

CJKTOS

CRIMINAL JUSTICE KENTUCKY TREATMENT OUTCOME STUDY

FY2020

Prepared for:

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Commissioner

Kentucky Department of Corrections

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January 2021

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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, pre-release 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.

Report Summary

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 FY2020 for 271 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 FY2020 from July 1, 2019 to June 30, 2020.

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

- 63.1% had not been re-incarcerated.
- 84.5% were living in stable housing.
- 72.0% were employed.
- 73.5% of those with children reported providing financial support to their children.
- 64.9% did not have a positive drug test in the year since release.
- 65.3% attended 12-Step meetings.
- 19.2% had received medication-assisted treatment (MAT) to help with a previous addiction to opiates or alcohol.
- 69.7% of those referred to aftercare, attended aftercare.

Of the SAP graduates who returned to DOC custody...

- 88.0% were re-incarcerated on a technical or probation/parole violation only, without new charges.
- 70.0% reported using drugs in the year since release and 52.0% had a positive drug test.
- 63.0% were employed, compared to 77.2% of non-recidivists.

Treatment graduates noted positives about SAP participation, including...

- 88.2% felt better about themselves as a result of treatment.
- 81.5% thought they had received the services needed to help them get better.
- 86.3% considered the treatment program to be successful.

Cost offset analysis indicated that...

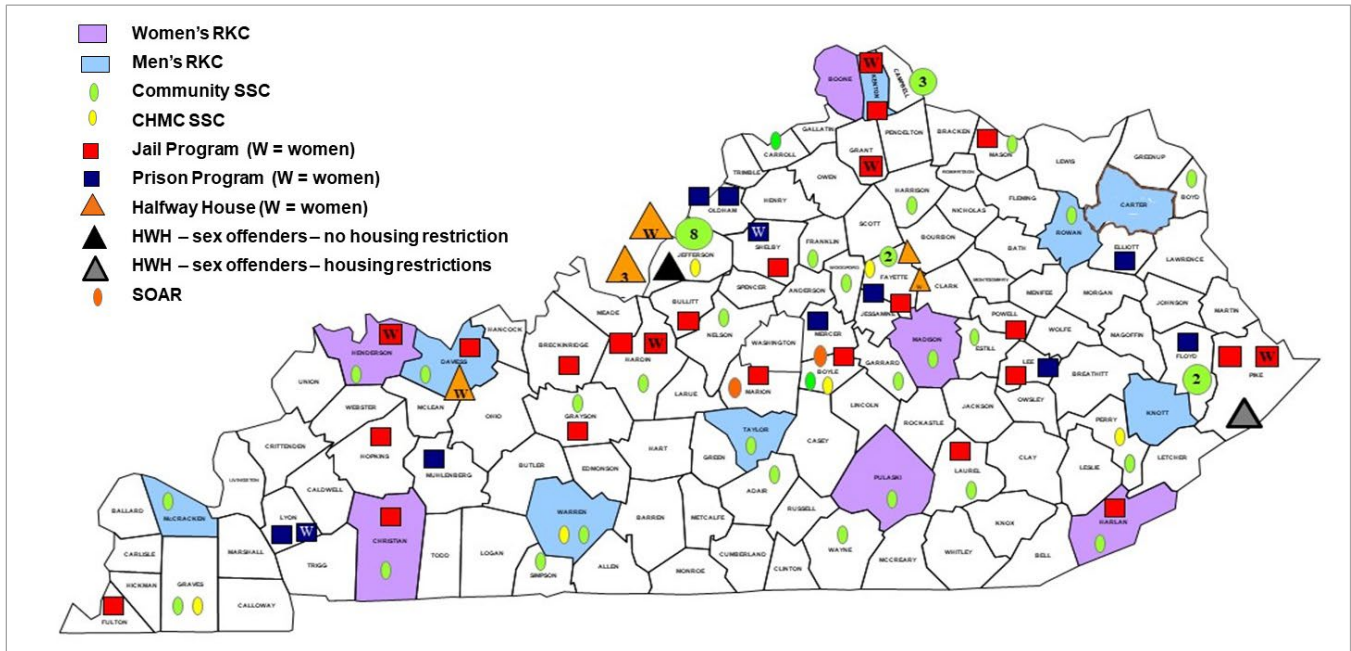
- For every \$1 spent on Kentucky corrections-based substance use disorder treatment there is a \$3.63 cost offset.

The importance of positive post-release outcomes among SAP graduates aligns with the Department's recent re-entry initiatives. For the last two years (since February 2018), the Division of Addiction Services has collaborated closely with the newly formed Division of Re-entry Services within the Department. Consistent with these summary findings, the overall goal of this collaboration has been to create individualized reentry plans, empower individuals with resources, support and programming, and to promote successful reintegration into the community.

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).

Figure 1. Location of Kentucky’s Corrections-based Substance Use Disorder Treatment Programs (2020)

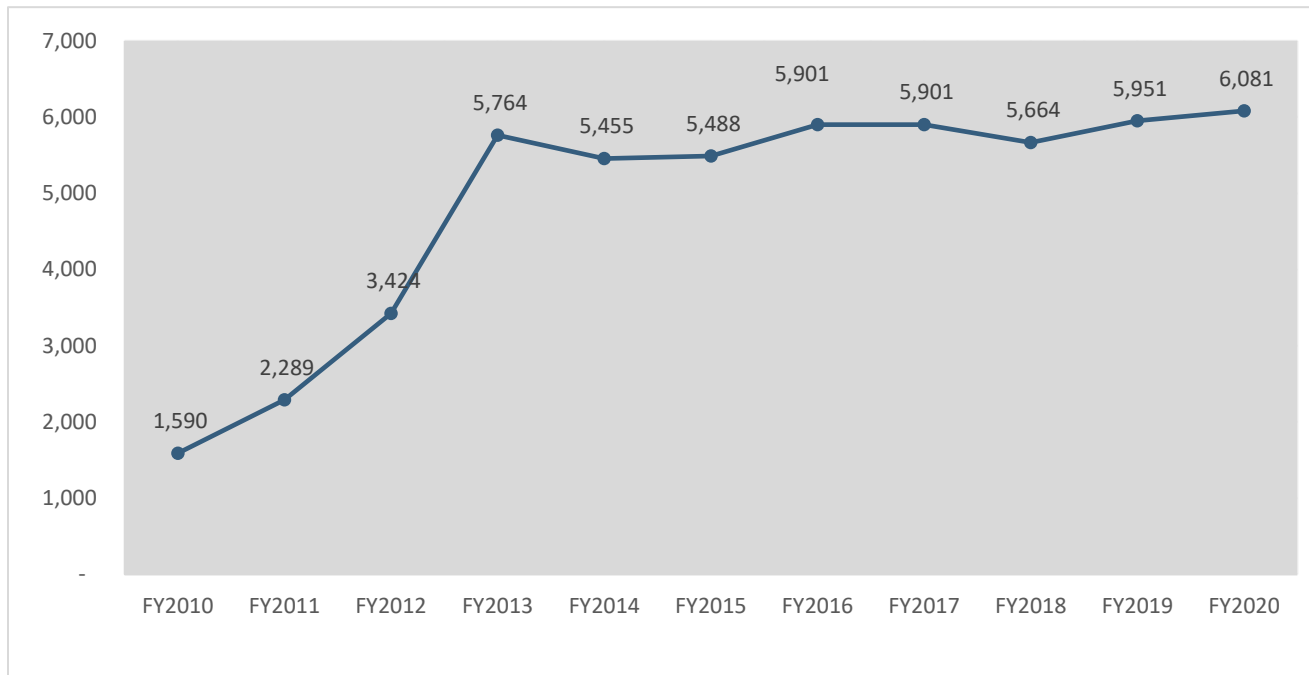


As shown in Figure 2, in FY2020, there were an average of 6,081 corrections-based substance use disorder treatment slots in jails, prisons, Reentry Service Centers (or halfway houses), Recovery Kentucky Centers, community mental health centers, and intensive outpatient centers (more details on specific DOC program modalities may be found in Appendix A). This evaluation report focuses on traditional substance abuse programming (SAP) using a modified therapeutic community modality, including:

In FY2020, the number of slots for individuals to receive treatment through KY DOC was 6,081 – the highest number to date.

- **27** programs in 20 jails
 - **12** programs in 9 prisons
 - **4** programs in reentry service centers
- See Appendix B for sites.

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



The Kentucky Department of Corrections continues to be innovative through new service opportunities. For example, during 2019, a transitional treatment program – **Supporting Others in Active Recovery (SOAR)** – was created and piloted at Northpoint Training Center prison. 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. Due to the success of this pilot, the program will be expanded to three additional jail sites (serving both men and women) during FY 2021.

Also beginning in August 1, 2020, House Bill 284 (HB 284) authorized **Program Good Time Credit (PGTC)** for individuals with substance use disorder (SUD) on Probation and Parole. Under HB 284, clients with SUD can earn time off their court-ordered sentence and reduce their time under supervision by engaging in PGTC-eligible treatment programs, available through inpatient or intensive outpatient modalities.

Finally, under House Bill 352 (HB 352, passed April 15, 2020), Kentucky is in process of requesting approval from the Centers for Medicare and Medicaid Services (CMS) for an amendment to its **1115 Medicaid Demonstration Waiver**, to authorize federal Medicaid matching funds for the provision of SUD treatment for incarcerated individuals, and to strengthen follow-up care, allowing clients’ chosen MCO to coordinate aftercare with a Medicaid provider 30 days prior to release. Currently, CMS does not allow for State Medicaid Agencies to cover the cost of services to incarcerated individuals, except when discharged for 24 hours. This amendment would allow the state to retain and enhance existing SUD treatment programs for incarcerated individuals, and Kentucky will be the first state in the nation to request this type of SUD incarceration amendment, pending CMS approval.

Profile of SAP Graduates

Data in this report includes behaviors during “pre-incarceration” (the 12 months and 30 days *prior to incarceration*) collected by treatment providers at SAP intake and “follow-up” (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.

About half of SAP graduates (50.9%) who completed follow-up interviews during FY2020 were referred to SAP as “parole upon completion.” As shown in Table 1, the randomly selected follow-up sample of SAP graduates was not different from the entire population of eligible SAP graduates, making results generalizable.

Table 1. Demographic Characteristics of FY2020 Follow-up SAP Sample Compared to All SAP Graduates Eligible for Follow-up

	Follow-up SAP Graduates (n=271)	All SAP Graduates Eligible for Follow-up (n=1,767)
Average Age	34.5 years old (range 19 to 63)	35.6 years old (range 18 to 70)
Race/ethnicity	89.7% white	85.7% white
Gender	75.3% male	76.7% male
Education	77.9% GED or high school diploma	74.6% GED or high school diploma
Marital Status	47.6% Single, never married	43.9% Single, never married

KY-RAS and Criminogenic Needs

About one-fourth (25.5%) of follow-up SAP graduates were assessed as being high-risk in the Substance Use domain.

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. Just over 11% of follow-up SAP graduates who had available KY-RAS data (n=247) were assessed as being overall high-risk. Overall, SAP graduates were less likely to be high-risk compared to the entire DOC inmate population, with the exception of Substance Use and Neighborhood Problems domains.

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

	<i>DOC Treatment Follow-up Graduates (n=247*)</i>	Entire KY DOC Inmate Population** (n=18,478)
Overall Risk	11.3%	24.8%
Criminal History	9.3%	15.8%
Education/Employment/Financial Situation	25.9%	26.0%
Family/Social Support	3.2%	6.7%
Neighborhood Problems	35.2%	13.0%
Substance Use	25.5%	12.8%
Peer Associations	3.2%	4.3%
Criminal Attitudes/Behaviors	0.4%	16.6%

*KY-RAS data unavailable in KOMS for N=24

**KY-RAS data supplied by KY Department of Corrections, 9/23/2020. KY-RAS assessments unavailable for n=578 of DOC inmate population.

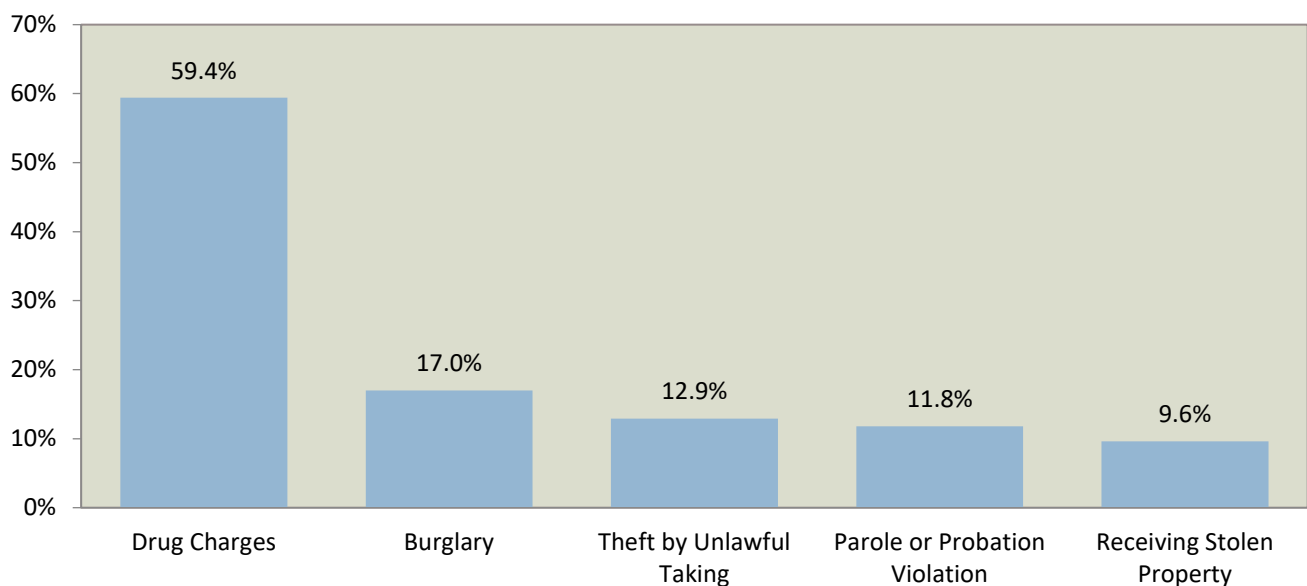
Arrests and Incarceration

SAP graduates reported an average of 7.6 lifetime convictions. In the year before their current incarceration, they were most often arrested for drug charges (35.4%), parole or probation violations (21.0%), and theft by unlawful taking (10.7%), resulting in an average of 46 nights incarcerated during that year.

SAP graduates had most commonly been arrested on drug charges in the 12 months prior to their current incarceration.

At the time of SAP intake, they had been incarcerated an average of 21.8 months. Charges for graduates' current incarceration are shown in Figure 3.

Figure 3. Criminal Charges at SAP Intake (N=271)



Recidivism

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, 63.1% were not re-incarcerated within the 12 months’ post release from prison or jail. It is also noteworthy that graduates who were re-incarcerated were in the community an average of 6.5 months before being re-incarcerated.

The majority of SAP graduates were not re-incarcerated during follow-up period. Of those who returned to custody, they spent an average of 6.5 months on the street.

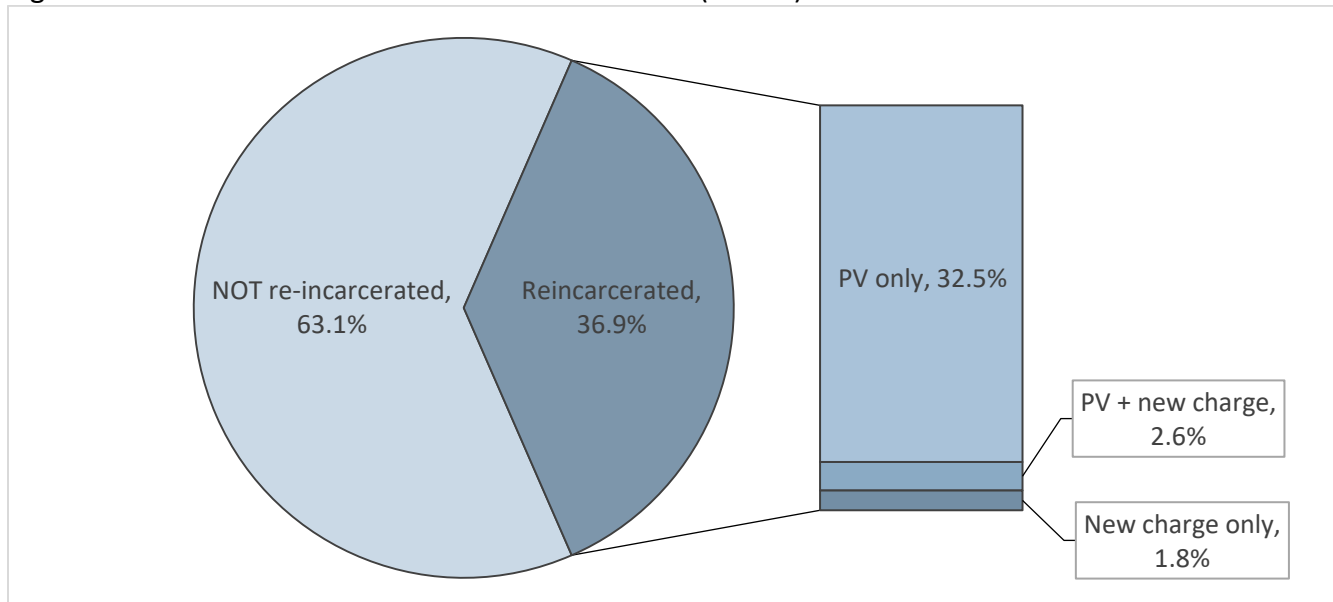
Table 3. Recidivism* 12 Months Post-release (N=271)

	Jail (n=175)	Prison (n=73)	Community Custody (n=23)	Total (N=271)
Not Incarcerated	64.6%	61.6%	56.5%	63.1%
Incarcerated	35.4%	38.4%	43.5%	36.9%

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

Of the 37% of the sample who were returned to custody (n=100), the majority were re-incarcerated on a technical or parole/probation violation (PV) only (See Figure 4). The Kentucky DOC has made many recent efforts to more effectively provide services to individuals on supervision and address barriers to success in the community. As stated by Erica Hargis, Director of the Division of Probation and Parole, “Probation and parole, in collaboration with the Division of Addiction Services, continues to look for all available resources in their efforts to rehabilitate those under supervision, thereby reducing recidivism, and ultimately ensuring public safety.”

Figure 4. Recidivism and Reason for Re-incarceration (N=271)



For example, in lieu of revocation, graduated sanctions – which provide incremental accountability measures – are recommended for individuals on supervision who receive substance use violations. 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. This process also applies for individuals on supervision with a history of substance use who are considered “absconded” and are arrested with active parole violation warrants, as of November 2017. This change is notable in that 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.

Overall, the collaboration between the Division of Probation and Parole and the Division of Addiction Services has been crucial in these efforts. Division of Addiction Services representatives have been invited to present information to Probation and Parole’s Basic Academy class to provide training on treatment referrals and addiction services processes. Similarly, newly hired Addiction Services staff participate in a portion of the new officer Basic Academy training to ensure a better understanding of Probation and Parole processes as well.

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 as evidenced by significantly more nights spent incarcerated in the 12 months prior to incarceration (65.7 vs. 34.0) and more arrests (1.3 vs. 0.3) compared to non-recidivists.

Table 4. Comparisons of SAP Graduates by Recidivism in the 12 Months Post-release (N=271)

	Recidivists (n=100)	Non-recidivists (n=171)
In 12 months prior to current incarceration...		
Nights spent incarcerated*	65.7	34.0
Times arrested***	1.3	0.3
During 12 months post-release...		
Participated in education or vocational program	8.0%	12.3%
Employed full- or part-time*	63.0%	77.2%
Housed in apartment, room, house or residential treatment facility***	67.0%	94.7%
Self-reported drug use***	70.0%	41.5%
Positive urine drug screen***	52.0%	25.1%

* $p < .05$, *** $p < .001$

During the 12 months following release, recidivists were also far less likely to be employed or to have stable housing compared to non-recidivists. Furthermore, recidivists who were employed were on the street an average of 74 days longer before returning to DOC custody than those who were not employed (223.3 days vs. 149.6 days).

Although there was an overall decrease in substance use during the 12 months following release, 70% of those who returned to DOC custody reported using drugs during the follow-up period compared to only 42% of those who did not recidivate, a difference also confirmed by positive drug tests (52% vs. 25%). Recidivists who reported using drugs during the follow-up period (n=70) were on the street an average of 62 days before they used any illegal drugs. Finally, there were no significant differences in the prevalence of mental health problems experienced by SAP graduates between those who returned to DOC custody and those who did not.

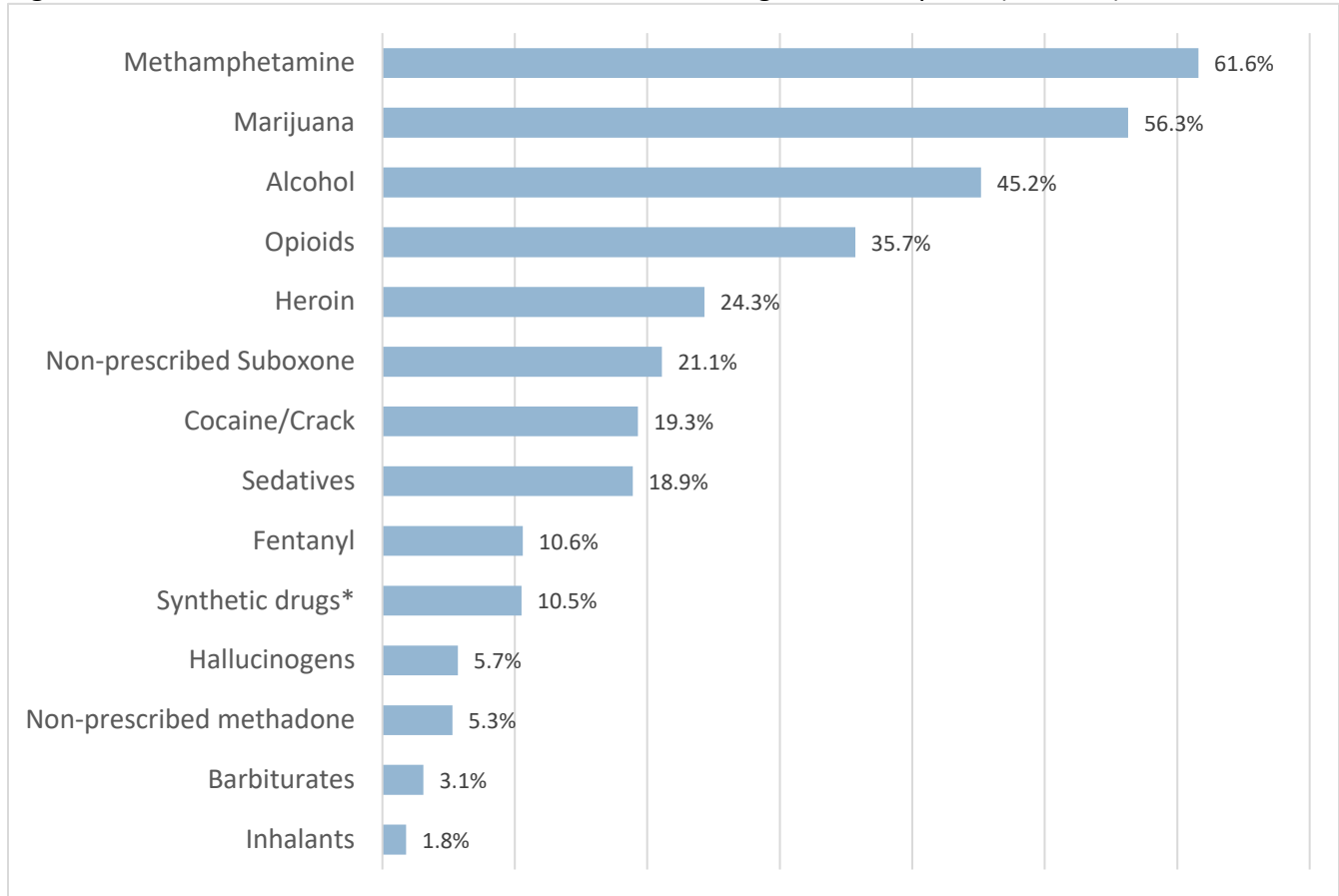
SAP graduates who were re-incarcerated had more baseline criminal justice involvement, and were less likely to be employed, stably housed, or abstinent from drugs and alcohol post-release.

Substance Use

Figure 5 shows substance use during the pre-incarceration period for SAP participants. In the 12 months prior to incarceration, the greatest percentage of participants reported methamphetamine use, followed by marijuana use and alcohol use. For the last two years, methamphetamine use has been the most common substance reported at SAP intake.

Methamphetamine was the most commonly used substance in the 12 months prior to incarceration.

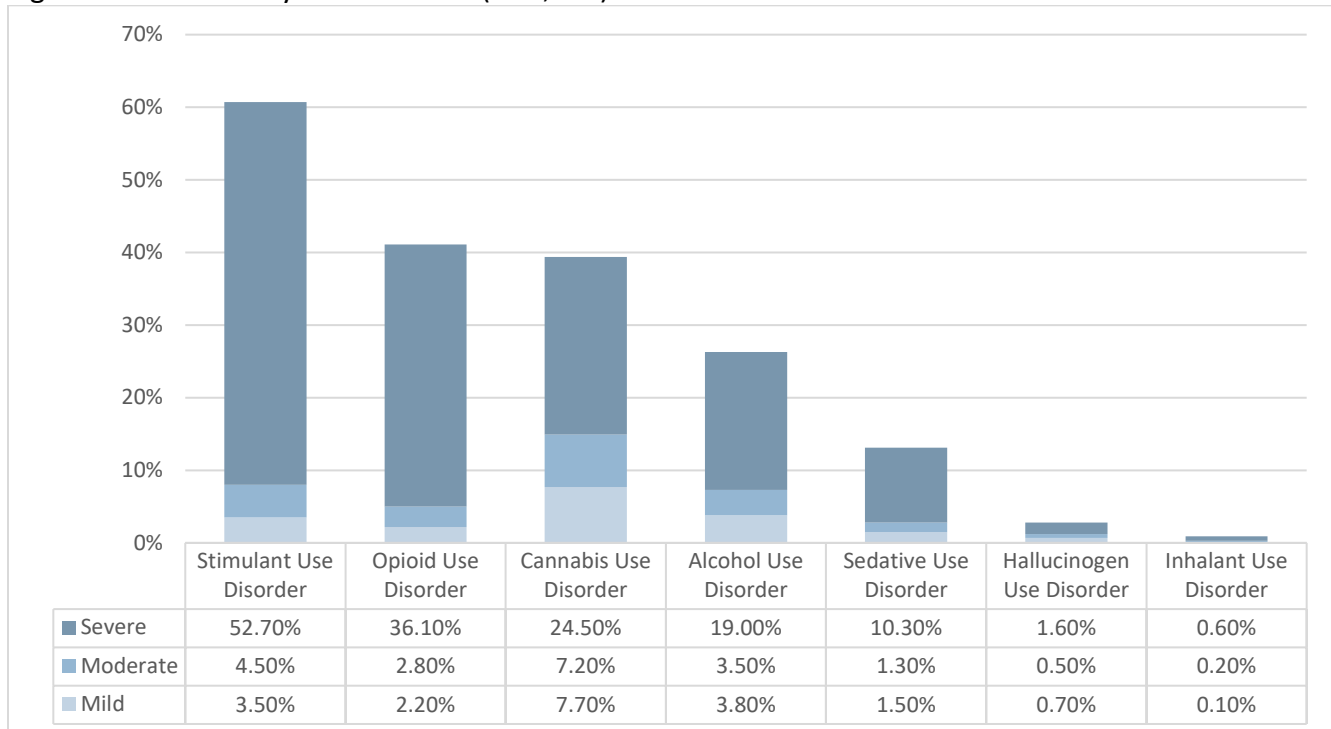
Figure 5. Profile of Pre-incarceration Substance Use among SAP Participants (n=5,907)



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

In September of 2019, measures were added to the CJKTOS baseline assessment instrument to capture 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. Figure 6 shows the percentage of all SAP intakes completed since September 2019 (N=4,526) who reported symptoms consistent with SUD for each substance type and severity level.

Figure 6. SUD Severity at SAP Intake (N=4,526)



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 (NIDA, 2020). New measures in 2019 also included questions regarding overdose history. Among SAP participants (N=4,526), 29.1% reported a lifetime overdose, with an average of 3.6 times. At the time of their last overdose, participants most commonly reported having used heroin (57.0%), illicit prescription opiates (27.6%), and stimulants (such as methamphetamine; 23.2%). Furthermore, 5.5% of participants reported having overdosed in an attempt to commit suicide (and on average, 2.2 times).

Although almost half of participants had witnessed someone else overdosing (48.0%), only 34.9% knew where to obtain naloxone (Narcan®), a medication used to rapidly reverse opioid overdose, and 15.4% had been trained on how to use it. Of those who had ever administered Narcan®, they had done so on average 3.3 times.

However, of participants who completed these questions at the time of the 12 month follow-up (n=181), just over half (50.8%) knew where to get Narcan®, and almost a third (32.6%) had been trained on its use.

At follow-up compared to baseline, more participants knew where to get Narcan® (50.8% vs. 34.9%) and had been trained to use it (32.6% vs. 15.4%).

Injection Drug Use

At SAP intake, almost half 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 one-fourth of participants with a history of IDU reported having ever used such programs in Kentucky prior to their current incarceration.

Table 5. Profile of Injection Drug Use Pre-incarceration (N=4,526)

Injection Drug Use (IDU)	
Ever injected drugs	48.9%
Of ever-IDU participants (N=2,211)...	
Drugs most commonly injected:	
Stimulants	71.3%
Heroin	45.8%
Prescription opiates	30.8%
Suboxone/Subutex	19.5%
Ever used a syringe exchange program (SEP) in KY	25.0%
If yes, offered treatment resources at SEP?	60.0%

Almost half of all SAP participants (48.9%) had ever injected drugs in their lifetime

At SAP intake, only one in four participants with a history of IDU had ever used a syringe exchange program in KY

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 7, 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 9.8% in FY2010 to 27.8% in FY2015, then maintained a steady rate (27.8% - 29.6%) between FY2015 and FY2019. During this same time period, misuse of prescription opioids (not including methadone or buprenorphine) peaked at 50.2% in FY2010 and has since steadily decreased to 44.2% in FY2019. However, there was a sharp decrease in pre-incarceration opioid use reported between FY2019-20, with prescription opioid misuse and heroin use decreasing by 19.2% and 16.5%, respectively.

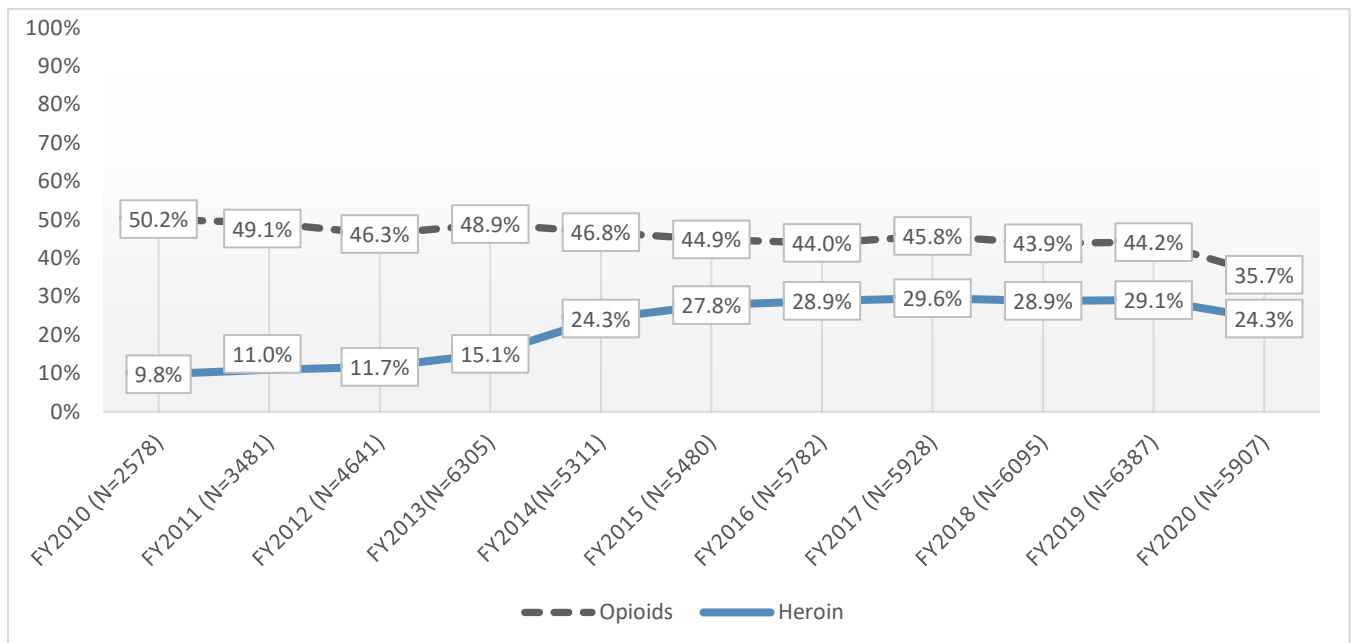
Senate Bill 192 (SB 192), passed in March 2015 in response to increasing heroin use in Kentucky, has allowed for progressive and proactive efforts to mitigate the commonwealth’s opiate crisis. SB 192 continues to provide funding for Addiction Services’ administration of medications for the treatment of opioid use disorder (MOUD) for eligible SAP graduates, specifically injectable extended release naltrexone (Vivitrol®).

“When we expand access to high-quality, evidence-based practices, we know that treatment works and recovery is possible.”

-- Dr. Allen Brenzel, Medical Director for the Department for Behavioral Health, Developmental and Intellectual Disabilities

In addition, the **Kentucky Opioid Response Effort (KORE)** – a federally-funded initiative administered by the KY Department for Behavioral Health, Developmental and Intellectual Disabilities – also supports evidence-based prevention and treatment for opioid use disorder, and has implemented a variety of projects targeting justice-involved individuals, including expanded MOUD and reentry efforts.

Figure 7. Reporting Heroin and Illicit Prescription Opioid Use in the 12 Months Prior to Incarceration

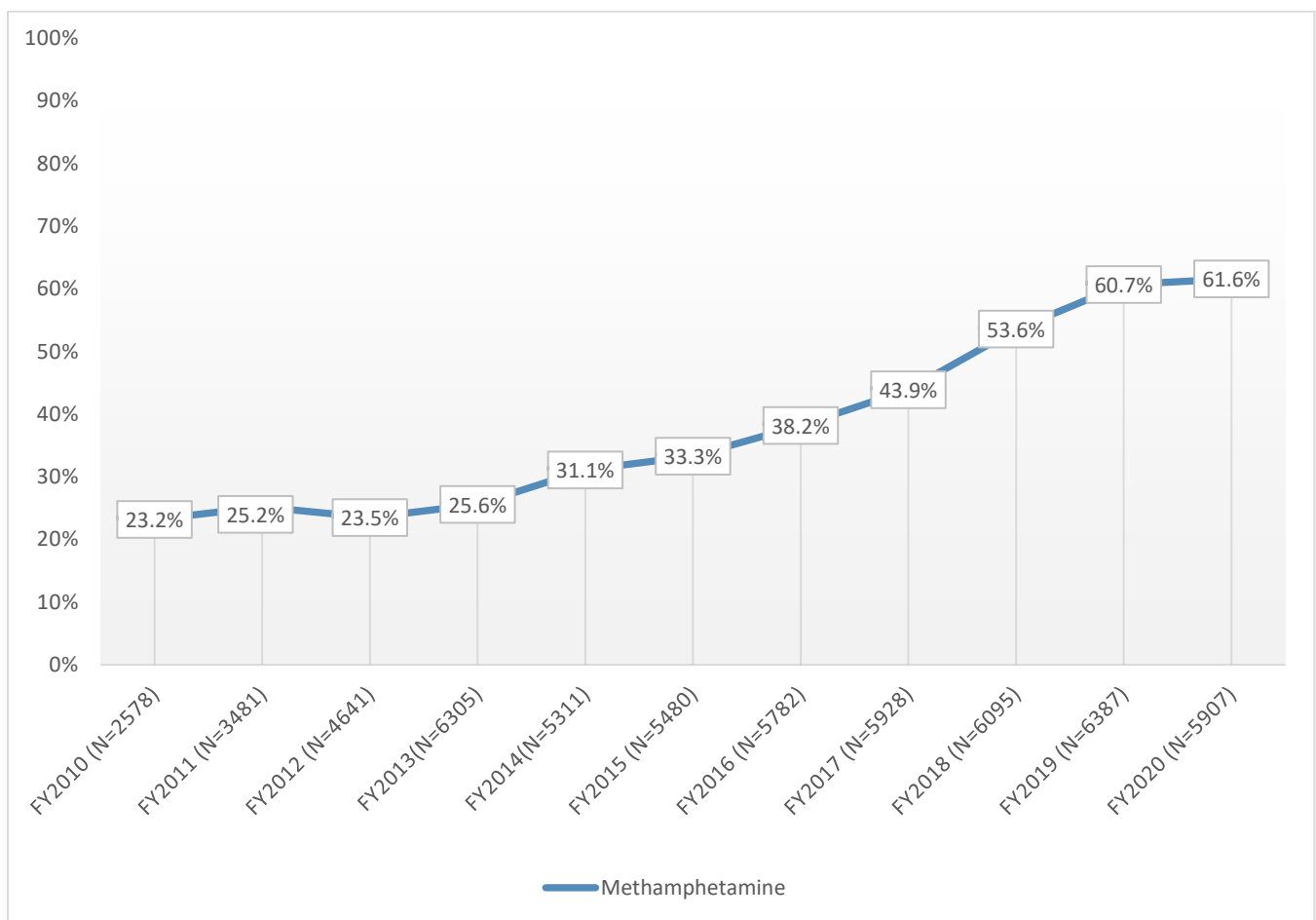


Methamphetamine Use

Another noteworthy substance use trend includes the continued increase in methamphetamine use over the past eight years. As highlighted in Figure 8, the percentage of individuals who report methamphetamine use at SAP intake has risen from 23.5% in FY2012 to 61.6% in FY2020, an increase of 262%. This continued increase in methamphetamine use mirrors trends observed in other states (Enos, 2017). Recent research has also highlighted the increase in methamphetamine use among individuals reporting opioid use (Strickland, Havens, & Stoops, 2019) and among those with an opioid use disorder entering treatment (Ellis, Kasper, & Cicero, 2018). 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).

**Between FY2012-20,
individuals reporting
methamphetamine use at SAP
intake has increased
262%**

Figure 8. Reporting Illicit Methamphetamine Use in 12 Months Prior to Incarceration



Misuse of Methadone and Buprenorphine

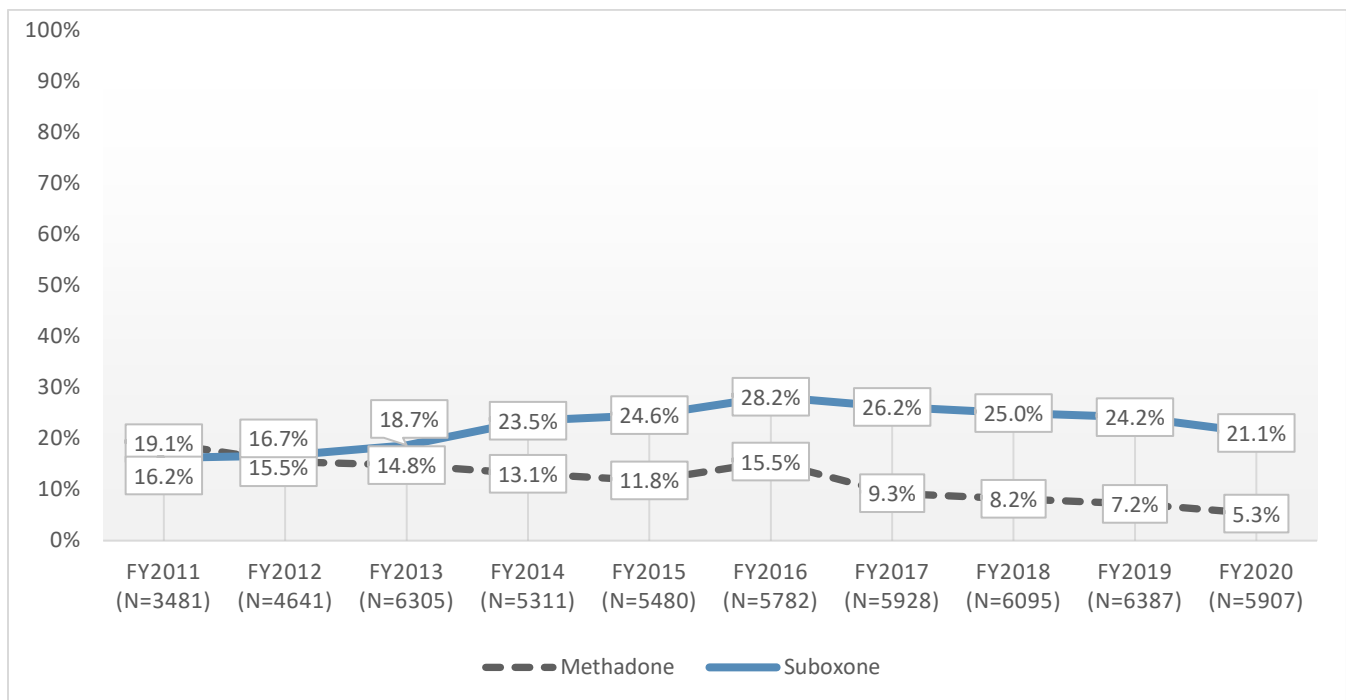
Although methadone and buprenorphine (Subutex) or buprenorphine/naloxone (Suboxone or Zubsolv) are evidence-based medications used clinically for the treatment of opioid use disorder, both have a potential for misuse, like other opioid medications, due to their agonist or partial-agonist formulations (Lofwall & Walsh, 2014; Mitchell et al., 2009). However, most data suggest that the majority of buprenorphine and methadone misuse is for the purpose of controlling withdrawal and cravings for other opioids and not to get high. As shown in Figure 9, over the past decade, misuse of methadone reported during the 12 months prior to incarceration has remained low and steadily declined among participants entering SAP. Misuse of buprenorphine became more common between FY2011 and FY2016, increasing from 16.2% to 28.2%, but has since declined to 21.1% in the present year (FY2020).

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. According to Dr. Katherine Marks, Project Director for the Kentucky Opioid Response Effort, “medications for opioid use disorder [MOUD] reduce risk of overdose and death, reduce opioid use, craving, and return to use, and help people stay in treatment longer.” Thus, access to evidence-based treatments, particularly MOUD, is critical to ending the opioid overdose epidemic.

“The use of medications to treat opioid use disorder is an important part of Kentucky’s strategy to address the epidemic. The Kentucky Board of Medical Licensure as well as the Board of Nursing have promulgated regulations aimed at reducing the diversion of these medications.”

--Van Ingram, Executive Director of the KY Office of Drug Control Policy

Figure 9. Reporting Misuse of Medications for Treatment of Opioid Use Disorder in the 12 Months Prior to Incarceration

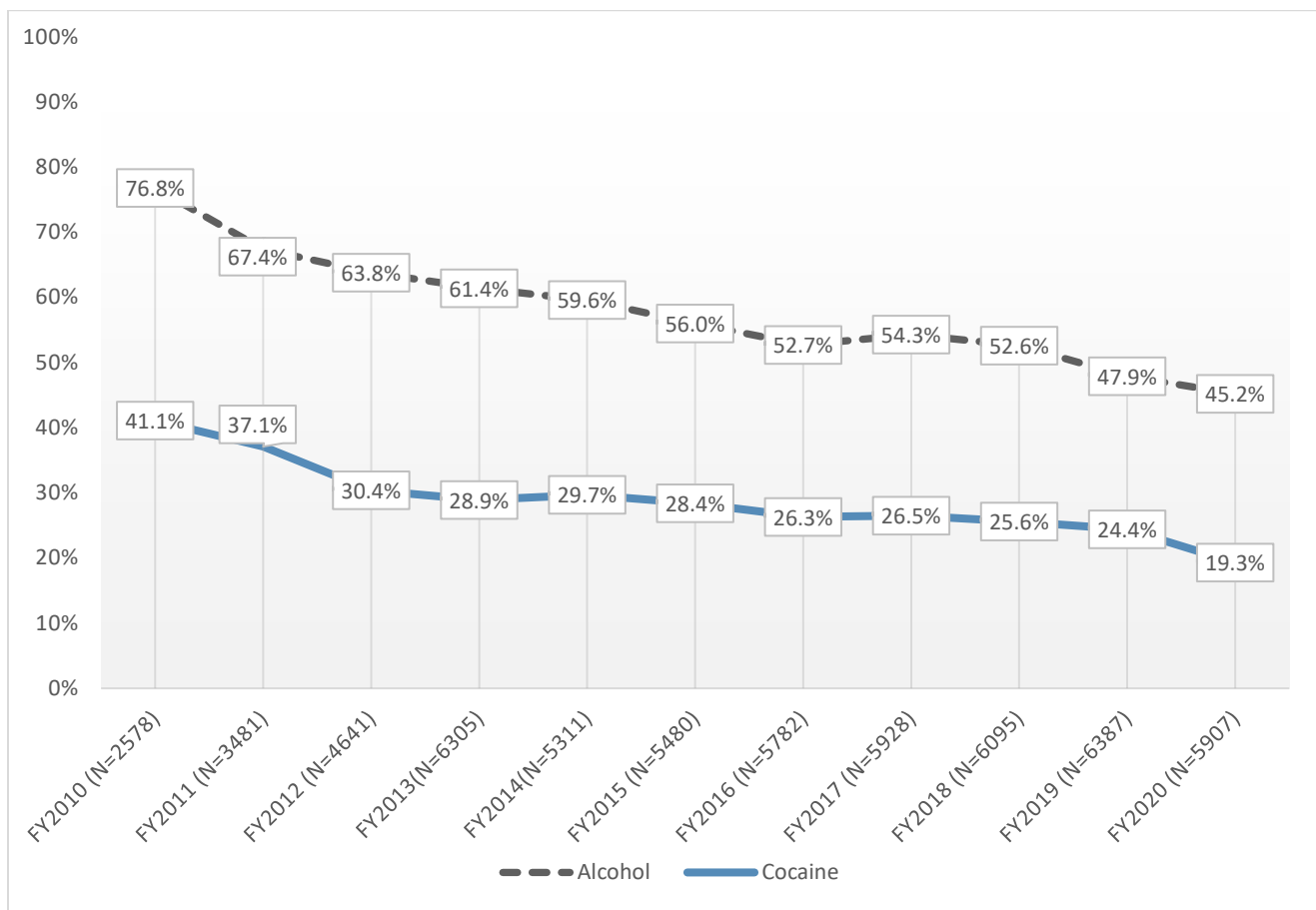


Alcohol and Cocaine Use

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 10, the percentage who report alcohol use at baseline has fallen from 76.8% to 45.2%, resulting in an overall decrease of 31.6 percentage points from FY2010 to FY2020 – the largest decrease for any illicit substance. For this same period, reported cocaine or crack use declined 21.8 percentage points, from 41.1% down to 19.3%.

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

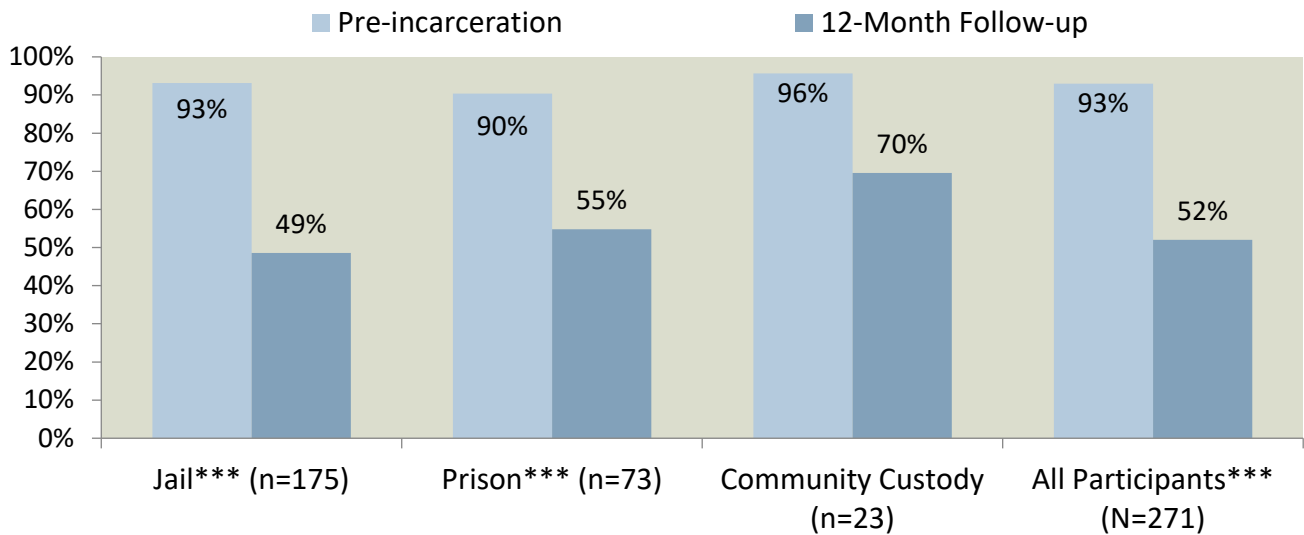
Figure 10. Reporting Alcohol and Illicit Cocaine Use in 12 Months Prior to Incarceration



Decreases in Substance Use During Follow-up

As shown in Figure 11, those who graduated from DOC treatment in prison or jail reported a significant decrease in use of any illegal drug following treatment. Although those who graduated treatment while in community custody reported a decrease in drug use, this difference was not statistically significant. Further, only 35% of SAP graduates who participated in the follow-up had a positive drug test during the 12 months following release, confirming the validity of self-reported follow-up data.

Figure 11. Drug Use from Pre-incarceration to One-year Post-release (N=271)



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

Education, Employment, & Financial Situation

72.0%
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, just over 10% of SAP graduates (n=29) reported attending either an educational or vocational training program during this time. Specifically, 12 attended a GED program, 11 attended either a college or vocational school, and 6 attended a job training program.

As shown in Table 6, almost three-fourths (72.0%) 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 less than 2 jobs during the 12-month period. Furthermore, SAP graduates reported an average past-month legal income of \$1,763, and 84.5% reported stable housing in an apartment, room, house or residential treatment facility.

Table 6. Education, Employment, and Income in the 12 Months Post-release (N=271)

	Jail (n=175)	Prison (n=73)	Community Custody (n=23)	Total (N=271)
Participated in education or vocational program	13.1%	6.8%	4.3%	10.7%
Employed full- or part-time	74.3%	71.2%	56.5%	72.0%
Housed in apartment, room, house or residential treatment facility	84.6%	84.9%	82.6%	84.5%

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, the two divisions “are collaborating together at this time on many projects. I am excited to see this partnership expand in recent times to aid the Department of Corrections Population. Individuals with substance abuse needs have many barriers they face in addition to solely their substance abuse issues and our partnership is helping remove those barriers for them and making productive citizens for the communities.”

Several initiatives merit recognition. Firstly, the two divisions, along with the Division of Probation and Parole, have collaborated on a **Transportation Pilot** in partnership with the Office of Transportation Delivery (OTD) and local transportation brokers in the community. Although several years in the making, the pilot launched on August 1, 2020 and allows clients who are experiencing a transportation barrier to request a ride to certain approved appointments, treatments, and classes, making services more accessible.

Secondly, Reentry and Addiction Services have collaborated on the implementation of **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.

Thirdly, 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. KY Skills U offers assistance at many levels including obtaining a high school equivalency degree (GED), college courses, and work skills development, through both onsite and online settings. Probation and parole officers refer individuals to Skills U agents who assist clients with enrollment and developing a plan to reach their educational goals. In addition to building clients’ self-esteem and increasing their chances of better employment, clients can also receive educational good time credit for completing qualifying programs. In 2019, the DOC made a total of 3,888 educational referrals to Skills U.

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 (67.9%) than before incarceration (51.3%), and also reported a higher average number of friends (3.58 vs. 2.56). In addition, nearly two-thirds (63.8%) of SAP graduates reported having a close relationship with their children at follow-up. Of those with children under 18 (n=181), about three-quarters of graduates (73.5%) reported providing financial support to their minor children in the 12 months post-release. Overall, 83.1% graduates reported feeling ‘quite a bit’ or ‘extremely’ cared about and supported by the important people in their life.

“[SAP] taught me how to respect my loved ones. You have to hold yourself accountable for everything you do.”

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:

- Skills in coping, anger management, and parenting
- Work on boundaries and co-dependence, especially with family members or partners who enabled use
- Self-discipline, patience, and integrity
- Better communication skills, including listening and honesty
- Empathy, open-mindedness, self-awareness, and understanding
- Accountability, making amends, and respecting themselves and others

“I learned how to cope and understand other people. To listen, be genuine, and care what other people say.”

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. During incarceration, clients at some facilities have “family visitation days” which allow for family members and children to enjoy an extended visitation period with a relaxed atmosphere and fun activities. “Family engagement” sessions also provide an opportunity for clients’ support systems to gain information about re-entry and recovery resources as clients near the time of release; initially offered at Roederer Correctional Complex, this program has been so successful that DOC is in process of expanding it statewide. Finally, following release, families of SAP graduates may participate in community engagement sessions focused on recovery and basic living needs or get connections to local providers and resources. These efforts reflect the Division’s commitment to “End the Stigma” of SUD, particularly among clients’ families and loved ones, to best support clients in the recovery and re-entry process.

Mental Health

Significantly fewer SAP graduates reported experiencing serious depression at follow-up (36.9%) when compared to pre-incarceration (50.6%), as illustrated in Table 7. In addition, significantly fewer graduates reported suicidal thoughts at follow-up (5.5%) when compared to pre-incarceration (12.9%). However, the prevalence of SAP graduates reporting anxiety did not change significantly between pre-incarceration and follow-up (53.5% vs. 49.4%).

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

Table 7. Mental Health Pre-incarceration and Post-release (N=271)

	Pre-incarceration	12-Month Follow-up
Experienced serious depression in previous 12 months***	50.6%	36.9%
Experienced serious anxiety in previous 12 months	53.5%	49.4%
Experienced serious thoughts of suicide in previous 12 months**	12.9%	5.5%

Note: Significance established using McNemar’s test for correlated proportions, ***p<.001, **p<.01, 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 mental health diagnoses. For individuals with less severe mental health issues, the Division has expanded the evidence-based cognitive-behavioral “A New Direction” curriculum used in 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. Importantly, collaborations between Addiction Services and the DOC’s Division of Mental Health have strengthened and improved screening protocols to identify individuals who might benefit from targeted programs or additional services, including Supportive Assistance with Medication for Addiction Treatment (SAMAT).

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 abusing 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 \$3.63 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=257) and after (n=59) 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). The cost-offset ratio was thus defined as the ratio of the net avoided cost of active substance use (\$1,879,504) to the total direct cost of corrections-based substance use disorder treatment (\$518,276). By these calculations, for every dollar spent on corrections-based treatment, there was a return of \$3.63 in cost offsets. Detailed tables and methodology are available in **Appendix D**.

In the coming fiscal year, it is hoped that the proposed amendment to the 1115 Medicaid Demonstration Waiver under HB 352 will provide further cost-offset benefits by authorizing federal Medicaid matching funds for SUD treatment for incarcerated individuals, thus reducing state treatment costs. Post-release, the amendment would offer additional cost benefits by allowing clients' chosen MCOs to coordinate follow-up care with community Medicaid providers, reducing gaps in services and lessening the likelihood of a return to drug use.

Factors Associated with 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 gathered from SAP graduates. The vast majority of individuals reflected that the program had made a positive impact and they had received valuable skills to use in their life post-release. There was consensus that SAP had provided tools that would help them continue in their recovery. 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 a structured schedule 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**

In addition to the aforementioned factors related to successful reentry following incarceration, a majority of SAP graduates also engaged in 12-step programs and some type of aftercare. Specifically, as shown in Table 8, almost two-thirds (65.3%) reported attending AA/NA, and they reported attending meetings an average of 5.9 days in the past 30.

Table 8. AA/NA Attendance in the 12 Months Following Release (N=271)

	<i>Attended AA/NA Meetings</i>	<i>Average number of days attended AA/NA in past 30 days</i>
Jail (n=175)	62.3%	5.8 days
Prison (n=73)	69.9%	5.5 days
Community Custody (n=23)	73.9%	8.2 days
Total (N=271)	65.3%	5.9 days

Additional information about KY DOC’s efforts to support clients’ access and utilization of medication-assisted treatment (MAT) will be available in a forthcoming short report. However, at the time of the 12-month follow-up interview, 19.2% of participants reported choosing to engage in community-based MAT services for opiate or alcohol use disorders, including Suboxone/Subutex (11.4%), Vivitrol (7.0%), or methadone (2.2%).

Finally, continuity of care is a critical aspect of the Division’s SUD treatment services, including clients’ access to aftercare post-release. As such, all SAP participants complete an individualized aftercare plan. Once released from custody, clients are referred to SSCs, who allow for local community referrals for appropriate aftercare and recovery based supports.

Of the present sample of SAP graduates (N=271), 81.2% were considered “eligible” for SAP aftercare. Ineligible clients included those who were PSAP/Senate Bill 4 diversion clients (n=21), released on mandatory re-entry supervision (MRS; n=13), released on an interstate compact (n=7), served out (n=7), or were on parole or probation for less than 6 months (n=3).

Of clients who were eligible and referred to meet with an SSC (n=190), 95.8% 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: 73.1% were referred to traditional aftercare, 14.8% were recommended to attend self-help group meetings (such as AA/NA) only, and 9.9% were referred to attend and inpatient treatment program. Of those referred to traditional aftercare (n=133), 69.2% had some type of documented attendance.

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

Treatment Satisfaction

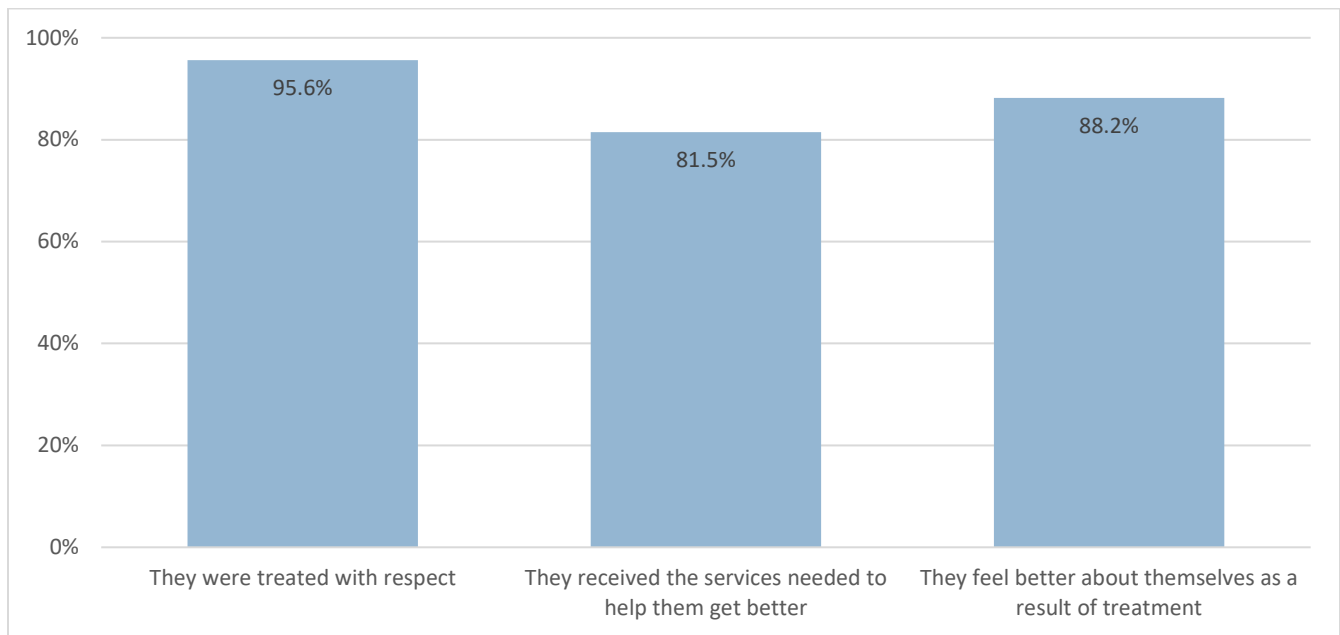
As shown in Figure 13, the majority of SAP graduates at follow-up agreed or strongly agreed that they were treated with respect in the program (95.6%), that they received the services they needed to help themselves get better (81.5%), and that they felt better about themselves as a result of treatment (88.2%). Overall, most graduates (86.3%) considered the program to be a success.

“The information, it stays with you for a lifetime. Knowledge is power and that’s what SAP provided.”

86.3%
of SAP graduates believed the program was “successful.”

When asked to explain why they believed the program was successful and why they rated SAP so highly, many pointed to their achievements post-release, such as continuing sobriety, employment, relationships with children and family, and not being re-incarcerated. Many participants agreed that features of the program themselves helped them understand their addictions: participants especially liked classes and process groups, AA/NA meetings, individual counseling sessions, the structure and strictness of SAP, and the supportive and nonjudgmental staff. Others said they appreciated the chance to teach or 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 fellowship and community of the program. Finally, participants agreed that readiness and motivation to change was a key element to success both in and after SAP. Overall, many participants believed that their successes post-release and positive personal growth were directly attributable to their experiences in SAP.

Figure 13. Treatment Program Satisfaction (N=271): Participants who Agreed or Strongly Agreed...



Limitations

Findings in this evaluation report should be interpreted with some limitations in mind. First, pre-incarceration 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 130 SAP graduates during the 12-month follow-up period who reported no drug use, 100 had no positive drug tests in KOMS. This provides a self-report accuracy rate of 76.9%. In this study, a higher rate of substance use is self-reported than from urine test results (52.0% vs. 35.1%). 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, Cacciola, Alterman, McKay, & Cook, 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 FY2020 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 incarceration in prison or jail, as well as community custody programs. This follow-up report includes data from a random sample of participants who received treatment in DOC prison, jail, and halfway house programs and were released during fiscal year 2019. Specifically, this 12-month follow-up study examined a randomly selected representative sample of 271 males and females who successfully completed jail, prison, or community custody-based treatment in halfway houses and consented to follow-up.

“You got to decide what kind of life you want to live. Do you want to be wrapped up in that kind of life, or do you want the kind of life that people can be grateful for?”

Findings from the FY2020 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

There were also a number of noteworthy differences between the findings from FY2020 CJKTOS and prior years' findings, including:

- ❖ The percentage of **re-incarcerations** continued to decrease, from FY2018 (43.3%) to FY2019 (38.4%), to 36.9% in the present fiscal year.
- ❖ Of participants who were re-incarcerated in FY2020, more were returned to custody on a **technical or parole/probation violation only**, with no new charges (88.0%), compared to FY2019 (47.1%).
- ❖ Fewer participants had a **positive urine drug screen** in FY2020 compared to FY2019 (35.1% vs. 41.2%).
- ❖ For the first time in FY2019, the prevalence of **methamphetamine use** prior to incarceration surpassed the prevalence of both marijuana and alcohol use; this trend continued and increased in FY2020.
- ❖ After holding relatively steady for the past five years, **heroin use and prescription opioid misuse** decreased from FY2019 to FY2020.
- ❖ New data related to substance use disorder diagnostic criteria, history of overdose, injection drug use, syringe exchange programs, and medication-assisted treatment utilization reported in FY2020 have provided **important new insights**.

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. The growth of corrections-based treatment in Kentucky is indicative of the state's commitment to expanding access to care and availability of services for justice-involved individuals. This commitment has been supported by state-level initiatives, including SB 192 in 2015 (providing funding for SAMAT), HB 284 in 2020 (offering Program Good Time Credit for individuals on supervision), and HB 352 in 2020 (under which the 1115 Medicaid Demonstration Waiver amendment will be submitted). It 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.

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, passed 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

Kentucky State Reformatory
3001 W Highway 146
LaGrange, Kentucky 40031
(502) 222-9441

Northpoint Training Center
P.O. Box 479, Hwy 33
710 Walter Reed Road
Burgin, Kentucky 40310

Green River Correctional Complex
1200 River Road
P.O. Box 9300
Central City, Kentucky 42330
(270) 754-5415

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

Kentucky Correctional Institution
for Women
3000 Ash Avenue
Pewee Valley, Kentucky 40056
(502) 241-8454

Little Sandy Correctional Complex
505 Prison Connector
Sandy Hook, Kentucky 41171
(606) 738-6133

Western Kentucky Correctional
Complex/Ross-Cash
374 New Bethel Church Road
Fredonia, KY 42411
(270) 388-9781

JAIL DATA COLLECTION SITES

Boyle County Detention Center
1860 S Danville Bypass
Danville, KY 40422
(606) 739-4224

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

Breckinridge County Detention Center
500 Glen Nash Road
Hardinsburg, Kentucky 40143
(270)756-6244

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

Bullitt County Detention Center
1671 Preston Highway
Shepherdsville, Kentucky 40165
(502) 543-7263

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

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, and 4) provided locator information of at least one community telephone number and address. 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 2,746 clients who completed a CJKTOS baseline were released from custody in FY2019. 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 2,746 CJKTOS clients who were released from custody in FY2019, 96 did not consent to participate in the follow-up study and of the 2,650 who consented to participate, 824 did not successfully complete SAP or did not have a completed discharge report. This left 1,767 SAP participants who were eligible for follow-up (released in FY2019, known to have successfully completed SAP, and voluntarily consented for follow-up). Of those, 24.7% were randomly selected to participate in the follow-up interview (n=437). The sample of 437 was proportionate to the number of males and females released from jails, prisons, and community custody treatment programs.

Of the 437 DOC SAP graduates randomly selected for follow-up in the community 12-months post-release, 271 were successfully located and interviewed (175 jail treatment participants, 73 prison treatment participants and 23 community custody treatment participants), for a follow-up rate of 63% (See Table 11).

Table 11. FY2020 Follow-up Rates

	<i>Eligible</i>	<i>Completed</i>	<i>Percentage</i>
<i>Jail Sample</i>	278	175	63%
<i>Males</i>	229	142	62%
<i>Females</i>	49	33	67%
<i>Prison Sample</i>	122	73	60%
<i>Males</i>	91	55	60%
<i>Females</i>	31	18	58%
<i>Community Custody Sample</i>	37	23	62%
<i>Males</i>	13	8	62%
<i>Females</i>	24	15	63%
<i>Total</i>	437	271	62%
<i>Ineligible for follow-up*</i>	9		
<i>Final Total</i>	428	271	63%
<i>Refusals</i>	21		5%
<i>Unable to locate</i>	136		32%

*Note: ineligible for follow-up was defined as participants being deceased (n=5), moving out of state (n=3), or who were unable to be contacted due to jail or facility restrictions (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 FY2020 values, this figure translates to \$247,040,000,000 (Bureau of Labor Statistics, 2020). The most recent results from the National Survey on Drug Use and Health indicate that there are 20.4 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 (\$12,110) 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 7 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 \$3,112,270 while the cost for a comparison 12-month period after treatment is estimated at \$714,490. This analysis shows a net reduction in cost for the sample of \$2,397,780.

Table 7. 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 (post- treatment)
Study participants who were actively using substances in the past 30 days	257	\$12,110	\$3,112,270	59	\$12,110	\$714,490

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 costs of DOC substance use disorder treatment is illustrated in Table 8. The total number of treatment days for study participants were calculated for each category of treatment (prison, jail, or community custody for men and women) and multiplied by the cost per day of treatment to arrive at a total treatment cost of \$518,276 for the sample.

Table 8. Cost of Corrections-based Treatment*

	Number of treatment days	Cost per day of treatment*	Total treatment cost
Jail (n=175)	32,068	\$9.00	\$288,612
Prison (n=73)	13,657	\$6.75	\$92,185
Community Custody - Men (n=8)	1,453	\$33.61	\$48,835
Community Custody - Women (n=15)	2,559	\$34.64	\$88,644
Total cost			\$518,276

*Treatment costs supplied by KY Department of Corrections, 9/10/2020. It should also be noted that costs projected for community custody only includes individuals receiving traditional SAP in halfway houses and should not be interpreted for all DOC community-based programs. These costs include additional administrative work performed by RSC staff.

As shown in Table 9, the initial cost to the state for drug and alcohol use disorders for this sample would have been \$3,112,270 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 \$714,490. The gross difference in the cost to society was \$2,397,780. After subtracting the direct costs of the treatment programs, there was a net avoided cost of \$1,879,504. Therefore, for every dollar spent on corrections-based treatment there was a return of \$3.63 in cost offsets.

Table 9. Cost Offset for the Follow-up Sample (N=271)

Cost Item	Dollars
Annual cost to Kentucky before participation in corrections-based substance use disorder treatment	\$3,112,270
Annual cost to Kentucky after participation in corrections-based substance use disorder treatment	\$714,490
Gross difference in post versus pre-treatment participation	\$2,397,780
The direct cost of corrections-based substance use disorder treatment	\$518,276
Net avoided cost after corrections-based substance use disorder treatment	\$1,879,504
Ratio showing cost of treatment to savings	1: 3.63
Expressed as return on investment	\$3.63 return for every \$1 of cost

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