CJKTOS

CRIMINAL JUSTICE KENTUCKY TREATMENT OUTCOME STUDY

FY2022

Report prepared for:

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REPORT SUMMARY

The CJKTOS project is funded by the Kentucky Department of Corrections. The authors of this report would like to thank DOC treatment program administrators and counselors, prison case workers, prerelease coordinators, reentry staff, wardens, jailers, and probation and parole officers across the state for their support of this evaluation and their collaboration to help make the study possible. In addition, we would like to thank the study participants for their time and willingness to complete the interviews.

The Criminal Justice Kentucky Treatment Outcome Study (CJKTOS) examines outcomes of individuals in state custody participating in substance use disorder treatment programs in Kentucky's prisons, jails, and community custody settings. This report includes data collected during FY2022 for 299 randomly selected participants who entered Department of Corrections (DOC) substance abuse treatment programs (SAP), participated in an intake assessment by treatment counselors, and were followed-up 12 months later in the community following their treatment completion and release from custody. This report includes data collected during FY2022 from July 1, 2021 to June 30, 2022.

Among SAP graduates from KY jails, prisons, and community corrections facilities interviewed 12 months post-release…

- 92.6% were living in stable housing.
- 78.9% of those with children reported providing financial support to their children.
- 73.9% were not re-incarcerated.
- 75.3% were employed.
- 75.3% did not have a positive drug test, and 54.2% self-reported abstinence from illicit drug use, in the year following release.
- 97.8% of clients who were referred to meet with a SSC received some type of aftercare recommendation, based on their level of need.
- 54.8% attended 12-step meetings.
- 17.7% had received medication-assisted treatment (MAT) to help with a previous addiction to opiates or alcohol.

Of the SAP graduates who returned to DOC custody…

- 96.2% were re-incarcerated on a technical or probation/parole violation only.
- 79.5% were stably housed, compared to 97.3% of non-recidivists.
- 73.1% reported using drugs in the year since release and 38.5% had a positive drug test.

Treatment graduates noted positives about SAP participation, including…

- 81.9% thought they had received the services needed to help them get better.
- 84.3% considered the treatment program to be successful.
- 84.9% felt better about themselves as a result of treatment.

Cost offset analysis indicated that…

- For every $1 spent on Kentucky corrections-based substance use disorder treatment there is a $3.29 cost offset.

The Division of Addiction Services provided treatment programming throughout FY2022 which demonstrates their continued commitment to supporting clients' recovery and well-being. This report suggests these efforts were highly successful in spite of residual COVID-related challenges – in Kentucky, and nationwide – of low staffing levels (LeMasters et al., 2022), heightened stress (Burhanullah et al., 2022), and recurring need for precautions to prevent the spread of illness (Dir et al., 2022). A strong collaboration with the Division of Re-entry Services continued as well, allowing for changes to re-entry plans to accommodate clients' individual needs, empowering individuals with resources, and promoting successful re-entry through programming and supportive services – positive outcomes that are supported by the findings of this report.

"The Department of Corrections remains committed to providing evidence based treatment services to individuals with substance use disorders. We recognize the salient link between the individual's struggle with addiction and the pathway into and out of the justice system, and our goal is to do everything we can to disrupt that cycle. Through a number of new initiatives and collaborative partnerships across the state, we are seeing increased access to treatment and recovery services, expansion of treatment modalities, and improvement in clients' overall wellbeing. We continue to offer multiple pathways for recovery and supports for sustained recovery."

-- Sarah Johnson, Director, Division of Addiction Services, Kentucky Department of Corrections

There were also a number of noteworthy differences between the findings from FY2022 CJKTOS and prior years' findings, including:

- The percentage of **re-incarcerations** during the 12-month follow-up period increased over previous years, consistent with national increases in jail and prison populations to pre-pandemic levels.[1]
- Fewer participants **self-reported substance use** at follow-up in FY2022 compared to FY2021 (45.8% vs. 48.0%), a positive change given increases in overdose and substance use rates observed during the height of COVID-19.[2]
- More participants in FY2022 reported living in **stable housing** during the follow-up period (92.6%) than in FY2021 (88.9%).
- Compared to FY2021, more participants in FY2022 reported knowing where to obtain **naloxone/Narcan®** (59.9% vs. 57.0%) and had been trained to use it (43.5% vs. 37.6%).
- For the fourth consecutive year (FY2019-21), **methamphetamine** was the most commonly reported substance at treatment entry, surpassing marijuana, opioids, and alcohol use.

INTRODUCTION

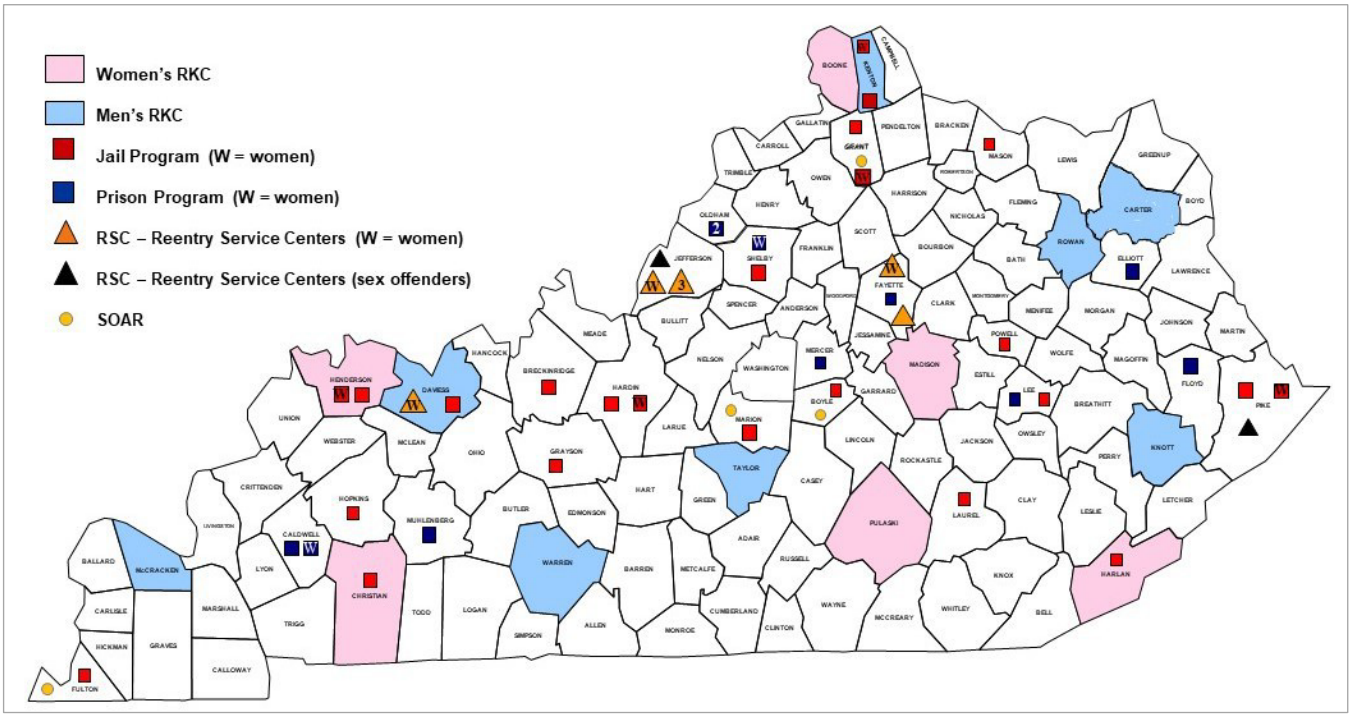
The Kentucky Department of Corrections (DOC) Division of Addiction Services provides substance use disorder treatment programs throughout the state (See Figure 1), grounded in the key components of therapeutic community modalities (De Leon, 2000). All programs include evidence-based curriculum and undergo regular audits to review AODE regulations, contractual compliance, and compliance with all DOC policies and procedures; all licensed facilities are upheld to requirements outlined in 908 KAR 1:370 and are subject to audits by the Office of the Inspector General. Although some individuals may be recommended to attend treatment by a parole board, and/or receive Program Good Time Credit for participation, treatment enrollment is never mandated or forced, and participation is always voluntary. The DOC continues to look for innovative strategies to increase treatment enrollment and engagement,

[1] Sawyer, W., & Wagner, P. (2022). Mass incarceration: The whole pie 2022. https://www.prisonpolicy.org/reports/pie2022.html

[2] Kumar, N., Janmohamed, K., Nyhan, K., Martins, S. S., Cerda, M., Hasin, D., ... & Khoshnood, K. (2022). Substance, use in relation to COVID-19: a scoping review. *Addictive behaviors*, *127*, 107213. https://doi.org/10.1016/j.addbeh.2021.107213

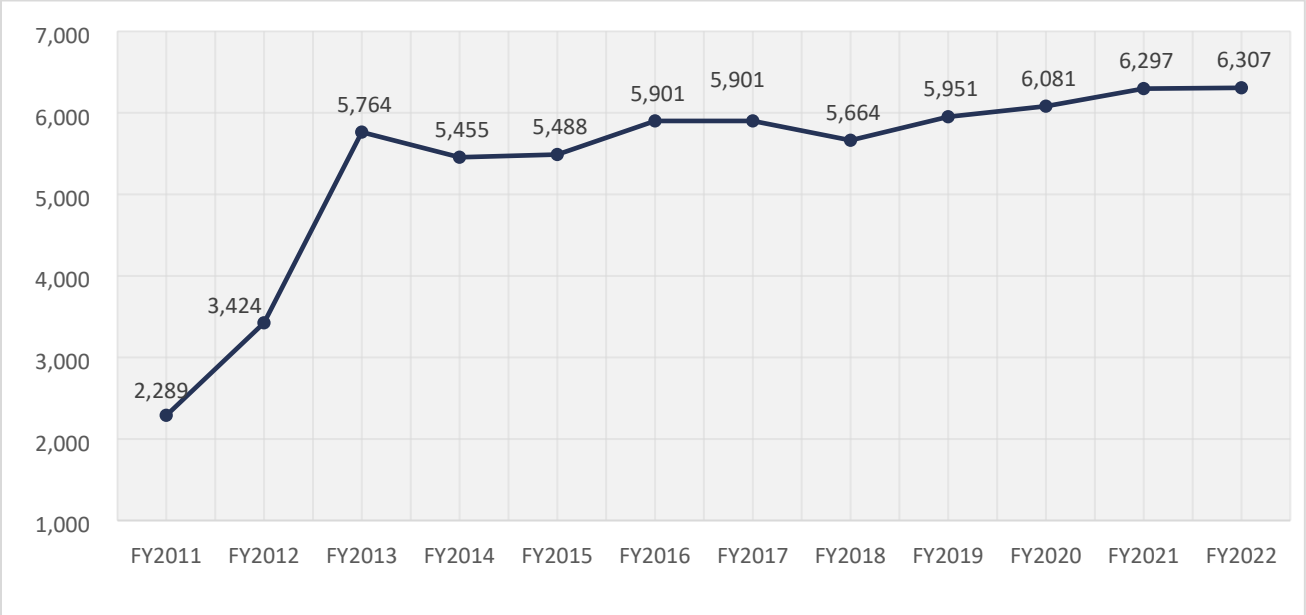
as well as ways to encourage or incentivize participation in treatment. Making sure that treatment is available and accessible is a high priority for the KY DOC.

Figure 1. Location of Kentucky's Corrections-based Substance Use Disorder Treatment Programs (2022)



As shown in Figure 2, in FY2022, there were an average of **6,307** corrections-based substance use disorder (SUD) treatment slots in jails, prisons, Reentry Service Centers (or halfway houses), Recovery Kentucky Centers, community mental health centers, and intensive outpatient centers (more details on specific DOC program modalities may be found in Appendix A) – which is ***the highest number in the history of DOC SUD programming***. This evaluation report focuses on data collected from traditional substance abuse programming (SAP) using a modified therapeutic community modality, including only those programs located in prisons, jails, or community programs that are able to accommodate individuals under custody (sites listed in Appendix B). Specifically, these programs include **28** programs in 19 jails, **13** programs in 10 prisons, and **4** community custody programs in reentry service centers.

Figure 2. Trends in Number of Corrections-based Substance Use Disorder Treatment Slots



One factor contributing to the increased number of treatment slots is the expansion of the Department's transitional treatment program, **Supporting Others in Active Recovery (SOAR)**. The program allows individuals who have successfully completed SAP and are not yet scheduled to be released to continue their treatment for substance use disorder in a prosocial environment. SOAR participants have a primary evidence-based curriculum called My Ongoing Recovery Experience (MORE) developed by Hazelden Betty Ford and also have the opportunity to participate in several other evidence-based reentry programs.

In FY2022, the number of slots for individuals to receive treatment through KY DOC was 6,307 – the highest number to date.

The program was initially piloted in 2019 at Northpoint Training Center prison, and preliminary data suggest promising results related to abstinence following release, stable housing, employment, and few re-arrests. In FY2021, SOAR was expanded to three additional jail sites (Fulton County, Grant County, and Marion County Detention Centers), creating an additional 192 treatment beds. As a new model of aftercare treatment, the SOAR program has received national attention, including being presented at the Women's Working in Corrections and Juvenile Justice National Conference. A brief report will follow in early 2023.

Finally, for individuals with substance use disorder (SUD) on Probation and Parole, **Program Good Time Credit (PGTC)** allows clients with SUD to earn time off their court-ordered sentence and reduce their time under supervision by engaging in PGTC-eligible treatment programs. Authorized through HB 284, this opportunity has enabled the DOC to offer referrals to additional treatment programs (available through inpatient or intensive outpatient modalities) that have applied and been approved as eligible, increasing incentives and reducing barriers for clients to engage with treatment services. Since its authorization in August 2020, the program has expanded considerably, serving a total of 2,639 clients through 57 providers in 267 locations across the state.

PROFILE OF SAP GRADUATES

Data in this report includes behaviors during "pre-incarceration" (the 12 months and 30 days *prior to the incarceration where they participated in SAP*) collected by treatment providers at SAP intake and "followup" (the 12 months and 30 days *post-release from incarceration*) collected by research staff at UK CDAR. Additional detail on the methodology can be found in Appendix C.

This report profiles three categories of SAP graduates completing substance use disorder treatment services:

(1) in state prisons;
(2) in county or regional jails; and
(3) in community reentry service centers while still under state custody (i.e., as an inmate, parolee, or probationer).

Of SAP graduates who completed follow-up interviews during FY2022, 34.1% were referred to SAP as "parole upon completion," and 31.7% were referred by the parole board to finish SAP after they entered treatment on their own. Recent changes to DOC policies for SAP waiting lists, admission, termination, and reinstatement have facilitated faster treatment entry and continuity of care by requiring enhanced staffing of client files prior to termination and supporting readmission to SAP as early as possible. Together with the expanded number of treatment slots, these changes have allowed many individuals to enter and complete treatment earlier in their incarceration – often before they have met with the parole board.

For the FY2022 sample, there were 1,166 SAP participants who were eligible for follow-up (completed SAP, released in FY2021, and voluntarily consented to follow-up). Of those, about a third (37.6%) were randomly selected to participate in the follow-up interview (n=438). As shown in Table 1, the randomly selected follow-up sample of SAP graduates who completed interviews were not different from the entire population of eligible SAP graduates, making results generalizable.

Table 1. Demographic Characteristics of FY2022 Follow-up SAP Sample Compared to All SAP Graduates Eligible for Follow-up

	Follow-up SAP Graduates (n=299)	All SAP Graduates Eligible for Follow-up (n=1,166)
Average Age	36.2 years old (range 19 to 67)	36.6 years old (range 18 to 69)
Race/ethnicity	84.6% white	86.6% white
Gender	76.9% male	78.0% male
Education	78.9% GED or high school diploma	74.6% GED or high school diploma
Marital Status	47.8% Single, never married	44.7% Single, never married

KY-RAS and Criminogenic Needs

Table 2 describes scores on the Kentucky Risk Assessment Screen (KY-RAS), comparing the proportion of follow-up SAP graduates, and the entire Kentucky DOC inmate population, who met classification as "High" or "Very High" on each domain. Of follow-up SAP graduates who had available KY-RAS data (n=250), 6.0% were assessed as being overall high-risk.

Table 2. Percentage of Individuals Scoring "High" or "Very High" on KY-RAS Domains of Risk/Need

	DOC Treatment Follow-up Graduates (n=250*)	Entire KY DOC Inmate Population** (n=19,531)
Overall Risk	6.0%	24.1%
Criminal History	12.0%	14.9%
Education/Employment/Financial Situation	28.8%	26.2%
Family/Social Support	3.2%	6.7%
Neighborhood Problems	25.2%	15.3%
Substance Use	27.6%	14.6%
Peer Associations	4.0%	4.0%
Criminal Attitudes/Behaviors	0.4%	16.8%

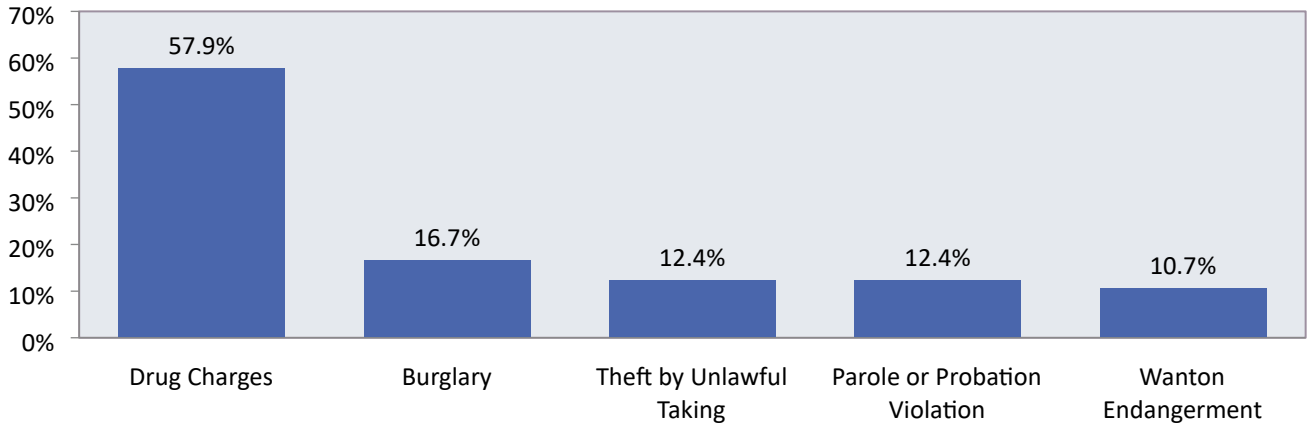
*KY-RAS data unavailable in KOMS for N=49

**KY-RAS data supplied by KY Department of Corrections, 11/09/2022. KY-RAS assessments unavailable for n=212 of DOC inmate population.

ARRESTS AND INCARCERATION

SAP graduates reported an average of 9.6 lifetime convictions. In the year before their current incarceration, they were most often arrested for drug charges (36.1%), parole or probation violations (22.1%), and burglary (9.4%), resulting in an average of 49 nights incarcerated during that year. At the time of SAP intake, they had been incarcerated an average of 24.9 months. Charges for graduates' *current* incarceration are shown in Figure 3.

Figure 3. Criminal Charges at SAP Intake (N=299)



Recidivism

73.9% of SAP graduates were not re-incarcerated during follow-up period.

Data from the Kentucky Offender Management System (KOMS) was used to examine SAP graduates' re-incarceration during the year following release. As shown in Table 3, 73.9% were not re-incarcerated within the 12 months' post release from prison or jail. Furthermore, graduates who were reincarcerated were in the community an average of 7.4 months before returning to custody.

At 73.9%, the percentage of SAP graduates remaining not incarcerated for the full 12-month follow-up period was 7.5 percentage points lower than in the previous fiscal year (FY2021, at 81.4%). However, this trend aligns with national increases of incarcerated populations following the COVID-19 pandemic (Sawyer & Wagner, 2022).

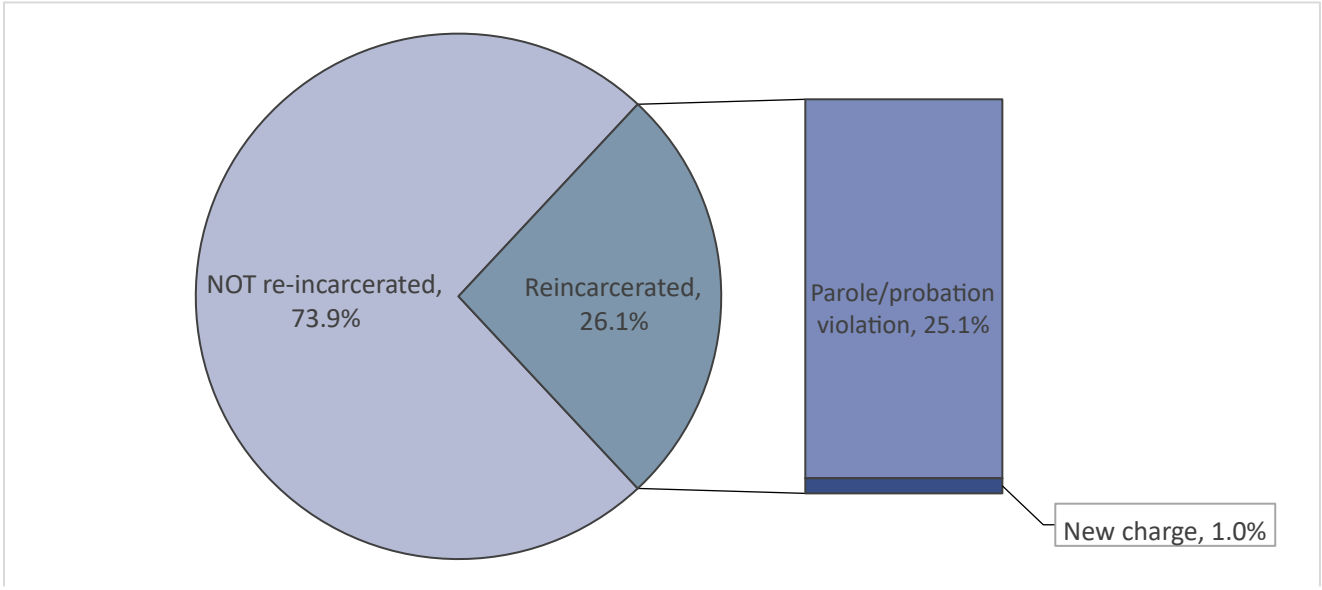
Table 3. Recidivism* 12 Months Post-release (N=299)

	Jail (n=168)	Prison (n=118)	Community Custody (n=13)	Total (N=299)
Not Incarcerated	74.4%	70.3%	100%	73.9%
Incarcerated	25.6%	29.7%	0.0%	26.1%

* The DOC counting rules were used to define recidivism (see page 24 for counting rule definition used in this report).

Of the 26% of the sample who were returned to custody (n=78), the majority were re-incarcerated on a technical or parole/probation violation (PV) only (See Figure 4). These successes reflect recent efforts from the Kentucky DOC to improve transitions to care in the community and provide a "warm handoff" to community providers. These efforts have been largely supported through collaborations between the Divisions of Addiction Services, Probation and Parole, and Reentry Services to remove barriers and support continuity of care.

Figure 4. Recidivism and Reason for Re-incarceration (N=299)



Although 25.1% of the sample were re-incarcerated due to a PV, it should be noted that individuals returning to custody on these circumstances, per DOC policy, have exhausted all available treatment options in the community. In lieu of revocation, DOC has integrated graduated sanctions – consequences that provide incremental accountability measures. Graduated sanctions are recommended for individuals on supervision who receive substance use violations (or individuals on supervision with a history of substance use who are considered "absconded" and are arrested with active parole violation warrants). In these cases, the supervising officer consults with the Social Service Clinician (SSC), who completes an assessment to determine what treatment options are recommended. Supervised individuals may then sign the graduated sanction and agree to enter and complete the recommended level of treatment. Once the individual agrees to enter and complete treatment, a request to rescind the parole violation warrant is submitted to the Parole Board, and upon the warrant rescinded, the individual will continue on supervision.

As of 2019, if the SSC believes that community treatment options are no longer advisable for a given client, prior to submitting this recommendation, they must first consider *all* treatment options (including those outside of DOC contract), staff the case with a Branch Manager, and thoroughly document all steps taken. These procedural changes were implemented to ensure that clients are offered every possible opportunity for treatment prior to considering revocation of supervision.

Recidivists vs. non-recidivists

SAP graduates who recidivated during the 12 months following their release had a number of differences when compared to non-recidivists. As shown in Table 4, those who recidivated during the follow-up period reported more involved criminal histories compared to non-recidivists (e.g., more likely to have been arrested, and more nights spent incarcerated, during the 12 months prior to incarceration), although these differences were not statistically significant.

SAP graduates who were re-incarcerated were less likely to be stably housed or abstinent from drugs and alcohol post-release.

Table 4. Comparisons of SAP Graduates by Recidivism in the 12 Months Post-release (N=299)

	Recidivists (n=78)	Non-recidivists (n=221)
In 12 months prior to current incarceration…		
Nights spent incarcerated	56.7	46.1
Arrested and charged for any offense	80.8%	70.1%
During 12 months post-release…		
Participated in education or vocational program	15.4%	15.4%
Employed full- or part-time	73.1%	76.0%
Housed in apartment, room, house or residential treatment facility***	79.5%	97.3%

	Recidivists (n=78)	Non-recidivists (n=221)
Self-reported drug use***	73.1%	36.2%
Positive urine drug screen***	38.5%	19.9%

****p*<.001

During the 12 months following release, recidivists were less likely to be employed, and significantly less likely to have stable housing, compared to non-recidivists. Furthermore, recidivists who were employed were on the street an average of 14 days longer before returning to DOC custody than those who were not employed (225.1 days vs. 211.6 days).

Although there was an overall decrease in substance use during the 12 months following release, 73% of those who returned to DOC custody reported using drugs during the follow-up period compared to only 36% of those who did not recidivate, a difference also confirmed by positive drug tests (39% vs. 20%). Recidivists who reported using drugs during the follow-up period (n=57) were on the street an average of 62 days before they used any illegal drugs.

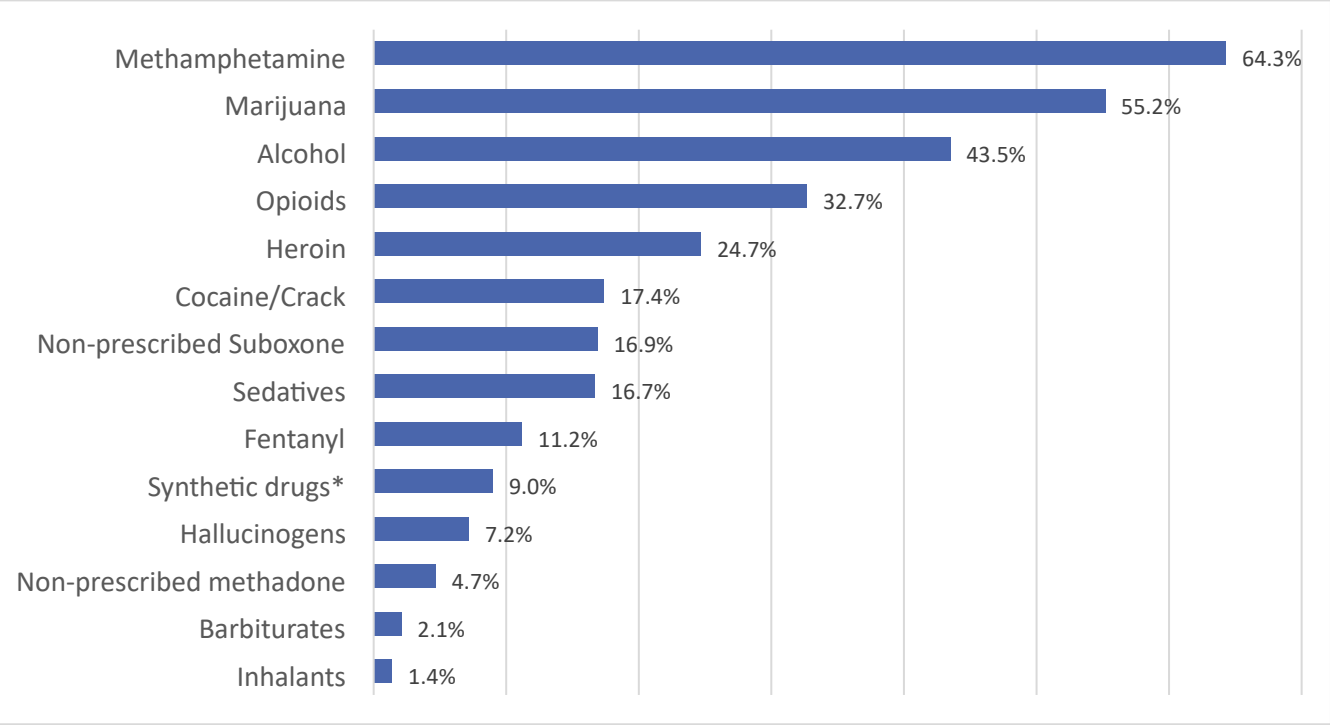
"We recognize that a number of individuals on community supervision struggle with issues related to addiction. We are pleased to continue to partner with the Division of Addiction Services on new initiatives to increase treatment linkages from the institution to the community to enhance opportunities for individuals on supervision to be successful."

-- Erica Hargis, Director, Division of Probation and Parole, KY DOC

SUBSTANCE USE

Figure 5 shows substance use during the pre-incarceration period for SAP participants. While it should be noted that there were 6,307 substance use treatments slots within DOC this fiscal year, CJKTOS data is only collected for those participating in SAP in jails, prisons, and select community custody programs (for a total FY21 sample of 4,491). Additionally, some beds were non-operational during FY21 due to COVID-related restrictions and staffing shortages, consistent with national trends in correctional settings (LeMasters et al., 2022). Of those participants who completed a CJKTOS baseline in FY21, the greatest percentage reported methamphetamine use in the 12 months prior to incarceration, followed by marijuana use and alcohol use. For the last four years, methamphetamine use has been the most common substance reported at SAP intake.

Figure 5. Profile of Pre-incarceration Substance Use among SAP Participants (n=4,491)

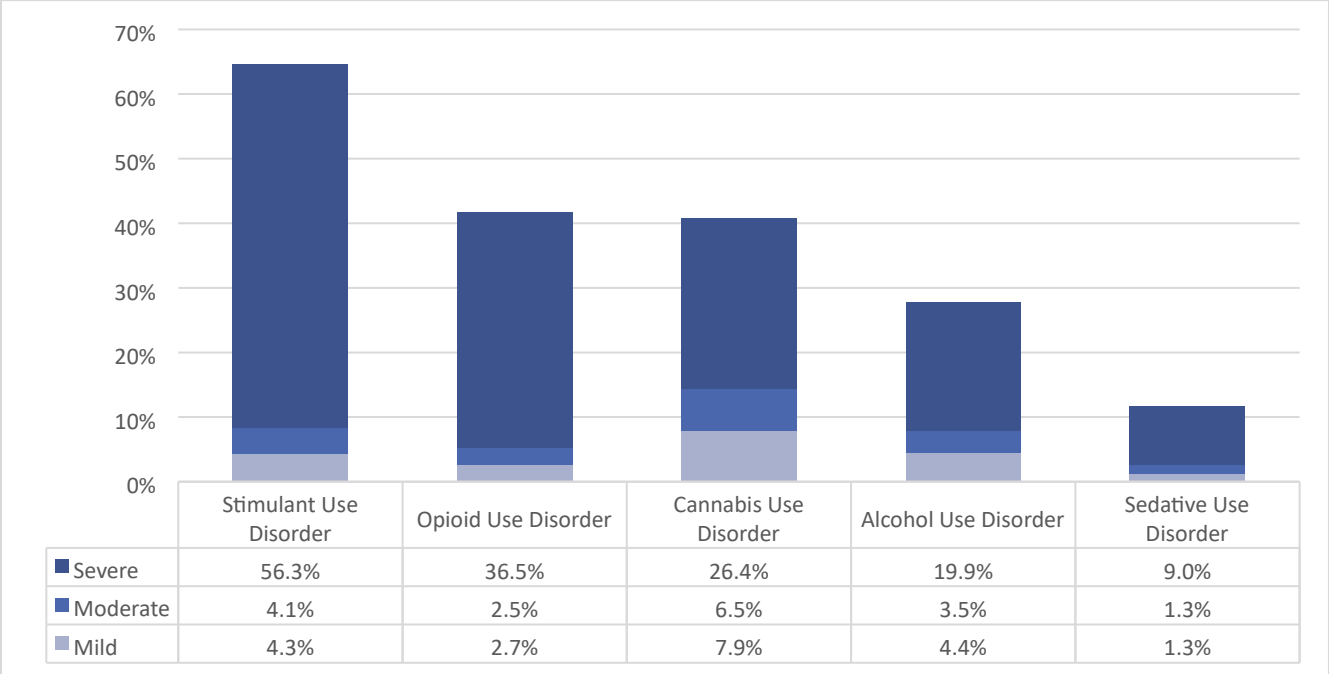


"Synthetic drugs" include synthetic marijuana, bath salts, kratom, and flakka.

In addition to measuring prevalence of substance use, the CJKTOS baseline assessment instrument also captures severity of substance use disorder (SUD) at SAP intake. These included clinical checklists of SUD criteria, as outlined in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5; APA, 2013), which are asked separately for each of seven categories of substances. These checklists include 11 symptoms (such as impaired control, social impairment, risky use, and pharmacological indicators like tolerance and withdrawal). Endorsement of 2-3 criteria is classified as "mild," 4-5 is "moderate," and 6 or more is "severe" SUD, and it is possible for each individual to meet SUD criteria for multiple substances. Figure 6 shows the percentage of all SAP intakes completed during FY 2022 (N=4,491) who reported symptoms consistent with SUD for each substance type and severity level.

Stimulant Use Disorder was the most prevalent SUD, with 64.8% of clients at intake meeting criteria, followed by Opioid Use Disorder (41.8%), Cannabis Use Disorder (40.7%), Alcohol Use Disorder (27.7%), and Sedative Use Disorder (11.6%). Very few clients met criteria for Hallucinogen Use Disorder (3.5%) or Inhalant Use Disorder (0.9%).

Figure 6. SUD Severity at SAP Intake (N=4,491)



	Stimulant Use Disorder	Opioid Use Disorder	Cannabis Use Disorder	Alcohol Use Disorder	Sedative Use Disorder
Severe	56.3%	36.5%	26.4%	19.9%	9.0%
Moderate	4.1%	2.5%	6.5%	3.5%	1.3%
Mild	4.3%	2.7%	7.9%	4.4%	1.3%

Note: Stimulant Use Disorder includes use of methamphetamine, cocaine/crack, and misuse of prescription amphetamines. Opioid Use Disorder includes use of heroin or street fentanyl, as well as misuse of prescription opioids.

Overdose

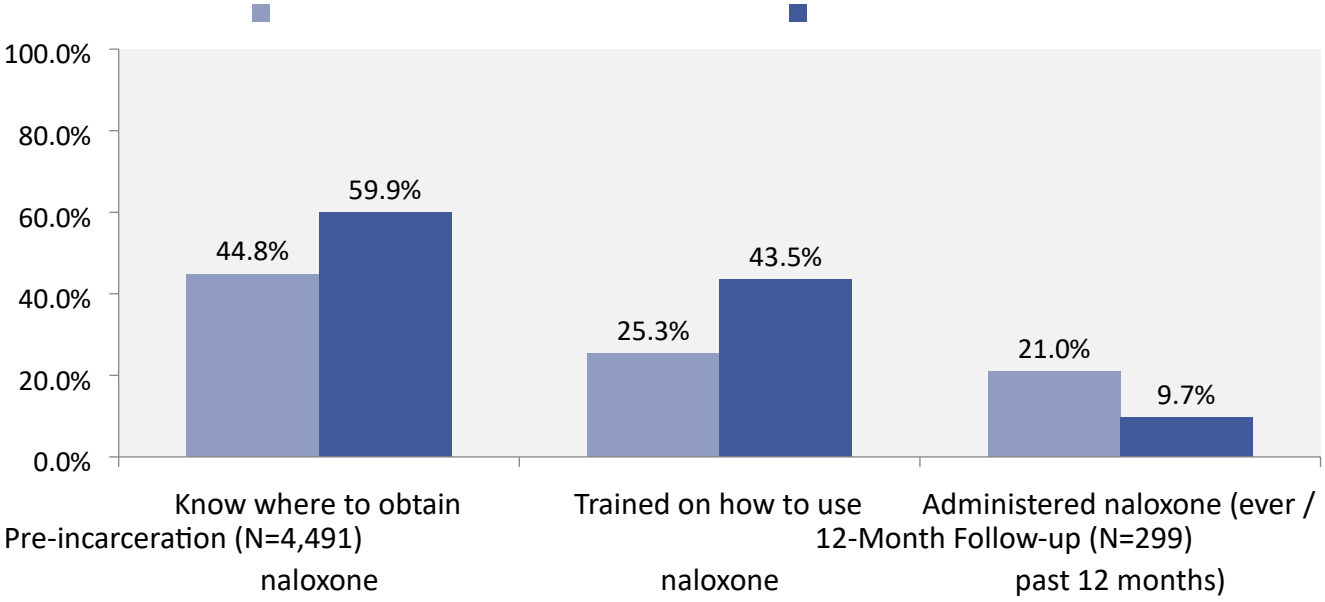
From 1999-2017, the rate of drug overdose deaths in the United States has more than tripled (Hedegaard, Miniño, & Warner, 2020), and Kentucky has been no exception. Between 2019 and 2021, overdose deaths in Kentucky increased by 71%, with 2,250 fatalities in 2021, according to the most recent statewide Overdose Fatality Report (KY ODCP, 2022). Among SAP participants entering treatment in FY 2021 (N=4,491), 32.6% reported a lifetime overdose, with an average of 4.7 times. At the time of their last overdose, participants most commonly reported having used heroin (58.9%), stimulants (such as methamphetamine; 25.5%), and illicit prescription opiates (25.0%). Furthermore, 4.7% of participants reported having overdosed in an attempt to commit suicide (and on average, 2.2 times). At 12 months post-release, however, only 6.0% of the follow-up sample reported having experienced a nonfatal overdose.

At SAP intake, although 48.9% of participants had witnessed someone else overdosing, only 44.8% knew where to obtain naloxone (Narcan®), a medication used to rapidly reverse opioid overdose, and 25.3% had been trained on how to use it. Of those who had ever administered Narcan® (21.0%), they had done so on average 7.5 times. However, in the 12 month follow-up (N=299), over half of participants (59.9%) knew where to get Narcan®, and 43.5% had been trained on its use – an increase from individuals interviewed during FY2021 (when 57.0% knew where to access, and 37.6% had been trained), suggesting that efforts to increase Narcan® training and access have been impactful. About one in ten participants (9.7%) reported having administered Narcan® to another person since their release. This lower rate of Narcan® administration at follow-up may be related to changes in clients' environments and social networks, such that they are less likely after release to be present in situations where overdose is likely to occur.

At follow-up compared to baseline, more participants knew where to get Narcan® (59.9% vs. 44.8%) and had been trained to use it (43.5% vs. 25.3%).

These important efforts to improve overdose response capacity have been made possible through partnerships between the Kentucky DOC and the Kentucky Opioid Response Effort (KORE), supporting mobile harm reduction units and statewide naloxone distribution programs, and the National Institute of Health's Helping to End Addiction Long-term (HEAL) Initiative, which funds naloxone education and distribution efforts targeting justice-involved populations (while individuals are incarcerated or preparing for release). The Division of Addiction Services is committed to reducing overdose deaths among SAP clients and is also closely monitoring any overdose fatalities among clients released to the community on supervision to identify potential needs or gaps in services.

Figure 7. Naloxone (Narcan®) Knowledge and Experience at SAP Intake and Follow-up



These initiatives are critically important given that the time period immediately following a release from incarceration is an extremely high-risk window for overdose fatality due to decreased tolerance: one large-scale, 15-year study in North Carolina found that the first two weeks after release were associated with a 40-fold increase in likelihood of death by overdose, compared to North Carolina residents in general; even one year after release, this likelihood was still 11 times higher (Ranapurwala et al., 2018). However, programs providing overdose reversal education and distribution of Narcan® kits prior to release have been associated with an up to 60% reduction in opioid-related fatalities in the first four week post-incarceration (Malta et al., 2019).

"Engaging justice-involved individuals with substance use disorders in quality treatment and recovery services improves the potential of successful community reentry, including obtaining meaningful employment and stable housing. Through ongoing cross-agency coordination and collaboration, Kentucky state agencies are working to expand access to such services that will decrease the likelihood of recidivism and support long-term recovery."

-- Dr. Brittany Allen, Director for the Division of Substance Use Disorder, KY Department for Behavioral Health, Developmental and Intellectual Disabilities

Injection Drug Use

At SAP intake, 46.9% of all clients reported lifetime injection drug use (IDU), as shown in Table 5. Compared to other routes of drug administration, IDU places individuals at increased risk of overdose, transmission of diseases such as HIV and Hepatitis C, and development of skin or heart infections (CDC, 2020; Mathers et al., 2013; Novak & Kral, 2011). Syringe exchange programs (SEPs) may help prevent the infections or disease transmission, yet only onefourth of participants with a history of IDU reported having ever used such programs in Kentucky prior to their current incarceration.

46.9% of all SAP participants had ever injected drugs in their lifetime

Table 5. Profile of Injection Drug Use Pre-incarceration (N=4,491)

Injection Drug Use (IDU)	
Ever injected drugs	46.9%
Of ever-IDU participants (N=2,108)…	
Drugs most commonly injected:	
Stimulants	77.7%
Heroin	47.2%
Prescription opiates	29.0%

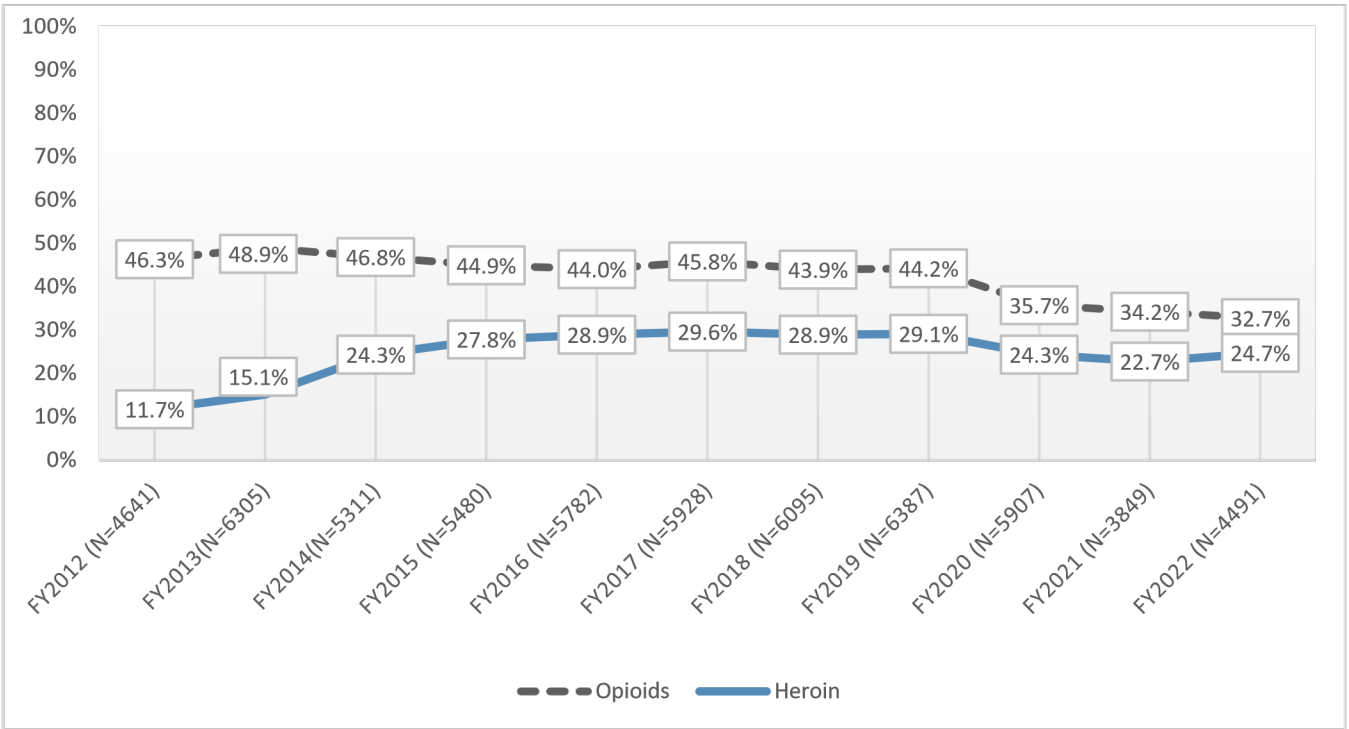
Injection Drug Use (IDU)	
Cocaine/crack	17.1%
Suboxone/Subutex	14.8%
Ever used a syringe exchange program (SEP) in KY	31.2%
If yes, offered treatment resources at SEP?	62.9%

Heroin and Illicit Prescription Opioid Use

The past decade has seen a significant increase in self-reported heroin use prior to incarceration. As shown in Figure 8, the percentage of individuals entering corrections-based substance use disorder treatment programs reporting any heroin use in the 12 months prior to incarceration increased from 11.7% in FY2012 to 29.6% in FY2017, declined to 22.7% in FY2021, and increased slightly to 24.7% in the present fiscal year (FY2022). During this same time period, misuse of prescription opioids (not including methadone or buprenorphine) peaked at 48.9% in FY2013 and has since steadily decreased to 32.7% in FY2022.

Senate Bill 192 (SB 192), passed in March 2015 in response to increasing heroin use in Kentucky, has provided continued funding for Addiction Services' administration of medications for the treatment of opioid use disorder (MOUD) for eligible SAP graduates, specifically injectable extended release naltrexone (Vivitrol®). In addition, the **Kentucky Opioid Response Effort (KORE)** – a federally-funded initiative administered by the KY Department for Behavioral Health, Developmental and Intellectual Disabilities – has also continued to support evidence-based prevention and treatment for opioid use disorder (OUD), and has implemented a variety of projects targeting justice-involved individuals, including expanded MOUD and reentry efforts. Formerly incarcerated people are at drastically increased risk to experience opioid overdose (Ranapurwala et al., 2018), and MOUD is a critical component in averting opioid overdose deaths; one simulation study estimated that MOUD access at release from incarceration could reduce overdose fatalities in this vulnerable population by up to 31.6% (Macmadu et al., 2021). The Division's commitment to expanding access and utilization of MOUD represents a commitment to leverage funding to reduce overdose mortality for those at the highest risk.

Figure 8. Reporting Heroin and Illicit Prescription Opioid Use in the 12 Months Prior to Incarceration



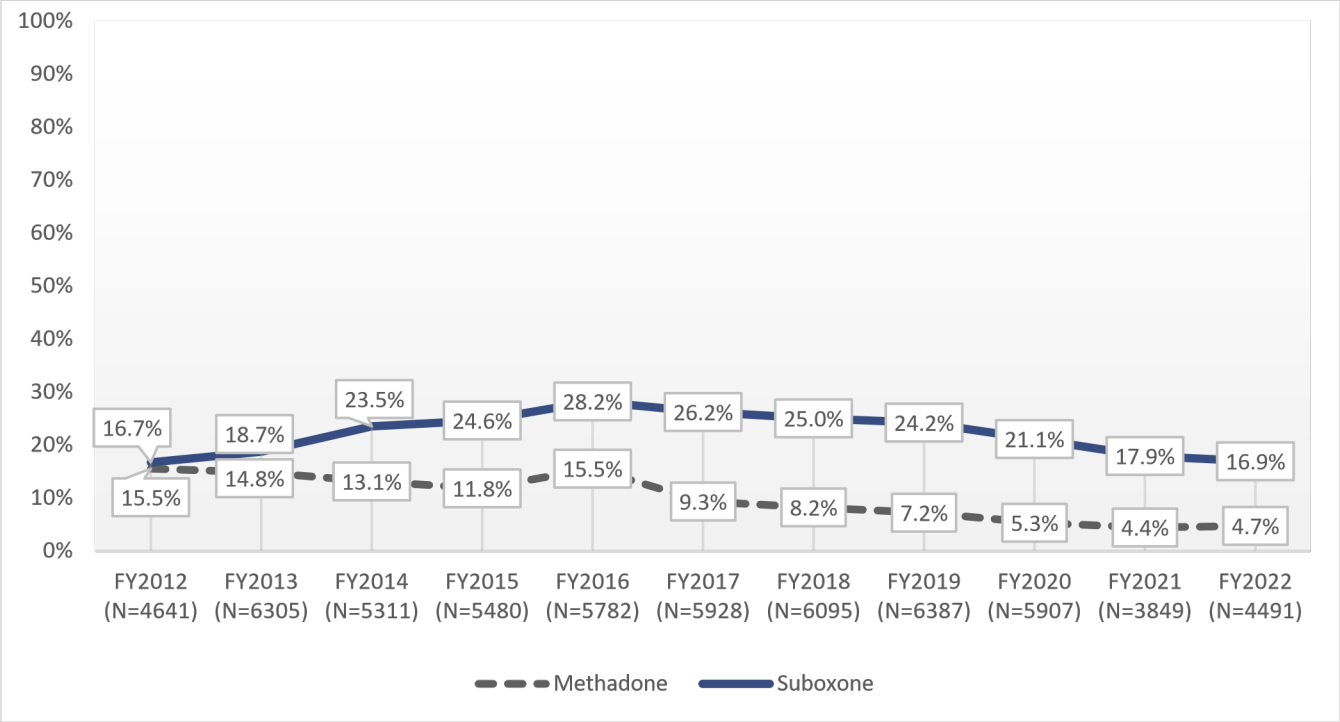
Misuse of Methadone and Buprenorphine

Although methadone and buprenorphine (Subutex or Suboxone/Zubsolv) are evidence-based medications used clinically for the treatment of opioid use disorder, both have a potential for misuse (Lofwall & Walsh, 2014; Mitchell et al., 2009), although most data suggest that the majority of nonprescribed buprenorphine and methadone use is for the purpose of controlling withdrawal and cravings for other opioids and not to get high. Indeed, among individuals meeting OUD criteria at SAP entry in FY2022 (N=1,876), 40.7% reported ever having used these types of medications without a prescription to try to abstain from use of other illicit opioids.

As shown in Figure 10, over the past decade, misuse of methadone reported during the 12 months prior to incarceration has decreased from a peak of 15.5% in FY2016 and has remained low among participants entering SAP. Misuse of buprenorphine became more common between FY2012 and FY2016, increasing from 16.7% to 28.2%, but has since declined to 16.9% in the present year (FY2022).

The Kentucky Cabinet for Health and Family Services has partnered with the KY DOC to reduce diversion by training providers to deliver evidence-based treatment, using a nationally-recognized certification program for treatment programs, expanding insurance coverage, removing cost barriers to treatment to reduce diversion, and expanding recovery support. Furthermore, in response to COVID-19, the Department for Medicaid Services removed prior authorization needed for substance use treatment in August 2021, allowing individuals to access needed care more rapidly.

Figure 10. Reporting Misuse of Medications for Treatment of Opioid Use Disorder in the 12 Months Prior to Incarceration



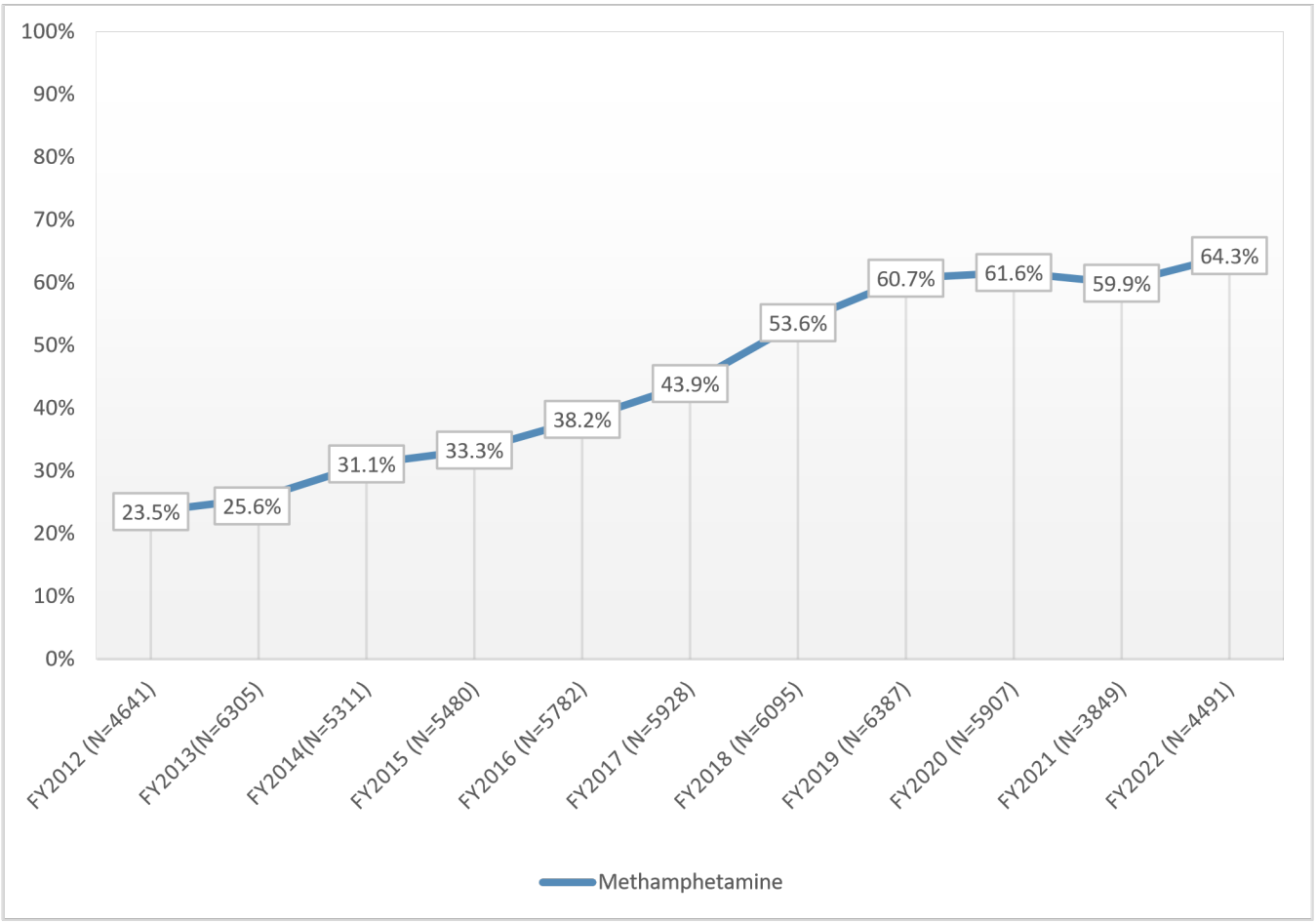
Methamphetamine Use

Between FY2012-22, individuals reporting methamphetamine use at SAP intake has increased

274%

Another noteworthy substance use trend includes the continued increase in methamphetamine (meth) use. As highlighted in Figure 9, the percentage of individuals who report meth use at SAP intake has risen from 23.5% in FY2012 to a peak of 64.3% in FY2022, an increase of 274%. This continued increase in meth use mirrors national trends, which show a 105% increase in methamphetamine use disorder in the United States between 2015-19, while meth-involved overdose deaths nearly tripled (Han et al., 2021). In two years (2019-2021), meth-involved overdoses in Kentucky increased by 208% (from 517 to 1,075), in part due to its increased potency, low cost, and widespread availability (KY ODCP, 2022). National data support these findings, with meth seizures in the first half of 2019 averaging 97.2% purity and 97.5% potency (US DEA, 2021). Recent research has also highlighted the continued increase in meth use among individuals who use heroin (Strickland et al., 2021). Individuals entering treatment with an opioid use disorder have indicated that methamphetamine 1) offers a synergistic high when used in combination with opioids, 2) balances the effects of opioids, and 3) serves as an "opioid substitute" due to the increasingly limited access to opioids (Ellis et al., 2018).

Figure 9. Reporting Illicit Methamphetamine Use in 12 Months Prior to Incarceration

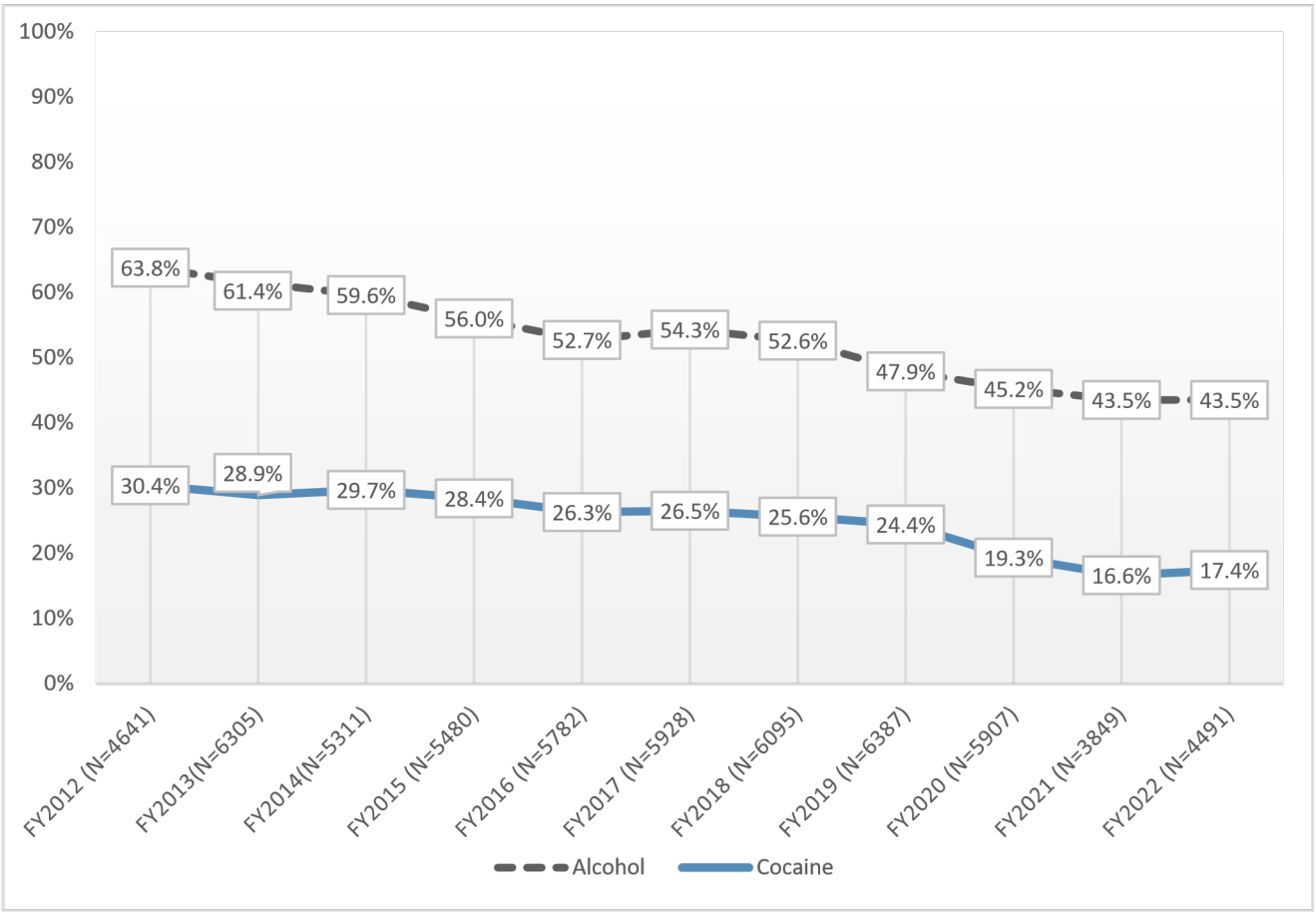


Alcohol and Cocaine Use

There has been a decline of reported alcohol consumption and cocaine/crack usage.

The steady decrease in alcohol consumption and a decline of reported cocaine/crack usage among individuals entering Kentucky SAP programs is another noteworthy trend. As highlighted in Figure 11, the percentage who report alcohol use at baseline has fallen from 63.8% to 43.5%, resulting in an overall decrease of 20.3 percentage points from FY2012 to FY2022 – the largest decrease for any illicit substance. For this same period, reported cocaine or crack use declined 20.5 percentage points, from 30.4% down to 17.4%.

Figure 11. Reporting Alcohol and Illicit Cocaine Use in 12 Months Prior to Incarceration



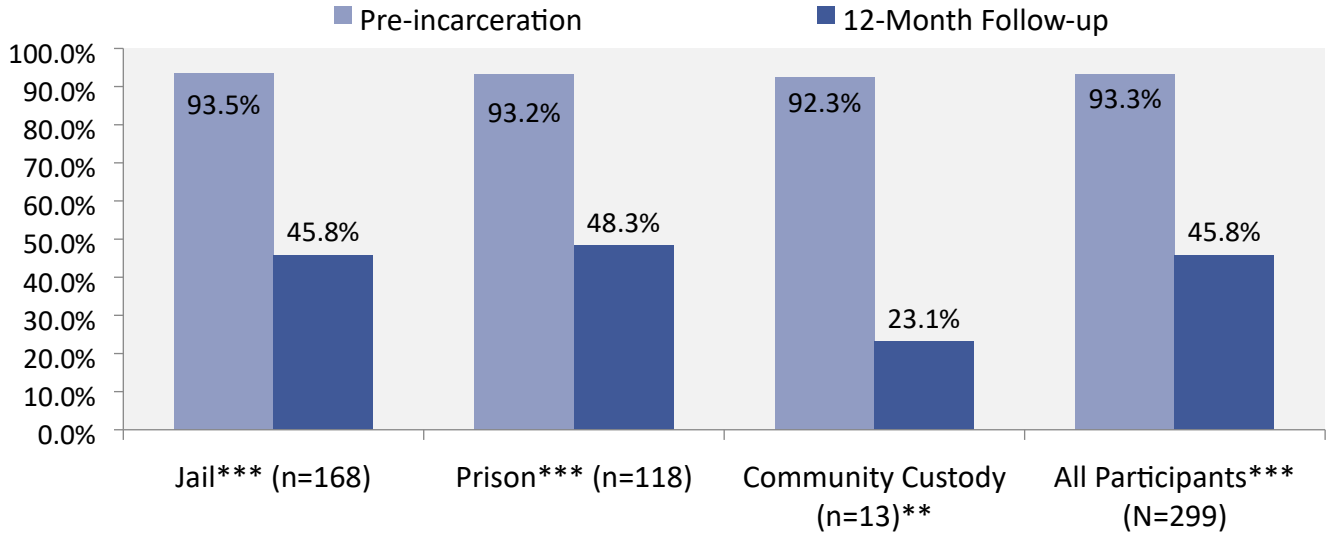
Decreases in Substance Use During Follow-up

As shown in Figure 12, those who graduated from DOC treatment in prison, jail, and community custody programs reported a significant decrease in use of any illegal drug following treatment. Further, only 25% of SAP graduates who participated in the follow-up had a positive drug test during the 12 months following release, confirming the validity of selfreported follow-up data. It should be noted that, in spite of stresses and service shifts due to COVID-19, the rate of return to drug use decreased from 52% to 46% between FY2020 and FY2022. This decrease suggests that SAP graduates are still successfully connecting to recovery supports, treatment services, and prosocial activities (e.g., employment, education, sober family/friends), all of which are supported through the DOC's harm reduction model of treatment and continued collaboration among the Divisions of Addiction Services, Probation and Parole, and Reentry Services.

"As this report demonstrates, treatment in criminal justice settings is effective and necessary. The Office of Drug Control Policy is proud to be a part of those efforts."

-- Van Ingram, Executive Director, Kentucky Office of Drug Control Policy

Figure 12. Drug Use from Pre-incarceration to One-year Post-release (N=299)



Note: Significance established using McNemar's test for correlated proportions, **p<.01, ***p<.001, see Appendix B.

EDUCATION, EMPLOYMENT, & FINANCIAL SITUATION

75.3%

of participants were employed part-time or full-time at follow-up.

In addition to decreases in substance use, SAP graduates reported other positive outcomes during the 12 months following release. For example, 15% of SAP graduates (n=46) reported attending either an educational or vocational training program during this time. Specifically, 10 attended a GED program, 24 attended either a college or vocational school, and 12 attended a job training program.

As shown in Table 6, three-fourths (75.3%) of SAP graduates reported their usual employment pattern as working full or part-time in the year since release, with graduates at follow-up reporting working an average of 12.9 days in their last 30 days on the street and an average of 1.9 jobs during the 12-month period. Furthermore, SAP graduates reported an average past-month legal income of $1,643, and 92.6% reported stable housing in an apartment, room, house, or residential treatment facility. Rates of stable housing increased from FY2021 (88.9%).

Table 6. Education, Employment, and Income in the 12 Months Post-release (N=299)

	Jail (n=168)	Prison (n=118)	Community Custody (n=13)	Total (N=299)
Participated in education or vocational program	13.7%	16.1%	30.8%	15.4%

	Jail (n=168)	Prison (n=118)	Community Custody (n=13)	Total (N=299)
Employed full- or part-time	78.0%	72.0%	69.2%	75.3%
Housed in apartment, room, house or residential treatment facility	93.5%	90.7%	100%	92.6%

The partnership between the Division of Addiction Services and the Division of Reentry Services has been crucial to supporting these positive outcomes. According to Kristin Porter, Director of the Kentucky Reentry Service Division, Services Division, "Due to the collaboration between the Division of Addiction Services and the Division of Reentry Services we have seen great success for our population and in 2022 we were able to announce a historic low recidivism rate of 29.17%. Director Johnson and I both are lucky to have amazing staff that work together daily to serve the needs of the justice-involved population in any way they can."

Several initiatives merit recognition. Firstly, a **Transportation Pilot** was launched in August 2020 and represents a large-scale collaboration between the Divisions of Addiction Services, Reentry Services, Probation and Parole, and the Transportation Cabinet, provided through local transportation brokers in communities across the state. The pilot allows clients who are experiencing a transportation barrier to request a ride to certain approved appointments, treatments, and classes, making services more accessible. In 2022 the project expanded statewide to serve all populations within the Kentucky Department of Corrections. The pilot also expanded to provide use to the Department of Public Advocacy, Alternative Sentencing Workers to aid their clients in transportation. To date, a total of 13,636 transports were completed to assist the justice-involved population. This growth will significantly help the justice-involved population with reaching appointments in the community, including treatment for SUD.

Secondly, Reentry and Addiction Services have continued to collaborate to support **Reentry Employment Program Administrators (REPAs)**, who assist individuals on community supervision with an employment plan, with concentrated services for individuals with opioid use disorder. Using a model called the "ABCs of Employment," REPAs assist clients in obtaining *Any* Job if they just need a work opportunity, a *Better* job if they want to improve on something, or a *Career* if they know what they want to do long-term. REPAs work collaboratively with SSCs to place the client's recovery at the forefront and ensure that the employment plan is congruent with recommendations for SUD outpatient treatment, classes, or other aftercare. During 2022, REPAs completed 3,963 assessments, leading to employment or job/skills training opportunities for the justice-involved population. Originally, the Department received funding for four REPAs; after continued success, the Department now employs 11 REPAs, ensuring statewide coverage for the population on community supervision with Probation and Parole.

Third would be a new initiative - In collaboration with the Division of Addiction Services, the Division of Reentry Services has established seven **Jail Reentry Coordinator positions** to serve the SAP population as they are released from custody. A Jail Reentry Coordinator will meet with the population releasing from 19 local jails across the state who have a SAP program to ensure all barriers are met to aid in their

successful return to the community. The inmate is provided a State ID, birth certificate and social security card in addition to local resources and referrals to any continued care they may need. These new positions are funded by the Kentucky Opioid Response Effort Grant. Since the positions began they have assisted over 2,000 inmates at the time of their release.

Another initiative to note, in partnership with the Kentucky Education and Workforce Development Cabinet, **KY Skills U** was launched in January of 2019 to streamline educational services for adults returning to the community from a period of incarceration. Probation and parole officers refer individuals to Skills U agents who assist clients with enrollment and developing a plan to reach their educational goals, including high school equivalency degrees (GEDs), college courses, and work skills development, through both onsite and online settings. In 2022, the DOC made a total of 1,011 educational referrals to Skills U.

Finally, during FY2021, the Division of Reentry Services and Department of Transportation collaborated to process **State ID applications** for incarcerated individuals anticipating a release to the community. This pilot program allows all individuals to be released with a state ID card, removing barriers to employment, service enrollment, and receipt of benefits. The pilot project began February 1, 2020 at four sites, including 3 state prisons and 1 county jail. During this fiscal year, the project achieved statewide expansion serving releases coming from all state prisons in the Commonwealth.

Additionally, the Division of Reentry Services facilitates health insurance access for all individuals by assisting with the **Medicaid application** process. When an individual is nearing release from incarceration, reentry staff facilitate communication with local Managed Care Organizations so the individual may select an organization to enroll with. This ensures Medicaid coverage will begin immediately after release, rather than individuals needing to wait for coverage before seeking and receiving services in the community. The KY Cabinet for Health and Family Services Department of Medicaid Services (CHFS DMS) also filed an application for amendment to its existing 1115 Medicaid Demonstration Waiver in November 2020 to request Medicaid coverage for SUD services for incarcerated individuals. This amendment application has been included in the state's 1115 Demonstration extension application, submitted in September 2022.

FAMILY & SOCIAL SUPPORT

Graduates of DOC treatment also reported improved family relationships at one-year post-release. More SAP graduates reported spending most of their free time with family at follow-up (69.6%) than before incarceration (54.5%), and also reported a higher average number of friends (2.99 vs. 2.83). In addition, over two-thirds (67.6%) of SAP graduates reported having a close relationship with their children at follow-up. Of those with children under 18 (n=185), 78.9% reported providing financial support to their minor children in the 12 months post-release. Overall, 81.6% of graduates reported feeling 'quite a bit' or 'extremely' cared about and supported by the important people in their life.

"I learned if I need to talk to someone, I will. I learned a lot about myself that I didn't before, and **I learned how to be a mother again."**

Responses to open-ended questions in the follow-up interview show that SAP graduates believe the program made a difference in their relationships with family in the following ways:

- Respecting themselves and others, accountability, and making amends
- Coping, anger management, and parenting skills
- Work on co-dependence and boundaries
- Self-discipline, patience, and integrity
- Communication skills, listening, and honesty
- Empathy, open-mindedness, self-awareness, and understanding

It is clear from participants' responses that they believe family support to be critical to recovery success. In line with this perspective, the Division of Addiction Services has also made significant recent efforts around family engagement, both during incarceration and as individuals transition to the community. Although precautions taken during the COVID-19 pandemic limited many usual family visitation activities, the DOC made adaptations to allow these critical contacts to continue in a safe manner, including providing incarcerated individuals with free web-based calls to approved visitors during times when in-person visits were not possible. Furthermore, the Division of Reentry Services began providing reentry simulations – formerly held in-person – virtually. This virtual reentry simulation allows participants to see what a day in the life of an individual looks like when they are first released from incarceration. All community staff hired to work in the Department participate in the virtual reentry simulation to help them understand the population they will be working with. The Division of Reentry Services also hosts the virtual reentry simulation for community stakeholders wishing to know more about the criminal justice system and reentry process. Additionally, the Division of Addiction Services has begun exploring virtual family education as a new platform and has offered one pilot meeting to date, including Narcan training and kits provided by Dr. Jody Jaggers.

> "[SAP taught me] not to dwell on the past because there is nothing you can do about it. Just learn from it and **try to rebuild those relationships that you had**."

Finally, the Division of Addiction Services performed a number of updates to their webpages in the aims of providing more helpful and accessible information to clients and their support networks. These updates have included expanded information about treatment resources, including medication for addiction treatment (MAT); education related to SUD itself and recovery services; and a variety of helpful brochures for families, including a page calling to "End the Stigma" of SUD, particularly among clients' families and loved ones. Overall, these efforts reflect the Division's commitment to best support clients and their families through the recovery and re-entry process.

MENTAL HEALTH

Fewer SAP graduates reported experiencing serious depression at followup (38.5%) when compared to pre-incarceration (44.5%), as illustrated in Table 7. In addition, significantly fewer graduates reported suicidal thoughts at follow-up (4.7%) when compared to pre-incarceration (10.0%). However, the prevalence of SAP graduates reporting anxiety did not change between pre-incarceration and follow-up. This is consistent with recent research that has highlighted the impact of COVID-19 for incarcerated individuals, particularly anxiety and stress among those being released to the community given major social changes (Johnson et al., 2021).

SAP graduates reported decreases in instances of serious depression and suicidal thoughts 12 months following release.

Table 7. Mental Health Pre-incarceration and Post-release (N=299)

	Pre-incarceration	12-Month Follow-up
Experienced serious depression in previous 12 months	44.5%	38.5%
Experienced serious anxiety in previous 12 months	54.2%	54.5%
Experienced serious thoughts of suicide in previous 12 months*	10.0%	4.7%

Note: Significance established using McNemar's test for correlated proportions, *p<.05, see Appendix B.

Mental health has also been a priority of the Division, which has continued efforts to support clients who receive SUD treatment. For example, two prisons – Kentucky State Reformatory (for men) and the Kentucky Correctional Institution for Women – offer Co-Occurring Disorder Programs, which allow integrated treatment in a modified therapeutic community model for individuals with verifiable histories of SUD and severe mental health diagnoses. However, in 2019, for individuals with less severe mental health issues, the Division expanded the evidence-based cognitive-behavioral "A New Direction" curriculum used in prison-based SAP programs to include a workbook specifically for Co-occurring Disorders. SAP staff received a three-day training from the Hazelden Betty Ford Foundation, founders of A New Direction, to facilitate this addition.

Recognizing the potential value of this curriculum to individuals participating in jail-based SAP programs, in 2021, the Division received additional funding through the **Kentucky Opioid Response Effort (KORE)** to expand use of the Co-occurring Disorder workbooks in jail-based SAP programs across the state. Additional workbooks were purchased for jail SAP programs in 2021, using KORE funding; jail program staff received training through the Division of Addiction services in August 2021, and curriculum was implemented in September 2021.

Although all SAP participants complete the first two sections of the workbook, individuals who meet the appropriate mental health criteria now have the opportunity to complete the entire curriculum, which teaches clients about the interconnectedness of substance use/mental health issues, provides tools to

manage co-occurring disorders, and focuses on relapse prevention after release. Since the program's implementation, 54.2% of all individuals entering prison or jail SAP programs have met criteria for at least one mental health condition (i.e., depression, anxiety, or PTSD). In total, 1,228 jail or prison SAP clients have completed the new co-occurring disorder curriculum. These additional targeted services would not be possible without collaborations between Addiction Services and the DOC's mental health staff.

Finally, for individuals who are not in prison or jail custody, the DOC has created a new, specialized caseload for Social Service Clinicians (SSCs) to provide targeted services and case management for clients living with co-occurring mental health and substance use disorders. Additionally, the Hope Center in Lexington, KY has partnered with the DOC to provide residential, community-based SUD treatment for DOC-referred clients living with co-occurring disorders through the **Supportive Housing for Adaptive Reentry (SHARE) Program**. The men's program began services on February 1, 2020, while the women's program started on October 15, 2021. The program utilizes a modified peer-driven therapeutic community with added direct supports from licensed mental health professionals, smaller groups, psychiatric counseling through New Vista (a local community mental health provider), and offers beds for 20 men and 20 women.

TREATMENT COST-OFFSET

The public funding of substance use disorder treatment and recovery services typically must justify its costs by showing reductions in social and financial costs to society. For CJKTOS and this report, a person who is actively using substances is defined as someone misusing drugs and/or alcohol in the 30 days prior to incarceration (both at baseline/intake and at follow-up 12-months post-release).

For every $1 spent on Kentucky's corrections-based substance use disorder treatment programs, there is a

$3.29 cost-offset.

In order to calculate the cost-offset of treatment offered, comprehensive national data was first used to calculate the annual average cost of an individual actively using substances. This dollar value was then applied to the number of individuals in the present sample who were actively using substances before (n=282) and after (n=73) treatment. To determine the net reduction in cost, the direct costs of the treatment programs were subtracted out (calculated as days spent in treatment, multiplied by cost per individual per day in each treatment modality – prison, jail, or community custody). The cost-offset ratio was thus defined as the ratio of the net avoided cost of active substance use ($1,123,571) to the total direct cost of corrections-based substance use disorder treatment ($341,519). By these calculations, for every dollar spent on corrections-based treatment, there was a return of $3.29 in cost offsets. Detailed tables and methodology are available in **Appendix D.**

SUPPORTING RECOVERY AND POST-TREATMENT SUCCESS

While data reflect the benefits of SAP based on cost-offset, there is also a genuine human investment and payoff associated with SAP, as evidenced by qualitative data collected from SAP graduates. The vast majority of individuals reflected that the program had made a positive impact and they had received valuable skills to continue their recovery in their life post-release. When asked to reflect on the factors needed to be successful after treatment, SAP graduates mentioned several important themes:

- **Changing the old people, places, and things associated with drug and alcohol use**
- **Being held accountable by a strong support system, especially family**
- **Asking for help when cravings or relapses happen**
- **Setting attainable goals and staying focused on them, even when outcomes are not achieved immediately**
- **Having structure and staying busy with constructive activities, particularly employment**
- **Keeping an optimistic and positive outlook in spite of setbacks**
- **Going to AA/NA meetings, helping others in recovery, and having a sponsor**
- **Exercising the patience to take life "one day at a time"**
- **Being connected to religious faith, spirituality, or a higher power**
- **Having the willpower and dedication to persevere in recovery**

Recognizing the importance of ongoing recovery support, the Department of Corrections is currently working to implement **Peer Recovery Coaching Services** within prison-based SAP programs, a model which has demonstrated promise in reducing recidivism and substance use and improving health and well-being (Bellamy et al., 2019; Ray et al., 2021). With funding provided by the Kentucky Office of Drug Control Policy (ODCP), this new program will employ trained, licensed peer recovery support specialists with a history of lived experience in mental health and/or substance use disorder to assist SAP clients with guidance and coaching; community resource education; and hope and encouragement as part of a multi-disciplinary treatment team. As of this report's publication, the DOC has a fully executed contract with Voices of Hope, a recovery community organization based in Lexington, KY. Voices of Hope has begun hiring and training recovery coaching staff for these new positions.

In the current FY2022 follow-up sample, a majority of SAP graduates also engaged in 12-step programs and some type of aftercare. Specifically, as shown in Table 8, 54.8% reported attending self-help group meetings (such as AA/NA or SMART Recovery), and they reported attending meetings an average of 3.7 days in the past 30.

Table 8. Self-help Group Meeting Attendance in the 12 Months Following Release (N=299)

	Attended any self-help group meetings	**Average number of days attended meetings in past 30 days**
Jail (n=168)	51.8%	3.7 days
Prison (n=118)	61.0%	3.3 days
Community Custody (n=13)	38.5%	8.3 days

	Attended any self-help group meetings	Average number of days attended meetings in past 30 days
Total (N=299)	54.8%	3.7 days

Medication for Addiction Treatment (MAT)

Initiating and continuing medication for addiction treatment (MAT) can be an important factor in posttreatment success, and additional information about KY DOC's efforts to support clients' access and utilization of MAT will be available in a forthcoming short report. Among all SAP participants in FY2022 (N=4,491), 29.9% met criteria for an OUD only, 15.8% for an AUD only, and 11.9% for co-occurring OUD/AUD. However, it should be noted that not all participants who meet criteria for an OUD/AUD disorder are eligible for medication, and that data is not available for this report. Nonetheless, at the time of the 12-month follow-up interview, almost one-fifth of all follow-up participants (17.7%) reported choosing to engage in community-based MAT services for opioid or alcohol use disorders (OUD or AUD), including Suboxone/Subutex (13.4%), Vivitrol (4.7%), or methadone (1.3%). Given these prevalence rates, it seems that DOC has made significant progress in connecting interested and eligible SAP graduates with MAT services after release.

"We are called by the evidence base, our professional responsibility, and our humanity to provide access to the substance use disorder treatment and recovery support services that saves and sustains lives."

-- Dr. Katherine Marks, Project Director for the Kentucky Opioid Response Effort (KORE)

Furthermore, in response to COVID-related safety recommendations and restrictions, the US Drug Enforcement Administration permitted flexibility for authorized practitioners to prescribe buprenorphine to new patients via telemedicine as of March 2020, supporting access to this critical medication. Practitioners have also recently urged for a review of federal methadone regulations to allow for officebased prescribing and dispensing (McCarty et al., 2021). Finally, as of August 13, 2021, the Kentucky Department for Medicaid Services removed prior authorization for all covered behavioral health and SUD services, whether inpatient or outpatient (including MAT), facilitating timely access to services without requiring clients to wait for insurance approval.

Aftercare

Of the present sample of SAP graduates (N=299), 65.2% were considered "eligible" for SAP aftercare. "Ineligible" clients included those who were released on mandatory re-entry supervision (MRS; n=65), served out (n=19), PSAP/Senate Bill 4 diversion clients (n=10), or released on an interstate compact (n=7) or a commuted sentence (n=3).

Of clients who were eligible and referred to meet with an SSC (n=154), 89.6% (n=138) attended their initial meeting. Almost every client who met with an SSC (97.8%) received some type of recommendation, based on their level of need: 92.8% were referred to traditional aftercare, 4.3% were recommended to attend self-help group meetings (such as AA/NA) only, and 0.7% were referred to inpatient SUD services. Of those referred to traditional aftercare (n=128), 65.6% had some type of documented attendance, and 46.9% completed their aftercare program.

97.8% of eligible SAP graduates who were referred to a community SSC received some type of treatment or aftercare recommendation

Another key role played by SSCs is performing assessments in the event of a positive drug screen or admission of drug use for individuals under community supervision, to determine a recommended level of treatment. In lieu of revocation, individuals may sign a graduated sanction form and choose to enroll in services, providing linkage to treatment and accountability for attendance. Overall, 19.7% of the follow-up sample (n=59) was referred to an SSC at some point during their supervision due to selfreported drug use or positive urine drug screen, and of the 51 participants who attended their scheduled meeting, 96.1% (n=49) received some type of referral: 57.1% to outpatient services, 40.8% to inpatient treatment, and 2.0% to additional AA/NA meetings.

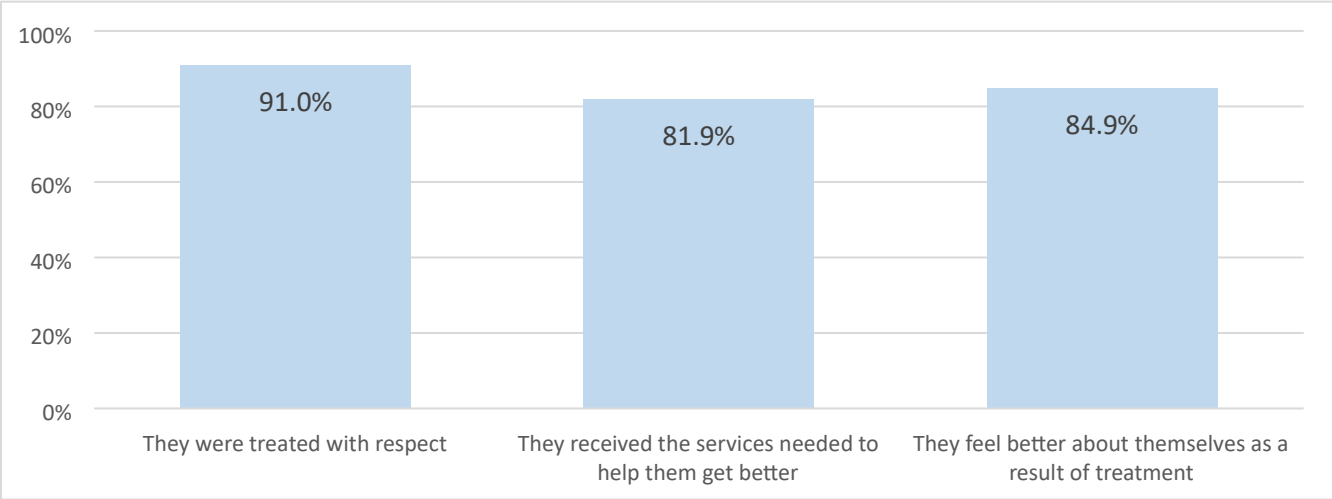
In 2021, the Division of Addiction Services developed a workgroup in conjunction with Reentry and Probation and Parole to review and improve SAP aftercare services. As a result of this workgroup, changes in aftercare included a more holistic clinical approach and increased utilization of referrals to decrease barriers. The initial aftercare needs and prevention form was created to incorporate validated screening questions and to quickly identify high-risk needs and other barriers that can interfere with the client's ongoing recovery. Aftercare length was also modified to allow for individualized completion based on meeting milestones in their recovery. This revised aftercare program was piloted in a few P&P districts beginning in October 2021; as of this report's publication, SSCs have a new specialized caseload for aftercare clients and the new program is undergoing statewide implementation.

TREATMENT SATISFACTION

As shown in Figure 13, the majority of SAP graduates at follow-up agreed or strongly agreed that they were treated with respect in the program (91.0%), that they received the services they needed to help themselves get better (81.9%), and that they felt better about themselves as a result of treatment (84.9%). Overall, most graduates (84.3%) considered the program to be a success.

"The counselors really tried…**They made us feel like family."**

Figure 13. Treatment Program Satisfaction (N=299): Participants who Agreed or Strongly Agreed…



When asked to explain why they believed the program was successful and why they rated SAP so highly, many pointed to achievements post-release, such as continuing sobriety, employment, relationships with children and family, and not being re-incarcerated. Others said they appreciated the chance to mentor others, to learn about addiction and their own behaviors, to share their stories and hear about others' experiences, and to be a part of the program's fellowship and community. Overall, many participants believed that their successes and growth were due to their experiences in SAP. These findings align with a recent consensus study report released from the National Academies of Sciences, Engineering, and Medicine (NASEM, 2022) calling for measurement of post-release outcomes to expand beyond recidivism and reincarceration alo

"I realized that not only did my actions hurt myself – they were also a ripple and they affected everyone. When I was an addict, it was all about me just telling people what they wanted to hear just to get what I wanted. It was all about me, and it's not that way anymore. ***I put others before I do myself."***

LIMITATIONS

Findings in this evaluation report should be interpreted with some limitations in mind. First, preincarceration data are self-reported at SAP intake and follow-up data are self-reported approximately 12-months post-release. In order to examine the reliability of self-reported follow-up drug use, CJKTOS staff examined data from the Department of Correction's information system and the Kentucky Offender Management System (KOMS) for positive drug tests. Of the 162 SAP graduates during the 12-month follow-up period who reported no drug use, 139 had no positive drug tests in KOMS. This provides a selfreport accuracy rate of 85.8%. In this study, a higher rate of substance use is self-reported than from

urine test results (45.8% vs. 24.7%). Furthermore, urine tests only identify substances used recently, and will only identify drug use among participants on supervision. Thus, for past 12-month substance use, self-report remains an important part of research data collection. However, while self-report data has been shown to be valid (Del Boca & Noll, 2000; Rutherford et al., 2000), it should be noted as a potential limitation. In addition, since baseline measures target behaviors prior to the current incarceration, reporting of substance use and other sensitive information may be affected by participant's memory recall and could be a study limitation. Victim crime costs and their reductions before prison compared to their 12 months after prison do not take into account all costs associated with re-incarceration.

CONCLUSIONS

This FY2022 CJKTOS follow-up report presents 12-month post-release data on the characteristics of individuals who complete Kentucky Department of Corrections substance use disorder treatment programs during their peer-lead and incarceration in prison or jail, as well as community custody programs. This community-based; with follow-up report includes data from a random sample of participants who others having the same received treatment in DOC prison, jail, and halfway house programs and problem we worked were released during fiscal year 2021. Specifically, this 12-month follow-up together to get better. **If** study examined a randomly selected representative sample of 299 males **you take what it has to** and females who successfully completed jail, prison, or community custody- **offer you, you'll be fine**." based treatment in reentry service centers and consented to follow-up.

Findings from the FY2022 CJKTOS indicate a number of positive outcomes following successful completion of KY DOC SAP programs, including:

- *** Reduced substance use**
- *** Decreased recidivism**
- *** Reduced cost to the community**
- *** Increase in employment**
- *** Increased housing stability**
- ***Program satisfaction**
- *** Improved family relationships**
- *** Improved mental and emotional wellbeing**
- *** Increase in self-esteem**
- *** Increased recovery supports**

IMPLICATIONS

Findings from this CJKTOS report indicate a number of positive outcomes associated with Kentucky Department of Corrections' substance use disorder treatment programs. These programs continue to evolve to meet the treatment demands of individuals and to provide services that are effective in reducing drug use and crime while simultaneously promoting reintegration of individuals back into the community. This commitment has been supported by state-level initiatives (e.g., SB 192 funding for MAT,

or HB 284's expansion of Program Good Time Credit), but has also been bolstered by strong collaboration between the DOC Divisions of Addiction Services and Probation and Parole, Reentry Services, and Mental Health, as well as the Kentucky Department for Behavioral Health, Developmental and Intellectual Disabilities (through the Kentucky Opioid Response Effort, KORE). These partnerships have created opportunities to implement evidence-based programs and novel services to address barriers and better meet clients' needs, both during and post-incarceration, to support individuals in sustaining long-term recovery.

During FY2022, the Kentucky DOC still felt some lingering residual impacts of the global COVID-19 pandemic, including reduced staffing and challenges to service delivery, consistent with justice systems across the nation (Burton et al., 2021; Dir et al., 2022; Donelan et al., 2021; LeMasters et al., 2022). Nonetheless, the Kentucky Division of Addiction Services remained committed to treatment and promoting the health and safety of all participants and staff. In addition, the Division has taken action in response to recent guidance from the U.S. Department of Justice (US DOJ, 2022) to ensure access to medications for opioid use disorder (MOUD) for all individuals who enter custody while taking prescribed MOUD, a right protected under the Americans with Disabilities Act (ADA). Although eligible individuals exiting custody have the ability to initiate injectable extended-release naltrexone (Vivitrol®) or buprenorphine (Sublocade®)[1] prior to release, the Division is currently working to hire staff, update policies, and expand infrastructure in facilities statewide to ensure continuity of MOUD access for those who were taking medications prior to incarceration. This reflects the Division's dedication to continuously reviewing services, examining treatment gaps, and looking for new ways to improve existing practices, which would not be possible without the dedication of clinical program staff. Additionally, leadership in DOC Addiction Services is involved in several workgroups, both nationally and statewide, that enable the Division to stay up-to-date with new initiatives, emerging research, and updates to best practice. This engagement has opened the door for continued expansion through new funding opportunities to increase capacity, as well as enhanced collaboration and new partnerships, that will support the Division's commitment to continuous service improvement and facilitate positive client outcomes.

[1] Injectable extended-release buprenorphine is available pre-release at four prisons and one jail SAP location; extended-release naltrexone is available at all prison and jail SAP locations (as of this report's publication).

KEY TERMS

Baseline: Baseline refers to data collected at treatment intake by correctional treatment counselors. Baseline measures examine substance use prior to the current incarceration.

Community Custody Treatment Participants: Clients who participated in a community custody-based substance use disorder treatment program and who met the eligibility to participate in the follow-up study and provided consent.

DOC Counting Rules:

1. Include only those inmates who have completed their sentences, were released on parole, have received a conditional release, or were released on a split prison-probation sentence. Do not include temporary releases (e.g. inmates furloughed). To be counted the inmate must no longer be considered an inmate or in a total confinement status, except for those released from prison on a split prison-probation sentence.
2. Include only those inmates released to the community. Exclude from the count inmates who died, were transferred to another jurisdiction, escaped, absconded, or AWOL. Exclude all administrative (including inmates with a detainer(s) and pre-trial release status released.
3. Count number of inmates released, not number of releases. An inmate may have been released multiple times in that same year but is only counted once per calendar year. Thus, subsequent releases in the same calendar year should not be counted.
4. All releases (inmates who have completed their sentences, were released on parole, have received a conditional release, or were released on a split prison-probation sentence) by an agency per year constitute a release cohort. An inmate is only counted once per release cohort and thus can only fail once per cohort.
5. Do not include inmates incarcerated for a crime that occurred while in prison.
6. Inmates returned on a technical violation, but have a new conviction should be counted as a returned for a new conviction.

Follow-up: Follow-up refers to data collected 12-months post-release by the University of Kentucky Center on Drug and Alcohol Research. Follow-up measures examine substance use, community treatment, and criminal offenses 12-months post-release from a prison or jail.

Jail Treatment Participants: Clients who participated in a jail-based substance use disorder treatment program and who met the eligibility to participate in the follow-up study and provided consent.

McNemar's Test for Correlated Proportions: Assesses the significance of the difference between two correlated proportions, such as might be found in the case where the two proportions are based on the same sample of subjects or on matched-pair samples. (See http://faculty.vassar.edu/lowry/propcorr.html)

Paired Samples T-Test: Compares the means of two variables by computing the difference between the two variables for each case, and tests to see if the average difference is significantly different from zero. (See http://www.wellesley.edu/Psychology/Psych205/pairttest.html)

Chi Square Test of Independence: Evaluates if two categorical variables are associated in some population. (See https://www.spss-tutorials.com/spss-chi-square-independence-test/)

Prison Treatment Participants: Clients who participated in a prison-based substance use disorder treatment program and who met the eligibility to participate in the follow-up study and provided consent.

Recidivism: Re-incarcerated on a felony charge within the 12 months following release.

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APPENDIX A. KENTUCKY DEPARTMENT OF CORRECTIONS SUBSTANCE USE DISORDER TREATMENT MODALITIES

Prison Therapeutic Community: A six-month evidence-based substance use disorder treatment opportunity for those individuals assessed with Substance Use Disorder and classified to be housed in a prison setting. Residents in these programs are housed separately from the prison general population, thereby forming their own community that encourages responsibility and accountability through peer support and uninterrupted focus on substance use treatment.

Jail Therapeutic Community: The Kentucky Department of Corrections contracts with 24 detention centers to provide evidence-based substance use disorder treatment programming for individuals classified to a jail setting. Individuals are housed separate from the jail general population, fostering a community accountable to, and responsible for, a supportive treatment environment.

Recovery Kentucky Centers: Through a joint effort by the Kentucky Department of Corrections, Kentucky Housing Corporation, and the Department for Local Government (DLG), Recovery Kentucky was created to assist Kentuckians recover from substance use disorders and to reduce homelessness. There are 13 Recovery Kentucky Centers across the Commonwealth. Each Center offers 100 treatment/recovery beds. The Kentucky Department of Corrections contracts for 60 beds in each location.

Reentry Service Centers: Those individuals in need of substance use disorder treatment, who meet the classification criteria for community custody, may participate in programs available in halfway houses approved by the department to offer substance use disorder treatment programming.

Community Intensive Outpatient: Through an agreement with the 14 Regional Community Mental Health Centers, individuals who meet the clinical and classification criteria may attend a less restrictive 6-month Intensive Outpatient Program in a location compatible with their approved home placement. Clients meet three times per week, must abide by all treatment program standards, and submit to random drug testing.

Contracted Intensive Outpatient Programs: Because the majority of the probationers, parolees, and pre-trial diversion clients reside in Louisville, Lexington, or Northern Kentucky, the department contracts with treatment agencies in these areas to provide substance use disorder treatment services akin to those offered in the Community Mental Health centers. Eligible candidates include probationers, parolees, and pre-trial diversions.

Prison Outpatient Programs: Kentucky State Reformatory serves as the primary medical center for the Department of Corrections. In response to those individuals who are medically unable to transfer to facilities where substance use disorder treatment programming is offered, the Department offers evidence-based outpatient substance use disorder programming.

P-SAP Jail Programs: In response to Senate Bill 4, passes into law in 2009, individuals charged with Class C or D felony drug and/or alcohol crimes, with no felony convictions within the past 10 years may be eligible for treatment as an alternative to conviction. At initial incarceration, the Jail Pre-Trial Officer may alert the Division of Substance Abuse Branch Manager to conduct a clinical assessment to determine eligibility for substance use disorder treatment. Upon an agreement between the judge, the commonwealth attorney, the inmate in question, and his/her attorney, successful completion of a jail based, six-month treatment program may serve as an alternative to a felony conviction.

Prison Co-Occurring Program: Individuals with verifiable histories of substance use disorder and other mental health disorders are eligible to receive an integrated treatment program to address both mental health and substance use disorders. Programs are available in male and female prisons for those classified with prison status.

Community Co-Occurring Programs: Individuals with verifiable substance use and mental health disorders, and have community status, may receive co-occurring treatment through Community Mental Health Centers or through private providers. The Community Social Service Clinician can assist with this referral.

Reentry Drug Supervision: Mandated by Senate Bill 120, the Kentucky Department of Corrections shall implement a reentry drug supervision pilot program with a goal of restoring the lives of those experiencing substance use disorders. Through a team-based oversight and evidence-based behavior modification, individuals will address issues of substance use disorder with support and oversight by the Parole Officer, Social Service Clinician, Administrative Law Judge, Parole Board, and mental health and substance use disorder treatment providers. This program is currently piloted in Floyd and Campbell Counties.

Reentry Centers: Through provisions of SB 120, this unique reentry opportunity focuses on specific area of need for each client. This could include employment, education, medical, psychological, vocational, housing, Intensive Outpatient substance use disorder treatment, and family reunification. Eligible candidates may include probationers, parolees, misdemeanants, those on MRS, and pre-trial diversion.

Medication for Addiction Treatment In 2015, the Kentucky General Assembly, through SB 192, provided $3 million to the Kentucky Department of Corrections to provide Medically Assisted Treatment (Injectable Naltrexone) in conjunction with evidence based substance use disorder treatment for those individuals at risk for heroin and/or heroin relapse upon release from incarceration. Through the use of regularly scheduled Injectable Naltrexone (Vivitrol), clients are able to eliminate the cravings that lead to heroin and opiate relapse. By maintaining this protocol, clients are best prepared for reentry to the community. There is no cost to the client for these services. Protocol requires enrollment in a jail or prison evidence-based substance use disorder program.

Social Service Clinician Community Groups: As part of the division of Substance Abuse Services effort to stem the high rate of substance use disorders associated with incarcerated populations, Social Service Clinicians are assigned to all Probation and Parole District Officers throughout the state and are responsible for all substance use disorder clinical assessments, referrals and treatment. In this capacity, Social Service Clinicians may provide group treatment for probationers, parolees, and other eligible clients.

Private Non-Contact Providers: Community based Social Service Clinicians are encouraged to utilize all available evidence based resources in the geographic catchment area. This may include agencies not formerly contracted with by the Department. Awareness of client needs and a knowledge of all local clinical resources allows for broader opportunities for change.

APPENDIX B. CJKTOS DATA COLLECTION SITES

PRISON DATA COLLECTION SITES

Blackburn Correctional Complex 3111 Spurr Rd. Lexington, KY, 40511 (859) 246-2366	Lee Adjustment Center 168 Lee Adjustment Center Drive Beattyville, KY 41311 (606) 464-2866	Roederer Correctional Complex P. O. Box 69 LaGrange, Kentucky 40031 (502) 222-0170
Green River Correctional Complex 1200 River Road P.O. Box 9300 Central City, Kentucky 42330 (270) 754-5415	Little Sandy Correctional Complex 505 Prison Connector Sandy Hook, Kentucky 41171 (606) 738-6133	Southeast State Correctional Complex 327 Correctional Drive, P.O. Box 1600 Wheelwright, KY 41669 (606) 452-6330
KY Correctional Institution for Women 3000 Ash Avenue Pewee Valley, Kentucky 40056 (502) 241-8454	Northpoint Training Center P.O. Box 479, Hwy 33 710 Walter Reed Road Burgin, Kentucky 40310	Western Kentucky Correctional Complex/Ross-Cash 374 New Bethel Church Road Fredonia, KY 42411 (270) 388-9781
Kentucky State Reformatory 3001 W Highway 146 LaGrange, Kentucky 40031 (502) 222-9441		

JAIL DATA COLLECTION SITES

Boyle County Detention Center 1860 S Danville Bypass Danville, KY 40422 (606) 739-4224	Hardin County Detention Center 100 Lawson Blvd Elizabethtown, Kentucky 42701 (270) 765-4159	Mason County Detention Center 702 US 68 Maysville, Kentucky 41056 (606) 564-3621
Breckinridge County Detention Center 500 Glen Nash Road Hardinsburg, Kentucky 40143 (270)756-6244	Harlan County Detention Center 6000 Highway 38 Evarts, Kentucky 40828 (606) 837-0096	Pike County Detention Center 172 Division Street, Suite 103 Pikeville, Kentucky 41501 (606) 432-6232
Christian County Detention Center 410 West Seventh St. Hopkinsville, Kentucky 42240-2116 (270) 887-4152	Henderson County Detention Center 380 Borax Drive Henderson, Kentucky 42420 (270) 827-5560	Powell County Detention Center 755 Breckenridge Street Stanton, KY 40380 (606) 663-6400
Daviess County Detention Center 3337 Highway 60 East Owensboro, Kentucky 42303-0220 (270) 685-8466 or 8362	Hopkins County Detention Center 2250 Laffoon Trail Madisonville, Kentucky 42431 (270) 821-6704	Shelby County Detention Center 100 Detention Road Shelbyville, KY 40065 (502) 633-2343
Fulton County Detention Center 210 South 7th Street Hickman, KY 42050 (270) 236-2405	Kenton County Detention Center 3000 Decker Crane Lane Covington, Kentucky 41017 (859) 363-2400	Three Forks Regional Jail (Lee County) 2475 Center Street Beattyville, Kentucky 41311 (606) 464-259
Grant County Detention Center 212 Barnes Rd. Williamstown, KY, 41097 (859) 824-5191	Laurel County Detention Center 204 W 4th Street London, Kentucky 40741 (606) 878-9431	

Grayson County Detention Center 320 Shaw Station Road Leitchfield, Kentucky 42754-8112 (270) 259-3636	Marion County Detention Center 201 Warehouse Road Lebanon, Kentucky 40033-1844 (270) 692-5802

COMMUNITY REENTRY SERVICE CENTERS DATA COLLECTION SITES

CTS-Russell 1407 West Jefferson Street Louisville, KY 40203 (502) 855-6500	Dismas Charities-Owensboro 615 Carlton Drive Owensboro, KY 42303 (270) 685-6054
Dismas Charities-Diersen 1219 West Oak Street Louisville, Kentucky 40210 (502) 636-1572	Dismas Charities- St. Ann's 1515 Algonquin Parkway Louisville, KY 40210 (502) 637-9150

APPENDIX C. EVALUATION METHODOLOGY

The Criminal Justice Kentucky Treatment Outcome Study (CJKTOS) was developed and implemented in April 2005 to 1) describe those who use substances entering treatment in Kentucky's prison and jail-based programs, and 2) to examine treatment outcomes 12-months post-release. The CJKTOS study is a baseline and 12-month follow-up design which is grounded in established substance use disorder outcome studies (i.e., Hubbard et al., 1989; Simpson, Joe, & Brown, 1997; Simpson, Joe, Fletcher, Hubbard, & Anglin, 1999). Kentucky corrections-based program staff collect assessment data within the first two weeks of a client's admission to substance use disorder treatment.

In FY2011 CJKTOS transitioned from collecting baseline data using personal digital assistants (PDAs) to a web-based data collection system. Department of Corrections treatment providers obtain informed consent and contact information which is forwarded to the University of Kentucky to locate SAP participants for 12-month follow-up interviews post-release. All data are collected and stored in compliance with the University of Kentucky IRB and HIPAA regulations, including encrypted identification numbers, and abbreviated birthdays (month and year) to secure confidentiality of protected health information.

For this report, the 12-month follow-up study was conducted by research staff at the University of Kentucky Center on Drug and Alcohol Research. SAP participants were eligible for inclusion in the follow-up sample if they 1) consented to participate in the follow-up, 2) successfully completed SAP, 3) were released from a jail, prison, or community custody facility within the specified timeframe, 4) provided locator information of at least one community telephone number and address, and 5) were not deceased prior to the opening of their follow-up window. A group of eligible SAP participants were randomly selected for follow-up after proportionate stratification by prison, jail, and community custody, using the same proportion from each correctional setting as those meeting eligibility criteria. This proportionate stratification approach produces estimates that are as efficient as those of a simple random selection (Pedhazur & Schmelkin, 1991).

UK research staff began to locate SAP participants for follow-up at 10-months post-release with a target interview date at 12 months post-release; efforts to locate participants ceased at 14 months after their release date, at which point they were classified as "unable to locate." Locator methods included mailing letters and flyers, phone calls, and internet searches. All follow-up interviews were completed by phone, and all data provided is self-reported by the participants.

Sampling approach

A total of 2,083 clients who completed a CJKTOS baseline were released from custody in FY2021. Having a release date is the point of entry into the follow-up study sampling frame. The CJKTOS follow-up rates are presented in Table 1. Of those 2,083 CJKTOS clients who were released from custody in FY2021, 51 did not consent to participate in the follow-up study and of the 2,032 who consented to participate, 765 did not successfully complete SAP and 101 did not have a completed discharge report. This left 1,166 SAP participants who were eligible for follow-up (released in FY2021, known to have successfully completed SAP, and voluntarily consented for follow-up). Of those, 37.6% were randomly selected to participate in the followup interview (n=438). The sample of 438 was proportionate to the number of males and females released from jails, prisons, and community custody treatment programs.

Of the 438 DOC SAP graduates randomly selected for follow-up in the community 12-months post-release, 303 were successfully located and interviewed (176 jail treatment participants, 111 prison treatment participants and 13 community custody treatment participants). After data collection was completed, two female community custody participants were found to have been discharged incorrectly (released prior to program completion; not graduated), one female jail participant had an incorrect release date, and one male prison participant's data was lost due to a technical error in the data collection web system. These individuals were removed from the final dataset and follow-up rate calculations, resulting in a follow-up rate of 71% (See Table 9).

Table 9. FY2022 Follow-up Rates

	Eligible	*Completed*	*Percentage*
Jail Sample	242	169	70%
Males	198	136	69%
Females	44	33	75%
Prison Sample	167	119	71%
Males	135	93	69%
Females	32	26	81%
Community Custody Sample	29	15	52%
Males	5	2	40%
Females	24	13	54%
Total *Completed, removed from data**	438	303	69%
	4		
*Ineligible for follow-up***	15		
Final Total	419	299	71%
Refusals	26		6%
Unable to locate	94		22%

*Note: removed due to incorrect discharge data (not graduated; n=2), incorrect release date (n=1), and unexpected system error (n=1).
**Note: ineligible for follow-up was defined as participants moving out of state (n=12), in federal custody during their follow-up window (n=2), or who were unable to be contacted due to inappropriate communications with staff (n=1).

Statistical Analysis

Changes in this report between participants' self-reported substance use "on the street" in the 12 months before incarceration (baseline) and SAP participants' self-reported use "on the street" 12 months after release (follow-up) from jail, prison, and community custody programs. McNemar's test for correlated proportions examines statistical differences for the proportion of participants who reported substance use at baseline compared to follow-up. Substance use disorder treatment utilization and criminal justice involvement during the 12-months post-release is also included, as are indicators of costs associated with victim crime.

Changes between those who completed SAP and those who terminated were measured using the chi-square test for independence. The chi-square test examines the correlation between two categorical variables – testing if there is a significant relationship between the two variables by comparing the frequency of each category of one categorical variable across categories of the second categorical variable.

APPENDIX D. COST-OFFSET ANALYSIS TABLES AND METHODOLOGY

The first step in the analysis focused on estimating the average cost per individual actively using substances, using two comprehensive federally funded economic studies. In 2007, the annual cost to the United States for drug misuse was $193 billion (NDIC, 2011). Updated to FY2022 values, this figure translates to $282,490,000,000 (Bureau of Labor Statistics, 2022). The most recent results from the National Survey on Drug Use and Health indicate that there are 40.3 million individuals with a substance use disorder in the United States (Substance Abuse and Mental Health Services Administration, 2020). Thus, the average cost per year for an individual actively using substances ($7,010) was calculated as the total annual cost of drug misuse divided by the number of individuals with substance use disorders using SAMHSA and DSM-5 criteria.

Table 10 shows the cost of active substance use to society for the year prior to incarceration and for the 12 months post incarceration. Abstinent individuals represent the goal of the interventions, and abstinence at follow-up is a robust indicator of positive treatment outcome and reduced cost to society. Thus, the cost of this sample for the year prior to incarceration is estimated at $1,976,820 while the cost for a comparison 12-month period after treatment is estimated at $511,730. This analysis shows a net reduction in cost for the sample of $1,465,090.

Table 10. Costs Associated with Drug and Alcohol Use (Pre-treatment to Post-treatment)

	Baseline N	Per person cost of substance misuse	Cost of substance misuse (pre-treatment)	Follow-up N	Per person cost of substance misuse	Cost of substance misuse (posttreatment)
Study participants who were actively using substances in the past 30 days	282	$7,010	$1,976,820	73	$7,010	$511,730

However, to obtain a more defensible net reduction in cost we estimated the cost of the interventions for substance use disorders for this entire sample. The cost of DOC substance use disorder treatment is illustrated in Table 11. The total number of treatment days for study participants were calculated for each category of treatment (prison, jail, or community custody) and multiplied by the cost per day of treatment to arrive at a total treatment cost of $341,519 for the sample.

Table 11. Cost of Corrections-based Treatment*

	Number of treatment days	Cost per day of treatment*	Total treatment cost
Jail (n=168)	30,868	$6.31	$194,777
Prison (n=118)	21,972	$6.31	$138,643
Community Custody (n=13)	2,382	$3.40	$8,099
Total cost			$341,519

*Treatment costs supplied by KY Department of Corrections, 12/12/2022. A single cost per diem was provided for both jail and prison programs.

As shown in Table 12, the initial cost to the state for drug and alcohol use disorders for this sample would have been $1,976,820 without intervention. After corrections-based treatment, there was a significant decrease in the number of participants reporting drug and alcohol use, reducing the cost to $511,730. The gross difference in the cost to society was $1,465,090. After subtracting the direct costs of the treatment programs, there was a net avoided cost of $1,123,571. Therefore, for every dollar spent on corrections-based treatment there was a return of $3.29 in cost offsets.

Table 12. Cost Offset for the Follow-up Sample (N=299)

Cost Item	Dollars
Annual cost to Kentucky before participation in corrections-based substance use disorder treatment	$1,976,820
Annual cost to Kentucky after participation in corrections-based substance use disorder treatment	$511,730
Gross difference in post versus pre-treatment participation	$1,465,090
The direct cost of corrections-based substance use disorder treatment	$341,519
Net avoided cost after corrections-based substance use disorder treatment	$1,123,571
Ratio showing cost of treatment to savings	1: 3.29
Expressed as return on investment	**$3.29 return for every $1 of cost**