J-RIG J-COIN FINAL REPORT (includes research activities of the supplemental funding)

EVALUATION OF A NOVEL CONTINUITY OF CARE PROGRAM FOR WOMEN IN-DETENTION WITH SUBSTANCE ABUSE DISORDER

Valerie Gray Hardcastle, PI
Stacie Furst-Holloway, Co-Investigator
Clay Driscoll, Research Associate
Jovaria Baloch, Research Associate
Carlos Munoz Serna, Graduate Research Assistant
Katherine Baltrusch, Graduate Research Assistant
Eleanor Bicknell, Graduate Research Assistant
Emma Hargis, Undergraduate Research Assistant

1 September 2024

I. BACKGROUND

The number of incarcerated women in the United States grew by about 525% between 1980 and 2021 (Monazzam & Budd, 2023), twice the rate of growth for men. Increased rates of incarceration for women are driven by several factors, including increased numbers of drug-related charges (Herring, 2020). At the state level, for instance, the proportion of imprisoned women convicted of a drug offense increased from 12% in 1986 to 25% in 2020 (Monazzam & Budd, 2023). Further, 72% of incarcerated women (compared to 60% of men) met diagnostic criteria for substance use disorder (SUD) and 60% of women (versus 54% of men) reported active drug use the month before arrest (Bronson, Stroop, Zimmer, & Berzofsky, 2017).

Women with SUD often attain and sustain sobriety during periods of incarceration but, in the absence of effective treatment, face substantial risk for relapse and overdose during community re-entry (Staton et al., 2023). Release from detention is a critical time for offenders with substance use disorder (SUD) regardless of gender, with high risks for recidivism and relapse. Re-incarceration can be rapid, often within a few months of release (Jones, Hua, Donnelly, McHutchinson, & Heggie, 2006). And former detainees die from an overdose during reentry at much greater rates than those without justice-involvement (Jones et al., 2006; Bewley-Taylor, Trace, & Stevens, 2005; Weatherburn, Froyland, Moffat, & Corben, 2009; Weatherburn, 2010). Repeated detention also imposes a significant financial burden on the criminal justice system, which is not offset by benefits to the community in terms of reduced offending (Brinkley-Rubenstein et al., 2019; Burdon, Dang, Prendergast, Messina, & Farabee, 2007; Goyette, Charbonneau, Plourde, & Brochu, 2013). Data suggest that reducing recidivism -- instead of reducing the number of first-time offenders -- is the paramount factor in reducing correctional spending and overall detainee numbers (Gordon, Kinlock, Schwaartz, & O'Grady, 2008; Hedrich et al., 2011; Kinlock, Gordon, Schwartz, & O'Grady, 2008.)

Detention-based treatment can enhance offenders' chances at a successful transition (DeBeck, Kerr, Li, Milloy, Montaner, & Wood, 2009; Dolan, Wodak, Hall, Gaughwin, & Rae, 1996; Dolan, Khoei, Brentari, & Stevens, 2007). However, these effects appear to be temporary, with recidivism rates for detainees who received SUD treatment returning to baseline within six months of release. Importantly, offenders who attend community aftercare following detention-based treatment have fewer relapses and fare better economically than those who do not (Binswanger, Stern, Deyo, Heagerty, Cheadle, et al., 2007). Thus, treatment in the community is necessary for maintaining any progress made in detention. However, recidivism is reduced only if participants continue treatment upon reentry, and this period is often truncated.

The post-release period is a highly stressful time, marked by difficulties in finding appropriate housing and legal income. This time may be especially challenging for women with family-related responsibilities. For instance, 58% of imprisoned women in state prisons have children under the age of 18 (Maruschak, Bronson, & Alper, 2021). These women may prioritize reconnecting with family members or regaining custody of and managing child care in the post-release period. SUD treatment becomes one of many competing priorities for these released detainees. Reentry support is needed to address treatment needs and the myriad additional challenges confronting detainees (McMillan, Lapham, & Lackey, 2008).

While detention-based treatment programs are increasingly available across the nation, continuity of care from detention to probation and parole is not. The lack of continuity and failure to provide wrap-around social services at time of reentry explains the relative failure of parolees to maintain recovery post-release. The impact of the failure to provide continuity of care is exacerbated further by the relatively short sentences received by detainees for low-level drug-related offenses who are serving time in local jails and detention centers, thereby truncating SUD treatment in detention. The lack of robust continuity of care is a *critical barrier* to improving the SUD treatment outcomes and reducing recidivism for released detainees.

To investigate how providing a robust continuity of care program and wrap around services for detainees with SUD affects recovery, we examined a Chemical Dependency Program (CDP) at a short-term women's detention facility located in Campbell County Kentucky. A unique aspect of the CDP is that the same therapist providing treatment in detention continues providing treatment to detainees as they reenter society as parolees. Our study aimed to assess the impact of the CDP in promoting detainee recovery and reducing re-arrest and recidivism. Meeting these aims will support developing programmatic guidelines for how the Commonwealth of Kentucky and other states could maximize the impact of investments in SUD treatment for justice-involved citizens.

II. PROGRAM DESCRIPTION

Kentucky ranks sixth in the nation for the highest rate of female incarceration (The Sentencing Project, 2022), primarily attributed to the opioid epidemic (Cheves, 2017). For both women and men, drug-related charges continue to be the most common offenses; however, a greater percentage of women (21%) than men (18%) in Kentucky are arrested for drug-related activities (Arterburn, 2022). Most entering SUD treatment in the state are criminal justice referrals. However, at this time Kentucky can only provide corrections-based treatment for 6,300 individuals across all jails, prisons, halfway houses, recovery centers, community mental health centers, and intensive outpatients centers – all of which operate at continuous capacity (Tillson, Winston, & Staton, 2022). The need is estimated to be over twenty times that (person calculations).

In response to the ever-increasing number of accidental poisoning fatalities from fentanyl and other opioids, especially during the COVID-19 pandemic, the Commonwealth of Kentucky committed to addressing the SUD epidemic currently raging across the state. Efforts focused particularly on the justice-involved through proposed adjustments in Medicaid to allow for SUD treatment reimbursement while incarcerated, among other measures. This evaluation will allow for evidence-based recommendations for the most effective structure for the new Kentucky Reentry SUD 1115 Waiver Demonstration project. Importantly, results from the project will be able to be immediately applied to Kentucky's state-wide Medicaid 1115 waiver policies and its approach to implementing of the demonstration project across the Commonwealth.

The Chemical Dependency Program (CDP) is an evidence-based program for women diagnosed with a SUD housed within the Campbell County Detention Center (CCDC) in Northern Kentucky. The CDP is a 2.5-year program that combines a six-month residential component and a minimum two-year outpatient/community supervision term. All detainees are women and felons; some are court-ordered to participate in SUD treatment while others opt in to treatment. The CDP has been in place since 2017 and to date has served 112 women. The CCDC partners with numerous

community organizations, including the local health department, a women's crisis center, sober living facility, and behavioral health providers, to assist with addressing issues and barriers the participants may face while in treatment and after-care.

Upon release from the CCDC, program participants receive full-service wrap-around services, including continuity of addiction treatment, for three years. Outpatient services also include monthly meetings that CDP participants must attend as part of their probation. These meetings are conducted in two sections, one in the morning and another in the evening. Employed participants are required to attend at least one of the meetings, while unemployed participants must attend both. These meetings serve two major purposes. The first is to ensure that participants are actively participating in the outpatient program. These meetings are always conducted in-person, allowing program staff to gauge the status of each of the participants. The second purpose is to affirm the concepts participants learned during in-detention treatment. The classroom-like meetings often include guest speakers that provide information and opportunities that can help the participants re-with entry, such as with finding employment or securing housing. In one instance, the meeting was used as a yearly celebration of everyone's accomplishments.

The CDP is primarily facilitated by a Ph.D.-holding program director. The program director's role stretches throughout the entire program, including the creation of the program's curriculum and connections to services. At the start of our data collection, the program director also worked directly in the dormitory, administering the program's in-patient curriculum. He was supported by various assistants. During the beginning phases of data collection, the program staff consisted only of the program director and one assistant who did administrative work and completed tasks outside of the dormitory (e.g., keeping track of court dates, intake and outtake paperwork, and assisting with the coordination of the current study's data collection).

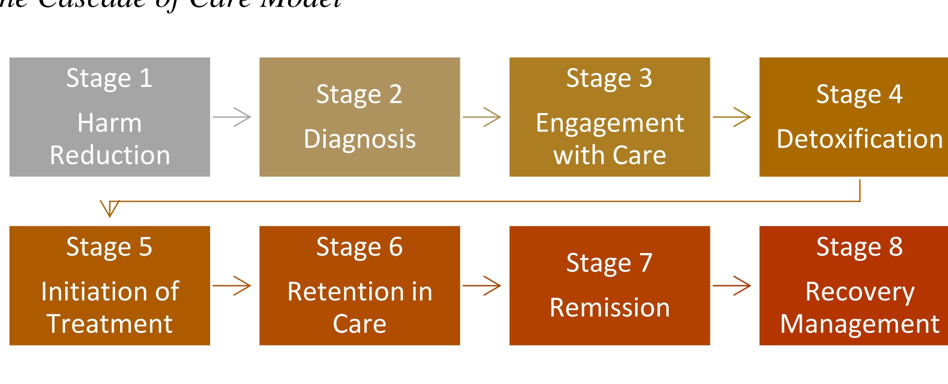
The overall composition of the program from a staff perceptive evolved from the beginning of data collection and currently consists of three people. The same program director runs and coordinates all aspects of the program; however, responsibility for the day-to-day activities within the dormitory shifted to the assistant. A third staff member was added to better support the program. Her duties include tasks inside and outside of the dormitory, including providing more of a peer support role and assisting participants with connections to resources outside of the detention center.

Day-to-day activities during the in-detention portion of the program include a variety of curricula and programs. The curriculum largely includes the use of structured workbooks that invite women to write down their thoughts and view them from different points of view. These workbooks primarily are off-the-shelf materials typically used in male incarcerated substance abuse programs. The program's in-detention portion also includes regular opportunities for outside speakers to come into the detention center. These speakers cover a variety of subjects focused on re-entry or women's mental, physical, and social well-being. Lastly, the classes provide opportunities for the women to relax while still learning about their thinking processes. Activities often involved watching movies centered around overcoming substance use, mental health difficulties, or similar situations.

3. LOGIC MODEL AND EVALUATION QUESTIONS

Research demonstrates that the most successful treatment approaches will be those that respond to the special needs of substance-misusing detainees and parolees, while also meshing with justice system practices and expectations. A useful framework for understanding and measuring the efficacy of provider continuity from detention through probation and parole is via a Cascade of Care model, originally developed to measure HIV healthcare engagement and therapeutic follow-through (Kay, Batey, & Mugavero, 2016; MacCarthy, Hoffmann, Ferguso, Nunn, Irvin, ... & Dourado, 2015). The progressive stages of care we have identified for someone with SUD using the lines of the Cascade of Care model are shown in Figure 1.

Figure 1: The Cascade of Care Model



Important to this model is the notion that each component of the cascade must be activated to affect recovery. Identifying the potential challenges that detainees face at each stage of the cascade can pinpoint where efforts should be focused to maximize the impact of the care given. This framework suggests that improving any single component in the care continuum will have only minimal impact on SUD remission or recovery. Navigating the entire continuum of care depends on overcoming multiple challenges, each of which can impact overall progression. Only by improving the transitions between components will the proportion of parolees with SUD in recovery be significantly impacted.

As shown in the logic model (see Figure 2 on following page), the CDP is designed to impact transitions from Stages 2 through 6 by addressing participants' environmental and psychosocial needs (e.g., access to care, knowledge and tools to treat addiction), linking participants to regional and community resources (i.e., wrap around services), and providing needed, on-going therapeutic support. Collectively, these components should impact progression to Stages 7 and 8 in the cascade model with the long-term goal of reducing risk for relapse and recidivism and increasing participants' self-sufficiency.

The purpose of this evaluation was to assess the underlying components of this logic model (see bolded items in Figure 2). Specifically, we focus on the experiences of women at three phases of the CDP program: at program entry (Time 0; T0), during in-detention treatment (Time 1; T1), and post-release (Time 2; T2-T4). We also explored more general perceptions of the program's

strengths and opportunity areas as a means of providing recommendations for continuous program improvement.

Figure 2: CDP Logic Model

I. Resources	II. Activities	III. Outputs	IV. Short-Term Outcomes	V. Intermediate Outcomes	VI. Long-Term Outcomes
A. Program funding **B. Staff** C. Facilities D. Educational Materials	**A. Develop curriculum** **B. Select in-detention readings, videos, workbooks** C. Recruit guest speakers (in-detention, post-release) D. One-on-one counseling in detention E. Post-release meetings F. Provision of wrap-around services	A. # of program participants B. # of in-detention meetings attended C. # of post-release meetings attended D. # of one-on-one counseling sessions E. # of wrap-around services utilized	**A. Motivation to engage in program** **B. Satisfaction with program** **C. Importance of treatment** **D. Motivation to stay clean** **E. Development of positive self-image** **F. Knowledge of addiction and its causes** **G. Intentions to stay in treatment and use wrap-around services**	**A. Retention in program during and after detention** **B. Utilization of wrap-around services** **C. Increased confidence / self-efficacy** **D. Sever ties with harmful relationships / build healthy relationships** **E. Obtain driver's license** **F. Secure job or return to school**	A. Reduced relapse rates **B. Reduced recidivism rates** C. Participant self-sufficiency

4. EVALUATION METHODS

Data Collection. We gathered program data via multiple sources and methods summarized in Table 1. Our data included agency records from the detention center and structured and semi-structured interviews with three program staff and 41 participants at various stages of the program. Agency records included participation and recidivism records as well as essays written by program participants.

Inclusion criteria for structured and semi-structured interviews included participation in the CDP (and thus a diagnosis of SUD), being 18 years old or older, and being able to read and write English at approximately a fourth-grade level or better. Participants were recruited at the detention center during intake for the CDP treatment program by a research associate trained in qualitative interviewing.

Table 1: Summary of Data Collection Methods

Type	**Description**
1. Agency Records	Essays written by program participants describing "How I Feel" at the beginning of the CDP program (N=42) and upon completion/release (N=30); List of instructional materials (e.g, movies, workbooks, books); Recidivism records from CCDC and neighboring counties
2. Structured Interviews	*Structured interviews* included a set of JCOIN Common Measure instruments, suitably altered for participants in detention. Questions included Demographics D1-D3, O2, D4d (with follow up questions regarding custody), D5-D11; Quality of Life P3-P8 (with suitable modifications), P9;

	Substance Use S1-S5; Utilization of Treatment Services U1-U7, U14-U15; Treatment Preferences (with suitable modifications for SUD) M1-M3; Justice Involvement J1 [J2-J5 only at T0]. We developed metrics for measuring frequency of use of social services as well. The full instrument is included as Appendix A.
3. Semi-Structured Interviews (Participants)	Interviews with program participants at T0 (n=14), T1 (n=23), T2 (n=8), T3 (n=1) and T4 (n=6) also included a *semi-structured component*. Questions included attitudes toward treatment, post-release substance use plans, and perceptions of substance use risk. With the exception of T0, interviews also included questions about experiences in the CDP and its perceived benefits and challenges. Interviews were recorded digitally and then transcribed.
4. Semi-Structured Interviews (Staff)	Three semi-structured interviews with CDP staff to understand program components, perceptions of strengths/opportunity areas, constraints, and the changes over time.

Recruitment and Obtaining Consent. Study participants were first approached by a staff member of the detention center to describe the study and ask for interest in participating. This was usually conducted before or after a scheduled class. Originally, interviews were supposed to take place during intake, which is the first 1-3 days of detention. However, this was not always possible due to several extraneous factors. For instance, on days when classes had an outside speaker, the evaluation team was not allowed to be present, which heavily limited the potential days and times available to conduct interviews. These conflicts were exacerbated by multiple COVID-19 outbreaks, during which all visitors were temporarily blocked from entering the detention center. Because of these constraints, a participant was considered "intake" if they had been in the program less than a few weeks rather than a few days.

As an incentive for participating in the interviews, we provided women in detention (T0 and T1) with a $20 phone credit ($16.39 after taxes and detention center fees). Those on probation or parole (T2 and beyond) received a $20 gift card to Walmart.

Participant Privacy and Confidentiality. While participation in the study was not anonymous, we took steps to ensure confidentiality of personal information, interview responses, and program-related outcomes. Interested women were interviewed in a small, private room detached from the rest of the dormitory. Only the participating women and the study interviewer were in the room during the interview.

Interviews of the women on parole (T2-T4) were similar to those who were detained. A project team member attended the monthly meetings, providing information about the project and the incentive to the women before their regularly scheduled classes. Only one woman was interviewed during the monthly meeting, in a private conference room away from the other women and program staff. Other women provided their contact information to the project member who then attempted to contact the potential participant at a later date. Of the 20 women who provided their contact information, 11 were successfully contacted. Women were offered an in-person, Zoom, or standard phone call as an option for their interview. All chose a standard phone call.

Sample. Responses to the structured interviews provided important insights on women's judicial, medical, social, and employment history, their family background, and their support needs (see Table 2).

Table 2: CDP Participant Profile

Background	Details
Judicial	• Days in detention (T0 and T1): M = 151 days (SD = 244). • # of prior convictions ranged from 0 to 42 (M = 8; SD = 10). • The most frequent charges were drug-related (M = 3.6, SD = 3.57), disorderly conduct (M = 1.6, SD =24.40), and contempt of court (M = 1.3, SD = 2.75). • There were no prior convictions for arson, rape, murder, or prostitution.
Medical	• 35% reported chronic medical conditions; 23% use medications regularly. • 93% have experienced depression and 100% have experienced anxiety at some point in their lives. • 30% have a history of suicidality. • 60% have received inpatient services for psychological or emotional difficulties at least once. Among those, 68% had been hospitalized or in an inpatient setting more than once. • Most women experienced physical (83%) or sexual (68%) abuse. • 75% reported memory difficulties, a common side-effect of substance use.
Substance Use	• All participants reported using alcohol and most have used marijuana (95%), cocaine (85%), heroin (80%), amphetamines (80%), opiates (62%), and hallucinogens (52%). • Fewer reported using meth (37%), barbiturates (47%), sedatives (22%), and inhalants (23%). • 30% have been treated at least once for alcohol abuse, while 90% have been treated at least once for drug abuse (M= 5.00, SD 5.12). • Only two reported using any substances in the last 30 days (T0 = alcohol; T1 = heroin).
Employment	• Almost half of the participants have worked full-time (33%) or part-time and on a regular schedule (15%) in the last three years. • 23% reported being unemployment, 8% reported working part-time but irregular hours, and 5% were retired or on disability. • 15% reported being in "a controlled environment," so either in detention or in-patient treatment. • 60% have a valid driver's license.
Domestic	• Very few women have a family member with a history of alcohol (n=3) or drug (n=2) abuse. • When asked with whom they spent the most time, 49% selected family, 21% selected friends, and 31% said they spent most of their time alone. • Half of those (n=4) interviewed at T2 (post-release) indicated they spent most of their time alone. Only 20% of those interviewed at T0 and 28% at T1 spent their time alone. Instead, they were more likely to spend time with family (60% and 48%, respectively) than those at T2 (38%).

In terms of demographic characteristics, interview participants were, on average, about 35 years old (SD = 9.1 years). Those interviewed at T0 (M = 39.6 years) were significantly older than those at T2 (M = 29.4 years). Participants had from 0 to 7 dependents (M= 0.90, SD = 1.5). The majority (63%) had never been married, while three (7%) were currently married, four (10%) were divorced or separated, and two (5%) were widowed. Most participants were White (87.8%), while 5% identified as bi/multiracial, and about 2% (each) identified as Black, Hispanic/Latina, and Native or Alaskan Aboriginal. Almost all of the participants (90%) earned a high school degree or obtained their GED, 35% completed some college, and 20% obtained an associate or bachelor's degree. Comparable demographic information for those who wrote the "How I Feel" essays was not available.

Measures. To assess the general levels of health of participants, we used items from the Addiction Severity Index (ASI) Lite (McLellan, Cacciola, & Zanis, 1997). The ASI Lite is used in clinical settings to detect and measure the severity of potential treatment problems in seven areas commonly affected by alcohol and drug dependence: Medical, Employment/Support Status, Alcohol, Drug, Legal, Family/Social, and Psychological. The ASI Lite questions formed the basis of the structured interview component for participants at T0, T1, and T2.

To better understand the experiences of women in the CDP, we supplemented the structured interview with the "How I Feel" essays and a semi-structured interview protocol developed a priori based on the Cascade of Care model as well as the CDP's program theory. Questions varied across the three time periods represented in our sample (T0, T1, T2) as shown in Appendix A.

For the summative questions, we obtained recidivism numbers from the detention center and from public records available from neighboring counties to determine the rate at which program participants returned to jail and compared that to available statistics on non-participants.

Data Analysis. Given the quantitative and qualitative nature of the data available, we use a variety of analytic procedures. For the quantitative analyses, we used Analysis of Variance, ANOVA, to address several evaluation questions using responses to the structured interview questions:

1. To determine whether perceptions of the importance of drug treatment varied as a function of prior treatment and conviction history.
2. To compare whether the importance of various types of treatment varied as a function of participants' stage in the CDP (i.e., T0, T1, and T2). Treatment types included drugs, alcohol, legal help, employment, psychological needs, social support, and medical.
3. To determine whether participants reported more social problems at T0 and T1 than T2. Specific problems assessed included whether they had experienced trouble with a parent, siblings, children, friends, coworkers, partner, neighbors, or others in the last 30 days.

For example, for #1, we created three categories representing drug treatment history, focusing on those with no prior history and those above and below the mean (i.e., 1 = no prior treatment history; 2 = 1-5 prior treatments; 3 = more than five prior treatments) and then compared average responses to the question, "How important to you NOW is treatment for drug problems?" Responses to this question were recorded on a scale of 0 to 4, where 0 = not at all important and 4 = extremely

important. We repeated this process for prior conviction history, with 1 = no priors, 2 = 1-8 priors, and 3 = more than eight prior convictions.

The quantitative data complemented a rich set of qualitative data that we gleaned from both the semi-structured interview and the "How I Feel" essays provided by the detention center. We used these data primarily to assess the formative evaluation questions, including *how* program participation impacted women's confidence in their sobriety, attitudes toward treatment, and behavioral intentions after release. To analyze the essays, we used thematic analysis (Braun & Clarke, 2006) to identify critical themes pre- and post-treatment. We then explored similarities and differences across periods. Detailed procedures are provided in Appendix B.

5. KEY FINDINGS

Summative Assessment. The long-term goal of the CDP is to reduce rates of relapse and recidivism and to move participants toward self-sufficiency. These outcomes are shown in the sixth (green-shaded) column of the logic model. Given the limited duration of this evaluation, we were only able to obtain data relating to recidivism. We did so by collecting data from the detention center and public records across several counties surrounding CPD. Unfortunately, we were only able to access Kentucky records by the end of the granting period, and given that Cincinnati is less than 2 miles from CPD, we are unable to assess definitively recidivism rates for our research participants. We are continuing to request access to detention data for southern Ohio, and we hope to be able to answer this research question in the near future.

Formative Assessment: While reductions in relapse and recidivism are the optimal goals, SAMHSA criteria suggest that evidence of programmatic success also includes more intermediate-term goals, such as continued participation in treatment/recovery support, continued improvement in psychological and social condition, and continued improvement in the social service needs as participants moved toward independence. Additional intermediate outcomes specific to the CDP include increased confidence in stay clean, developing healthy relationships, and moving toward self-sufficiency (e.g., by securing a job or enrolling in school).

Progress toward these intermediate-term objectives likely reflects the attainment of short-term objectives, including satisfaction with and motivation to stay in the program and beliefs regarding the importance of treatment. For instance, participants who believe that treatment relating to their substance use is important should be more likely to remain in treatment over time. Collectively, the short- and intermediate-term objectives associated with the CDP are illustrated in the logic model (blue columns 4 and 5). Tracking progress on these outcomes aligns with the Cascade of Care model. Our analysis of these data reveals a number of key findings, which we summarize below.

A. Attitudes Toward Treatment Evolve over Time

One of the key formative outcomes we assessed was whether the perceived importance of various types of treatment would vary as a function of participants' stage in the CDP. We found some evidence to this effect. As shown in Table 3, we found a statistically significant main effect for the

time in treatment on the perceived importance of drug [F(2,37) = 3.04, p=.06] and alcohol [F(2,37) = 3.15, p=.054] treatment, and employment [F(2,37)=9.88, p=.000] and legal [F(2,37)= 4.42, p=.019] support. In the case of drug and alcohol treatment, importance declined significantly from T0 to T1. The importance of employment support dropped significantly across each time period, while for legal support the differences were seen between T0 and T2.

Table 3: Importance of Treatment as a Function of Stage in CDP

	T0		T1		T2		*F*	*p*
	M	SD	M	SD	M	SD		
Drug	3.40	1.35	3.00	1.60	1.63	1.85	3.04	.060
Alcohol	1.90	2.02	0.41	1.10	1.00	1.85	3.15	.054
Employment	3.30	0.95	1.91	1.77	0.25	0.71	9.88	.000
Legal	3.60	0.70	2.73	1.78	1.38	1.77	4.42	.019
Medical	2.00	1.56	2.32	1.86	1.25	1.83	1.05	.361
Social	1.90	1.73	1.41	1.65	1.00	1.60	0.67	.520
Fam Counsel	2.10	1.85	1.91	1.69	1.75	1.58	1.00	.909
Psychological	3.56	1.33	2.85	1.46	3.88	0.35	2.19	.128

Although not shown in the table, across all types of treatment and support, the only one deemed very or extremely important by those at T2 was treatment for psychological needs (M=3.87, SD=0.35). **All but one of the women at T2 deemed psychological treatment as critically important.** This finding is consistent with the perspectives that participants shared in their essays and interviews and with the program's goals as described by program staff. As the women explained in their interviews (see comments below), they learn in the CDP about the connection between the brain and addiction so that they can better understand the link between their psychological health and their behavioral inclinations and choices.

- *"The way (the physician-therapist) approaches it is brain focused, more than just addiction,"*
- *"(The physician-therapist) doesn't just talk about addiction; he talks about the scientific parts, why we do what we do."*
- *"We know addiction is a problem, but (the physician-therapist) focuses on why."*

Participants also frequently mentioned useful resources and approaches that helped them understand this connection, including videos, readings, and Dialectical Behavior Therapy (DBT). They specifically referenced how workbooks and videos used in treatment helped them better understand the functioning of the brain and its role in addiction. This connection appeared to help the women understand the biological basis of their behavioral choices and to place focus on this aspect of treatment rather than blaming themselves and any "weaknesses" in will. Sample comments are shown below:

- "*I'm not really a book person, but they definitely helped me learn about myself, my grief, and my inner problems."*

- *"Brain videos!...Some people don't like them, but I feel like they're very useful and helpful."*
- *"[The workbooks] let me sit there and write it all out... by the end, you're learning about how your life brings you to where you're at."*

These comments help explain why women considered on-going support for psychological health to be so important; that is, they recognize the importance of psychological health for their sobriety and independence.

- *"The greatest tool that I am taking with me is practicing emotional intelligence and strengthening my sense of power with my thinking patterns."*
- *"This program has....taught me how to control my anger. It's taught me how to think about the things I'm feeling. It's taught me how to make relationships and it's taught me how to trust."*
- *"I feel like I have learned more in this six months then [sic] I ever thought I could or would, I've learned to trust; I know I can work on problems."*

B. Confidence in Discontinuing Substance Use Increases

While recidivism data provides an objective assessment of the likelihood of returning to detention, it does not tell us about women's intentions to maintain treatment and move toward independence, which should both reduce the risk of recidivism. To this end, we asked women in the CDP about their intentions upon release from detention and what they would do in their first 30 days post-release.

While a positive indicator of program impact, it is noteworthy that participants did not perceive that on-going treatment for alcohol or drug use was important at T2. This may reflect some degree of confidence that women were feeling after their stay in-detention and recent sobriety. ***Specifically, at T0, when asked if they would continue to use after they were released from detention, five of 14 respondents (36%) expressed uncertainty***. Said one, "Probably not exactly when I'm released, but there might be a day. I can only say for today. Hopefully not." "If someone brought it in here, I don't know if I would [use] or not." Added another, "I hope not. I don't want to, I have no desire to. But things change when you get out there. I'm not a fortune teller, but I hope not."

Consistent with these comments, most women interviewed at T0 focused on transitional care, mentioning plans to go straight to AA, connect with a mentor, or go to a Sober Living facility or some other transitional facility/ program. As one woman shared, "No matter where I go, I'll need some type of resources. I'm very wishy-washy on support. Some days I'm good, some days I'm not." Another mentioned connecting with a peer mentor at a local support program. "He asked me many times to go to meetings, but I never did and maybe that's why I'm here." As these quotes demonstrate, women at T0 were cognizant of the need to stay in treatment to support their sobriety outside of detention.

In contrast, at T2 only one of the 11 women (9%) reported that she would not continue using their substance of choice. The vast majority expressed confidence that they would not use again.

This confidence seemed to stem from recognizing all they lost as a result of their substance use and that they had changed as a result of their detention and participation in the CDP. Representative comments included:

- *"I don't want to go back to that kind of life as far as spending all my money on drugs. It caused a lot of issues with my marriage. when I went to jail in June of last year is when we started talking again that We're trying to work things out. I ruined my life. "*
- *"It cost me four felonies. It's not worth it. And, you know, drugs don't last forever. I don't want to lose my teeth. I don't want to look like the girls I was in jail with, you know, 24 and I got a whole life ahead of me. I don't want to fuck it up. I got no kids. I don't have nothing to hold me down. Nothing worth it."*
- *"I literally lost everything that I owned. I lost the trust of my family. I was homeless. All due to this drug that I did for a very short period of time. I like my life how it is."*
- *"I have a chance now. I have the resources now to stay on the right track; I know what I can want and have to do; I'm ready to get out of jail and actually live my life, clear-minded sober, and if anything gets tough or I feel cornered, I'll call the same people who has went above and beyond for me; I feel confident in making decisions that will affect my peace and sanity; I feel very confident in myself to stay & remain sober. And I feel very confident in way I feel in life and making decisions."*
- *"I know what I have to do to put forth the effort and never give up on myself. I can't wait to reach for the stars and reach the goals I've always wanted for myself and my life; I'm know I'm ready and can't wait to see what the future holds for me."*
- *"I'm confident that I honestly got it this time."*

Attitudes toward treatment did not vary as a function of prior treatment and justice-related history. However, one exception was that women who were heavy users and had more prior convictions expressed more fears about being imprisoned or institutionalized if they continued to use. That said, this subgroup of participants viewed the CDP uniformly positively and distinguished it from other programs:

- *"I've been through a lot of programs. I don't want to sound cocky…but I actually want to change now."*
- *"An actual psychologist teaching class is awesome!"*
- *"This program teaches you how to hold yourself accountable and I like that."*

C. Social and Psychological Problems Diminished Over Time

Another expectation (objective) of the CDP is that participants should experience more positive social and psychological outcomes and rely less on social support resources at T2 (and beyond) than women at T0 and T1. This outcome was not supported by the quantitative data; however, the lack of statistically significant results likely reflects range restriction as very few women reported experiencing social problems in the 30 days prior to their interviews. ***That said, the number of days participants report experiencing family or social conflict is higher at T0 (M = 6.90, SD = 12.36) than T1 (M = 2.27, SD = 5.07) and T2 (M = 0.50, SD = 1.07)*** and it is notable that of the five of eight women interviewed at T2 (63%) reported no social problems within the last 30 days.

Again, these data are consistent with several themes that emerged through the qualitative data. For instance, in semi-structured interviews, women discussed how their time in detention and experiences in the CDP led them to sever ties with people with whom they used or whose lifestyles put them at risk for substance abuse and physical or psychological harm. When asked if they planned to maintain those relationships, women at T2 uniformly responded that they would not. Said one, "most definitely not." Added another, "Some people might reach out and ask. 'Hey, can I ask you for money or something like that?' Totally no, I can't do it because I don't want to have a hand in the destruction of yourself, whatever you do is your business, but I don't want to be a part of it."

Instead, after release, many of the women reconnected with family and focused on building positive new relationships others, including co-workers. Sample comments include:

- *"I'm able to maintain (positive) friendships and relationships. Just like the tools that I felt like I didn't already have, these tools I just wasn't using them."*
- *"At my job I'm learning to hang out with people where we don't have to do anything. We just "are." We can visit parks, go to an AA meeting, and then be who we are. It's kind of strange that I am not hanging around a crowd where alcohol and drugs and sex are involved."*
- *"Yes.....now my mom is one of my best friends again. We used to be really close and then before going into the program she said she was done with me and not to contact any family members. And my sister basically said I was dead to her because I was using and lost my kids and didn't care about life in general. I just wanted to get high. Now she says I'm a great mom and is proud of how far me and my now fiancé have come since overcoming all of this."*

Program participants also highlighted the importance of connection during the program and the "family" and "sisterhood" that evolved amongst the women in the CDP. Consider the following comments from the "How I Feel" essays written by women as they left the program and detention:

- *"I am also beyond grateful for the women I have met along the way... I don't think I could ever thank them enough for all they have done for me."*
- *"I feel blessed and grateful to have been able to do this program with the girls I've been lucky to be with and grow with; I'm thankful for this program + the support I've found during this time in here."*
- *" I'm grateful for the Treatment Team for not giving up on me and pushing me to do better. I'm grateful for the support I have in here and the friends that I've made. I'm grateful for change, patience, and willingness."*
- *"I have built some amazing and very healthy relationships while being in this program. That is why I am so excited about the aftercare portion of this program. It is going to be a place where I can stay connected with all of the amazing women that I have connected with through this process. I have also made some very important therapeutic relationships as well, with (the program staff). I know that I can go to them about anything, and I trust that they have my best interest at heart."*

We anticipate that these positive changes in self-image may drive personal motivation and efficacy by increasing the likelihood of positive behaviors.

E. Plans after Release Move toward Self-Sufficiency

Another subset of women indicated that they would invest time in regaining custody of children and getting their lives back. For instance, one woman said she would focus on getting her life back together because she “backpedaled on some stuff...financing, housing... that would help me where it wouldn’t be as much stress that I wouldn’t want to use.” Another mentioned that she wanted to make sure she was where she needed to be socially and economically. “I want to be a productive member of society, not just alone.” Collectively, these comments reflect a desire and, in many cases, concrete strategies for moving toward independence.

At T2, women were asked what they would do (or did) in the 60 days post-release. Similar to T0, many respondents indicated a focus on regaining custody of children and rebuilding relationships with family. Sample comments are shown below:

- *“I plan on continuing to get the vivitrol shot and to get my GED. And try to get a job. And to get Custody of my oldest daughter.”*
- *“My plan is to get full custody of my daughter in foster care. We are working on the case right now. We are at the end of it where they have to make the decision on whether she gets adopted out or she comes back home. And that's my plan is for her to come back home. I have another child who I share custody with the father. I have him on school breaks and summer, so I want to try and get more stability schedule with him so I can see him more often.”*

In contrast to the women at T0, women at T2 talked less about post-release treatment needs and more frequently about continuing their education or finding employment opportunities that would help them become self-sufficient.

- *“Well, actually, it's a great question. I plan to continue my CET training. It's an employment training for human resources and payroll specialist. I want to finish that and then find a way to make a career of that so that I don’t have to work factory jobs. Learn to work up instead of just maintain the minimum income. That’s really exciting to think about.”*
- *“I got a promotion at work. My focus has really been at work. I am the customer service lead at my department at work, so just learning more about my job and how I can better the account.”*
- *“I am going to save up some money. I'll have two jobs here soon. Hopefully I can save money. I want to.”*

F. Satisfaction with the Program

When asked to describe their experience in the CDP, women most frequently responded (n=25) that their experiences were positive and that they would (enthusiastically) recommend the program to others. Sample comments included:

- *"Makes you feel like you have a family again"*
- *"Left me speechless and still does."*
- *"It's a really damn good program"*
- *"I'm leaving here with much more education and knowledge with how to not mess things up."*

Participants mostly emphasized the important role that program staff played in the success of the program, noting the care, compassion, and advocacy they demonstrated for detainees. They are "not just here for the paycheck, they are about you. They're constantly checking in on you. Someone who cares about your sobriety with you."

All 14 of the women who discussed staff specifically mentioned the lead therapist as a major reason why their experience was positive. A few sample comments are shown below:

- *"Dr. M spends a lot of time caring about the questions and lessons he selects. If you utilize it, this program can make a difference more than outside SAP programs."*
- *"Not only is he an advocate for the program, he's the advocate for us."*
- *"Dr. M the first man to never give up on me, even when I wanted to quit."*

As discussed earlier, women also described the relationships they built through the program as a positive force in their experience and attributed that support to an increased capacity to cope, saying it "definitely makes it easier to cope with spending time incarcerated," and "some of the other girls and Dr. M and [another staff member] helped me dig out of that hole," Notably, one woman mentioned her positive experience was from the success plan that was created for her before she was released from jail.

Several women (n=14) indicated that the CDP was different (in positive ways) from other substance use programs in which they have participated. Some specific differences noted include the use of books and other materials throughout the program. Three participants who had previously been in other programs described how "other programs don't let you take the books home, or even fill them out." Women emphasized how "it's relevant to look back and reflect on what you learned."

G. Opportunities for Program Improvement

While most feedback about the CDP was positive, participants also shared opportunities for improvement of the CDP and treatment. For instance, six of the women we interviewed described their experience in the CDP in negative terms, most often due to challenges with other inmates. They noted, "*They're inmates, I don't want to open up to them"* and "*Some people are in it for the wrong reason."* Others mentioned their experience was negatively impacted by the perceived lack of structure of the program ("I like structure and it lacks structure"). One woman also perceived her experience as negative because she felt that nobody held her accountable, that it was very "I-centered," and that "it was a two-part system of feeding me bullshit." In the space below, we detail these issues further.

Location and Participation. When asked about the worst aspect of the program, inmates frequently (n=7) cited the behavior of participants and their willingness to engage in the program actively. This was exemplified by other inmates not attending sessions as often as expected, inmates who disrupted the normal flow of the sessions, and disruptive behavior that distracted those trying to participate actively. One woman said, "*These motherfuckers walk five miles for dope, but won't walk 3-5 steps [to participate]*." Another added, "*If you're just in there sleeping and bullshitting all day, then why are you even in there?*"

However, some inmates considered mental health problems to be a cause of disruptive behaviors shown. From their perspective, these problems cannot be properly addressed in the program or in jail. One inmate reported that "*the jail often mistakes the dorm for a mental health dorm (...) there have been instances where individuals with mental health issues have come into the dorm and disturbed the class, even though they're not a part of the program*."

The second most common theme was a feeling of "stuckness" and "not being able to leave" since the program happened within a detention facility. One woman emphasized, *"The fact that it's in jail. If it wasn't in jail, it'd be so much better."* Building on this feeling, detainees found it difficult to focus on achieving the program objectives due to poor conditions and the lack of space to complete the activities successfully. Others believed that the staff didn't have all the necessary materials because they were not allowed to bring them in for security reasons.

Structure and Staff Size. Another area for improvement mentioned by several women at T1 (n=7) was the desire for more structure in the program. One said, "Half the time, we don't know what we're doing." Another described the lack of "actual classes" and heavy reliance on "just a lot of discussion." She added, "Good idea, but not all the time." In addition to the lack of structure, some women felt additional staff were needed to support participants and to provide more one-on-one time with the therapist. Several specifically suggested more therapists who could speak to the "brain" aspect of addiction and recovery.

Meeting Time. Four women specifically expressed dissatisfaction with the meeting times. One described the "long hours," noting that they meet from 8:00am – 11:00am, break for lunch, and then return from 1:00pm – 4:00pm. She suggested that "two hours might be better. It's hard to pay attention by the end of the day," but added that "break with lunch is nice, though." Others pointed to the early start time. One woman said, "I'm not a morning person."

6. LIMITATIONS

Participants could only be studied at one point, rather than following them over their participation in the program. This limited the results of this study because we were not able to observe the direct effects of the treatment program, only compare the groups in their stages of the program.

It is possible that study participants could experience re-arrest several times over the observation period. Modelling of time-to-event data with multiple events per individual requires statistical models that account for correlations of event times within individuals. We had initially planned to utilize the Prentice–Williams– Peterson gap-time (PWP-GT) model as it is the most appropriate of the various recurrent event models. The PWP-GT model is an extension to the Cox model in

which dependence of event times within individuals is accounted for by stratifying the analysis by event number. “Gap-time” refers to the manner in which time is re-set to zero every time an event occurs. This would allow modelling time between events, rather than time to each event [13] and would be useful for analysis of re-arrest, because it allows modelling of multiple periods of time from release to re-arrest, while excluding time spent in detention (in which it is not possible to experience a re-arrest event). Release intervals could then be linked to the treatment data.

7. RECOMMENDATIONS

Results from the CDP assessment underscore how complex the problem and potential solutions are --- how much support it takes to make a dent in relapse and recidivism. A piece of this complexity is especially seen in the competing demands during reentry. As was discussed from the review of pertinent literature, basic needs and especially childcare may take precedent over substance use treatment. Additionally, many also need more post-detention wrap around services like AA and Sober Living facilities. At same time, it is important to recognize that just because a support or resource is in place, it doesn’t mean that women access or use that resource or that is efficacious. Many spoke to this idea of it being up to the person to decide they want it.

The role of other women in the program were both good (forming connections, having support) and bad (detracting during sessions). It is also important to recognize that some women have more significant psychiatric issues than others, and that detention may not be the right place for them to get appropriate care. Right now, the CDP is a “one size fits all” program. It’s structure and approach does not change as a function of substance of choice, degree of use/abuse, prior justice involvement, or other parameters. Ultimately, this approach may be problematic, though financial and staff constraints may dictate that the current practice remains.

Scheduling issues were mentioned repeatedly by participants. They did not like the early morning starts or lack of structure. It might be possible to give the detainees more say in scheduling or learning topics to provide some level of control or ownership (or voice) in the process, as well as to help them understand the constraints on building a complex program. Generally speaking, we know a sense of ownership of process and control are good things to foster.

During our evaluation there was turnover among key staff. Continuing with same therapist is good if it is a good relationship, but not good if it is not. Dr. M was mostly adored by the detainees, but others felt more comfortable with the new Director or wanted someone who had experienced substance misuse so that they might be able identify more closely with that person. Regardless of those credentials, the leanness of the program makes it extremely vulnerable to transitions. There is a question of how to maintain program continuity over the long-term. Nevertheless, the staff at the CCDC have been and remain a significant strength. The detainees had lots of positive feelings for Dr. M and his staff. They cited in particular the personal connections with and care from program staff.

Future Research and Implications. Continuing research on this topic should focus on replicating the study's procedure using a longitudinal form of data collection and including a larger, more diverse sample. Using this method will allow researchers to follow along with the same group of offenders in a chemical dependency program from different stages of their participation in said

program. This way, there will be a better understanding of the program's direct effects on the participants. Using a larger, more diverse sample will increase the generalizability of these findings and observe any possible differences depending on the demographics of participants. This could lead to further study that furthers the understanding of treatment programs for different populations.

After offenders' release, there is difficulty in remaining in contact with participants of the study due to moving residencies or incarceration in other correctional facilities. Future research should give attention to finding a successful method of remaining in contact with offenders after they are released from the correctional facility in question. Our research was especially challenged in that the detention center was located a few miles from the state lines, and with four counties within a 30 minutes' drive. The information about a former inmate's whereabouts will allow the study to track participants' recidivism rates to evaluate the effectiveness of the chemical dependency treatment program on lowering rearrest rates. It can also be useful for tracking other behaviors of former inmates, such as new jobs, prosocial attitudes, or any potential relapses. This will help further understand the fidelity of the implementation and the program's outcomes.

This study, and others like it, allow further insight into the mindsets of offenders that have been arrested for drug-related charges. Our results show that participants valued the teachings of the psychological implications of addiction and other aspects of the "why" in substance use and addiction. Future dependency programs can draw on this information to help implement effective strategies to educate drug offenders about their addictions and, ideally, reduce the likelihood of continued drug abuse. Further research is needed to continually evaluate and instruct the implementation of chemical dependency programs and other treatment plans that correctional facilities plan to introduce.

REFERENCES

Arterburn, B. (2023). Crime in Kentucky. Commonwealth of Kentucky 2022 Crime Report. https://wp.kentuckystatepolice.ky.gov/wp-content/uploads/2023/11/2022-CIK-Final.pdf. Retrieved on 14 Mar 24.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative research in psychology, 3(2), 77-101.

Bronson, J., Stroop, J., Zimmer, S., & Berzofsky, M. (2017). Drug use, dependence, and abuse among state prisoners and jail inmates, 2007–2009. Washington, DC: United States Department of Justice, Office of Juvenile Justice and Delinquency Prevention.

Herring T. (2020). The Effectiveness of State Laws Regarding Prisoner Reentry. https://cdr.lib.unc.edu/concern/honors_theses/5q47rt65k. doi:10.17615/0CE9-BT83.

Kay, E. S., Batey, D. S., & Mugavero, M. J. (2016). The HIV treatment cascade and care continuum: updates, goals, and recommendations for the future. AIDS research and therapy, 13(1), 1-7.

MacCarthy, S., Hoffmann, M., Ferguson, L., Nunn, A., Irvin, R., Bangsberg, D., ... & Dourado, I. (2015). The HIV care cascade: models, measures and moving forward. Journal of the International AIDS Society, 18(1), 19395.

McLellan, A.T., Cacciola, J.S., & Zanis D. 1997. The Addiction Severity Index- “Lite” (ASI-“Lite”). Center for the Studies of Addiction, University of Pennsylvania/Philadelphia VA Medical Center.

Monazzam, N. & Budd, K.M. (2023). Incarcerated women and girls. https://www.sentencingproject.org/fact-sheet/incarcerated-women-and-girls/. Retrieved on 1 March 24.

Tillson, M., Winston, E.N. and Staton, M. (2022). Criminal Justice Kentucky Treatment Outcome Study FY2021. https://corrections.ky.gov/Divisions/ask/Documents/CJKTOS_FY2021%20Report_FINAL_2022-02-02.pdf. Retrieved on 14 Mar 24.

Vera Institute of Justice (2023). Incarceration Trends in Kentucky. https://www.vera.org/downloads/pdfdownloads/state-incarceration-trends-kentucky.pdf. Retrieved on 14 Mar 24.