CJKTOS

Criminal Justice Kentucky Treatment Outcome Study

FY2017

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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 FY2017 for 350 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/termination and release from custody. This report includes data collected during FY2017 from July 1, 2016 to June 30, 2017.

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

- 56.0% had not been re-incarcerated.
- 82.3% were living in stable housing.
- 66.9% were employed.
- 78.2% reported providing financial support to their children.
- 56.6% did not use any illicit substances in the year since release.
- 73.4% attended 12-Step meetings.

Of those who returned to DOC custody…

- 96.8% were re-incarcerated on a technical or probation/parole violation.
- 53.2% were employed, whereas 77.5% of non-recidivists were employed.
- 68% reported using drugs in the year since release and 53% had a positive drug test.

SAP graduates reported better outcomes, including…

- 70% were employed during the 12 months following release.
- 57.2% had not been re-incarcerated.
- 61.0% had not used illegal drugs during the follow-up period.

Treatment participants noted positives about SAP participation, including…

- 83.2% felt better about themselves as a result of treatment.
- 80.0% received services they needed to get better.
- 79.4% considered the treatment program to be successful.

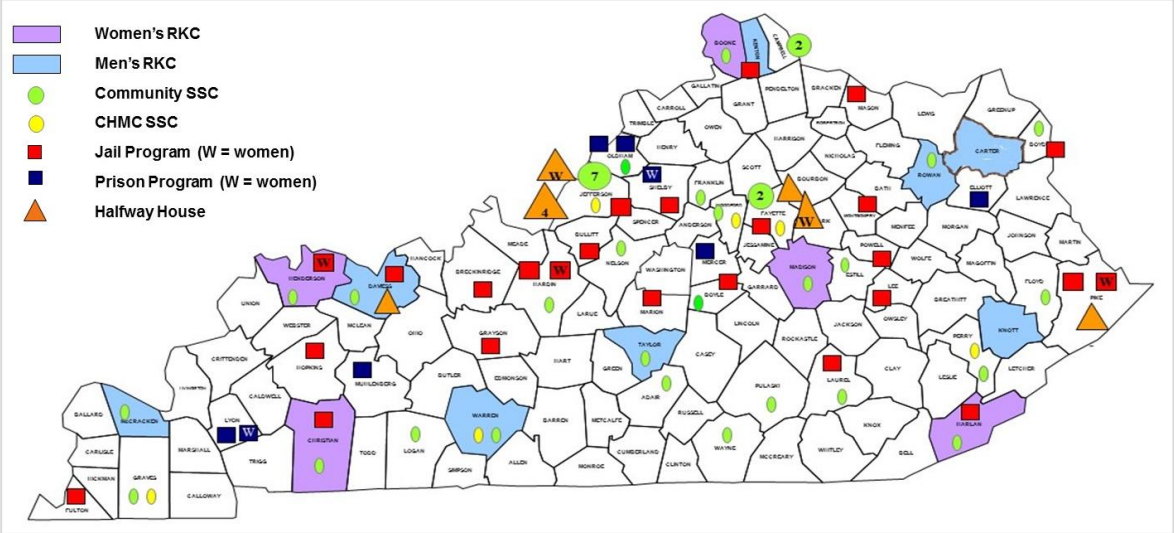
Cost offset analysis indicated that…

- For every $1 spent on Kentucky corrections-based substance abuse treatment there is a $4.52 cost offset.

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).

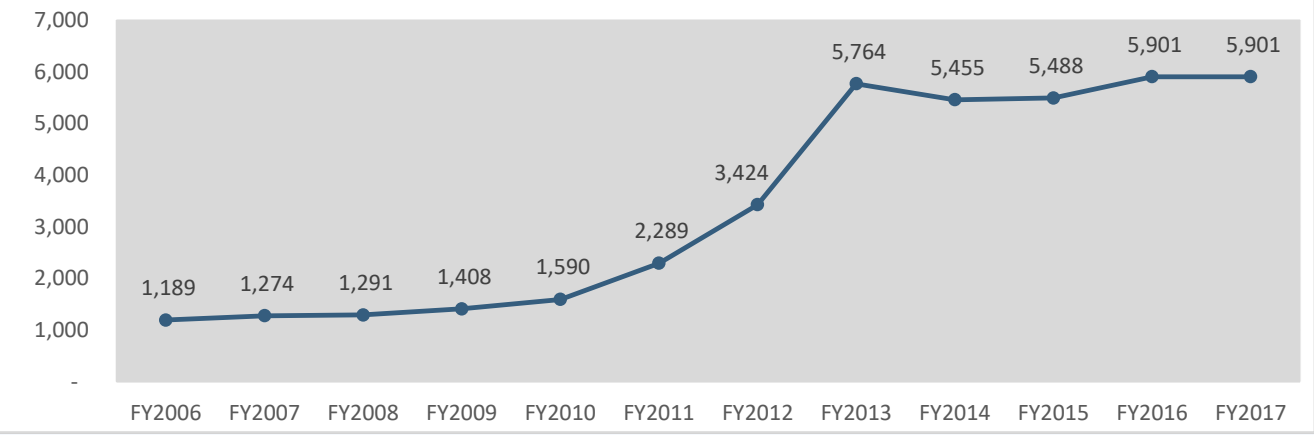
Figure 1. Location of Kentucky's Corrections-based Substance Abuse Treatment Programs (2017)



In FY2017, there were an average number of 5,901 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). There are 8 prisons and 24 jails with substance abuse programs (See Appendix C for sites).

The number of treatment slots for KY DOC offenders have increased to 5,901 in FY2017, reflecting a continued trend toward increasing access to treatment.

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



SAP Participants

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 A). Follow-up data was collected by the University of Kentucky Center on Drug and Alcohol Research 12 months after the individual left treatment (completion or termination) 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 participated in DOC treatment).

There were no significant differences between the treatment sample and overall treatment population, making the results of the CJKTOS FY2017 study generalizable.

This report profiles three categories of SAP participants: (1) individuals receiving substance abuse program services in state prisons; (2) individuals receiving substance abuse program services in county or regional jails; and (3) individuals receiving residential substance abuse services in the community, but still under state custody. As shown in Table 1, the randomly selected follow-up sample of SAP participants was not significantly different from the entire population of eligible SAP participants.

Table 1. Demographic Characteristics of FY2017 Follow-up SAP Sample Compared to All SAP Participants Eligible for Follow-up

	Follow-up SAP Participants (n=350)	All SAP Participants Eligible for Follow-up (n=2,857)
Average Age	34.6 years old (range 19 to 74)	34.2 years old (range 18 to 83)
Race/ethnicity	71.4% white	71.1% white
Gender	76.3% male	80.2% male
Education	72.2% GED or high school diploma	69.9% GED or high school diploma
Marital Status	46.3% Single, never married	51.1% Single, never married

More than half of the SAP participants (53.8%) who completed treatment during FY2016-2017 were referred to SAP as "parole upon completion."

Treatment Satisfaction

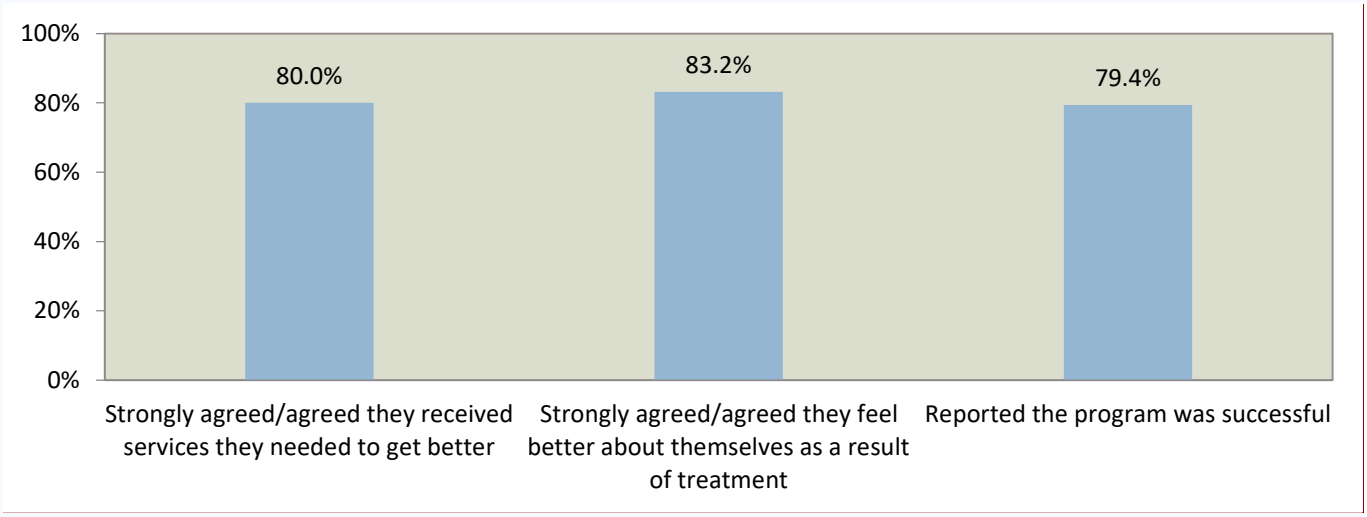
During FY2017, participants were asked about their overall satisfaction with SAP as well as questions related to specific components of the program. As shown in Figure 3, the majority of DOC follow-up participants (80.0%) agreed or strongly agreed that they received the services they needed to help themselves get better. The majority of participants (83.2%) also agreed or strongly agreed that that they felt better about themselves as a result of treatment.

"[SAP] ANSWERED QUESTIONS I NEVER HAD ANSWERS TO BEFORE."

"THEY HELPED ME TAKE A LOOK AT MYSELF AND REALIZE THAT THE PROBLEM WAS BECAUSE OF ME. IT HAD ME OPEN MY EYES."

Also reported in Figure 3, 79.4% of participants considered the SAP program to be an overall success. When participants were asked to explain why they believed the program was successful, many participants pointed to positive outcomes – sobriety, employment, time with children, going to AA/NA meetings, not returning to jail or prison, and staying away from negative or triggering influences – and attributed these successes directly to their time in SAP. Other participants attributed their success to what they had learned in SAP about addiction and mental health, how to cope and ask for help, and about themselves. Participants also reported that SAP was successful because they put forth the effort to "make the program work," or due to support from staff and other clients.

Figure 3. Treatment Program Satisfaction (N=350)



Participants were also asked to describe what they liked best about the SAP program. Responses included: learning about addiction, anger management, and criminal thinking; being a mentor, coordinator, or other leader; being in a structured environment; gaining valuable self-knowledge; one-on-one time with counselors; caring staff and administrators; and the sense of community being among others in recovery, particularly time spent in process groups or AA/NA meetings.

"IT MADE RECOVERY EASIER AND MORE HELPFUL TO TALK TO PEOPLE WHO HAVE EXPERIENCED SOME OF THE THINGS YOU HAVE."

When asked to explain why they rated SAP highly, participants gave responses that largely mirrored the parts of the program they had liked best. They appreciated 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 participants 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.

"[SAP] OPENS YOUR MIND TO SHOW YOU THERE'S NOT ONLY ONE WAY TO DO SOMETHING."

LSCMI and Criminogenic Needs

In 2012, Kentucky adopted the Level of Service/Case Management Inventory (LSCMI) data as part of the state's initiative to enhance assessment processes through HB 463. Table 2 describes SAP participants' scores on the LSCMI risk categories compared to the overall population of KY DOC offenders. SAP participants were assessed as having higher overall risk, and higher risk across ratings of criminal history, education and employment, companions, and substance abuse. SAP participants were assessed as similar to or lower in the other LSCMI categories.

SAP participants had a higher criminogenic risk profile when compared to the overall general population of inmates, indicating a higher risk of recidivating.

Table 2. DOC Treatment and KY DOC LSCMI Comparison of High/Very High Rankings

	DOC Treatment Follow-up Participants (n=334*)	Entire KY DOC Inmate Population** (n=53,573)
Overall Risk	40.4%	30.0%
Criminal History	41.3%	22.9%
Education/Employment	39.2%	29.1%
Family/Marital	8.4%	10.6%
Leisure/Recreation	45.8%	50.6%
Companions	37.7%	35.8%
Substance Abuse	42.5%	34.6%
Procriminal Attitude	5.1%	6.9%
Antisocial Personality	3.6%	4.2%

*LSCMI data unavailable in KOMS for N=16
**LSCMI data supplied by KY Department of Corrections, 9/15/2017.

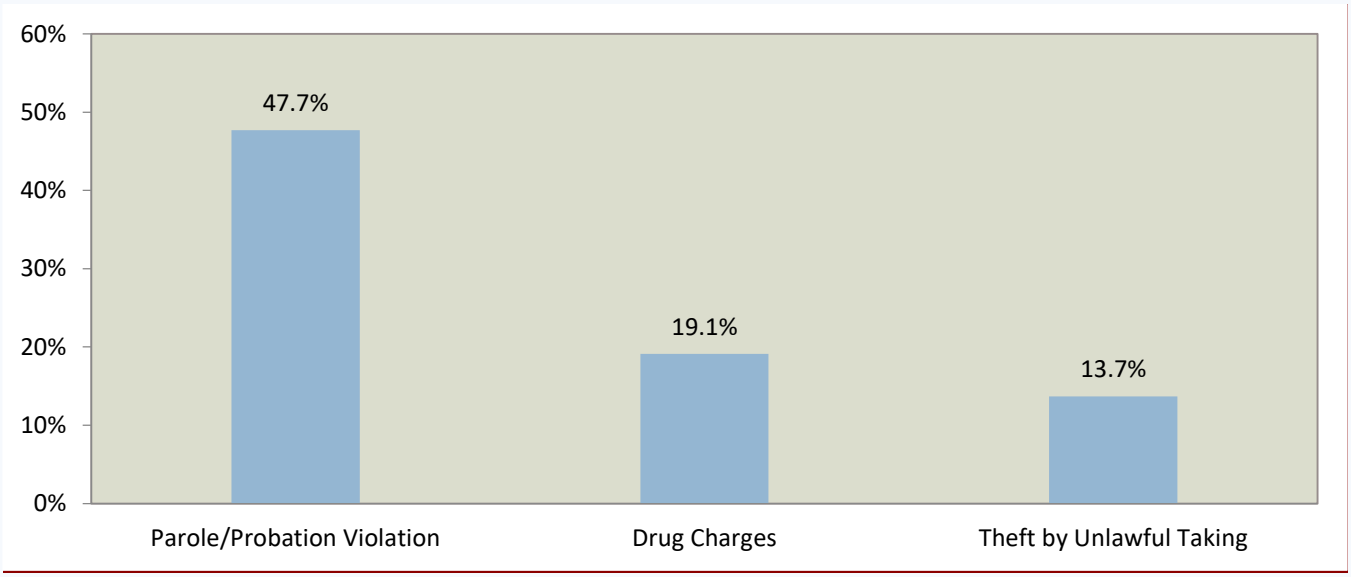
Criminal History

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 (58.6%) reported they had been arrested and charged with a crime in the 12 months prior to their incarceration. Participants were most likely to report having been arrested for drug charges (25.7%), parole or probation violations (16.3%), and burglary (7.4%). Further, participants had spent an average of 37 nights incarcerated in the 12 months prior to their current incarceration. SAP participants also reported an average of 8.9 lifetime convictions.

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

As shown in Figure 4, participants' current charges at SAP intake were most likely to include parole or probation violations, drug charges, or theft by unlawful taking. At the time of intake, they had been incarcerated an average of 20.8 months.

Figure 4. Criminal Charges at SAP Intake (N=350)



Recidivism

Data from the Kentucky Offender Management System (KOMS) was used to examine participants' re-incarceration during the year following release. As shown in Table 3, 55.6% of jail, 53.5% of prison, and 63.6% 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 participants who were re-incarcerated were in the community an average of 5.7 months before being re-incarcerated.

The majority of participants were not re-incarcerated during follow-up period.

Of those who returned to custody, they spent an average of 5.7 months on the street.

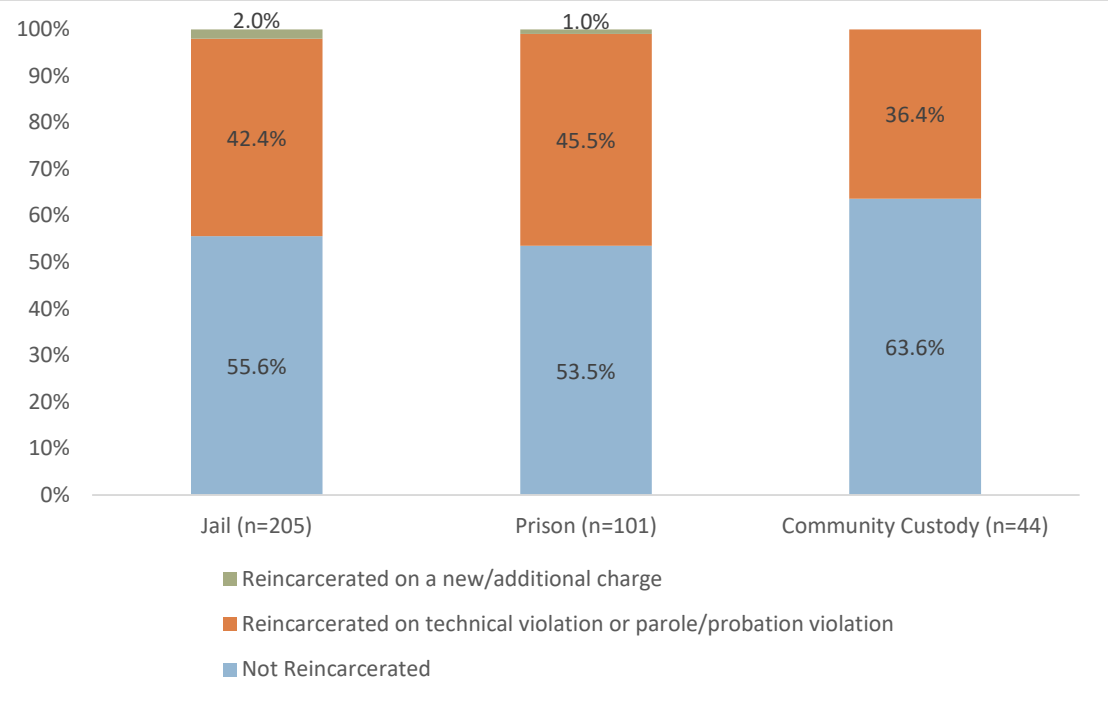
Table 3. Recidivism* 12 Months Post-release (N=350)

	Jail (n=205)	Prison (n=101)	Community Custody (n=44)	Total (N=350)
Not Incarcerated	55.6%	53.5%	63.6%	56.0%
Incarcerated	44.4%	46.5%	36.4%	44.0%

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

Of the 44% of the sample who were returned to custody (n=154), the majority were re-incarcerated on a technical or parole/probation violation (96.8%), and only a small number were re-arrested on a new charge (3.2%). Figure 5 shows the reason for re-incarceration across each of the DOC treatment programs.

Figure 5. Recidivism and Reason for Re-incarceration (N=350)



68% of those who recidivated reported using drugs during the follow-up period compared to only 24% of those who did not recidivate.

Offenders who recidivated during the 12 months following their release had a number of noteworthy differences when compared to non-recidivists, including drug use and employment. Additional comparisons between recidivists and non-recidivists can be found in the sections to follow.

Education, Employment, & Financial Situation

66.9% of participants were employed part-time or full-time.

Approximately 1 in 5 SAP participants (18.0%) reported attending either an educational or vocational training program during the 12 months following release. Specifically, 26 attended a job training program, 23 attended a GED program, and 14 attended either a college or vocational school.

The majority of SAP participants reported working one-year post-release. Approximately two-thirds (66.9%) reported their usual employment pattern as working full or part-time in the year since release, with participants reporting working an average of 13.8 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 2 jobs during the 12-month period.

Participants reported an average past month legal income of $1,323, and, as shown in Table 4, 82.3% reported stable housing in an apartment, room, house or residential treatment facility. It is noteworthy that trends in stable housing have been increasing since FY2007 (65.1%) to current rates of 82.3% in FY2017.

Table 4. Education, Employment, and Income in the 12 Months Post-release (N=350)

	Jail (n=205)	Prison (n=101)	Community Custody (n=44)	Total (n=350)
Participated in education or vocational program	18.5%	16.8%	18.2%	18.0%
Employed full- or part-time	69.3%	61.4%	68.2%	66.9%
Housed in apartment, room, house or residential treatment facility	82.4%	80.2%	86.4%	82.3%

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 also reported a lower legal income in their last 30 days on the street compared to those who did not return to DOC custody ($1,107 vs. $1,492).

Table 5. Education, Employment, and Income by Recidivism in the 12 Months Post-release (N=350)

	Recidivists (n=154)	Non-recidivists (n=196)
Participated in education or vocational program	20.8%	15.8%
Employed full- or part-time	53.2%	77.6%
Housed in apartment, room, house or residential treatment facility	66.2%	94.9%

Furthermore, although little more than half (53.2%) 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 68 days longer before returning to DOC custody than those who were not employed (201.6 days vs. 133.9 days).

Employed recidivists were on the street 68 days longer than unemployed recidivists.

Family & Social Support

Participants in DOC treatment reported improved family relationships one year post-release. Significantly more participants reported spending most of their free time with family at follow-up (67.4%) than before incarceration (53.7%), as shown in Table 6. Participants reported a significantly higher average number of friends at follow-up (3.39) compared to pre-incarceration (2.45). At follow-up, more than 4 out of every 5 (82%) participants also reported feeling 'quite a bit' or 'extremely' cared about and supported by the important people in their life.

When asked how SAP participation affected their relationships with family, participants reported that they had learned many useful interpersonal skills, such as listening, honesty about thoughts or feelings, and patience. They also reported a greater awareness of unhealthy environments or relationships that could trigger relapse, and had learned to set boundaries, while also maintaining awareness of responsibility for their own actions and how they have affected others. After SAP, participants' relationships further benefited from increased discipline to think before making choices, healthier coping and anger management skills, and more respect for themselves and others.

> "I LEARNED HOW TO SHOW LOVE MORE… HOW TO OPEN UP MORE, HOW TO EXPRESS MY FEELINGS AND AFFECTION. I USED TO NOT BE ABLE TO AND BOTTLE IT ALL UP INSIDE AND JUST SHUT DOWN."

Table 6. Relationships Pre-incarceration and Post-release (N=350)

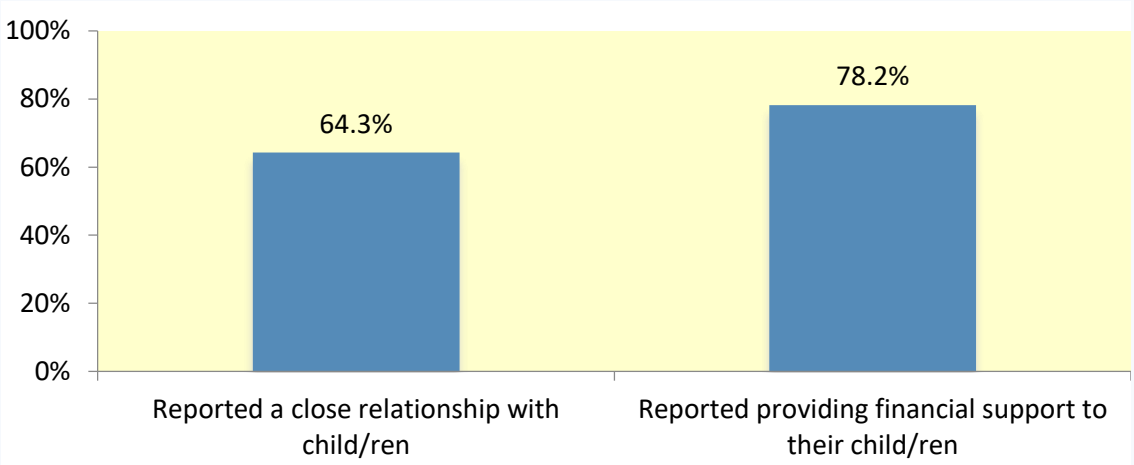
	Pre-Incarceration	12-Month Follow-up
Reported spending most of their free time with family* **	53.7%	67.4%
Average number of close friends **	2.45	3.39
Reported having a close relationship with friends* **	54.9%	71.1%

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

> "IT TAUGHT ME TO HAVE RESPECT FOR MYSELF, AND THAT I'M AN INDEPENDENT WOMAN AND I CAN STAND ON MY OWN, AND I DON'T NEED OTHERS TO VALIDATE MYSELF."

In addition, as illustrated in Figure 6, nearly two-thirds (64.3%) of participants reported having a close relationship with their children at follow-up. Also, over three-quarters of participants (78.2%) reported providing financial support to their children under the age of 18 in the 12 months post-release.

Figure 6. Parenting During the 12 Months Post-Release (N=216)



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, as shown in Table 7, participants who did not recidivate were more likely to report feeling 'quite a bit' or 'extremely supported'. They were also more likely to report 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.

Table 7. Relationships by Recidivism Status (n=350)

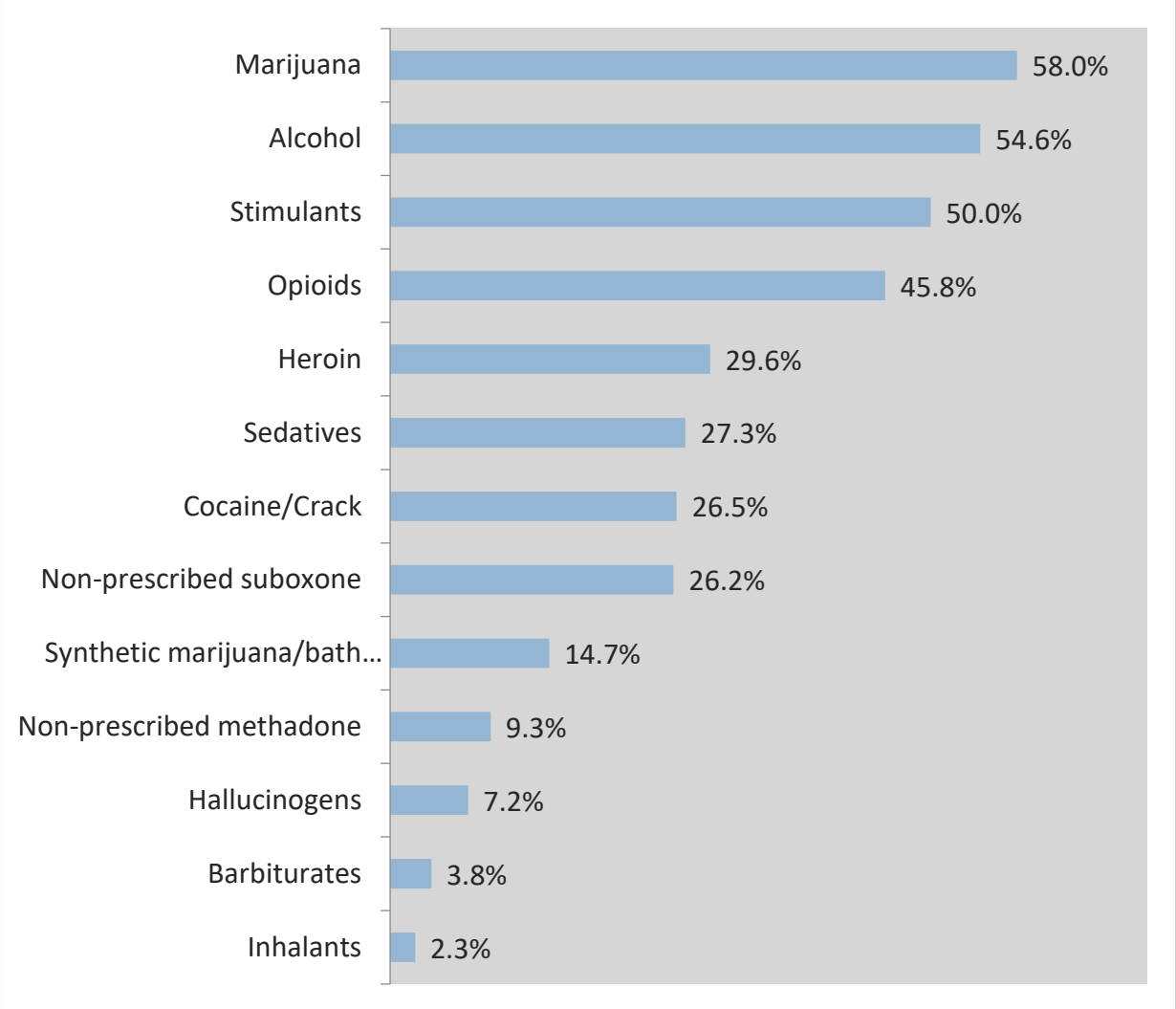
	Recidivists (n=154)	Non-recidivists (n=196)
Reported feeling 'quite a bit' or 'extremely' cared about or supported	74.0%	88.8%
Reported spending most of their free time with family	57.1%	75.5%
Average number of close friends	2.91	3.77
Reported having a close relationship with friends	63.6%	77.0%
Reported having a close relationship with child/ren	57.1%	69.9%

Substance Use

Figure 7 on the following page shows substance use during the pre-incarceration period for SAP participants who completed a baseline assessment during FY2017. In the 12 months prior to incarceration, the greatest percentage of participants reported marijuana use (58.0%), followed by alcohol use (54.6%) and stimulant use (50.0%). Inhalants were the least likely to be used by participants (2.3%).

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

Figure 7. Profile of Pre-incarceration Substance Use among SAP Participants (n=5,928)



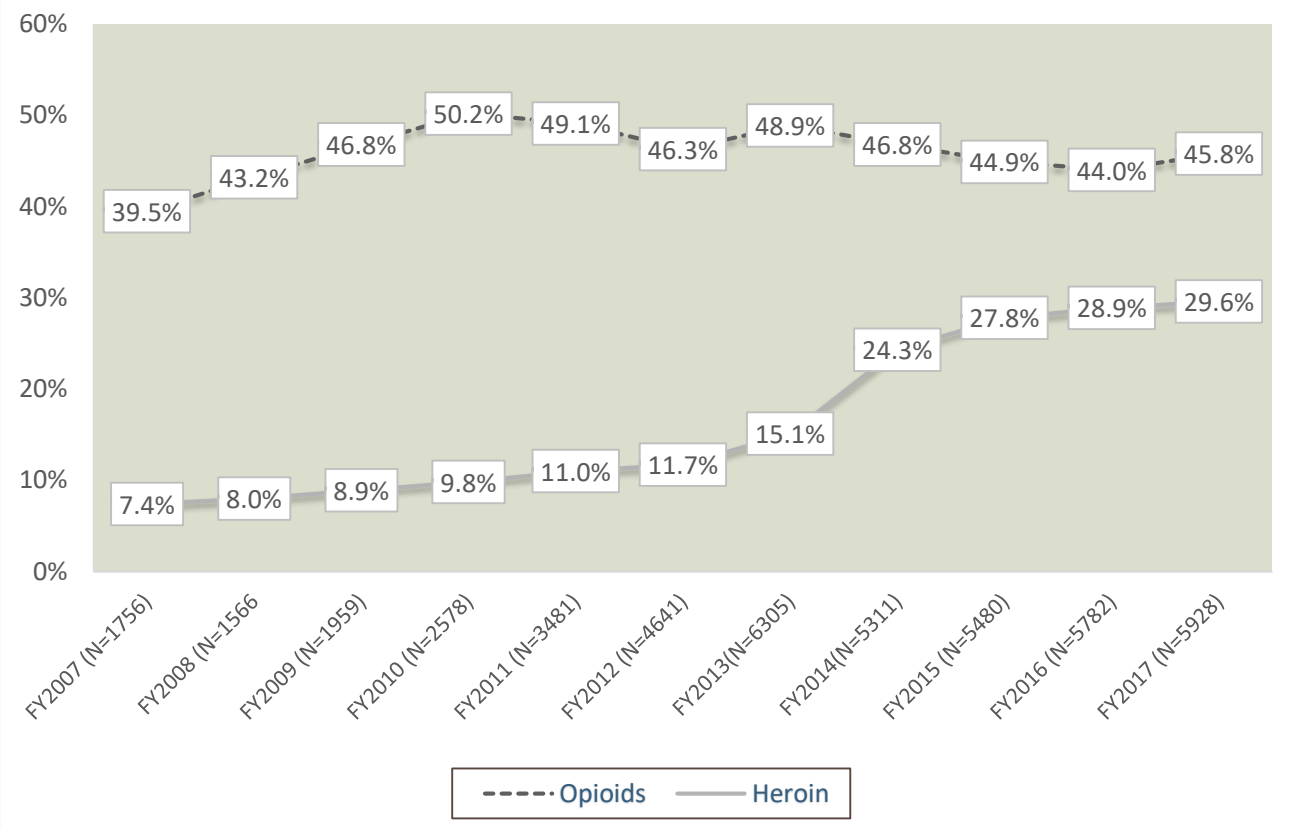
Heroin

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 8, the percentage of offenders entering corrections-based substance abuse reporting any heroin use in the 12 months prior to incarceration increased from 7.4% in FY2007 to 29.6% in FY2017. 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 45.8% in FY2017.

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

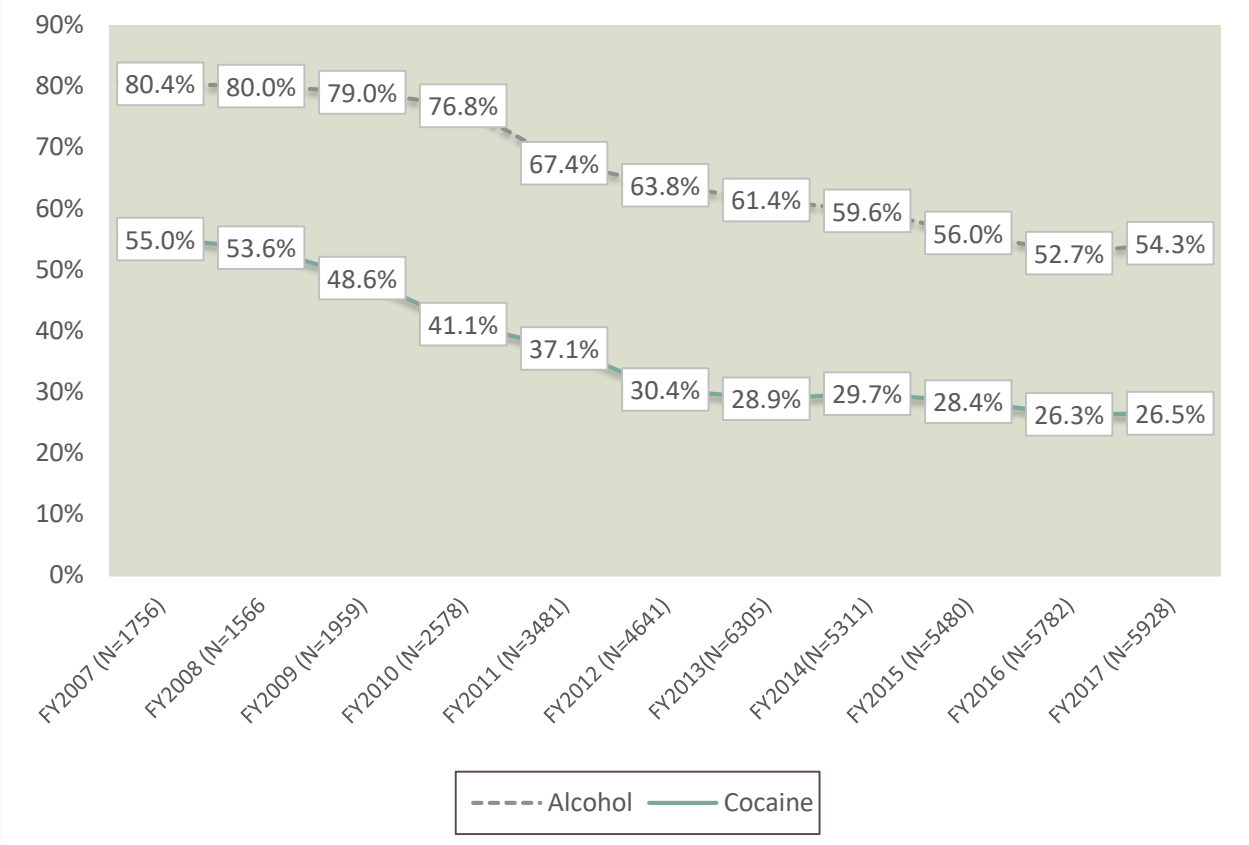


Alcohol and Cocaine

Other noteworthy substance use trends include the steady decrease in alcohol consumption and a decline of reported cocaine/crack usage. As highlighted in Figure 9, the percentage of offenders who report alcohol use at baseline has fallen from 80.4% to 54.3%, resulting in an overall 26.1% decrease from FY2007 to FY2017. For this same period, reported cocaine or crack use declined 28.5%, from 55.0% down to 26.5%, making it the illicit substance with the largest reverse trend.

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

Figure 9. Reporting Alcohol and Illicit Cocaine Use in 12 Months Prior to Incarceration

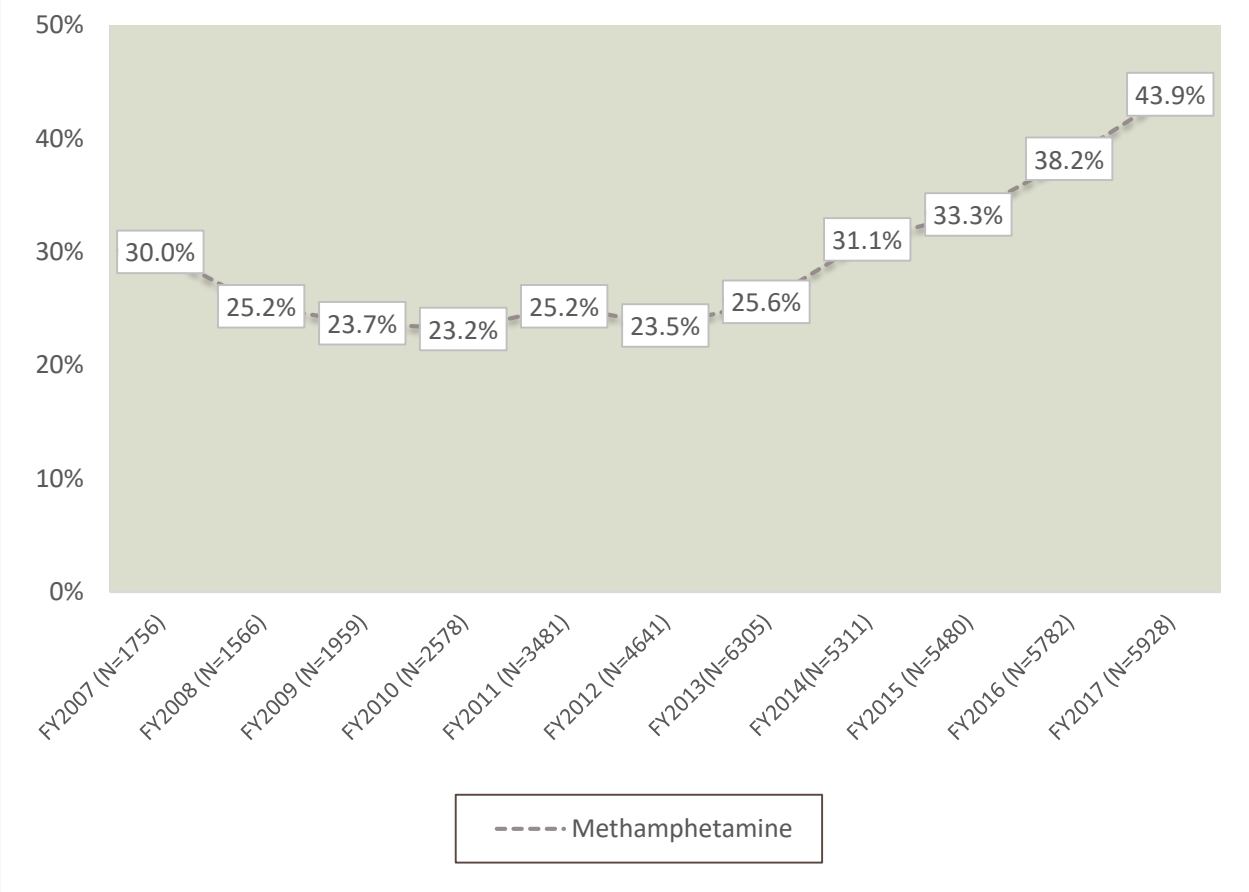


Methamphetamine

Another noteworthy substance use trend includes the recent increase in methamphetamine use over the past five years. As highlighted in Figure 10, the percentage of offenders who report methamphetamine use at baseline has risen from 23.5 % in FY2012 to 43.9% in FY2017, resulting in an overall 20.4% increase. This increase mirrors trends recently observed in other states (Enos, 2017).

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

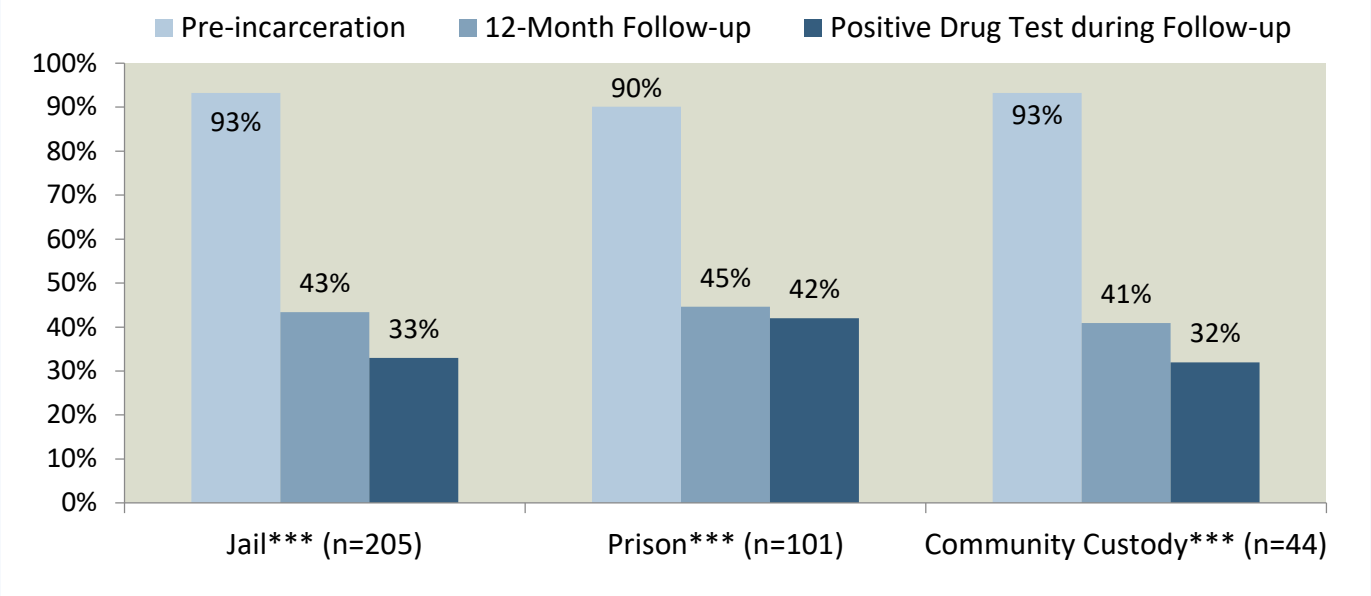
Figure 10. Reporting Illicit Methamphetamine Use in 12 Months Prior to Incarceration



Decreases in Substance Use During Follow-up

As shown in Figure 11, those who received DOC treatment in prison, jail, or community custody programs reported a significant decrease in use of any illegal drug following treatment. Further, only 35% of SAP participants who participated in the follow-up had a positive drug test during the 12 months following release.

Figure 11. Drug Use from Pre-incarceration to One-year Post-release (N=350)



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

Although there was an overall decrease in substance use during the 12 months following incarceration, 68% of those who returned to DOC custody reported using drugs during the follow-up period compared to only 24% of those who did not recidivate. Approximately half (53%) of those participants who recidivated had a positive drug test during the 12 months following incarceration. Recidivists who reported using drugs during the follow-up period (n=104) were on the street an average of 70 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 participants reported experiencing serious depression at follow-up (33.1%) when compared to pre-incarceration (49.4%), as illustrated in Table 8. Significantly fewer participants reported anxiety at follow-up (41.4%) when compared to before incarceration (52.0%). Also, significantly fewer participants reported suicidal thoughts at follow-up (4.0%) when compared to pre-incarceration (11.4%)

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

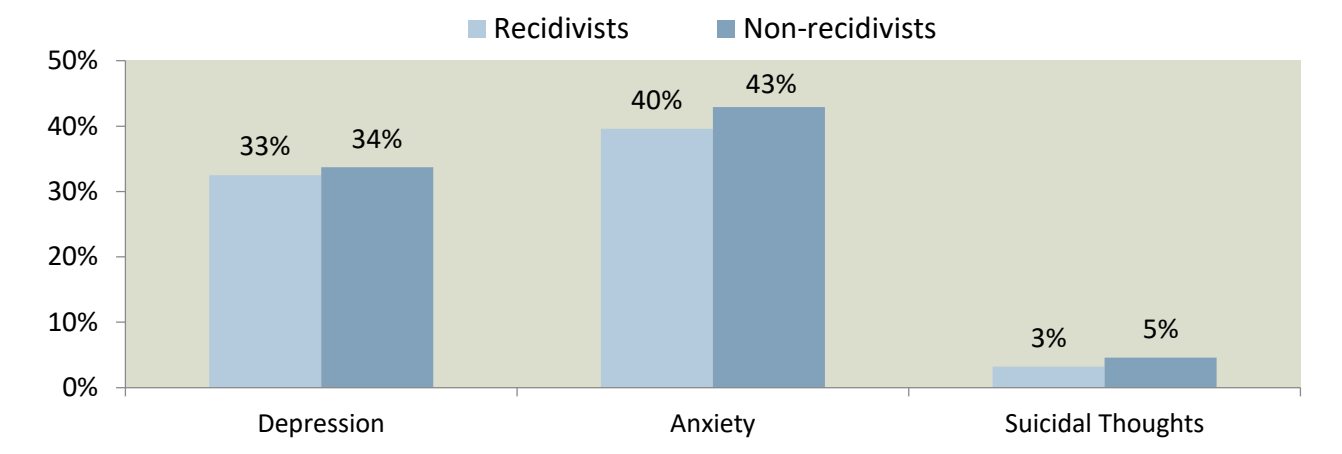
Table 8. Mental Health Pre-incarceration and Post-release (N=350)

	Pre-incarceration	12-Month Follow-up
Experienced serious depression in previous 12 months* **	49.4%	33.1%
Experienced serious anxiety in previous 12 months **	52.0%	41.4%
Experienced serious thoughts of suicide in previous 12 months* **	11.4%	4.0%

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 participants during the follow-up period, there was little variation between participants who returned to DOC custody and those who did not. For example, the follow-up data revealed that 32.5% of those who recidivated experienced depression during the 12 months following incarceration compared to 33.7% of those who did not recidivate. As shown in Figure 12, the prevalence of anxiety and suicidal thoughts was also similar across groups.

Figure 12. Mental Health by Recidivism Status (N=350)



SAP Graduates vs. Terminators

Nearly three-quarters of the SAP participants (73.4%) who participated in the DOC follow-up completed treatment during FY2016-2017. Jail participants were the least likely to graduate from the SAP program (69.8%) while community custody participants were the most likely to graduate (88.6%). Participants who graduated (n=257) spent an average of 182 days in the program while those who terminated SAP prior to completion (n=93) spent an average of 78.9 days in the program.

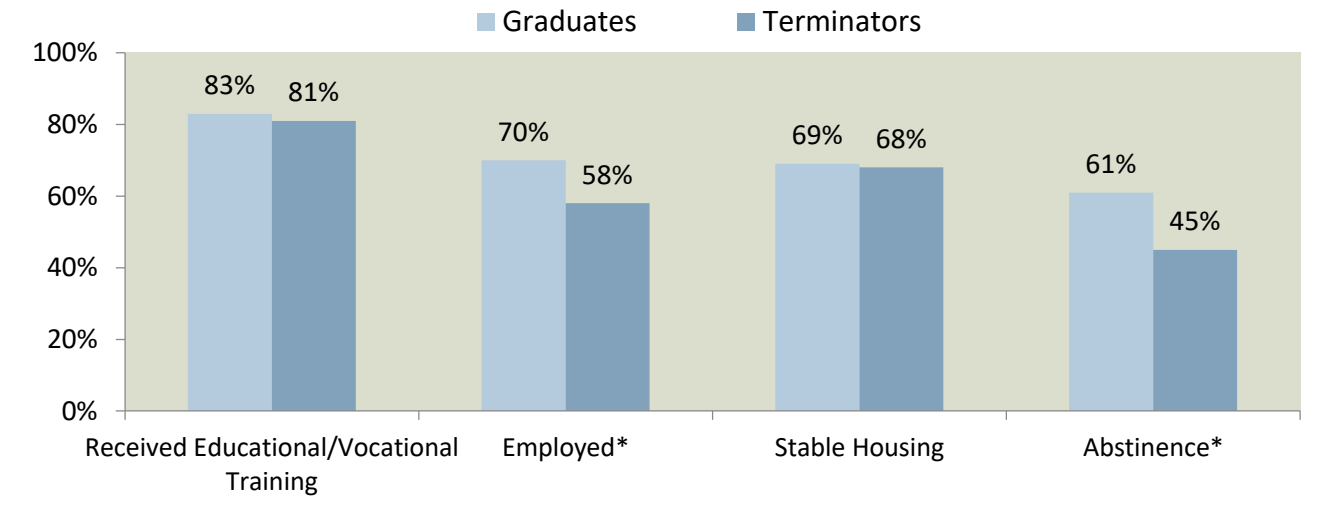
As shown in Table 9, while the groups did not statistically differ, graduates were slightly older, more likely to be male, single, and more likely to have a high school diploma or GED.

Table 9. Demographic Characteristics of FY2017 Follow-up SAP Sample by SAP Graduation Status (N=350)

	Graduates (n=257)	Terminators (n=93)
Average Age	35.2 years old (range 20 to 74)	33.1 years old (range 19 to 61)
Race/ethnicity	71.6% white	71.0% white
Gender	78.2% male	71.0% male
Education	73.5% GED or high school diploma	68.8% GED or high school diploma
Marital Status	47.5% Single, never married	43.0% Single, never married

As shown in Figure 13, when comparing socioeconomic characteristics by SAP graduation status, SAP graduates were slightly more likely than terminators to have received educational or vocational training and to have stable housing in the 12 months following incarceration. Graduates were significantly more likely, however, to report being employed at least part-time and had a higher average legal income in their last 30 days on the street ($1,346 vs. $1,260).

Figure 13. Re-entry Characteristics by SAP Graduation Status (N=350)



Note: Significance established using a chi-square test of independence, *p<.05, see Appendix B.

Abstinence was significantly more prevalent among SAP graduates, with graduates being more likely than those who terminated to report abstinence during the 12 months following incarceration (61% vs. 45%, p<.05). Among those who reported drug use, SAP graduates were on the street an average of 5 days longer before using any illegal drugs than participants who terminated.

SAP graduates also reported feeling and having more family and social support. Participants who completed the SAP program were significantly more likely to feel 'quite a bit' or 'extremely' supported by important people in their life (85% vs. 74%, p<.05). As shown in Table 10, a higher percentage of graduates reported having a close relationship with their father, siblings, and partner/spouse.

Table 10. Relationships by SAP Graduation Status (N=350)

	Graduates (n=257)	Terminators (n=93)
Close relationship with:		
Mother	65.4%	67.7%
Father	41.2%	32.3%
Sibling(s)	75.1%	64.5%
Sexual Partner/Spouse	70.0%	60.2%
Child/ren	65.0%	62.4%
Friends	71.6%	69.9%

Almost half (47.3%) of SAP terminators returned to DOC custody within 12 months of release.

Lastly, data also indicated that SAP graduates were less likely to return to DOC custody in the 12 months following release. Specifically, 42.8% of SAP participants who completed the program returned to DOC custody while nearly half (47.3%) of those who terminated the SAP program returned to DOC custody in the 12 months following release. Of the participants who recidivated (n=154), SAP graduates spent an average of 1 month longer out on the street than those who terminated the SAP program (178.8 vs. 147.9 days).

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 $4.52 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 2017 values, this figure translates to $228,536,268,580 (Bureau of Labor Statistics, 2017). The most recent results from the National Survey on Drug Use and Health indicate that there are 20.8 million individuals with a substance use disorder in the United States (Center for Behavioral Health Statistics and Quality, 2016). Thus, the average cost per substance abuser per year ($10,987) was calculated as the total annual cost of drug abuse divided by the number of individuals with substance use disorders using SAMHSA and DSM-IV criteria.

Table 11 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 $3,460,905 while the cost for a comparison 12-month period after treatment is estimated at $725,142. This analysis shows a net reduction in cost for the sample of $2,735,763.

Table 11. 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	315	$10,987	$3,460,905	66	$10,987	$725,142

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 12. 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 $495,358 for the sample.

Table 12. Cost of Corrections-based Treatment*

	Number of treatment days	Cost per day of treatment*	Total treatment cost
Jail (n=205)	30,748	$9.00	$276,732
Prison (n=101)	15,879	$6.67	$105,912
Community Custody (n=44)	7,580	$14.87	$112,714
Total cost			$495,358

*Treatment costs supplied by KY Department of Corrections, 9/26/2017.

As shown in Table 13, the initial cost to the state for drug and alcohol abuse/dependence for this sample of offenders would have been $3,460,905 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 $725,142. The gross difference in the cost to society was $2,735,763. After subtracting the direct costs of the treatment programs, there was a net avoided cost of $2,240,405. Therefore, for every dollar spent on corrections-based treatment there was a return of $4.52 in cost offsets.

Table 13. Cost Offset for the Follow-up Sample (N=350)

Cost Item	Dollars
Annual cost to Kentucky before participation in corrections-based substance abuse treatment	$3,460,905
Annual cost to Kentucky after participation in corrections-based substance abuse treatment	$725,142
Gross difference in post versus pre-treatment participation	$2,735,763
The direct cost of corrections-based substance abuse treatment	$495,358
Net avoided cost after corrections-based substance abuse treatment	$2,240,405
Ratio showing cost of treatment to savings	1: 4.52
Expressed as return on investment	**$4.52 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 participants, the SAP program is making a positive impact in the lives of program participants, even in those who may not have completed the program. The vast majority of participants reflected that they had received valuable skills to use in their life post-release. There was consensus among participants that SAP had given them the tools they needed to move beyond addiction and forward into a future full of possibility and hope.

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

- ✓ **Avoiding the old "people, places, and things" that often trigger relapse**
- ✓ **Keeping a strong support system of friends and family**
- ✓ **Attending AA/NA meetings, "working the steps," and finding a sponsor**
- ✓ **Finding employment, or otherwise "staying busy"**
- ✓ **Having the patience to "take it one day at a time"**
- ✓ **Setting and working towards goals, and following aftercare or treatment plans**
- ✓ **Exercising religious faith, community involvement, and prayer**
- ✓ **Having the self-confidence and self-worth to live without substance use**
- ✓ **Having the willpower, determination, or dedication to persist in recovery**

Recovery Support

Beyond the aforementioned factors related to successful reentry following incarceration, several participants 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 participants reported attending at least one AA/NA meeting in the 12 months after their release. Specifically, as shown in Table 14, nearly three-quarters (73.4%) of participants reported attending AA/NA, and they reported attending an average of 5.1 meetings in the past 30 days.

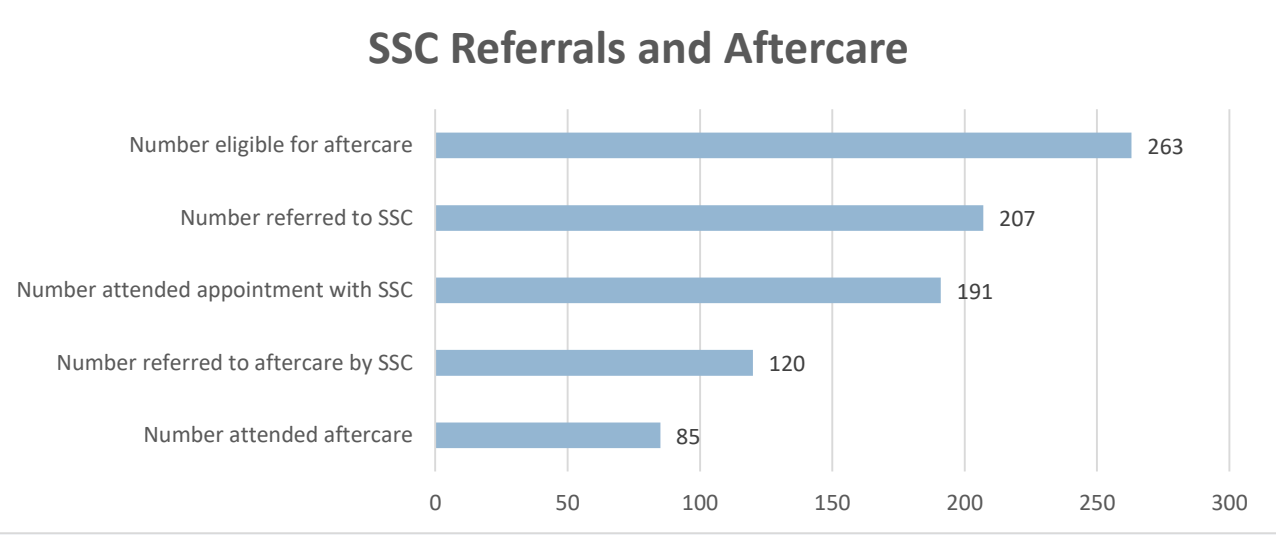
73.4% of participants reported attending AA/NA meetings in the 12 months following release.

Table 14. AA/NA Attendance in the 12 Months Following Release (N=350)

	Attended AA/NA Meetings	Average number of times attended AA/NA in past 30 days
Jail (n=205)	72.2%	4.2 times
Prison (n=101)	81.2%	7.0 times
Community Custody (n=44)	61.4%	4.0 times
Total (N=350)	73.4%	5.1 times

The Kentucky DOC has increased efforts to provide continuity of care for offenders during re-entry. As shown in Figure 14, of the 191 study participants who were eligible for aftercare and attended an appointment with the community social service clinician, 120 (62.8%) were referred to aftercare by the clinician at re-entry. Of those referred, 85 (70.8%) successfully initiated aftercare treatment.

Figure 14. Aftercare in the 12 Months Following Release



*Aftercare data was received through KOMS

**Note: 87 study participants were excluded as ineligible for aftercare (62 were released with a parole expiration date six months or sooner after release, 13 served out [discharged minimum expiration], 6 were paroled to other states, and 6 were diversion clients under Senate Bill 4).

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 184 SAP participants on supervision during the 12 month follow-up period who reported no drug use, 137 had no positive drug tests in KOMS. This provides a self-report accuracy rate of 74.5%. 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

"I LEARNED THAT I'M STILL WORTH SOMETHING. I STILL HAVE SOMETHING TO GIVE."

This FY2017 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 and were released during fiscal year 2017. Specifically, this 12-month follow-up study examined a randomly selected representative sample of 350 males and females who participated in jail, prison, or community custody-based treatment and consented to follow-up.

Findings from the FY2017 CJKTOS indicate a number of positive outcomes following KY DOC SAP participation including:

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

Findings also highlighted improved outcomes for those individuals who completed the SAP program compared to those who terminated. This includes greater likelihood of employment and close family relationships and decreased likelihood of drug use and recidivism.

Implications

Findings from this CJKTOS report are consistent with others which have indicated 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. This priority has been supported by a partnership between the Kentucky Department of Corrections and the University of Kentucky Center on Drug and Alcohol Research, which was established nearly 12 years ago through a shared vision to evaluate treatment for incarcerated substance abusers in Kentucky (see Staton-Tindall et al., 2007).

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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Appendix A.

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) were released from a jail, prison, or community custody facility within the specified timeframe, and 3) 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 339 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 2,868 clients who completed a CJKTOS baseline were released from custody in FY2017. 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 2,868 CJKTOS clients who were released from custody in FY2017, 11 did not consent to participate in the follow-up study. Of the 2,857 research SAP participants who were eligible for follow-up (released in FY2017 and voluntarily consented for follow-up), 15.3% were randomly selected to participate in the follow-up interview (n=438). The sample of 438 was proportionate to the number of males and females released from jails, prisons, and community custody treatment programs.

Of the 438 DOC SAP participants randomly selected for follow-up in the community 12-months post-release, 350 were successfully located and interviewed 205 jail treatment participants, 101 prison treatment participants and 44 community custody treatment participants), for a follow-up rate of 84% (See Table 1).

Table 1. FY2017 Follow-up Rates

	Eligible	*Completed*	*Percentage*
Jail Sample	252	205	81%
Males	212	166	78%
Females	40	39	98%
Prison Sample	124	101	82%
Males	85	67	79%
Females	39	34	87%
Community Custody Sample	62	44	71%
Males	48	34	71%
Females	14	10	71%
Total	438	350	80%
*Ineligible for follow-up**	22		
Final Total	416		84%
Refusals	19		4%
Unable to locate	47		11%

*Note: ineligible for follow-up was defined as participants moving out of state (n=13) or deceased (n=9).

Appendix B.

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.

Appendix C.

CJKTOS 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

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

CKTOS JAIL DATA COLLECTION SITES

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

Boyd County Detention Center
2714 Louisa Street
Calettsburg, Kentucky 41129
(6060 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

CJKTOS COMMUNITY CORRECTIONS 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
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