CJKTOS

CRIMINAL JUSTICE KENTUCKY TREATMENT OUTCOME STUDY

FY2018

Prepared for:

Jonathan Grate
Deputy Secretary
Interim Commissioner
KY Justice and Public Safety Cabinet

Sarah Johnson
Director
Division of Substance Abuse
Kentucky Department of Corrections

March 2019

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Jonathan Grate
Deputy Secretary, KY Justice and Public Safety Cabinet
Interim Commissioner, Kentucky Department of Corrections

Sarah Johnson
Director, Division of Substance Abuse
Kentucky Department of Corrections

By:

Michele Staton, Principal Investigator
Megan Dickson, Data Research Analyst
Erin McNees Winston, Project Director

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, 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 substance abuse outcomes of state offenders participating in substance abuse treatment programs in Kentucky's prisons, jails, and community custody settings. This report includes data collected during FY2018 for 344 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 FY2018 from July 1, 2017 to June 30, 2018.

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

- 56.7% had not been re-incarcerated.
- 86.0% were living in stable housing.
- 62.5% were employed.
- 77.9% reported providing financial support to their children.
- 48.0% did not use any illicit substances in the year since release.
- 71.5% attended 12-Step meetings.

Of the SAP graduates who returned to DOC custody…

- 94.6% were re-incarcerated on a technical or probation/parole violation.
- 54.4% were employed, whereas 68.7% of non-recidivists were employed.
- 70% reported using drugs in the year since release and 52% had a positive drug test.

Treatment graduates noted positives about SAP participation, including…

- 88.4% felt better about themselves as a result of treatment.
- 84.3% received services they needed to get better.
- 88.1% considered the treatment program to be successful.

Cost offset analysis indicated that…

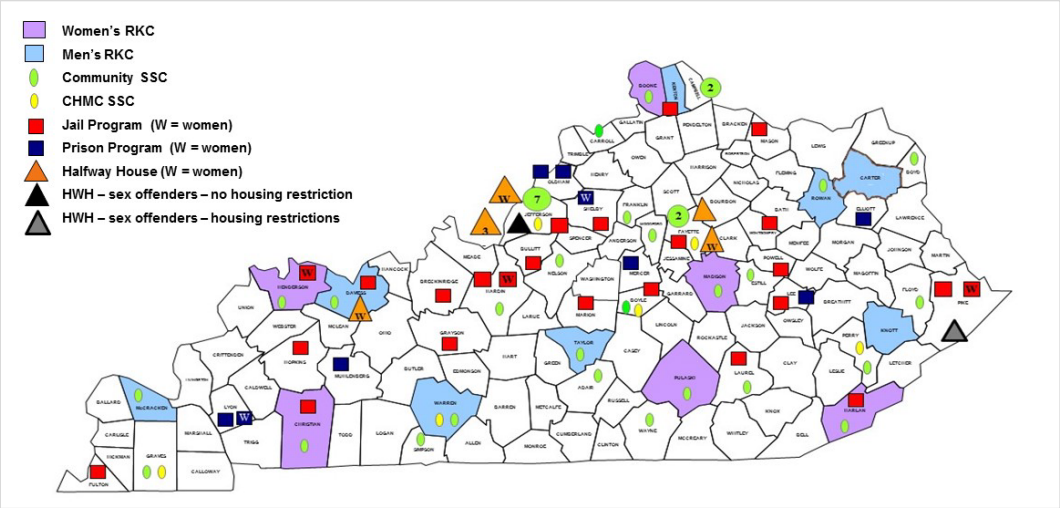
- For every $1 spent on Kentucky corrections-based substance abuse treatment there is a $3.90 cost offset.

The importance of employment and housing among SAP graduates aligns with the Department's recent re-entry initiatives. In February, 2018, DOC formed the Division of Re-entry Services with the overall purpose of creating individualized reentry plans, empowering individuals with resources, support and programming, to promote successful reintegration into the community. Re-Entry Division Director Kristin Harrod said, "we are excited about the close collaboration with the Division of Substance Abuse in order to enhance re-entry efforts for individuals in recovery".

Introduction

The Kentucky Department of Corrections (DOC) Division of Substance Abuse provides substance abuse treatment programs throughout the state (See Figure 1). The treatment approach has been described in earlier reports and is grounded in the key components of therapeutic community modalities (De Leon, 2000).

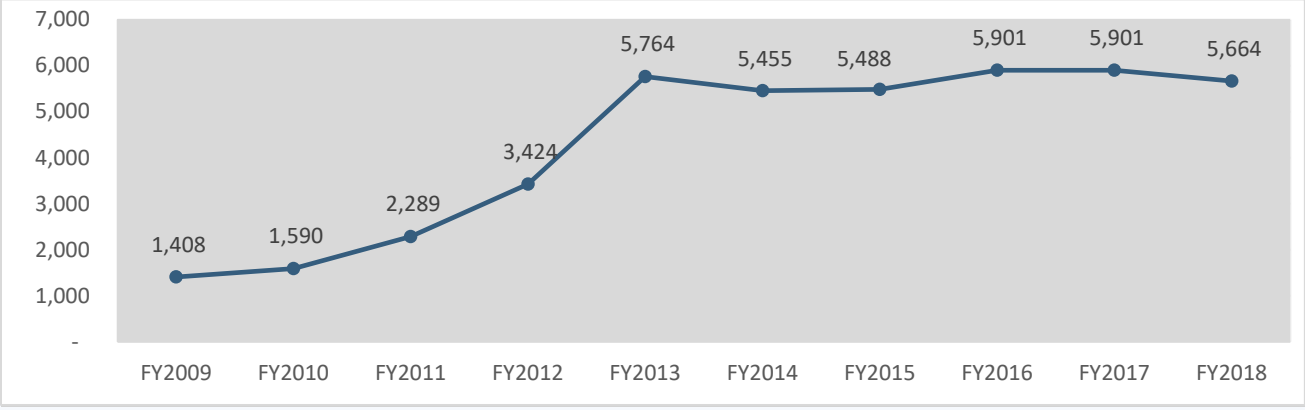
Figure 1. Location of Kentucky's Corrections-based Substance Abuse Treatment Programs (2018)



In FY2018, there were an average number of 5,664 corrections-based substance abuse treatment slots in jails, prisons, halfway houses, Recovery Kentucky Centers, community mental health centers, and intensive outpatient centers (See Figure 2, more details on specific DOC program modalities in Appendix A). This evaluation report focuses on traditional substance abuse programming (SAP) using a modified therapeutic community in institutional sessions (23 jails and 9 prisons) and in four halfway houses serving individuals with community custody status (See Appendix B for sites).

In FY2018, the number of treatment slots for KY DOC offenders was 5,664, reflecting a continued commitment to treatment access.

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



SAP Graduates

Data on behaviors prior to incarceration were collected by treatment providers at intake into the DOC treatment programs (jail, prison, or community custody) (See Methodology, Appendix C). Follow-up data was collected by the University of Kentucky Center on Drug and Alcohol Research 12 months after the individual completed treatment and was released to the community. Therefore, data in this report is categorized as "pre-incarceration" (risk behaviors in the 12 months and 30 days prior to incarceration) and as "follow-up" (risk behaviors during the 12 months and 30 days post-release from incarceration in which they successfully completed DOC SAP treatment in prisons, jails, or community halfway houses).

There were no differences between the treatment sample and overall treatment population, making the results of the CJKTOS FY2018 study generalizable.

This report profiles three categories of SAP graduates: (1) individuals completing substance abuse program services in state prisons; (2) individuals completing substance abuse program services in county or regional jails; and (3) individuals completing residential substance abuse services in the community halfway houses, but still under state custody. 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.

Table 1. Demographic Characteristics of FY2018 Follow-up SAP Sample Compared to All SAP Graduates Eligible for Follow-up

	Follow-up SAP Graduates (n=344)	All SAP Graduates Eligible for Follow-up (n=2,036)
Average Age	36.5 years old (range 22 to 69)	35 years old (range 18 to 78)
Race/ethnicity	84.9% white	81.0% white
Gender	74.1% male	79.9% male
Education	74.4% GED or high school diploma	73.9% GED or high school diploma
Marital Status	45.6% Single, never married	46.0% Single, never married

More than half of the follow-up SAP participants (50.7%) who completed treatment during FY2018 were referred to SAP as "parole upon completion."

Treatment Satisfaction

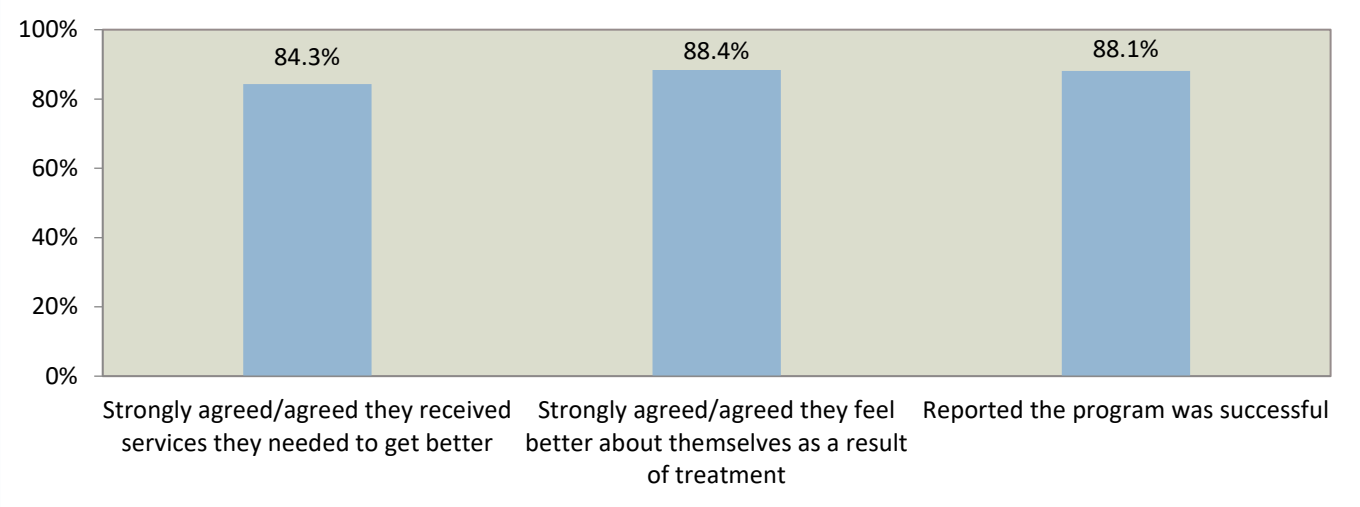
During FY2018, DOC SAP graduates were asked about their overall satisfaction with treatment as well as questions related to specific components of the program. As shown in Figure 3, the majority of SAP graduates at follow-up (84.3%) agreed or strongly agreed that they received the services they needed to help themselves get better. The majority of SAP graduates (88.4%) also agreed or strongly agreed that that they felt better about themselves as a result of treatment.

"I'VE TAKEN SO MANY RECOVERY TOOLS WITH ME. THE PROGRAM ACTUALLY MOTIVATED ME TO BE A BETTER CITIZEN AND A BETTER INDIVIDUAL."

Also reported in Figure 3, 88.1% of SAP graduates considered the program to be an overall success. When asked to explain why they believed the program was successful, many pointed to features of the programs themselves, including caring and dedicated staff, structure and routine, and being held accountable. Many also mentioned the value of shared experience and support from living in a community of others in recovery. Overall, the program taught SAP graduates about themselves and their addictions and gave them the tools and skills they needed to remain sober after release. Finally, many agreed that their own readiness and motivation to change made a difference in their success.

> "IT WAS ROUGH. BUT THE STAFF OVER THERE, THE WHOLE PROGRAM… IT TEACHES YOU AND MAKES YOU LOOK AT YOURSELF AND DEAL WITH YOUR PROBLEMS. THEY GAVE ME A SENSE OF SELF-ESTEEM AND HOPE AGAIN."

Figure 3. Treatment Program Satisfaction (N=344)



SAP graduates at follow-up were asked to describe what they liked best about the program. Many enjoyed being able to learn from others who shared their experiences in a community setting and helping others from a leadership role, facilitated by supportive and hands-on staff. Responses also included: classes, role-playing skits, process groups, AA/NA meetings, accountability and learning about personal responsibility, and the high expectations of the SAP programs, which challenged them to work on themselves and their behaviors.

> "I DIDN'T REALIZE HOW MUCH IT WAS GOING TO BENEFIT ME UNTIL I GOT OUT – THAT'S WHEN I STARTED REALLY UTILIZING THE THINGS I LEARNED."

When asked to explain why they rated SAP highly, many graduates reported appreciating the caring staff, bonds formed with other clients, program structure and routine, mentoring other SAP participants, and knowledge gained about recovery skills and themselves. However, many gave SAP high ratings because of the positive changes they had experienced post-release – sobriety after years of addiction or staying out of jails after frequent re-incarcerations – and attributed these changes directly to SAP.

CST and Criminogenic Needs

In July of 2017, Kentucky adopted the Kentucky Risk Assessment Screen (KY-RAS) which was adapted from the Ohio Risk Assessment Screen (ORAS, Latessa et al., 2010) as part of the state's initiative to enhance assessment processes through HB 463. Table 2 describes follow-up SAP graduates' scores on the KY-RAS. Nearly 10% of follow-up SAP graduates who had available KY-RAS data (n=99) were assessed as being overall high or very high risk. Domains with the highest risk were 1) Neighborhood Problems, 2) Substance Use, and 3) Education, Employment, and Financial Situation.

Nearly one-third (32.3%) of follow-up SAP graduates were assessed as being high or very high risk in the Neighborhood Problems domain.

Table 2. DOC Treatment and KY DOC KY-RAS Comparison of High Rankings

	DOC Treatment Follow-up Graduates (n=99*)
Overall Risk	9.1%
Criminal History	7.1%
Education/Employment/ Financial Situation	22.2%
Family/Social Support	7.1%
Neighborhood Problems	32.3%
Substance Use	28.3%
Peer Associations	7.1%
Criminal Attitudes/Behaviors	0.0%

*KY-RAS data unavailable in KOMS for N=245

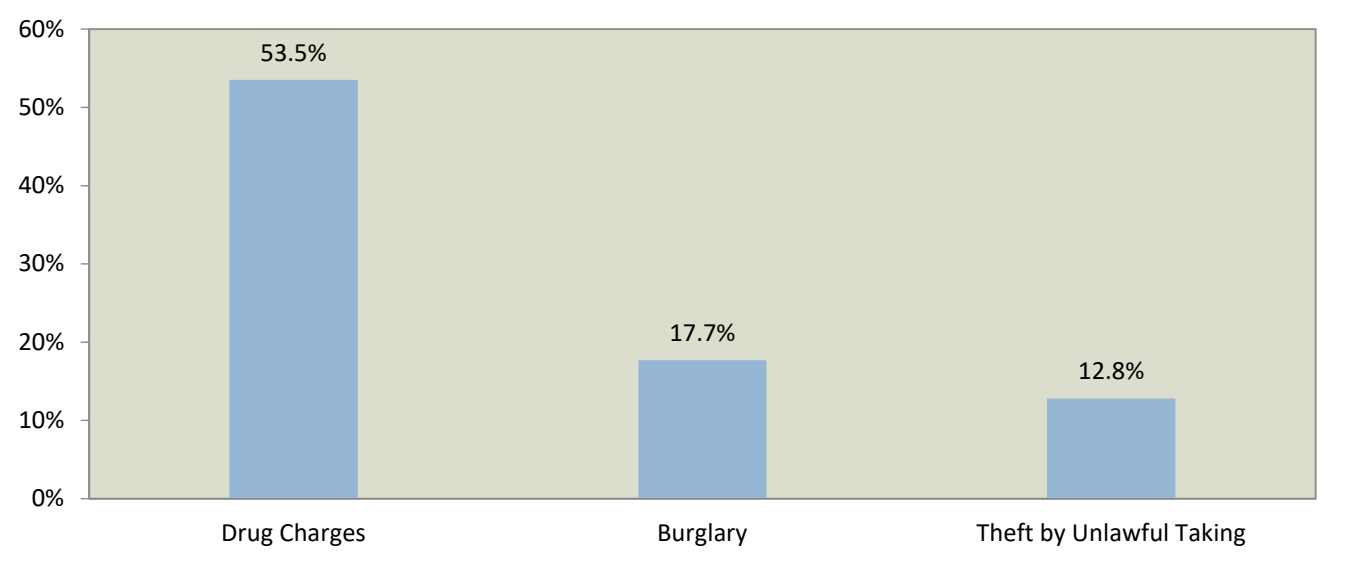
Criminal History

Upon intake, participants were asked to report on their current charges and as well as any charges during the 12 months prior to incarceration. At intake, more than half of participants who later graduated SAP (61.6%) reported they had been arrested and charged with a crime in the 12 months prior to their incarceration. Most commonly, arrests were for drug charges (26.7%), parole or probation violations (22.7%), and burglary, DUI, or theft (all 4.9%). Further, SAP graduates had spent an average of 40 nights incarcerated in the 12 months prior to their current incarceration, and also reported an average of 9.8 lifetime convictions.

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

As shown in Figure 4, SAP graduates' current charges at program intake were most likely to include drug charges, burglary, or theft by unlawful taking. At the time of intake, they had been incarcerated an average of 19.7 months.

Figure 4. Criminal Charges at SAP Intake (N=344)



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, 58.4% of jail, 53.3% of prison, and 54.8% of community custody-released follow-up cases 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 6.0 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 6.0 months on the street.

Table 3. Recidivism* 12 Months Post-release (N=344)

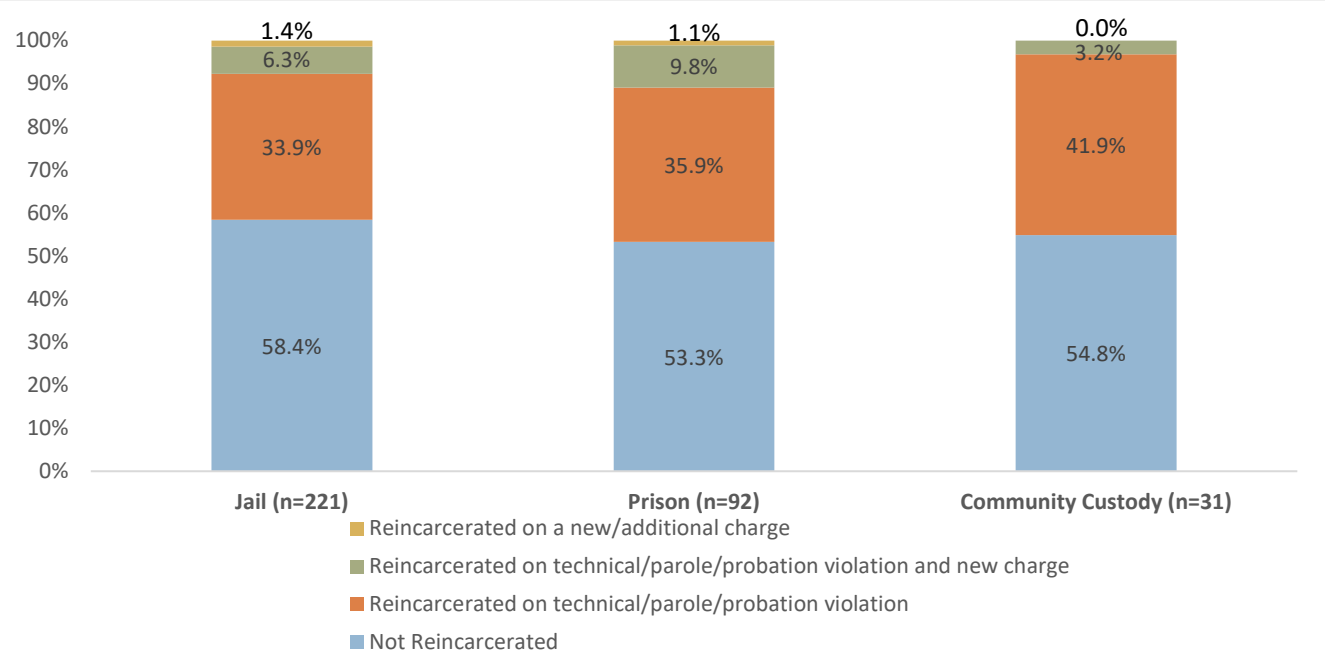
	Jail (n=221)	Prison (n=92)	Community Custody (n=31)	Total (N=344)
Not Incarcerated	58.4%	53.3%	54.8%	56.7%
Incarcerated	41.6%	46.7%	45.2%	43.3%

* The DOC counting rules were used to define recidivism (see page 22 for counting rule definition used in this report).

More than 80% of graduates who were re-incarcerated (n=149) were returned to custody on a technical or parole/probation violation alone.

Of the 43% of the sample who were returned to custody (n=149), the majority were re-incarcerated on a technical or parole/probation violation only (81.2%), while fewer were arrested on a violation as well as a new charge (16.1%), and only a small number were re-arrested on a new charge alone (2.7%). Figure 5 shows the reason for re-incarceration across each of the DOC treatment programs.

Figure 5. Recidivism and Reason for Re-incarceration (N=344)



Of those SAP graduates re-arrested for a technical or parole/probation violation (with or without a new charge; n=145, or 42.2% of the total sample), the most common violations included absconding (62.8% of violators), and the Department has made recent changes in the absconder protocol (https://corrections.ky.gov/About/cpp/Pages/Chapter-27.aspx). Other common violations included positive drug test or admission of drug/alcohol use (42.1%), failure to comply with aftercare conditions (24.8%), and failure to report (11.0%). Although arrests for violations are more common among SAP graduates than arrests for new charges, the Kentucky DOC has made efforts to reduce re-incarceration and more effectively meet treatment needs through increased reentry supports (both pre- and post-release) and implementation of graduated sanctions in a statewide initiative. Depending on the risk level of the offender and type of offense, graduated sanctions allow parolees to be placed in discretionary detention for up to 10 days following violations, without revocation of parole. Social service clinicians then provide assessments to determine offenders' needed level of care, including IOP, residential, or outpatient services. This initiative reflects the DOC's commitment to data-driven decision making by

Through increased reentry supports and implementation of graduated sanctions, the Kentucky DOC has made efforts to more effectively meet the needs of those returning to the community on supervision.

identifying offenders on supervision in need of further substance abuse treatment and allowing their needs to be met directly.

SAP graduates who recidivated during the 12 months following their release had a number of differences when compared to non-recidivists. For example, recidivists reported a significantly greater number of lifetime convictions compared to non-recidivists (11.58 vs 8.45). Additional comparisons between recidivists and non-recidivists, including drug use and employment, can be found in the sections to follow.

Education, Employment, & Financial Situation

62.5% of participants were employed part-time or full-time.

Seventeen percent of SAP graduates reported attending either an educational or vocational training program during the 12 months following release. Specifically, 32 attended a job training program, 11 attended a GED program, 15 attended either a college or vocational school, and 1 attended both a GED and job training program.

The majority of SAP graduates reported working one-year post-release. Approximately two-thirds (62.5%) 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. Of those who worked at least part time in the year following release, they had an average of less than 2 jobs during the 12-month period. Furthermore, SAP graduates reported an average past-month legal income of $1,487, and, as shown in Table 4, 86.0% reported stable housing in an apartment, room, house or residential treatment facility – an increase from FY 2017 (82.3%).

Table 4. Education, Employment, and Income in the 12 Months Post-release (N=344)

	Jail (n=221)	Prison (n=92)	Community Custody (n=31)	Total (N=344)
Participated in education or vocational program	17.2%	19.6%	9.7%	17.2%
Employed full- or part-time	62.9%	60.9%	64.5%	62.5%
Housed in apartment, room, house or residential treatment facility	86.9%	81.5%	93.5%	86.0%

There were notable differences between individuals who recidivated and those who did not. As shown in Table 5, recidivists were far less likely to be employed or to have stable housing compared to those who did not recidivate during the 12 months following release. Those who recidivated and reported income (n=148) also reported a lower legal income in their last 30 days on the street compared to those who did not return to DOC custody (n=195; $1,260 vs. $1,659). These findings have important implications for DOC's new re-entry initiatives and speak to the importance of wrap around services for individuals in recovery.

Table 5. Education, Employment, and Income by Recidivism in the 12 Months Post-release (N=344)

	Recidivists (n=149)	Non-recidivists (n=195)
Participated in education or vocational program	17.9%	16.1%
Employed full- or part-time	54.4%	68.7%
Housed in apartment, room, house or residential treatment facility	70.5%	97.9%

Furthermore, although little more than half (54.4%) of recidivists were employed at least part time during the 12 months post-release, recidivists who were employed were on the street an average of 61 days longer before returning to DOC custody than those who were not employed (207.3 days vs. 146.5 days).

Of recidivists, those who were employed were on the street 61 days longer.

Family & Social Support

Graduates of DOC treatment reported improved family relationships at one-year post-release. Significantly more SAP graduates reported spending most of their free time with family at follow-up (71.8%) than before incarceration (57.0%). SAP graduates also reported a higher average number of friends at follow-up (3.14) compared to pre-incarceration (2.52). Furthermore, almost 4 out of every 5 (77.9%) graduates reported feeling 'quite a bit' or 'extremely' cared about and supported by the important people in their life.

SAP graduates noted that their time in the program had taught them many useful interpersonal skills that helped their relationships with family after release, including specific skills in coping, anger management, and parenting. They reported improved communication skills, such as listening and honesty with others, as well as greater empathy, open-mindedness, self-awareness, and understanding. This empathy helped them to work on boundaries and co-dependence, particularly with family members that may have enabled their substance use. SAP graduates also noted increased self-discipline, integrity, and patience, which in turn helped them to be accountable for their actions, to make amends, and to have respect for themselves and others.

"I LEARNED THAT I NEED TO WORRY ABOUT OTHER PEOPLE BESIDES MYSELF. THERE'S MORE TO LIFE AND RELATIONSHIPS THAN JUST GETTING HIGH AND DOING WHAT I WANTED TO DO."

"I LEARNED HOW TO LISTEN INSTEAD OF TALKING ALL THE TIME. THERE'S ALWAYS TWO SIDES TO EVERYTHING... OTHER PEOPLE MATTER."

In addition, nearly two-thirds (86.9%) of SAP graduates reported having a close relationship with their children at follow-up. Also, over three-quarters of graduates (77.9%) reported providing financial support to their children under the age of 18 in the 12 months post-release.

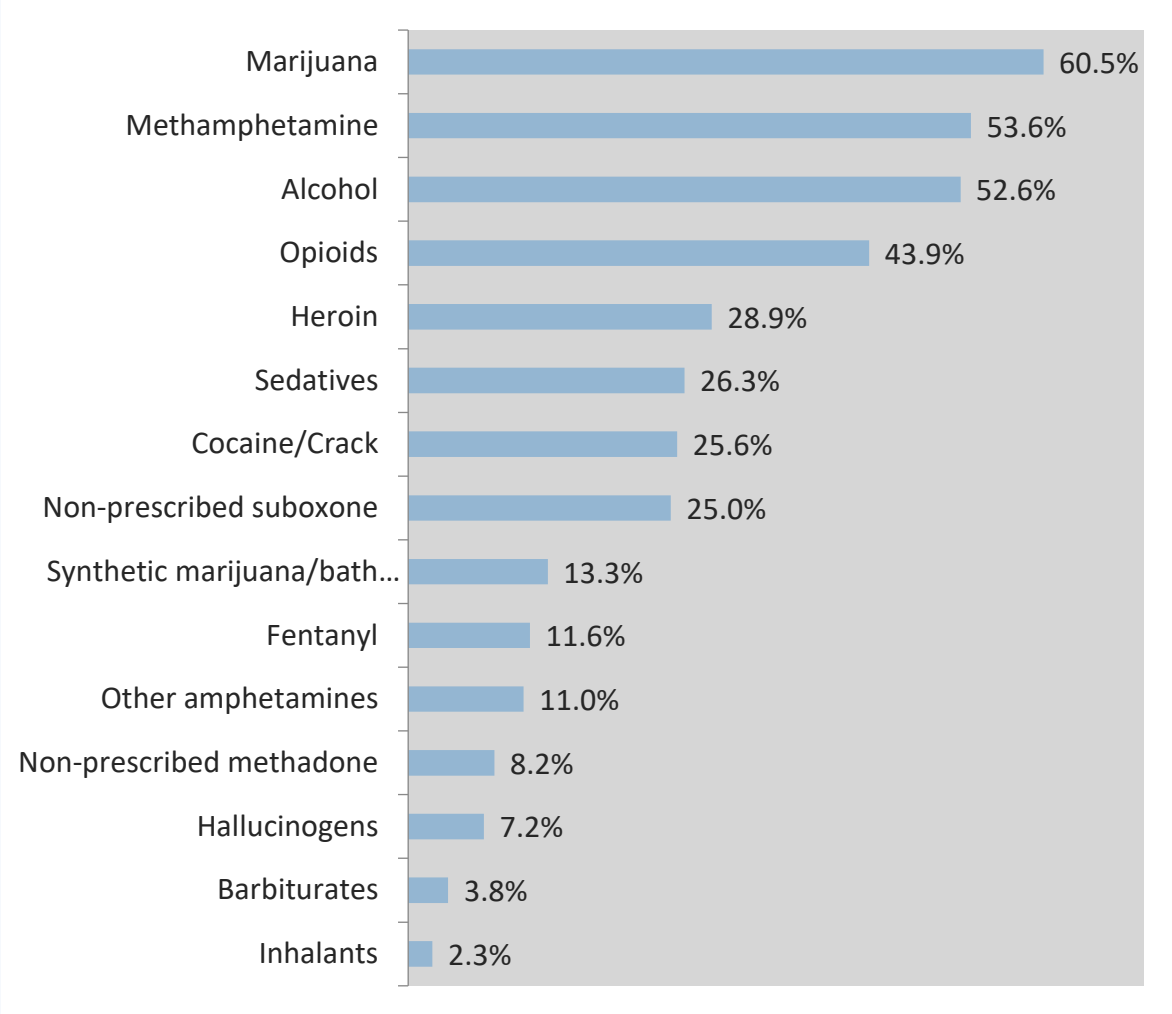
Despite overall positive family and social support-related outcomes following SAP participation, there were marked differences between those who returned to DOC custody and those who did not. Specifically, graduates who did not recidivate were more likely to report feeling supported by family and friends, report having a close relationship with friends and children, had a greater number of friends, and were more likely to spend their free time with their family.

Substance Use

Figure 6 on the following page shows substance use during the pre-incarceration period for SAP participants (both graduates and non-graduates) who completed a baseline assessment during FY2018. In the 12 months prior to incarceration, the greatest percentage of participants reported marijuana use (58.0%), followed by methamphetamine use (53.6%) and alcohol use (52.6%).

Marijuana was the most commonly used non-alcohol drug in the 12 months prior to incarceration.

Figure 6. Profile of Pre-incarceration Substance Use among SAP Participants (n=6,095)



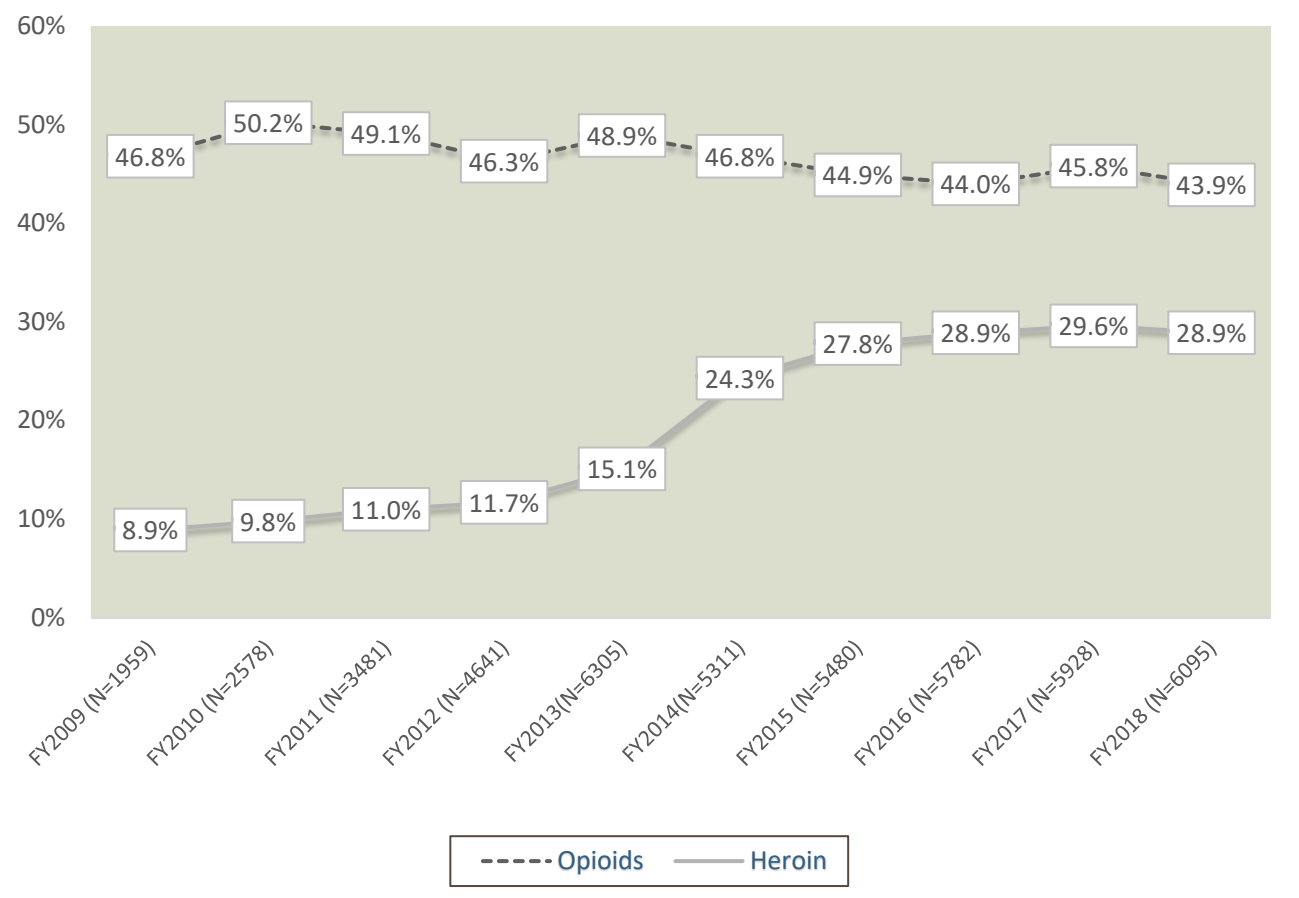
Heroin

Mirroring a national trend, heroin use is gradually increasing among KY offenders.

For over a decade there has been a significant increase in self-reported heroin use prior to incarceration. As shown in Figure 7, the percentage of offenders entering corrections-based substance abuse reporting any heroin use in the 12 months prior to incarceration increased from 8.9% in FY2009 to 28.9% in FY2018. Also illustrated in Figure 8, self-reported illicit opioid use (not including heroin, methadone or buprenorphine) peaked at 50.2% in FY2010 and has since decreased to 43.9% in FY2018.

In response to the increase in heroin use in Kentucky, the state legislature passed Senate Bill 192 in March 2015, which has been progressive and proactive in its attempt to mitigate the commonwealth's heroin crisis. SB 192 includes provisions such as the availability of naloxone to emergency medical workers to curb rates of overdose, needle-exchange programs, millions of dollars in increased state and Medicaid funding for addiction treatment, and tougher sanctions for traffickers without a paired mandatory minimum sentencing for users caught in possession of the drug (Kentucky Legislature, 2015). These advances in treatment of illicit opioid and heroin use make the SAP program more relevant than ever.

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

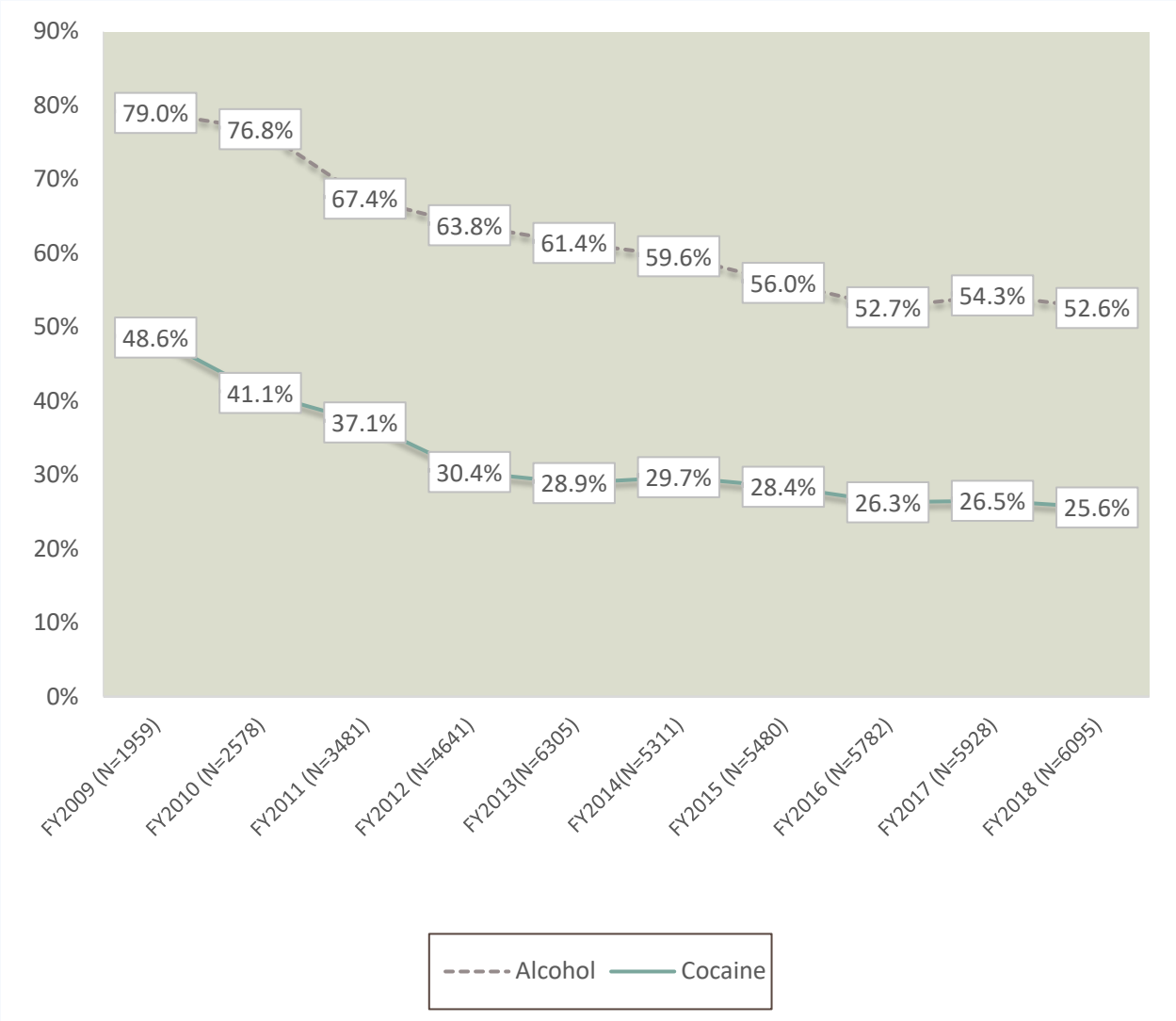


Alcohol and Cocaine

Other noteworthy substance use trends include the steady decrease in alcohol consumption and a decline of reported cocaine/crack usage. As highlighted in Figure 8, the percentage of offenders who report alcohol use at baseline has fallen from 79.0% to 52.6%, resulting in an overall decrease of 26.4 percentage points from FY2009 to FY2018 – the largest reverse trend for any illicit substance. For this same period, reported cocaine or crack use declined 20.1 percentage points, from 48.6% down to 25.6%.

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

Figure 8. Reporting Alcohol and Illicit Cocaine Use in 12 Months Prior to Incarceration

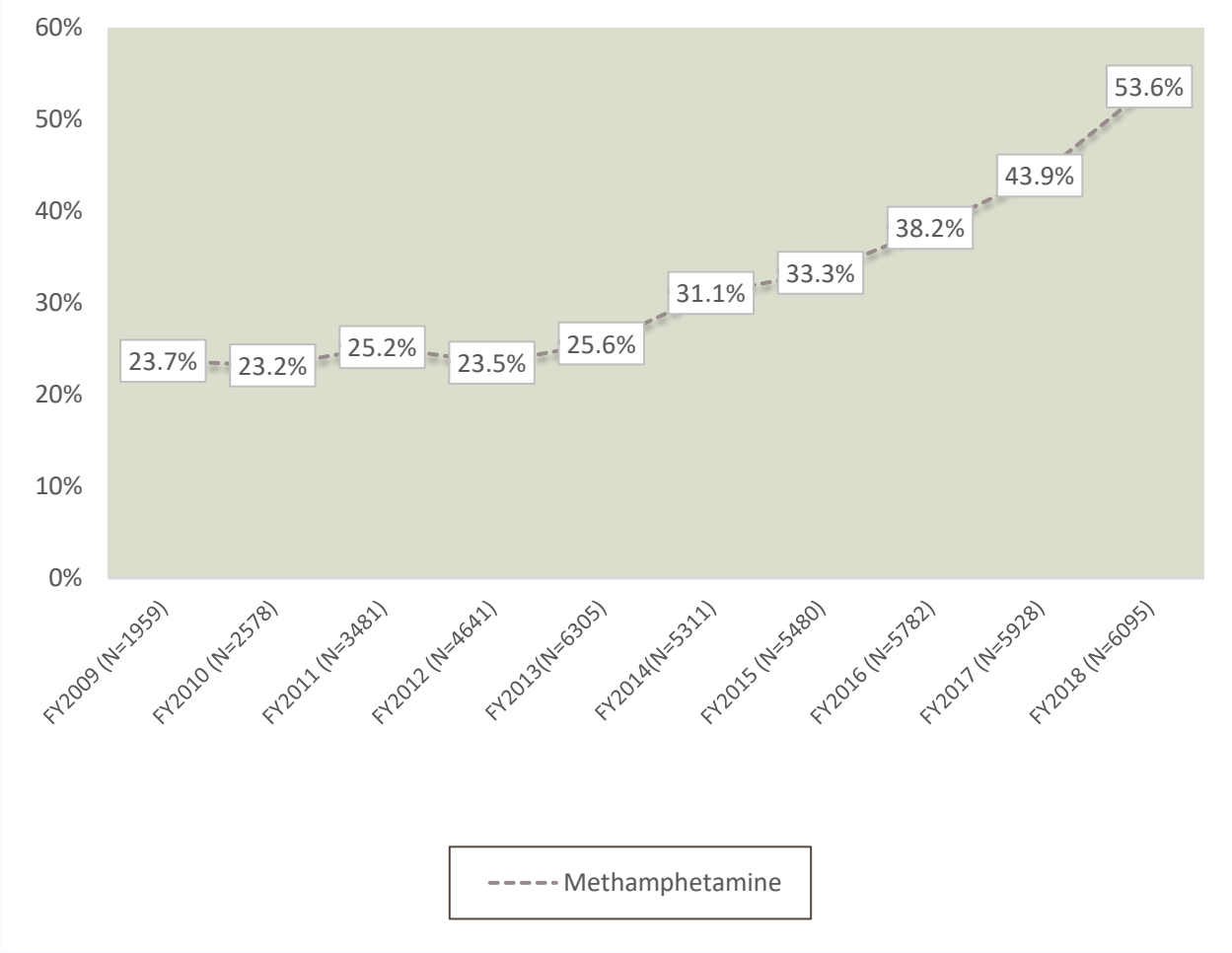


Methamphetamine

There has been an increase in reported methamphetamine usage over the past seven years.

Another noteworthy substance use trend includes the recent increase in methamphetamine use over the past five years. As highlighted in Figure 9, the percentage of offenders who report methamphetamine use at baseline has risen from 23.5 % in FY2012 to 53.6% in FY2018, resulting in an overall increase of 30.1 percentage points. This increase mirrors trends recently observed in other states (Enos, 2018). This increase is also of particular concern in light of recent findings that drug cartels are increasing the availability of a new, more potent form of methamphetamine compared to more traditional "homemade" batches (Hartman, 2018). According to the Kentucky Office of Drug Control Policy, a number of "large seizures of foreign produced meth" were found in Kentucky in 2016 and 2017 (ODCP, 2018).

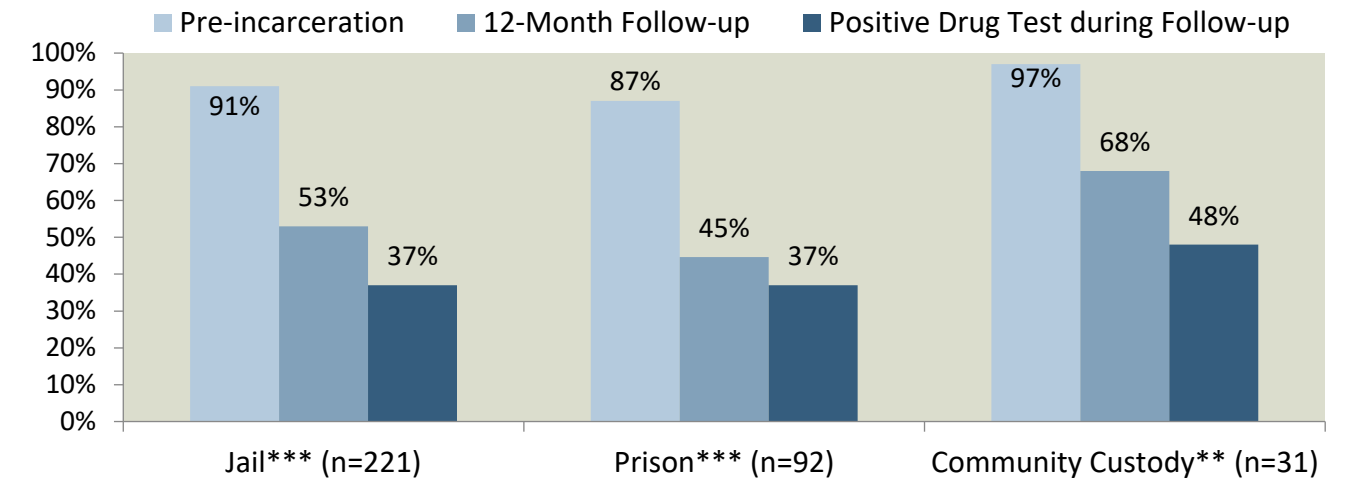
Figure 9. Reporting Illicit Methamphetamine Use in 12 Months Prior to Incarceration



Decreases in Substance Use During Follow-up

As shown in Figure 10, those who graduated from DOC treatment in prison, jail, or community custody programs reported a significant decrease in use of any illegal drug following treatment. Further, only 38% of SAP graduates who participated in the follow-up had a positive drug test during the 12 months following release.

Figure 10. Drug Use from Pre-incarceration to One-year Post-release (N=344)



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

Although there was an overall decrease in substance use during the 12 months following incarceration, 70% of those who returned to DOC custody reported using drugs during the follow-up period compared to only 39% of those who did not recidivate. Approximately half (52%) of those SAP graduates who recidivated had a positive drug test during the 12 months following incarceration. Recidivists who reported using drugs during the follow-up period (n=103) were on the street an average of 97 days before they used any illegal drugs.

Mental Health

While not a direct focus of DOC substance abuse treatment, data also indicate improvements in mental health status during the one-year period post-release. Significantly fewer SAP graduates reported experiencing serious depression at follow-up (31.7%) when compared to pre-incarceration (45.6%), as illustrated in Table 6. Significantly fewer graduates also reported anxiety at follow-up (41.3%) when compared to before incarceration (51.2%). Finally, significantly fewer graduates reported suicidal thoughts at follow-up (5.2%) when compared to pre-incarceration (11.9%)

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

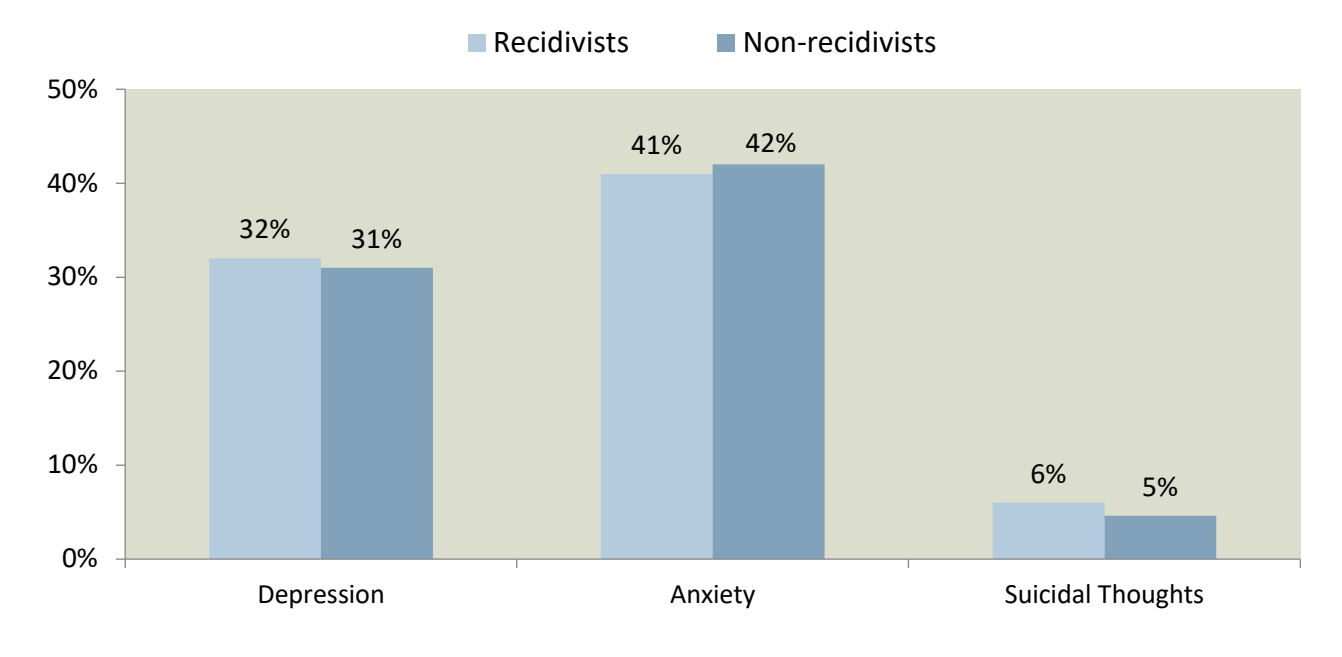
Table 6. Mental Health Pre-incarceration and Post-release (N=344)

	Pre-incarceration	12-Month Follow-up
Experienced serious depression in previous 12 months* **	45.6%	31.7%
Experienced serious anxiety in previous 12 months **	51.2%	41.3%
Experienced serious thoughts of suicide in previous 12 months* **	11.9%	5.2%

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

Though there was a decrease overall in the prevalence of mental health problems experienced by SAP graduates during the follow-up period, there was little variation between those who returned to DOC custody and those who did not. For example, the follow-up data revealed that 32.2% of those who recidivated experienced depression during the 12 months following incarceration compared to 31.3% of those who did not recidivate. As shown in Figure 11, the prevalence of anxiety and suicidal thoughts was also similar across groups.

Figure 11. Mental Health by Recidivism Status (N=344)



Treatment Cost-offset

The public funding of substance abuse treatment and recovery services typically must justify its costs by showing reductions in social and financial costs to society. For CJKTOS, an active substance user is defined in this report as 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 abuse treatment program, there is a $3.90 cost offset.

The first step in the analysis focused on estimating the average cost per substance abuser, using two comprehensive federally funded economic studies. In 2007, the annual cost to the United States for drug abuse was $193 billion (NDIC, 2011). Updated to FY2018 values, this figure translates to $233,399,030,200 (Bureau of Labor Statistics, 2018). The most recent results from the National Survey on Drug Use and Health indicate that there are 20.1 million individuals with a substance use disorder in the United States (Substance Abuse and Mental Health Services Administration, 2017). Thus, the average cost per substance abuser per year ($11,612) was calculated as the total annual cost of drug abuse divided by the number of individuals with substance use disorders using SAMHSA and DSM-V 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 $3,564,884 while the cost for a comparison 12-month period after treatment is estimated at $952,184. This analysis shows a net reduction in cost for the sample of $2,612,700.

Table 7. Costs Associated with Drug and Alcohol Use (Pre-treatment to Post-treatment)

	Baseline N	Per person cost of substance abuse	Cost of substance abuse (pre-treatment)	Follow-up N	Per person cost of substance abuse	Cost of substance abuse (post-treatment)
Study participants who were active substance users in past 30 days	307	$11,612	$3,564,884	82	$11,612	$952,184

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 abuse 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) and multiplied by the cost per day of treatment to arrive at a total treatment cost of $532,924 for the sample.

Table 8. Cost of Corrections-based Treatment*

	Number of treatment days	Cost per day of treatment*	Total treatment cost
Jail (n=221)	40,524	$9.00	$364,716
Prison (n=92)	16,953	$8.24	$139,693
Community Custody (n=31)	5,669	$5.03	$28,515
Total cost			$532,924

*Treatment costs supplied by KY Department of Corrections, 11/13/18 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.

As shown in Table 9, the initial cost to the state for drug and alcohol abuse/dependence for this sample of offenders would have been $3,564,884 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 $952,184. The gross difference in the cost to society was $2,612,700. After subtracting the direct costs of the treatment programs, there was a net avoided cost of $2,079,776. Therefore, for every dollar spent on corrections-based treatment there was a return of $3.90 in cost offsets.

Table 9. Cost Offset for the Follow-up Sample (N=344)

Cost Item	Dollars
Annual cost to Kentucky before participation in corrections-based substance abuse treatment	$3,564,884
Annual cost to Kentucky after participation in corrections-based substance abuse treatment	$952,184
Gross difference in post versus pre-treatment participation	$2,612,700
The direct cost of corrections-based substance abuse treatment	$532,924
Net avoided cost after corrections-based substance abuse treatment	$2,079,776
Ratio showing cost of treatment to savings	1: 3.90
Expressed as return on investment	**$3.90 return for every $1 of cost**

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 interviews conducted with SAP graduates, the program is making a positive impact. The vast majority of graduates reflected that they had received valuable skills to use in their life post-release. There was consensus that SAP had given them the tools they needed to move beyond addiction and forward into a future full of possibility and hope.

SAP graduates were asked to reflect upon what factors are needed to be successful after treatment. Although the idea of "success" and the means by which to achieve it differed, among the wide range of responses given, the factors most associated with being successful post-treatment included several important themes:

- **Changing the old people, places, and things associated with drug and alcohol use**
- **Having a strong support system, especially family, that will hold participants accountable**
- **Being able to ask for help when cravings or relapses happen**
- **Setting attainable goals and staying focused on them**
- **Having a structured schedule and staying busy with constructive activities**
- **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**

Recovery Support

Beyond the aforementioned factors related to successful reentry following incarceration, several SAP graduates also engaged in 12-step programs and some type of aftercare.

Regular attendance of 12-step meetings has been recognized as an effective form of support following substance abuse treatment (Fiorentine, 1999; Kaskutas 2009; Kownacki & Shadish, 1999; Tonigan, Toscova, & Miller, 1996). Most SAP graduates reported attending at least one AA/NA meeting in the 12 months after their release. Specifically, as shown in Table 10, nearly three-quarters (71.5%) reported attending AA/NA, and they reported attending meetings an average of 5.0 days in the past 30.

71.5% of SAP graduates reported attending AA/NA meetings in the 12 months following release.

Table 10. AA/NA Attendance in the 12 Months Following Release (N=344)

	Attended AA/NA Meetings	Average number of days attended AA/NA in past 30 days
Jail (n=221)	74.7%	5.1 days
Prison (n=92)	68.5%	4.2 days
Community Custody (n=31)	58.1%	6.3 days
Total (N=344)	71.5%	5.0 days

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 165 SAP graduates on supervision during the 12-month follow-up period who reported no drug use, 131 had no positive drug tests in KOMS. This provides a self-report accuracy rate of 79.4%. In this study, a higher rate of substance use is self-reported than from urine test results. Furthermore, urine tests only identify substances used recently. 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 FY2018 CJKTOS follow-up report presents 12-month post-release data on the characteristics of individuals who participate in the Kentucky Department of Corrections substance abuse 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 substance abuse treatment in DOC prison, jail, and halfway house programs and were released during fiscal year 2018. Specifically, this 12-month follow-up study examined a randomly selected representative sample of 344 males and females who successfully completed jail, prison, or community custody-based treatment in halfway houses and consented to follow-up.

"IF A PERSON COMES INTO THE PROGRAM SERIOUSLY, AND THEY ACTUALLY WANT TO WORK THROUGH THEMSELVES AND FIND OUT WHY THEY DO THE THINGS THEY DO… THE SAP PROGRAM CAN HELP. YOU CAN TAKE YOURSELF APART AND REBUILD YOURSELF."

Findings from the FY2018 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 recovery supports**
- **Program satisfaction**
- **Improved family relationships**
- **Improved mental and emotional wellbeing**
- **Increase in self-esteem**

Implications

Findings from this CJKTOS report indicate a number of positive outcomes associated with Kentucky Department of Corrections Substance Abuse Programs. These programs have continued to evolve over the last decade 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 prison and jail-based treatment in Kentucky is indicative of the state's commitment to provide treatment for substance users. With the implementation of HB463 in 2011 and SB192 in 2015, the Department's commitment to treatment has been enhanced by state level initiatives to provide additional services and an emphasis on evidence-based interventions, as well as enhanced services during community re-entry 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 abuse 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 abuse 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 abuse 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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Acknowledgements

We also want to acknowledge the contributions and efforts of the CJKTOS project team at the University of Kentucky:

Michele Staton, PhD, MSW, Principal Investigator
Robert Walker, MSW, LCSW, Co-investigator
Carl Leukefeld, DSW, Co-investigator
Erin McNees Winston, MPA, Project Director
Megan F. Dickson, PhD, Research Data Analyst
Jeb Messer, Software Developer
Ryan Lindsey, Data Management Specialist
Tianna Acree, BA, Administrative Research Assistant Pr.
Martha Tillson, BSW, Administrative Research Assistant Pr.
Sarah Shalash, MSW, CSW, Data Coordinator Sr.
Kirsten E. Smith, MSW, Data Coordinator Sr.
Micah Davis, BA, Social Work Master's Practicum Student

Appendix A. Kentucky Department of Corrections Substance Abuse Treatment Modalities

Prison Therapeutic Community: A six-month evidence-based substance abuse 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 abuse 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.

Halfway House Treatment: Those individuals in need of substance abuse treatment, who meet the classification criteria for community custody, may participate in programs available in halfway houses approved by the department to offer substance abuse 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 abuse 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 abuse treatment programming is offered, the Department offers evidence-based outpatient substance abuse 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 abuse 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 abuse and 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 abuse with support and oversight by the Parole Officer, Social Service Clinician, Administrative Law Judge, Parole Board, and mental health and substance abuse 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 abuse treatment, and family reunification. Eligible candidates may include probationers, parolees, misdemeanants, those on MRS, and pre-trial diversion.

Medically Assisted 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 abuse 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 abuse program.

Social Service Clinician Community Groups: As part of the division of Substance Abuse Services effort to stem the high rate of substance abuse 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 abuse 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

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

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

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

Lee Adjustment Center
168 Lee Adjustment Center Drive
Beattyville, KY 41311
(606) 464-2866

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

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

Roederer Correctional Complex
P. O. Box 69
LaGrange, Kentucky 40031
(502) 222-0170

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

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

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

Casey County Detention Center
169 Court House Square
Liberty, Kentucky 42539
(606) 787-1758

Christian County Detention Center
410 West Seventh St.
Hopkinsville, Kentucky 42240-2116
(270) 887-4152

Daviess County Detention Center
3337 Highway 60 East
Owensboro, Kentucky 42303-0220
(270) 685-8466 or 8362

*Fayette County Detention Center
600 Old Frankfort Circle
Lexington, Kentucky 40510
(859) 425-2700

Fulton County Detention Center
210 South 7th Street
Hickman, KY 42050
(270) 236-2405

Grant County Detention Center
212 Barnes Road
Williamstown, KY 41097
(859) 824-0796

Grayson County Detention Center
320 Shaw Station Road
Leitchfield, Kentucky 42754-8112
(270) 259-3636

Hardin County Detention Center
100 Lawson Blvd
Elizabethtown, Kentucky 42701
(270) 765-4159

Harlan County Detention Center
6000 Highway 38
Evarts, Kentucky 40828
(606) 837-0096

Henderson County Detention Center
380 Borax Drive
Henderson, Kentucky 42420
(270) 827-5560

Hopkins County Detention Center
2250 Laffoon Trail
Madisonville, Kentucky 42431
(270) 821-6704

*Kenton County Detention Center
3000 Decker Crane Lane
Covington, Kentucky 41017
(859) 363-2400

Laurel County Detention Center
204 W 4th Street
London, Kentucky 40741
(606) 878-9431

*Louisville Metro Corrections
400 S. Sixth Street
Louisville, Kentucky 40202
(502) 574-8477

Marion County Detention Center
201 Warehouse Road
Lebanon, Kentucky 40033-1844
(270) 692-5802

Mason County Detention Center
702 US 68
Maysville, Kentucky 41056
(606) 564-3621

*Montgomery County Detention Center
751 Chenault Lane
Mt. Sterling, Kentucky 40353
(859) 498-8747

Pike County Detention Center
172 Division Street, Suite 103
Pikeville, Kentucky 41501
(606) 432-6232

Powell County Detention Center
755 Breckenridge Street
Stanton, KY 40380
(606) 663-6400

Shelby County Detention Center
100 Detention Road
Shelbyville, KY 40065
(502) 633-2343

Three Forks Regional Jail (Lee County)
2475 Center Street
Beattyville, Kentucky 41311
(606) 464-259

**Jails which serve county inmates. These programs are typically 90 days and are not recognized by the Department of Corrections for good time credit. Because of different programming and structure, these individuals are not included in the follow-up sampling.*

COMMUNITY HALFWAY HOUSE DATA COLLECTION SITES

CTS-Russell
1407 West Jefferson Street
Louisville, KY 40203
(502) 855-6500

Dismas Charities-Diersen
1219 West Oak Street
Louisville, Kentucky 40210
(502) 636-1572

Dismas Charities-Owensboro
615 Carlton Drive
Owensboro, KY 42303
(270) 685-6054

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 substance abusers 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 abuse 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 abuse 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, a final sample of 344 was included in the follow-up. 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. A participant was considered ineligible for follow-up if he or she was not located 14 months after release. Locator methods included mailing letters and flyers, phone calls, and internet searches. All follow-up interviews were completed interviews by phone, and all data provided is self-reported by the participants.

Sampling approach

A total of 3,298 clients who completed a CJKTOS baseline were released from custody in FY2018. 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 3,298 CJKTOS clients who were released from custody in FY2018, 157 did not consent to participate in the follow-up study and of the 3,141 who consented to participate, 1,105 did not successfully complete SAP. This left 2,036 SAP participants who were eligible for follow-up (released in FY2018, successfully completed SAP, and voluntarily consented for follow-up). Of those, 22.3% were randomly selected to participate in the follow-up interview (n=455). The sample of 455 was proportionate to the number of males and females released from jails, prisons, and community custody treatment programs.

Of the 455 DOC SAP graduates randomly selected for follow-up in the community 12-months post-release, 344 were successfully located and interviewed (221 jail treatment participants, 92 prison treatment participants and 31 community custody treatment participants), for a follow-up rate of 78% (See Table 11).

Table 11. FY2018 Follow-up Rates

	Eligible	*Completed*	*Percentage*
Jail Sample	288	221	77%
Males	227	168	74%
Females	61	52	87%
Prison Sample	119	92	77%
Males	89	65	73%
Females	30	27	90%
Community Custody Sample	48	31	65%
Males	35	22	63%
Females	13	9	69%
Total	455	344	76%
*Ineligible for follow-up**	16		
Final Total	439		78%
Refusals	10		2%
Unable to locate	85		19%

*Note: ineligible for follow-up was defined as participants moving out of state (n=12) or deceased (n=4).

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 abuse 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.

CJKTOS STATE LIAISONS AND PROJECT STAFF

Department of Corrections

Jonathan Grate
Deputy Secretary and Commissioner
275 E. Main Street
Frankfort, KY 40601
502-564-4726

Sarah Johnson
Director, Division of Substance Abuse
2439 Lawrenceburg Rd.
Frankfort, KY 40601
502-564-6490

University of Kentucky

Michele Staton, Ph.D., M.S.W.
Principal Investigator
UK College of Medicine
Department of Behavioral Science and Center on Drug & Alcohol Research
141 Medical Behavioral Science Building
Lexington, KY 40536

Erin McNees Winston, M.P.A.
Study Director
UK Center on Drug & Alcohol Research
845 Angliana Ave
Lexington, KY 40508

Robert Walker, M.S.W., L.C.S.W.
Co-Investigator
UK Department of Behavioral Science and Center on Drug & Alcohol Research
333 Waller Avenue, Suite 480
Lexington, KY 40504

Carl Leukefeld. D.S.W.
Co-Investigator
UK Department of Behavioral Science and Center on Drug & Alcohol Research
111 Medical Behavioral Science Building
Lexington, KY 40536