
Satisfied	44.9
Very satisfied	14.3
Satisfaction with self	
Very dissatisfied	14.3
Dissatisfied	16.3
Neither	28.6
Satisfied	32.7
Very satisfied	6.1
Quality of life	
Very poor	8.2
Poor	10.2
Neither	32.7
Good	32.7
Very good	10.2

Table 4.11 Health services utilization	
	Total
Received inpatient treatment, past 30 days	14.3
physical complaint	0.0
mental or emotional difficulties	4.1
alcohol or substance abuse	10.2
Received outpatient treatment, past 30 days	34.7
physical complaint	0.0
mental or emotional difficulties	10.2
alcohol or substance abuse	32.7
Received emergency room treatment, past 30 days	24.5
physical complaint	14.3
mental or emotional difficulties	4.1
alcohol or substance abuse	6.1

Table 4.12 Health services utilization reported at discharge	
	Total
Program tested client for HIV	29.2
Program referred client for HIV testing	0
Modality:	
Case management	100.0
Day treatment	0.0
Inpatient	0.0
Outpatient	0.0
Outreach	0.0
Intensive Outpatient	0.0
Methadone	79.2
Residential Rehab	100.0
Hospital Inpatient detox	0.0
Free standing residential	50.0
Ambulatory detox	0.0
After care	100.0
Recovery support	100.0
Other modalities	0.0
Treatment:	
Screening	100.0
Brief intervention	100.0
Brief treatment	91.7
Referral treatment	66.7
Assessment	100.0
Treatment/recovery planning	100.0
Individual counseling	91.7
Group counseling	83.3
Family/marriage counseling	0.0
Co-occurring treatment/recovery services	91.7
Pharmalogical interventions	95.8
HIV/AIDS counseling	8.3
Other	0.0
Case management:	
Family (marriage, education, parenting, child development)	8.3
Child care	0.0
Employment, pre-employment	0.0
Employment coaching	91.7

Individual coordination	0.0
Transportation	87.5
HIV/AIDS services	100.0
Supportive transitional drug-free housing	4.2
Other	0.0
Medical:	
Medical care	100.0
Alcohol/drug testing	100.0
HIV/AIDS medical support and testing	29.2
Other	20.8
After care:	
Continuing Care	70.8
Relapse prevention	79.2
Recovery coaching	8.3
Self-help and support groups	0.0
Spiritual suuport	0.0
Other	0.0
Education:	
Substance abuse education	83.3
HIV/AIDS education	62.5
Other	0.0
Peer-to-peer recovery support	
Peer coaching or mentoring	4.2
Housing support	100.0
Alcohol and drug free social activities	100.0
Information and referral	100.0
Other	0.0

Appendix B

Summary of seminars on commercial sexual exploitation (CSE)

Overview

The Franklin County Sheriff's Office (FCSO), in collaboration with the Opioid Task Force (OTF) of Franklin County and the North Quabbin region, invited Abigail Judge, PhD to provide education and training on trauma-informed healthcare. Dr. Judge works as a clinical and forensic child psychologist at Massachusetts General Hospital and in private practice. She has expertise in outreach and treatment of women with histories of trauma including, in particular, commercial sexual exploitation (CSE). Dr. Judge gave a four-part seminar series via zoom in June 2022, titled "Clinical work with survivors of commercial sexual exploitation." Each seminar was attended by 60-80 individuals, including staff at FCSO and OTF and also staff in community-based health and social services organizations, the carceral-legal-justice system, advocacy group, and other institutions. Each seminar was structured to introduce terminology, core concepts, and guidelines in relation to trauma and CSE, share insights derived from firsthand outreach and treatment experiences, point to key resources for further study, and answer attendee questions. In this section, we provide a brief summary of the key lessons that were conveyed during the seminar. This information will serve as a foundation for assessing how and the extent to which FCSO designs and implements programming to address the needs of people with CSE and other trauma histories in the upcoming years.

Knowledge on how to treat people with CSE histories is limited

An important caveat to recognize is that there are few empirically-based best practices for conducting screening, assessment, and treatment of people with CSE histories. Scientific studies of trauma have largely focused on post-traumatic stress disorder (PTSD), particularly among military combat veterans. Some research has focused on human trafficking, but it has mostly sought to raise awareness of the issue, with less attention to the development of methods for treating survivors. An established gap in knowledge is that the field lacks a validated screening tool for CSE and other trauma.

It is also important to recognize that historically treatment of CSE has been unhelpful and even harmful, leading some patients to leave care and return to a cycle of re-exploitation. A challenge is that professional training and conventional psychotherapy practices have not been designed to meet the needs of people with CSE. People with trauma are often seen as being "difficult" patients. And usual treatment often enacts power dynamics that can make it hard for this population to engage with treatment. Because of this context, care providers often need to adapt therapeutic practices based on their lived experiences of engaging with this population. Also, it is critical to recognize the unique relational stance of providers when working with individuals with CSE. Providers should aim to gain patient trust and develop a therapeutic relationship by using effective and ethical techniques, which is the standard of care for all populations. Unique to the CSE population, however, clinicians also need to be "radically transparent" with patients, within therapeutic bounds, and also navigate the role of the exploiter's influence on the therapeutic relationship and especially so when the exploiter is still involved in the patient's life. A core aspect of therapeutic presence is the extent to which clinicians can establish emotional safety with interacting with a person with CSE histories.

Language matters

Language is a key factor to consider when working with individuals with CSE histories. There is a need for better common language when talking about CSE, not only so that patients, care providers, and others can understand each other, but also to avoid stigmatizing and retraumatizing patients. Power dynamics are an important concept to consider when treating individuals with CSE. These patients often have been disempowered and trapped in an unbalanced power dynamic. Thus, when aspects of their relationship with healthcare providers perpetuate differential power dynamics, it can trigger negative thoughts or disengagement with care. The power dynamic in a clinician's relationship with patients begins with naming and language. The power dynamic in a clinician's relationship with patients begins with naming and language.

CSE is a complex concept that exists on a continuum and is inclusive of a constellation of experiences. CSE encompasses sex trafficking, sex work, prostitution, survival/transactional sex, and CSE of children and youth. These are interrelated and not separate phenomena. Also, the definition of each of these terms is fluid and the terms have different meanings in different contexts. For example, the term "sex work" is often only used in academic settings and may be unwelcome in this population. Further, "prostitute" carries a demeaning connotation and should be replaced with person-first language such as "women in prostitution" or "prostituted women." The term "trafficking" has meanings in a legal context, but it is seldom used among individuals with CSE histories. Also, although someone may be exploited, there is not always a person actively exploiting them, as they may be engaging in prostitution as a means of survival. A core principle is that language must be chosen with care when serving this population.

Treatment settings

The setting in which clinicians meet with individuals with CSE histories dictates many aspects of their care. Again, *power dynamics* come into play. With any provider-patient relationship there is a power differential in which the patient shares much more information about themselves and the provider often has more knowledge and resources to draw on for decision making. This uneven power dynamic can be furthered in settings such as jails where patients have limited autonomy by design. If individuals with CSE histories feel powerless in their own care, they may shut down making that care ineffective. To prevent or counteract this dynamic, it is critical that providers *build relationships and garner the trust* of their patients. For example, it may be beneficial to allow patients to decide what is shared with providers and when, without rushing to diagnose the patient's condition or label them in other ways. Also, it is helpful if clinicians are calm and grounded, and then work with patients to find ways that work for that person to feel safe.

Setting also dictates how *safe* patients feel when seeking healthcare. For example, if patients are being treated in an incarcerated setting, they may be concerned that others will be aware of the care they are receiving and use that to exploit them in the future. Also, setting affects how much *time* a clinician can spend with the patient. Because progress in the therapeutic process can be slow, it is crucial to offer *different ways for patients to engage* with care. For example, Dr. Judge works in both a walk-in setting as well as having regularly scheduled therapy sessions. In the walk-in setting, the focus is on building trust so that the individual will continue to engage in care. Providers in the walk-in may only see a patient one time and never again. Thus, it is important to make this interaction of value to the patient, no matter the length of the interaction. Regularly scheduled meetings are usually longer and allow for more trust building and in-depth work. A challenge of regularly scheduled therapy sessions, however, is that this

method is often too “high-barrier” to be sustained by individuals with CSE histories, especially in the early stages of treatment. Notably, incarcerated settings have aspects of both: incarcerated patients live near healthcare and have access to regular care while incarcerated but may access the healthcare may also be lost suddenly upon release.

Risk factors

Individuals with CSE histories have a much higher mortality rate than the general population. This adverse health outcome is associated with several risk factors that are more prevalent in this population. Trauma - whether physical, sexual, or emotional - mostly begins early in life for individuals with CSE histories. *Childhood trauma* increases the risk of future trauma experiences, leading to a cycle of traumatization throughout the life course. Individuals with childhood trauma histories develop low self-worth, low self-efficacy, lack of trust in others, hypervigilance, and other symptoms. A common coping mechanism in this population is dissociation from their identity and/or body.

Substance use is also prevalent among people with CSE histories. Substance use can be used as a coping mechanism to “numb” the pain of trauma. And, among some women who use substances, particularly those with a substance use disorder (SUD) who are involved with the justice system, transactional sex is common. While the sex trade that surrounds the drug trade is relatively well-researched and policed, it is highly dangerous. Additionally, it is often omitted from media coverage on the opioid overdose epidemic. Thus it may not be commonly understood that SUD enables a cycle in which a person with CSE experiences uses substances to cope with trauma while the person who controls access to those substances is then able to further exploit the individual with CSE experiences. Access to medications to treat opioid use disorder (MOUD) can also be used to control and exploit individuals with CSE histories. When CSE and SUD are both present in an individual, they interact with compounding negative effects, and unfortunately there are few programs designed to target and treat this intersection.

Although, pimp control is less common among *LGBTQ individuals*, this group does have a disproportionate risk for CSE and sex trafficking. LGBTQ individuals often lack support systems due to familial rejection and general discrimination, which when tied with less opportunity for gainful employment, can lead to homelessness and survival sex. There are very few tailored services available to this subpopulation. For example, in shelters, when seeking care, or within incarcerated settings, people are often binarized by sex which may not line up with someone's identity. In these settings, LGBTQ individuals may feel unsafe and be at genuine risk of violence. There is a dire need for more holistic services, especially augmenting access to mental health care for this population.

A final subpopulation of interest is *incarcerated* individuals. Many aspects of CSE may lead to incarceration. There are high rates of sex exchange among incarcerated women. It can be difficult to develop trauma-informed relationships with this subpopulation, as the entire nature of incarceration is coercive. Also, correctional staff may act as buyers, exploiting their power over incarcerated individuals. Additionally, staff may be misinformed about CSE and attach stigma to individuals with CSE histories. It may appear that victims of CSE are safer while incarcerated, but this is often far from the truth. Individuals with CSE histories may be incarcerated along with victimizers or others who enact violence against them. Further, being incarcerated can make it easier for traffickers to locate victims; they might contact them during incarceration and add money to their commissary account with the goal of exploitation. When treating these individuals within correctional settings, there is a heightened need to emphasize safety and privacy, while working to minimize power imbalances.

Treatment models and practices

Multiple theoretical models have been used to aid understanding of how best to treat individuals with CSE histories. Of note is “phase based trauma treatment,” a three-step process developed by Judy Herman. This model emphasizes the need to recognize the rungs of oppression that have led to CSE. The model is also very present-oriented, and not an excavation of the past, in recognition that exorcizing trauma does not help people to heal. The first phase in this model, known as SAFER, is focused on “self-care, safety, and stabilization,” during which the provider-patient relationship is built, skills for managing symptoms are taught, and safety planning is done. It is useful to have patients complete an acknowledgement exercise to talk about the past in a present-oriented framework. This phase may also contain treatment for SUD. Quite often, the first phase will be the only one that patients complete. The next phase is processing traumatic memory. This stage may be marked by patients connecting with other survivors, engagement with people who are not involved in CSE, or other experiences that support the goal of not feeling worse after having experienced treatment. This is followed by the third and final phase, social reconnection and moving on.

Another model is known as the “window of tolerance model.” People with PTSD or complex PTSD (cPTSD) are more prone to states of hyper-arousal and hypo-arousal. In this model, the state in between these two extremes is termed the window of tolerance, and it is the state in which victims of trauma can feel and think simultaneously. When treating these individuals, it is important that clinicians help patients to find and regulate this window of tolerance.

A third theoretical model is the “stages of change" framework, which is relevant to both CSE and SUD. This five-step model details the process of making a serious life change away from dangerous behaviors.

From her experiences, Dr. Judge shared many *strategies and practices* which she has found useful for providing effective care to this population. A theme throughout the entire seminar series was that interventions need to be individualized. It is not helpful to run through frameworks like a checklist. Instead, the provider must learn from and adapt care to each individual. Another important strategy is minimizing barriers to care when working with survivors of CSE. Providing access to low-barrier treatment can make a world of difference for people who have generally been forgotten by healthcare systems. This approach emphasizes engagement and harm reduction with no expectation of abstinence, identification as a victim, or readiness to exit CSE situations. Micro-counseling is a useful strategy during this phase.

As mentioned above, building trust is another essential part of working with individuals suffering from trauma. This can take a long time, but with the use of appropriate and consistent language and actions, a relationship of trust can be achieved. While setting reasonable boundaries, a care provider can serve as a stable figure in the lives of those who tend to lack stable relationships. Furthermore, it is integral to establish a network of trusted individuals who are trauma informed, so that you may refer individuals with trauma to other forms of care. By doing this, the provider helps individuals feel more comfortable seeking care and introduces them to more professionals they can trust. Dr. Judge has found that simple things such as having conversations side by side (for example, by walking and talking together) so as not to force eye contact have been helpful in making patients feel more comfortable.

Another key practice is safety planning, which is assessing current risks of harm and how to navigate away from them. Judge emphasized the need to be curious rather than controlling when discussing a patient’s exploiter, who may still be a huge part of their daily life, come up. It

is unhelpful to try and force individuals to leave situations and it is better to work on understanding their situation so you may provide them with the tools to make their own decisions.

Finally, Dr. Judge spoke on how providers can avoid compassion fatigue and other potential harms. Because of the nature of this work, it can be emotionally taxing for care providers. Dr. Judge has found that changing one's definition of a good outcome is helpful. Since progress can be slow and setbacks can be frequent, a shift in outlook is necessary. For example, someone just coming back for a second visit can be a huge step forward. Clinicians are encouraged to celebrate when patients seek safety in unsafe situations or show any sign of burgeoning autonomy no matter how small it may seem. Also, providers can become hyper vigilant which can be addressed by ensuring there are spaces to disengage with the work. Finally, Dr. Judge shared strategies for clinicians to be safe while working with this population, including consultation with expert advisors, use of an alert bracelet, doing street outreach in pairs, working in neighborhoods that are different from one's residence, and other techniques for safe practices.

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Appendix C

Relationships between childhood adversity and substance use disorders

Excerpted from Evans, E. (2015). Childhood adversity and the presence and persistence of substance use disorders over the life course among a nationally representative sample of adult women. *UCLA*. ProQuest ID: Evans_ucla_0031D_14207. Merritt ID: ark:/13030/m5tb4bhn. Retrieved from https://escholarship.org/uc/item/51v7s6pm

Definition of childhood adversity

For more than two decades, interest has proliferated in the prevalence of childhood adversity (CA) and the relationship between childhood adversity and adult health (Felitti et al., 1998). Childhood adversity is a broad concept that is generally used by a number of social and epidemiological studies to encompass many social and material exposures during the first 18 years of life (Afifi et al., 2011ab; Dube et al., 2003; Keyes et al., 2011ab). These adverse childhood experiences typically include childhood experiences of: (1) *physical, sexual, or emotional abuse*, commonly defined as deliberate or intentional words or overt actions a by a parent or other caregiver that cause harm, potential harm, or threat of harm to a child; (2) *physical or emotional neglect*, commonly defined as the failure of a parent or other caregiver to provide for a child's basic physical, emotional, or educational needs or to protect a child from harm or potential harm; and (3) *household dysfunction*, commonly defined as living with a battered mother; parental problematic substance use; parental mental illness; parental suicide attempt or completion; and parental incarceration (Afifi et al., 2011ab; Dube et al., 2003; Keyes et al., 2011a; Leeb et al., 2008).

It is important to recognize that in other research, a major focus is understanding how experiences of *material or economic* adversity during childhood, and the social disadvantages and biological effects that often accompany it, shape adult chronic disease and its risk factors and consequences (Braverman & Barclay, 2009; Conroy et al., 2010; Melchior et al., 2007; Poulton et al., 2002). A child born into a poor family might be exposed to an adverse social environment (e.g., characterized by neighborhood violence, family conflict, attenuated educational attainment, limited preventive health care access) that can lead to larger disparities in health across time (Halfon et al., 2010; Larson et al., 2008). Children with low-socioeconomic status also experience poorer neurocognitive development and functioning in childhood (Luby et al., 2013; Noble & Norman, 2005) and, in this way, aspects of childhood poverty become “biologically embedded” (Hertzman, 1999; Nelson, 2013), leading to poor health outcomes as adults (Conroy et al., 2010; Galobardes et al., 2006; Raphael, 2011). The health effects of this type of childhood adversity has not been the focus of research until recently. Therefore, although it is a factor that likely has critical implications for the occurrence and persistence of SUD, more studies are needed to understand its effects.

Childhood adversity affects a significant proportion of the US population

Experiences of childhood adversity are prevalent in the US general population. Childhood adversity prevalence rates as provided by clinic-based samples and nationally representative

data indicate that significant proportions of adults report a childhood history of physical abuse (18-26%), sexual abuse (11-21%), emotional abuse (8-10%), physical neglect (10-24%), emotional neglect (9-15%), and household dysfunction (40%) (Afifi et al., 2011; Dube et al., 2003). Among categories of household dysfunction, parental substance use is most prevalent (26-28%), followed by parental mental illness (11-20%), living with a battered mother (13-14%), and parental incarceration (3-6%) (Dube et al., 2003; Felitti et al., 1998; Green et al., 2010).

These data indicate that many more people experience some form of childhood adversity than develop a SUD or other adverse health outcome. In her work on resilience in the context of childhood adversity, Luthar and colleagues propose that vulnerability and protective factors might modify the negative effects of adverse life circumstances (Luthar, 1991; Luthar et al., 2000; Luthar et al., 2006). Luthar conceptualizes resilience as a process, rather than a fixed set of traits, that involves the development of supportive personal relationships or other resources that enable individuals to exert positive adaptation in response to threats despite experiences of significant early life adversity (Luthar, 1991; Luthar et al., 2000; Luthar et al., 2006). It may be that some individuals who are exposed to childhood adversity are able to avoid SUD because they are better equipped to adapt to adversity (for example via coping strategies) and overcome it.

Childhood adversity is associated with multiple adverse health outcomes including SUD

Adverse childhood experiences are associated with poorer consequences during adulthood in multiple domains of physical and mental health (Fergusson et al., 2013). Experience of any childhood adversity increases the risk for a number of physical health conditions, including heart disease, cancer, chronic lung disease, skeletal fractures, and liver disease (Felitti et al., 1998). Childhood adversity also negatively affects well-being and mental health (Afifi et al., 2011ab; Mersky et al., 2013; Mullen et al., 1996). Any experience of childhood adversity is associated with poorer self-rated health and life satisfaction (Mersky et al., 2013) and maladaptive coping strategies such as avoidance and distraction (Bal et al., 2003). Childhood adversity also increases emotional reactivity, defined as an involuntary and usually overly intense reaction to an external emotional stimulus which often leads to feeling victimized (Glaser et al., 2006; Wichers et al., 2009), and it is associated with more frequent depressive symptoms (Felitti et al., 1998; Hammen et al., 2000; Mersky et al., 2013), a heightened risk for anxiety (Mersky et al., 2013) and suicide attempts (Felitti et al., 1998), and several types of adult personality disorders (e.g., schizotypal, antisocial, borderline, narcissistic) (Afifi et al., 2011a).

Equally well-established by epidemiological studies (Dube et al., 2003, 2005; Green et al., 2010; Lo & Cheng, 2007; Mersky et al., 2013; Patterson et al., 2014; Schilling et al., 2007, 2008) and several literature reviews (Enoch, 2010; Keyes et al., 2011; Maniglio, 2011) is the significant relationship between childhood adversity and increased risk for substance *use*. Studies have also documented a relationship between childhood adversity and increased risk for occurrence of substance use *disorders* (e.g., Dube et al., 2002; Afifi et al., 2012; Felitti et al., 1998; Fenton et al., 2013; Green et al., 2010; Mersky et al., 2013; Pilowsky et al., 2009). When considered together, this body of evidence indicates that childhood adversity increases the risk for several

different types of diseases and health problems.

Childhood maltreatment is a key risk factor for SUD among women

Over the past two decades, epidemiological studies and studies based on samples drawn from clinic settings have documented that girls are at greater risk for certain childhood adversities compared with boys, notably childhood sexual abuse (Costello et al., 2002; Dong et al., 2003; Dube et al., 2001, 2005; Schilling et al., 2007) and emotional abuse and neglect (Dong et al., 2003; Dube et al., 2001, 2003). This explains why most studies of women regarding the relationship between childhood adversity and substance-related conditions have focused on childhood sexual abuse (e.g., Fleming et al., 1999; Wilsnack et al., 1997; Dube et al., 2005; Dong et al., 2003) or other forms of maltreatment (i.e., childhood abuse or neglect) (e.g., Afifi et al., 2012; LaFlair et al., 2013; Mullen et al., 1996).

Women who experience any childhood sexual abuse are more likely than non-abused women to report problematic alcohol and drug use during adulthood. For example, girls' experiences of any childhood sexual abuse increases the risk for SUD by an estimated 60-70% (Dube et al., 2005). When any form of maltreatment is considered, women with this history, relative to women without this history, are more likely to transition from alcohol use to alcohol abuse or dependence (LaFlair et al., 2013). Besides alcohol, any childhood maltreatment has been shown to increase women's risk for each of ten other types of SUD (e.g., marijuana, heroin, amphetamines, cocaine, and so on) (Afifi et al., 2012).

This body of evidence indicates that childhood adversity is a critical factor that heightens women's risk for adult substance use disorders. Despite the advancements in knowledge that these studies represent, current understanding of the relationship between childhood adversity and SUD among women is limited in that the literature has mostly focused on the effects of childhood maltreatment and has not considered the effects of another type of childhood adversity that may be particularly salient for women - household dysfunction.

Childhood household dysfunction may also increase women's SUD risk

Nationally representative cross-sectional surveys have documented that some types of adversity are more prevalent than others. When analyzed by gender, prevalence data indicate that girls are more likely than boys to report having experienced childhood household dysfunction, particularly parental substance use and parental mental illness (Dube et al., 2003). It is not clear whether girls are more likely than boys to be exposed to these types of adversity or are more vulnerable to the effects of these experiences and are therefore more likely to report their occurrence. In any case, children exposed to parental mental illness appear to be more likely to drink alcohol to cope with problems rather than for pleasure or to be social (Rothman et al., 2008). This finding is consistent with the idea that women more so than men use substances to cope with stressful life events.

Moreover, parental substance use and its implications regarding the inter-generational transmission of substance use is the primary reason why experts have identified this childhood adversity as the most critical risk factor for initiation of substance use during adolescence

(Johnson & Leff, 1999). It is widely recognized that children exposed to parental substance use initiate substance use earlier than their peers (Enoch, 2010; Green et al., 2010; Rothman et al., 2008). According to concepts provided by social learning theory (Bandura, 1977), it is likely that parents who use substances function as role models who create social environments in which children observe that substances can be used to relax, socialize, or accrue other benefits. Substance-using parents show their children how to be a substance user by providing substances, showing where to acquire substances, and modeling how to consume, smoke, or otherwise administer substances, in what quantity and how frequently (Akers et al., 1979, 1992). Once a child learns from parents why and how to acquire and use substances, whether substance use continues depends on the extent that others provide social reinforcement for use, whether deterrence for use occurs in the form of adverse effects or negative sanctions from other family members, peers, or society, and the continued expectation that use will result in desirable consequences (Akers et al., 1979, 1992). That children of substance users initiate substance use earlier than others is especially significant because earlier onset, particularly first use before age 15, is a robust risk factor for continued substance use at higher levels of use and for more years of the life course (Brecht et al., 2008; Grant & Dawson, 1998; Hser et al., 2008).

Family violence (e.g., having a battered mother) and child neglect have been associated with a greater increased SUD risk than other types of childhood adversity (Green et al., 2010). These experiences are among several types of household dysfunction (along with parental substance abuse, parental mental illness, parental incarceration) that have been implicated in child exposure to detrimental parenting styles, poor emotional parent-child attachment, parental loss or separation, inadequate parental monitoring of child behavior, poor child self-esteem, and a lasting chaotic home environment (Johnson & Leff, 1999). These factors can expose children to more opportunities to use substances and also undermine a child's ability to develop supportive personal relationships and other resources that enable individuals to exert positive adaptation in response to threats (resilience) despite experiences of significant adversity (Luthar, 1991; Luthar et al., 2000; Luthar et al., 2006).

Finally, household dysfunction generally represents factors that may remain in place as girls mature into adulthood. Thus household dysfunction can constitute a continuous source of stress over a woman's life course. It is for these reasons that household dysfunction may be particularly important in the lives of women, yet with a few exceptions (e.g., Myers et al., 2014), the effect of this factor on women's SUD risk has been relatively little examined.

Effects of childhood adversity may be different by adult socioeconomic status

A critical limitation of general population studies of childhood adversity and SUD is that most have been epidemiological in nature and thus have focused on establishing childhood adversity prevalence rates and whether a CA-SUD relationship exists (Keyes et al., 2011). The social circumstances that may modify the CA-SUD relationship have been little examined among women with SUD and therefore are poorly understood. In particular, involvement with the justice system may be a fundamental factor that underlies the relation between other social factors and health.

Effects of childhood adversity may be different for SUD persistence

Much of the CA-SUD research has examined the effect of childhood adversity on *onset* of SUD. With some exceptions (e.g., McLaughlin et al., 2010), studies have not considered childhood adversity in relation to whether the SUD continues over time (SUD persistence). This gap in knowledge is especially critical because emerging evidence indicates that the type of childhood adversity that is associated with the greatest increase in risk for SUD persistence (i.e., sexual abuse) (McLaughlin et al., 2010) is different from the type of childhood adversity that is associated with the greatest increase in the risk for SUD onset (i.e., parental substance use) (Green et al., 2010). This last finding suggests that certain types of childhood adversity may be long-lasting and predictive of sustained SUD. If valid, a central implication of this idea is that the strategies for curtailing SUD persistence are likely to be different from the strategies for preventing SUD occurrence.

Childhood adversity is challenging to measure

Individuals who experience one type of childhood adversity are often exposed to another type of childhood adversity (Felitti et al., 1998; Dong et al., 2003; Dube et al., 2001). For example, women's experiences of childhood sexual abuse or childhood parental alcohol abuse are each strongly correlated with experiencing multiple forms of childhood adversity (Dong et al., 2003; Dube et al., 2001). Because childhood adversity tends to cluster or co-occur and experiences of multiple types of childhood adversity increases risk relative to experiences of one type of childhood adversity, it is critical that studies do not focus on a single childhood adversity without considering the occurrence of different types of childhood adversity; doing otherwise would artificially inflate estimates of individual childhood adversity effects (Green et al., 2010). To account for this complexity, most studies have followed the influential work of Turner and colleagues on the effects of cumulative adversity (Lloyd & Taylor, 2006; Lloyd & Turner, 2008; Turner et al., 1995; Turner & Lloyd, 2003) and created a summative measure of childhood adversity by summing the different types of childhood adversity that have been experienced.

Childhood adversity is most commonly operationalized as the total number of different types of adversities experienced (i.e., as a count variable) (e.g., Dube et al., 2003; Mersky et al., 2013; Patterson et al., 2014; Schilling et al., 2007). When treated as a summative count variable, studies generally report that each increase in the number of childhood adversity types increases the risk for substance use and dependence (Dube et al., 2003; Mersky et al., 2013; Patterson et al., 2014), for example by as much as 30-40% (Dube et al., 2003). When the count variable is categorized to better examine whether outcomes are worsened by increasing gradations in the number of different types of childhood adversity (e.g., Dube et al., 2001, 2003; Mersky et al., 2013; Myers et al., 2014; McLaughlin et al., 2010), each incremental increase in the number of different childhood adversity types is associated with an increase the risk of substance use or SUD. Findings have led investigators to conclude that the number of childhood adversities has a strong, positive, and dose-response effect on risk for SUD (Dube et al., 2003; Mersky et al., 2013; Patterson et al., 2014; Turner & Lloyd, 2008).

One limitation of this literature, however, is that it has neglected to consider threshold effects and whether the impact of childhood adversity depends on the type of substance that is used. For example, it may be that women who use alcohol face a higher risk for developing a SUD than women who use drugs because alcohol is generally more readily available and subject to less social stigma than drugs. Furthermore, due to threshold effects, these differences may be more apparent in the context of having experienced three or more types of childhood adversity, as opposed to having experienced one such event.

Also, an important potential limitation of a summative variable is that it implicitly assumes that each childhood adversity has the same effect on outcomes and that the joint effects are additive (Green et al., 2010). These assumptions may be erroneous. Some types of childhood adversity such as sexual abuse and parental substance abuse increase the risk for SUD onset or persistence more than others (Green et al., 2010; McLaughlin et al., 2010) and the impact of each type of childhood adversity may vary by age (Green et al., 2010; Kessler et al., 1997; McLaughlin et al., 2010; Schilling et al., 2008; Turner & Lloyd, 2003). Studies that have disaggregated the CA-SUD relationship by age of respondent at the time of interview report that many but not all types of adversities are salient at each age, however age-related declines in the CA-SUD relationship occur for the effects of certain types of childhood adversity, specifically parental death, physical abuse, and sexual abuse (Green et al., 2010). This evidence suggests that the meaning that childhood adversity has in the lives of individuals may decline as an individual ages.

Furthermore, recent studies have concluded that the joint associations of multiple childhood adversities can have nonadditive effects (Green et al., 2010; Schilling et al., 2008). For example, Schilling and colleagues concluded that low-impact childhood adversities (for example, parents separated or divorced) did not present a cumulative hazard to outcomes (Schilling et al., 2008). Therefore, low-impact events functioned as suppressors in the total sum score and decreased the influence that high impact and medium impact events (such as sex abuse, physical abuse, serious neglect, parent death, parent has problem with alcohol or drugs) had on outcomes (Schilling et al., 2008). Thus, research on the impact of childhood adversity is advised to consider the interrelatedness, type, and severity of childhood adversity, in addition to their cumulative effect (Green et al., 2010; Schilling et al., 2008).

A full list of references is available in the source document, Evans (2015).