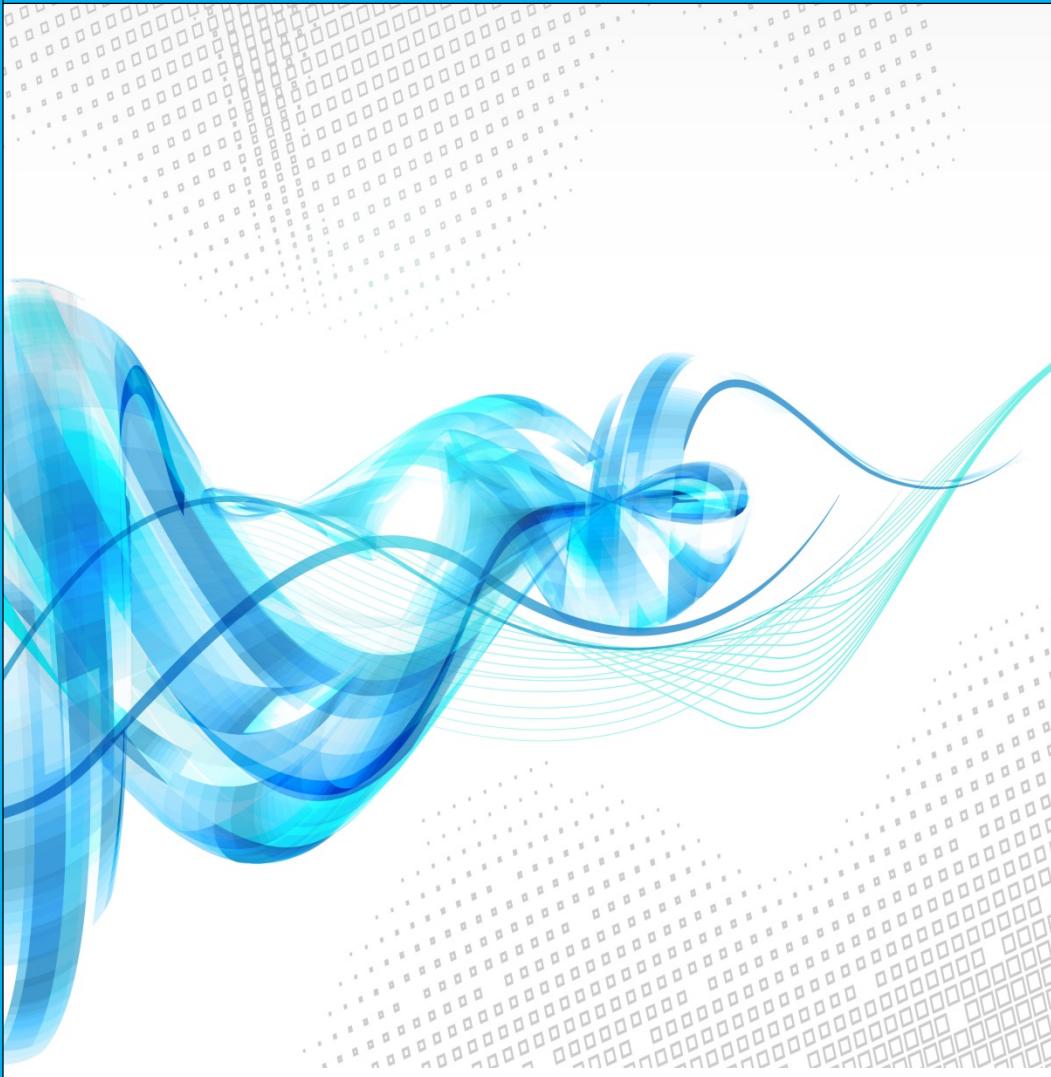


# Criminal Justice Kentucky Treatment Outcome Study **CJKTOS**



FY 2014 Report

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## **Acknowledgements**

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The CJKTOS project is funded by the Kentucky Department of Corrections. The authors of this report would like to thank DOC treatment program administrators and counselors, prison case workers, pre-release coordinators, 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**

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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 in the community. This report includes data collected during FY2014 for 350 randomly selected participants who entered Department of Corrections (DOC) treatment programs, participated in an intake interview by treatment counselors, and were followed-up 12 months later in the community following their release. This report provides data collected from July 1, 2013 to June 30, 2014.

Findings from the FY2014 data indicate that among DOC SAP participants who were interviewed 12-months following release:

- **46% reported decreased drug use**
- **71% were not reincarcerated**
- **89% lived in stable housing**
- **58% were employed**
- **72% reported attending AA/NA meetings**
- **49% utilized community treatment**
- **6% reported improved mental health**
- **15% regained custody of their children**

**For every \$1 spent on Kentucky corrections-based substance abuse treatment, there is a \$4.39 cost offset.**

## ***Introduction***

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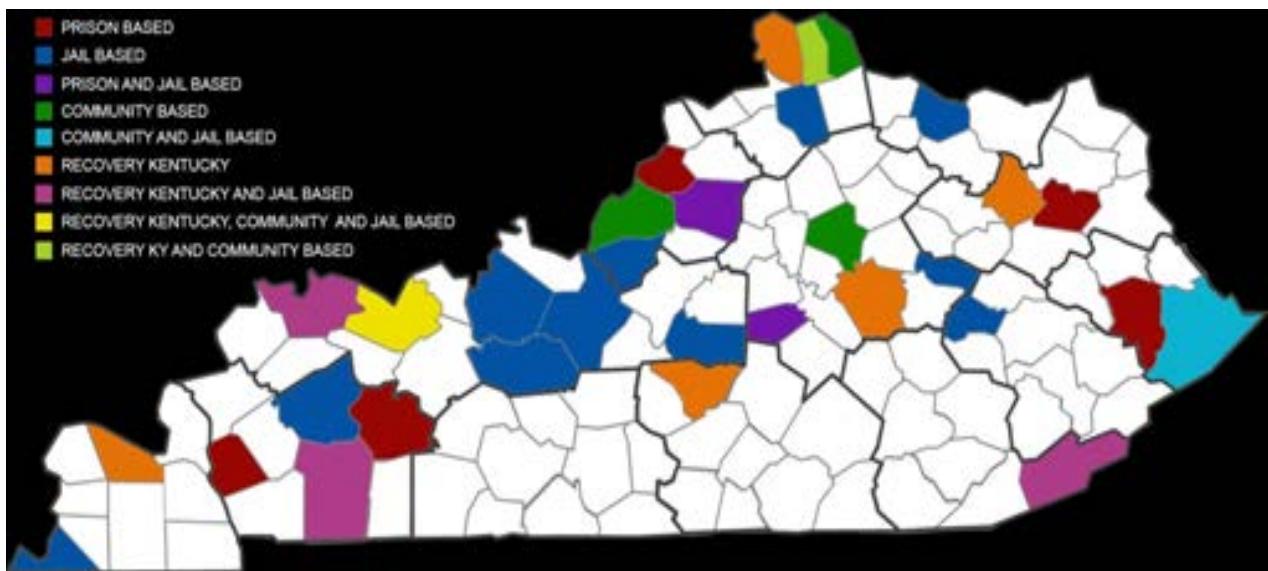
### ***The Kentucky Department of Corrections Substance Abuse Treatment Programs***

The Kentucky Department of Corrections (DOC) Division of Substance Abuse provides substance abuse treatment programs throughout the state (See Figure 1).

Kentucky correctional programs are grounded in the key components of therapeutic community modalities (De Leon, 2000). These approaches include incentives for positive participation, and peer-oriented approaches which use the Recovery Dynamics curriculum. Offenders with a substance abuse history have the option to enter corrections-based treatment programs if they have at least 6 months to serve before parole or release from the prison, jail or community custody program. Inmates can also be paroled with the condition of completing substance abuse treatment before release.

**The DOC Division of Substance Abuse provides programming throughout the state.**

**Figure 1. Location of Kentucky's Corrections-based Substance Abuse Treatment Programs (2014)**



DOC Division of Substance Abuse expanded substance abuse treatment programs significantly in the past eight years (See Figure 2). As of July 2014, there were 3,752 corrections-based substance abuse treatment slots in jails, prisons, Recovery Kentucky Centers and community custody programs. There are 8 prisons with substance abuse programs and 18 jails with programs (See Appendix C for sites). These increases in treatment are noteworthy given the overall decrease in the state inmate population following implementation of HB463 in 2011. Specifically, the statewide inmate population decreased 8.8% from 23,026 offenders on December 15, 2011 to 20,990 offenders on July 15, 2014 (Kentucky Department of Corrections, 2014).

Due to the DOC's commitment to providing substance abuse treatment, treatment slots for offenders have increased, even as the overall inmate population has decreased as a result of HB463.

**Figure 2. Increasing trends in number of corrections-based substance abuse treatment slots**



In addition, with the implementation of HB463 in 2011, DOC's commitment to providing increased treatment opportunities in the community led to an expansion of programs for community-custody individuals. Community custody is defined in this report as individuals who are no longer incarcerated in a jail or prison, but have transitioned to the community in controlled environments. These individuals are also still under state custody. Community-custody programs are provided in four different community agencies, and the primary modality of treatment is a modified-therapeutic community.

## SAP Participants

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A description of CJKTOS methodology and sampling procedures is found in Appendix A. In summary, pre-incarceration measures are collected by treatment providers at intake into the DOC treatment programs (jail, prison, or community custody). Individuals enroll in treatment during the 24 months prior to their parole eligibility or sentence expiration date, as they prepare for community re-entry. Follow-up data collection is conducted by the UK research team 12 months after the individual is released to the community. Therefore, data in this report will be 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 post-release from incarceration in which they participated in DOC treatment).

Three populations are examined for this follow-up report: (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. Thus, all three groups have received substance abuse treatment services prior to release from either incarceration or custody into local communities.

As shown in Table 1, the follow-up sample of SAP participants were not significantly different from the other SAP participants who were not in the follow-up sample. The entire population of consenting SAP participants were mostly male (81%) with an average age of about 34.6 years old at intake. Over three-quarters (80.4%) were white and 48.4 % were single and never married. Just under three quarters (71.4%) reported having a GED or 12 or more years of education.

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

**Table 1. Demographic Characteristics of Follow-up SAP Sample Compared to Non-Follow-up SAP Participants Released in FY2013**

	Follow-up SAP Participants (n=350)	Non-Follow-up SAP Participants (n=2,647)
<b>Average Age</b>	34.3 (range 19 to 70)	34.6 (range 19 to 67)
<b>Race/ethnicity</b>	81.1% white	80.4% white
<b>Gender</b>	83.1% male	81.0% male
<b>Education</b>	69.7% GED or high school diploma	71.4% GED or high school diploma
<b>Marital Status</b>	49.7% Single, never married	48.4% Single, never married

Most of the DOC follow-up participants (75%), who completed treatment during FY2012-2013, were referred to SAP as “parole upon completion”. SAP participants were also compared with the entire population of KY DOC offenders who have completed the Level of Service/Case Management Inventory (LSCMI) data as part of the state’s initiative to enhance assessment processes through HB 463. The LSCMI is an assessment that measures the risk and need factors of offenders and is collected during re-entry preparation. As shown in Table 2, SAP participants were assessed as higher across ratings of overall risk and criminal history. SAP participants were assessed the same or lower in the other LSCMI categories.

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

	DOC follow-up participants (n=350)	Entire KY DOC inmate population (n=38,268)
<b>Overall Risk</b>	34%	30%
<b>Criminal History</b>	29%	27%
<b>Education/Employment</b>	23%	32%
<b>Family/Marital</b>	9%	11%
<b>Leisure/Recreation</b>	33%	44%
<b>Companions</b>	32%	32%
<b>Substance Abuse</b>	31%	34%
<b>Procriminal Attitude</b>	4%	6%
<b>Antisocial Personality</b>	3%	4%

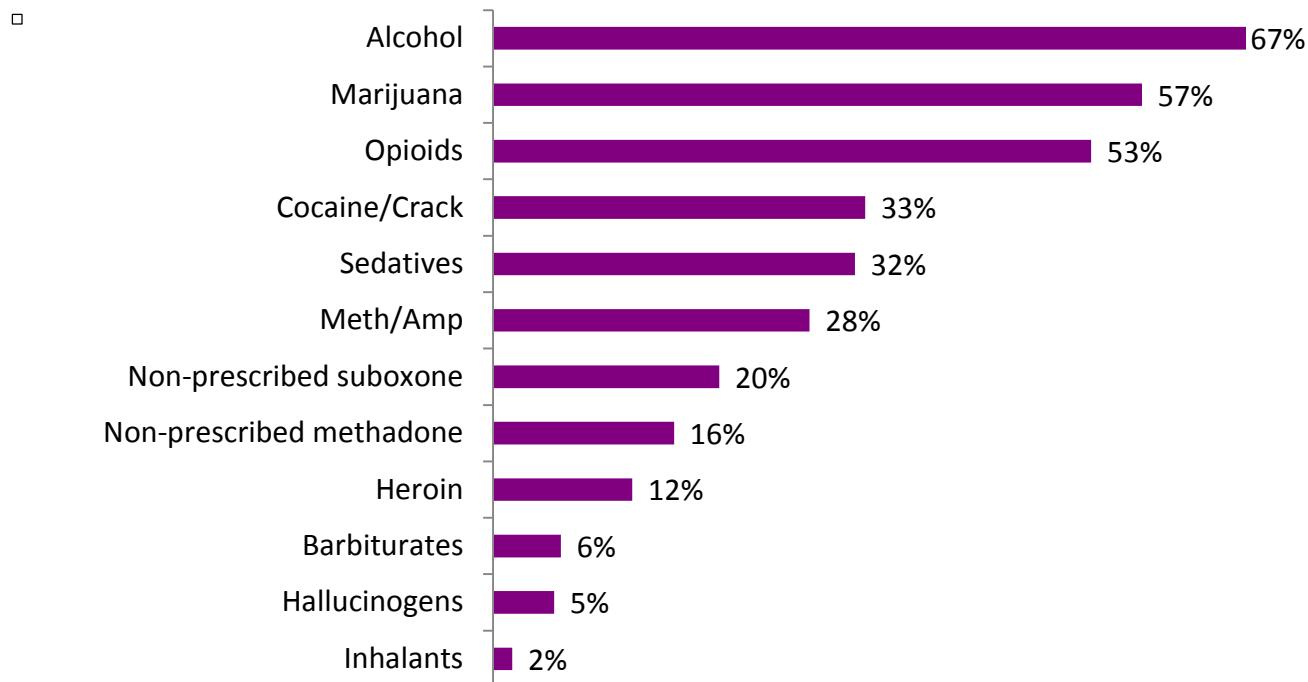
\*LSCMI data supplied by KY Department of Corrections, 8/13/2014.

## **Substance Use**

Figure 3 shows substance use during the pre-incarceration period. The greatest percent of participants reported alcohol use (67%) and marijuana use (57%) in the 12 months before incarceration. In addition, the percent of participants reporting opioid use (53%) in the 12 months before incarceration has surpassed the percent of participants reporting cocaine and crack use (33%). Nearly one-third of participants reported use of sedatives (32%) in the 12 months before incarceration. Just over one-quarter of participants (28%) reported using methamphetamines/amphetamines. Other substances used by participants in the 12 months prior to incarceration include non-prescribed Suboxone® (20%), non-prescribed methadone (16%), heroin (12%), barbiturates (6%), hallucinogens (5%), and inhalants (2%).

Alcohol, marijuana and opioids were the most commonly reported substances used in the 12 months prior to incarceration.

**Figure 3. Profile of pre-incarceration substance use among SAP participants (n=350)**

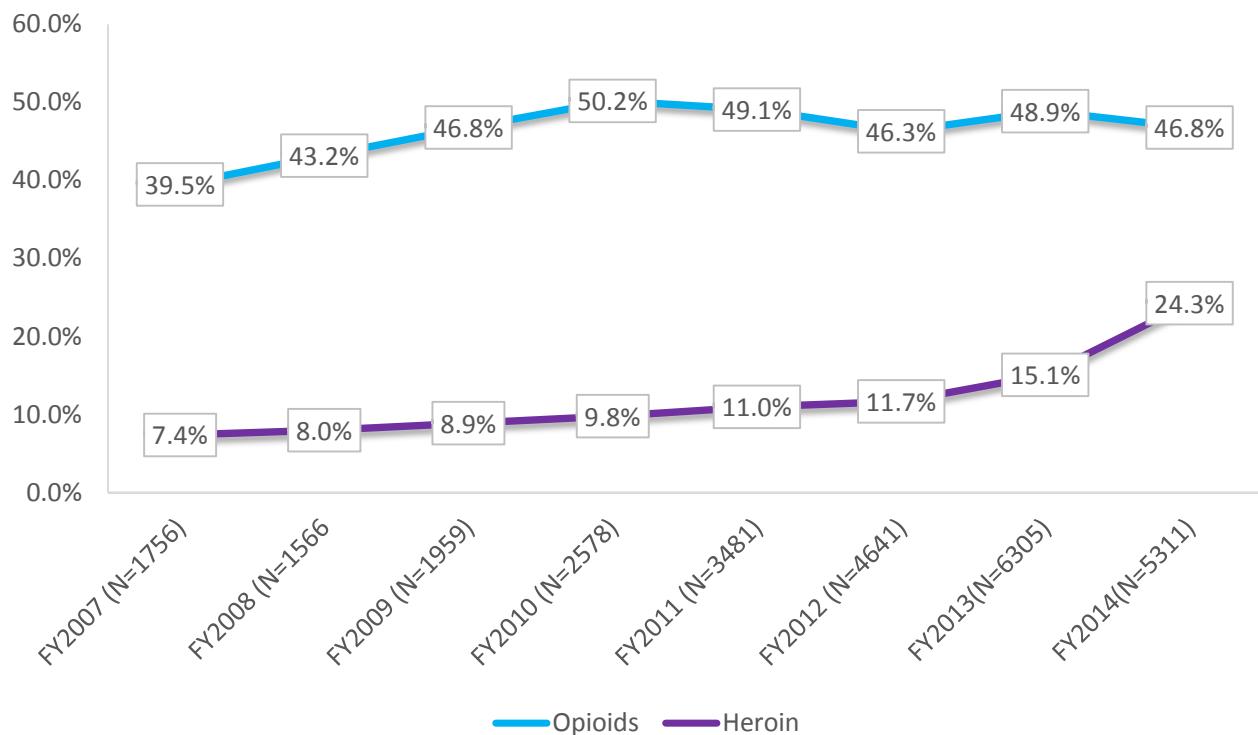


Over the past 8 years there has been a noticeable increase in self-reported heroin use prior to incarceration. As shown in Figure 4, the percentage of offenders entering corrections-based substance abuse reporting any heroin use in the 12 months prior to incarceration more than tripled from 7.4% in FY2007 to 24.3% in FY2014. Also illustrated in Figure 4, self-report illicit opioid use (not including heroin, methadone or buprenorphine) peaked at 50.2% in FY2010 and has since decreased to 46.8% in FY2014.

Self-reported heroin use has more than tripled in the past 8 years, from 7.4% in FY2007 to 24.3% in FY2014

These trends in opioid and heroin use are potentially attributed to new KY legislation to regulate access to prescription drugs, as well as pharmaceutical company's efforts including the reformulation of Oxycontin® in 2010.

**Figure 4. Reporting Illicit Opioid and Heroin Use in the 12 Months Prior to Incarceration**

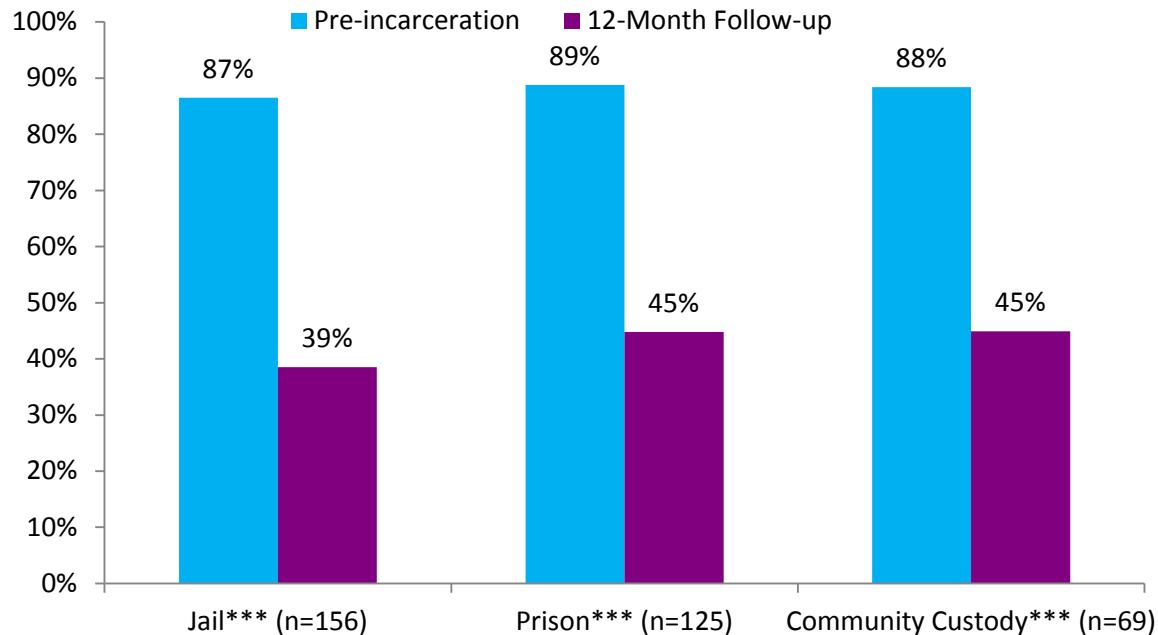


The majority of SAP participants reported being abstinent in the 12 months following release. As shown in Figure 5, those who received DOC treatment in prison, jail, or community custody programs reported a significant decrease use of any illegal drug following treatment.

- Participants who received jail-based treatment reduced illegal drug use by 48% (from 87% of participants at pre-incarceration to 39% at follow-up).
- Participants who received prison-based treatment reduced illegal drug use by 44% (from 89% of participants at pre-incarceration to 45% at follow-up).
- Participants who received community-custody treatment reduced illegal drug use by 43% (88% of participants pre-incarceration to 45% at follow-up).
- SAP participants who reported *any* illegal drug use (n=147) reported being drug-free on the street an average of 107 days before their first use (approximately 3.5 months).
- Among participants who reported any illegal drug use at follow-up (n=147) the average number of drugs used decreased from 3.1 drugs pre-incarceration to 2.0 at follow-up.

The majority of SAP participants report being abstinent in the 12 months following release.

**Figure 5. Drug Use from Pre-incarceration to One-Year Post-Release**



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

## **Recovery Supports**

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Most SAP participants reported attending at least one AA/NA meeting in the 12 months after their release. Specifically shown in Table 3, nearly three-fourths (72%) of participants reported attending AA/NA, and they reported attending an average of 5 meetings in the past 30 days.

**72% of participants reported attending AA/NA meetings in the 12 months following release.**

**Table 3. AA/NA Attendance in the 12 Months Following Release**

	Attended AA/NA Meetings	Average number of times attended AA/NA in past 30 days
Jail (n=156)	73.1%	4.9 times
Prison (n=125)	73.6%	5.5 times
Community Custody (n=69)	68.1%	5.2 times
Total (n=350)	72.3%	5.2 times

**49% of participants utilized community treatment in the 12 months post release, more than reported in previous years.**

While about the same AA/NA attendance was reported in previous years, there was an increase of SAP participants enrolled in a community treatment program at follow-up (48.7%), when compared to previous years (See Table 4). This increase highlights DOC's increased efforts during FY14 to provide continuity of care for offenders during re-entry. Outpatient treatment was the most common community treatment.

**Table 4. Percent of SAP Participants Receiving Community Substance Abuse Treatment in the 12 Months Post-Release**

	Service Utilization Data on Community Treatment*
Jail (n=126)	45.2% (n=57)
Prison (n=111)	55.0% (n=61)
Community Custody (n=63)	44.4% (n=28)
Total (n=300)**	48.7% (n=146)

\*Service utilization data was received through KOMS, self-report data at follow-up and through the University of Kentucky Research and Data Management Center for all state-funded substance abuse services data with a source of pay coded as DMHMRS, Medicaid, Medicare, Self-Pay, Commercial Insurance or Other.

\*\*Note: 50 study participants were excluded (28 were released as MRS with parole expiration date 6 months or sooner after arrest, 15 were paroled to other states and 7 served out (discharged minimum expiration).

## **Recidivism**

The Kentucky Department of Corrections (DOC) state database, Kentucky Offender Management System (KOMS) was used to examine participants' re-incarceration during the year following release. As shown in Table 5, 27.6% of jail, 32.0 % of prison and 29.0% of community custody-released follow-up cases were re-incarcerated within the 12 months post release from prison or jail. Participants who were re-incarcerated were in the community an average of 6.5 months before being re-incarcerated.

**71% of participants were not reincarcerated in the one-year post release period.**

**Table 5. Recidivism\* 12 Months Post-Release (n=350)**

	Jail (n=156)	Prison (n=125)	Community Custody (n=69)	Total (n=350)
<b>Not Incarcerated</b>	72.4%	68.0%	71.0%	70.6%
<b>Incarcerated</b>	27.6%	32.0%	29.0%	29.4%

\*Recidivism is defined here as "being re-incarcerated on a felony charge within the 12 months following release." The DOC counting rules were used (see page22 for counting rule definition used in this report).

Of those study participants who were reincarcerated, 96% were incarcerated on parole/probation violations only, not new charges.

The overwhelming majority of participants (96%) were reincarcerated on a parole or probation violation (see Table 6). Only 4% of participants who were re-incarcerated returned on new charge(s).

**Table 6. Arrests Among Recidivates at 12 Months Post-Release (n=89)**

	Jail (n=43)	Prison (n=40)	Community Custody (n=20)	Total (n=103)
<b>Parole/Probation Violation Only</b>	96.8%	94.4%	97.1%	96.0%
<b>New Charge(s)</b>	3.2%	5.6%	2.9%	4.0%

## Housing and Employment

The majority of SAP participants reported living in a stable environment and working one-year post-release. As shown in Table 7, 89.1% reported being housed in an apartment, room, house or residential treatment facility. Over half (58.3%) reported their usual employment pattern as working full or part-time.

The majority of SAP participants were working and living in a stable environment one-year post-release.

**Table 7. Employment and Housing in the 12 Months Post-Release**

	Jail (n=156)	Prison (n=125)	Community Custody (n=69)	Total (n=350)
Housed in apartment, room, house or residential treatment facility	87.2%	91.2%	89.9%	89.1%
Employed full or part-time	59.0%	60.0%	53.6%	58.3%

## Mental Health

Fewer study participants reported experiencing serious depression, anxiety, and thoughts of suicide one-year post-release.

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. Fewer participants reported experiencing serious depression at follow-up (32.3%) when compared to pre-incarceration (38.6%), as illustrated in Table 8. Also, fewer participants reported anxiety at follow-up

(40.0%) when compared to before incarceration (44.9%). Significantly fewer participants reported experiencing serious thoughts of suicide at follow-up (5.4%) when compared to pre-incarceration (9.7%)

**Table 8. Mental Health Pre-incarceration and Post-Release**

	Pre-incarceration	12-Month Follow-up
Experienced serious depression in previous 12 months	38.6%	32.3%
Experienced serious anxiety in previous 12 months	44.9%	40.0%
Experienced serious thoughts of suicide in previous 12 months*	9.7%	5.4%

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

## **Family and Relationships**

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 (74.0%) than before incarceration (58.6%), as shown in Table 9. Also, significantly more participants reported having a close relationship with a sexual partner/spouse, as well as other people at the 12-month follow-up.

In addition to improved family relationships, fewer participants had children in someone else's custody at follow-up one year post-release.

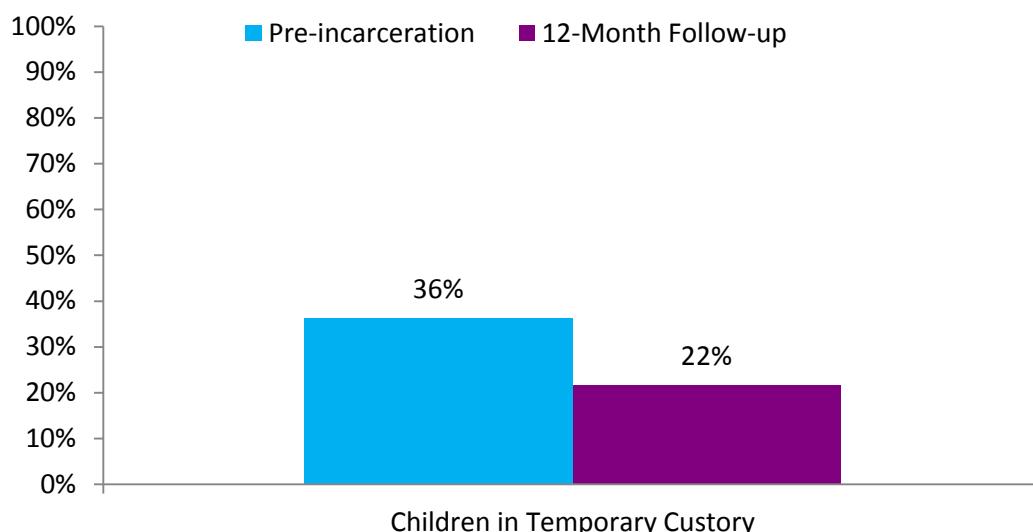
**Table 9. Relationships Pre-incarceration and Post-Release**

	Pre-Incarceration	12-Month Follow-up
<b>Reported spending most of their free time with family***</b>	58.6%	74.0%
<b>Reported a close relationship with sexual partner/spouse**</b>	64.3%	74.0%
<b>Other close relationships** (includes AA sponsors, church members, and extended family members)</b>	13.7%	21.1%

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

In addition, significantly fewer participants reported having children in someone else's temporary legal custody at follow-up (21.7%) when compared to baseline (36.3%), as illustrated in Figure 6. Another noteworthy finding is that of the 208 participants who reported having children at follow-up, 80.3% reported providing financial support to their children in the 12 months after release.

**Figure 6. Parenting during the Pre-incarceration and Post-Release periods**



## Treatment Cost-offset

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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. Kentucky has faced rising costs associated with increasing numbers of individuals incarcerated for drug-related crimes. However, with the passing of HB463 legislation in July 2011, the Department of Corrections launched a critical initiative in the state to expand treatment opportunities for substance abusing offenders as a way of enhancing the stability of inmates going back into their communities. The logic for the services is that individuals who are given opportunities to manage their substance abuse problems will be less likely to harm the public and to drive up costs to the state.

For every \$1 spent on Kentucky' corrections-based substance abuse treatment, there is a \$4.39 cost offset.

In response to this policy interest, the cost offset of corrections-based programs during FY2013 is presented in this section. This analysis examines the cost to society posed by study participants during their last year on the street (the 12 months before their last incarceration) and the same costs one year after release from prison, jail or community custody. Thus, the intent is to examine the cost of these individuals to society before state interventions and then their cost after interventions, taking into consideration the cost of the interventions.

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 2014 values, this figure translates to \$219,863,991,511 (Bureau of Labor Statistics, 2014). The National Survey on Drug Use and Health 2012 reports that there are 22.2 million individuals who are substance dependent in the United States. Thus, the average cost per substance abuser per year (\$9,903) was calculated as the total annual cost of drug abuse divided by the number of individuals who are substance abusing or dependent using SAMHSA and DSM-IV criteria.

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). Table 11 shows the cost of active substance abusers to society for the year prior to incarceration and for the 12 months post incarceration and post-treatment. 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 \$3,159,057 while the cost for a comparison 12 month period after treatment is estimated at \$772,434. This analysis shows a net reduction in cost for the sample of \$2,386,623.

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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 \$3,159,057 while the cost for a comparison 12 month period after treatment is estimated at \$772,434. This analysis shows a net reduction in cost for the sample of \$2,386,623.

**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)
<b>Study participants who were <i>active</i> users of substances as measured by past 30 use.</b>	319	\$9,903	\$3,159,057	78	\$9,903	\$772,434

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 \$442,778 for the sample.

**Table 12. Cost of Corrections-based Treatment\***

	Number of treatment days	Cost per day of treatment*	Total Treatment Cost
Jail (n=154)	22,141	\$9.00	\$199,269
Prison (n=129)	17,196	\$4.59	\$78,929
Community Custody (n=63)	11,477	\$14.34	\$164,580
<b>Total cost</b>			<b>\$442,778</b>

\*Treatment costs supplied by KY Department of Corrections, 8/13/14.

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 \$3,159,057 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 \$772,434. The gross difference in the cost to society was \$2,386,623. After subtracting the direct costs of the treatment programs, there was a net avoided cost of \$1,943,845. ***Therefore, for every dollar spent on corrections-based treatment there was a return of \$4.39 in cost offsets.***

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

Cost Item	Dollars
Annual cost to Kentucky <i>before</i> participation in corrections-based substance abuse treatment	\$3,159,057
Annual cost to Kentucky <i>after</i> participation in corrections-based substance abuse treatment	\$772,434
Gross difference in post versus pre-treatment participation	\$2,386,623
The direct cost of corrections-based substance abuse treatment	\$442,778
Net avoided cost after corrections-based substance abuse treatment	\$1,943,845
Ratio showing cost of treatment to savings	1:4.39
Expressed as return on investment	\$4.39 return for every \$1.00 of cost

## ***Study Limitations***

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There are study limitations. First, findings must be interpreted with the understanding that baseline data are self-reported at treatment 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, the Kentucky Offender Management System (KOMS), for positive drug tests. Of the 149 SAP participants on supervision at the time of their follow-up interview reporting no drug use, 124 had no positive drug tests in KOMS. This provides a self-report accuracy rate of 83.2%. 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, et al., 2000), it is a 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 in account all costs associated with re-incarceration.

## **Conclusions**

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This FY2014 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 stratified random sample of participants who received substance abuse treatment and were released during fiscal year 2013. 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.

**Reduced substance use.** FY2014 findings indicate that there were statistically significant increases in the number of individuals who participated in corrections-based substance abuse treatment who reported reductions in drug use at follow-up. While this reduced substance abuse reported by SAP participants is comparable to other national follow-up prison studies (i.e., Prendergast, Greenwell, Lin, 2007; Butzin, Martin, Inciardi, 2005), the analysis of multiple correctional-based treatment programs in this evaluation including jail, prison, and community custody is unique and speaks to Kentucky's commitment to offer quality substance abuse services for offenders. The consistency in findings across venues with regard to reductions in substance use patterns one-year post release also highlight uniformity in treatment approach (modified therapeutic communities), treatment staff training, and on-going supervision provided by Department administration.

**Decreased recidivism.** The majority of study participants were not re-incarcerated on a felony charge during the 12 months following their release. In addition, most offenders who were re-incarcerated (96%) reported being charged with a parole or probation violation rather than a new charge. Other national studies report similar recidivism rates. For example, Burdon, Dang, Prendergast, Messina & Farabee (2007) reported 59.5% of participants who received prison-based therapeutic community substance abuse treatment in California prisons and who subsequently participated in community outpatient and residential treatment did not return to prison in the 12 months following release.

**Recovery Supports.** Findings from this study indicate that most SAP participants participated in self-help groups after release. Specifically, 73% of those who received substance abuse treatment in jail, 74% of those who received substance abuse treatment in prison and 68% of those who received substance abuse treatment in community custody reported attending at least one AA/NA meeting in the 12-months after release. In addition, FY14 analysis showed a significant increase in the number of individuals enrolling in community treatment post-release (49% vs. 21% in FY13). This increase is likely attributed to an increase in aftercare treatment slots designated for DOC clients in community mental health centers (IOP programming). This continues to be a focus of the Department – to ensure a continuum of care for offenders as they transition from the institution to the community.

**Findings from FY14 CJKTOS indicate the following for DOC substance abuse recipients:**

- Reduced substance use
- Decreased recidivism
- Increased recovery supports
- Housing Stability
- Increased Employment
- Improved families
- Improved mental health
- Reduced cost to society

**Housing and Employment.** This year's report also includes other significant outcomes for SAP participants to show that they are transitioning to the community successfully and reintegrating into society. The majority of SAP participants reported being housed in a stable environment and were working in the 12 months post release. More specifically, 89% reported being housed in an apartment, room, house or residential treatment facility most of the time in the 12 months following release. In addition, 58% reported their usual employment pattern in the 12 months following release as working full or part-time. It has been noted that employment and housing can be two of the most difficult challenges that re-entering individuals face (Re-entry Policy Council, 2005). The number of successful individuals in this follow-up report suggests that the benefits of substance abuse treatment extend beyond staying clean and avoiding reincarceration.

**Family and Social Relationships.** Another benefit of DOC substance abuse treatment reported by participants was stronger family relationships at follow-up. More participants reported spending most of their free time with family at follow-up (74%) than at baseline (59%). Also, more participants reported having a close relationship with a sexual partner/spouse at follow-up (74%) when compared to baseline (64%) and having other close relationships at follow-up (21%) compared to baseline (14%). When asked about relationships with their children, fewer participants reported having children in someone else's temporary legal custody at follow-up (22%) when compared to baseline (36%). Of the participants who reported having children at follow-up, 80% reported providing financial support to their children in the 12 months after release.

**Mental Health.** An improvement in mental health was reported by participants after DOC substance abuse treatment. Fewer participants reported experiencing serious depression at follow-up (32%) when compared to baseline (39%) and significantly fewer participants reported thoughts of suicide at follow-up (5%) when compared to baseline (10%). Also, significantly fewer participants reported anxiety at follow-up (40%) when compared to baseline (45%).

**Cost Offset to Society.** A cost offset to society was examined in this report. The initial cost to the state for drug and alcohol abuse/dependence for this sample of offenders would have been \$3,159,057 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 \$772,434. The gross difference in the cost to society was \$2,386,623. After subtracting the direct costs of the treatment programs, there was a net avoided cost of \$1,943,845. ***Therefore, for every dollar spent on corrections-based treatment there was a return of \$4.39 in cost offsets.***

## ***Implications***

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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, the Department's commitment to treatment has been enhanced by the provision of additional services and an emphasis

This evaluation indicates that the Kentucky Department of Corrections has successfully evolved to provide services in prisons, jails, and with the implementation of HB463, community custody programs which are effective in reducing drug use, reducing recidivism, and promoting reintegration into society.

on evidence-based interventions. This priority has been supported by a partnership between the Kentucky Department of Corrections (DOC) and the University of Kentucky Center on Drug and Alcohol Research (CDAR), which was established nearly 10 years ago through a shared vision to evaluate treatment for incarcerated substance abusers in Kentucky (see Staton-Tindall et al., 2007).

This evaluation indicates that the Kentucky Department of Corrections has successfully evolved to provide services in prisons, jails, and with the implementation of HB463, community custody programs which are effective in reducing drug use, reducing recidivism, and promoting reintegration into society. Findings in this report support the treatment of substance abusers in the criminal justice system with increased efforts to strengthen the transition from institution to community to maintain successes achieved in corrections-based treatment. This analysis of reductions in costs of substance

abuse from the year prior to incarceration to the year after release suggests important gains for society. Future reports will examine these cost offsets and gains in more detail and with comparisons to other populations.

## **Key Terms**

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**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 releases.
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 <<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 <<http://www.wellesley.edu/Psychology/Psych205/pairttest.html>>

**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.**

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### ***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 prison and jail-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 and jail. Due to the small number of females released during the 12-month time frame, all females were included. Using the same proportion from each correctional setting as those meeting eligibility criteria, a final sample of 350 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 4,833 clients who completed a CJKTOS baseline were released from custody in FY 2013. 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 4,833 CJKTOS clients who were released from custody in FY2013, 1,836 did not consent to participate in the follow-up study. Of the 2,997 research SAP participants who were eligible for follow-up (released in FY13 and voluntarily consented for follow-up), 14.6% were randomly selected to participate in the follow-up interview (n=438). The sample of 438 was proportionate to the number of individuals 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 (156 jail treatment participants, 125 prison treatment participants and 69 community custody treatment participants), for a follow-up rate of 81% (See Table 1).

**Table 1. FY 2014 Follow-up Rates**

	Eligible	Completed	Percentage
Jail Sample	<b>200</b>	<b>156</b>	<b>78%</b>
Males	<b>164</b>	<b>127</b>	<b>77%</b>
Females	<b>36</b>	<b>29</b>	<b>81%</b>
Prison Sample	<b>155</b>	<b>125</b>	<b>83%</b>
Males	<b>124</b>	<b>102</b>	<b>82%</b>
Females	<b>31</b>	<b>23</b>	<b>74%</b>
Community Custody Sample	<b>83</b>	<b>69</b>	<b>83%</b>
Males	<b>76</b>	<b>63</b>	<b>83%</b>
Females	<b>7</b>	<b>6</b>	<b>86%</b>
Total	<b>438</b>	<b>350</b>	<b>80%</b>
Ineligible for follow-up*	<b>6</b>		
Final Total	<b>432</b>	<b>350</b>	<b>81%</b>
Refusals	<b>22</b>		<b>5%</b>
Unable to locate	<b>60</b>		<b>14%</b>

\*Note: ineligible for follow-up was defined as participants moving out of state (n=6)

## ***Appendix B.***

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### ***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.

## **Appendix C.**

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### **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

Luther Luckett Correctional Complex  
Dawkins Road, Box 6  
LaGrange, Kentucky 40031  
(502) 222-0363/222-0365

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  
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

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

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

Fulton County Detention Center  
210 South 7<sup>th</sup> 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

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

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) 464-2598

## **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  
(502) 637-9150

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