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Return to illicit drug use post-incarceration among formerly incarcerated Black Americans

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Abstract

Aims—The number of drug dependent individuals incarcerated in the U.S. is exceptionally high, and reportedly 60 percent of incarcerated Black Americans have a substance abuse disorder. The purpose of this study was to identify factors associated with return to illicit drug use post-incarceration.

Methods—A cross-sectional study was conducted with 121 formerly incarcerated Black Americans in New York City to examine predictors of return to illicit drug use. Kaplan-Meier curves were generated on the outcome of time-to-drug use for various predictors and compared using the log-rank test. Cox proportional hazards models were used to identify significant predictors of return to illicit drug use post-incarceration.

Findings—Approximately 83 percent (n=100) of the participants reported a history of illicit drug use, not including participants who have only used marijuana. Out of 121 participants, 36 (29.8%) had used drugs within one day after release. By two weeks after release, half had used drugs. Gender and history of heroin use were significant predictors of time-to-drug use according to the log rank test.

Conclusions—The potential for immediate return to drug use among our sample suggests that discharge support programs that focus specifically on healthy decision-making among women and heroin users are especially critical.

Keywords

drug use; Black Americans; reentry

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Introduction

Partly due to the war on drugs in the United States, Black Americans are disproportionately represented among the 1.5 million individuals currently held in a federal or state prison (Carson, 2015). Although Black Americans reportedly use illicit drugs less than or at the same rate as Whites (Millett, Flores, Peterson, & Bakeman, 2007; Millett et al., 2012; The National Center on Addiction and Substance Abuse at Columbia University, 2010; White et al., 2014), they are much more likely to be detained and incarcerated for committing drug-related offenses (Beckett, Nyrop, & Pfingst, 2006). Black men are approximately six times as likely to be incarcerated than White men in the U.S. (The Sentencing Project, 2015).

The number of drug dependent individuals incarcerated in the U.S. is exceptionally high, and 60 percent of incarcerated Black Americans have a substance abuse disorder (The National Center on Addiction and Substance Abuse at Columbia University, 2010). Research has shown that up to two-thirds of incarcerated individuals have problems with substance use, and approximately half are under the influence of a substance during the commission of the crime for which they are incarcerated (Karberg & James, 2005). A recent comprehensive report on substance use among the prison population published by the National Center on Addiction and Substance Abuse suggests that substance-involved prisoners comprise 85% of the prison population in the U.S.; this report demonstrated that few drug-dependent inmates (11%) use substance abuse treatment. Similar results have been confirmed elsewhere in the literature. For instance, a recent study estimates that approximately 80 to 85 percent of the prison population in need of substance use treatment does not receive it (Chandler, Fletcher, & Volkow, 2009). Previous research has also indicated that although substance use treatment programs are provided by approximately 74 percent of the prisons in the U.S., most do not appear to offer the intensive substance abuse treatment appropriate for the needs of this population (Young, Farrell, Henderson, & Taxman, 2009). This scenario results in the vast majority of eligible prisoners not being able to access adequate drug treatment services.

In addition to the reported inaccessibility of drug treatment, research suggests that drug use continues during periods of incarceration (Rowell, Wu, Hart, Haile, & El-Bassel, 2012), and may increase post-release from incarceration (Binswanger, Blatchford, Lindsay, & Stern, 2011; Choopanya et al., 2002; Wood et al., 2005), as ex-offenders attempt to compensate for restrictions placed on their behavior throughout their incarceration (Braithwaite, 2003). The vast majority of incarcerated individuals will return to their home communities (Prendergast, 2009), where the risk for drug overdose during the immediate post-release period is exceptionally high (Leach & Oliver, 2011; Merrall et al., 2010). For instance, in their examination of the risk of death among 30,237 former Washington State prisoners, Binswanger et al. (2007) reported that the risk of death among former inmates was 12.7 times that among other state residents during the same time period; the leading cause of death among formerly incarcerated individuals was drug overdose.

Reportedly, drug use post-incarceration is also associated with additional negative outcomes including risky sexual behaviors (MacGowan et al., 2003), less likelihood of retention in medical care (Fox et al., 2014) and re-incarceration (Prendergast, 2009). Hence, individuals who return to drug use within a short timeframe post-incarceration are at high risk for

experiencing many negative outcomes during a very challenging period in their lives. Temptations and opportunities to return to their previous risky lifestyle may resurface, creating an environment where they may be particularly vulnerable to substance abuse (Seaman, Brettle, & Gore, 1998; Vlahov & Putnam, 2006). To better understand the extent to which formerly incarcerated Black Americans are using illicit drugs post-incarceration, the purpose of this study was to identify factors associated with return to illicit drug use among 121 Black Americans who were recently released from prison in the New York City metropolitan area. Using variables previously associated with return to drug use post-incarceration, we examined correlates of illicit drug use post-incarceration.

Methods

A cross-sectional study was conducted between January 2014 and August 2015. Inclusion criteria for this study were as follows: 1) at least 18 years of age; 2) self-identify as Black American; 3) released from prison within the past 12 months; and 4) convicted of a drug-related offense. Participants were screened for eligibility; approximately 30 percent of those screened were ineligible for participation. Individuals who met the criteria were interviewed privately by a trained research assistant. On average, interviews lasted approximately 49 minutes. During the informed consent process the research assistants emphasized the voluntary and confidential nature of the study; participants were also assured that any information shared with the research team would not be disclosed to any criminal justice agencies or staff members, including parole officers. A certificate of confidentiality was received to further protect participants' rights. All study-related procedures were approved by the Columbia University Medical Center institutional review board.

Participants

Participants were recruited from community-based agencies that provide services to ex-offenders in the New York City metropolitan area, including substance abuse treatment centers, transitional housing organizations, and harm reduction agencies and programs. Recruitment flyers and advertisements with basic information about the study were posted at agencies throughout the metropolitan area and given to agency staff to distribute. The flyers contained a phone number for individuals to call if they were interested in participating in the study. Research staff also gave presentations at orientation meetings and educational seminars for individuals recently released from incarceration. Additionally, research participants were encouraged to recruit other individuals into the study.

Study Procedures

Individuals who expressed interest were interviewed in a private room by trained research assistants to determine whether they met the study's inclusion criteria. Participants were paid \$30 in compensation. During the informed consent process, participants were reminded that their participation was anonymous, that no information would be shared with any criminal justice agencies or representatives, and that a Certificate of Confidentiality was issued to further protect their rights.

Measures

Demographics

Participants were asked to provide demographic information including their age, highest level of education complete, and duration of incarceration. Education was dichotomized to two categories (less than high school and high school or more). Incarceration duration was recorded in number of days but was also divided into two categories (incarceration for less or greater than five years). The type of drug offense was divided into two categories (possession only and distribution or intent to sell).

Drug abuse treatment

Participants were additionally asked whether they were ever treated for drug abuse and if they have used needles to inject drugs since release.

History of illicit drug use

Participants were asked a series of questions regarding their illicit drug use. Information was collected about the use of drugs including powder cocaine, rock/crack cocaine, and heroin. For each drug, they were asked to disclose whether they ever used it. If a participant responds “yes”, they are then asked both whether they used the drug before the most recent incarceration and since release from prison.

Sexual behavior post-incarceration

Participants were asked whether they engaged in unprotected sexual behavior post-incarceration, the types of sexual behavior (i.e. oral, vaginal, anal), and the number and gender of sexual partners.

Outcome

The outcome was determined by asking the participant, “How soon after release from most recent incarceration did you use drugs?” and the response was recorded in hours.

Data analyses

Data entry was conducted using SPSS 23.0, and SAS 9.3 was used to conduct all statistical analyses. Descriptive statistics were used to characterize the study sample. Kaplan-Meier curves were generated on the outcome of time-to-drug use for various predictors and compared using the log-rank test. A p-value of less than 0.05 was considered significant. Univariable cox proportional hazards models were used to identify significant predictors of return to drug use. The proportional hazards assumption was tested for each predictor. All predictors of return to drug use found to be significant at the $p < 0.20$ level in the bivariate models were entered into a multivariable cox proportional hazards model. Due to small sample size, a p-value of less than 0.10 was considered significant for the multivariable model.

Results

There were 121 participants in this study. As Table 1 illustrates, the vast majority of the participants were male (89.3%), heterosexual (79.3%), and had never been married (72.7%). The mean age of the participant's was 45.1 years (SD= 9.4, range = 23–66). On average, participants had been released from prison 5.7 months ago after serving a mean of 4.1 years in prison (SD=4.8).

Essentially all of our participants reported a history of drug use (99.2%); only 1 participant (0.8%) reported not having used any illicit drugs. Most of the participants with a history of drug use reported using marijuana (92.6%). Excluding marijuana use, approximately 83 percent (n=100) of the participants have used other illicit drugs. Approximately 86 percent (n =104) of our participants reportedly received drug treatment at some point in their lives; the average number of times that participants received drug treatment was 4.0 (SD=4.6).

Many participants had an extensive criminal justice history; 91 percent (n=110) had been previously incarcerated. On average, as an adult, they had been incarcerated 11.9 times (SD=12.2; range = 1–73). In addition to committing drug-related offenses, participants also reportedly committed property offenses (17.4%), and violent offenses (15.7%).

Survival curves

The results from the survival curves for post release-drug use are presented in Figure 1. Out of 121 participants, 36 (29.8%) had used drugs within 1 day after release. By two weeks after release, half of participants had used drugs. For comparisons of time-to-drug use between groups, only sex and history of heroin use were significant predictors according to the log rank test. As figure 2 demonstrates, on average, women used drugs sooner post release than men (median survival time 1 day vs. 30 days, respectively). Log rank test p-value = 0.035. According to Figure 3, on average, those with a history of heroin use resumed their drug use sooner post release than those who had never used heroin (median survival time 7 days vs. 30 days, respectively). Log rank test p-value = 0.026.

Univariable models

Univariable cox proportional hazards models identified sex (p=0.04) and history of heroin use (p=0.03) to be significant predictors of post-release drug use. Additionally, history of powder cocaine use (p=0.06), having ever had a same sex partner (p=0.09), and type of drug offense (p=0.06) approached significance as predictors of post-release drug use.

Multivariable model

In the multivariable model, women had 1.91 (90% CI= 1.10, 3.30) times the hazards of post-release drug use compared to men. Those with a history of heroin usage had 1.49 (90% CI=1.01, 2.19) times the hazards of using drugs post-release compared to those who had never used heroin.

Discussion

This study sought to identify factors that correlate with return to illicit drug use among Black Americans who have recently been released from prison. Overall, the findings suggest that individuals convicted of drug-related offenses return quickly to drug use. Female participants returned to drug use more quickly than male participants, and those who had a history of heroin usage returned to drug use more quickly than those who had never used heroin. Our findings reflect previous research in this area demonstrating barriers to accessing prison-based drug treatment programs, including gender-specific challenges, and barriers to avoiding substance use in the post-release period.

Formerly incarcerated individuals face substantial obstacles in avoiding illicit drug use upon release from prison. A significant portion of participants in this study (29.8%) returned to drug use within a day of release. The median time of return to drug use was 14 days. These findings align with previous research in this area, including studies showing both high rates of overdose (Binswanger et al., 2012) and high rates of drug use (Butzin, Martin, & Inciardi, 2005; Fox et al., 2015) in the immediate post-release period. Our results also demonstrate the speed with which many individuals resume using illicit drugs. Overall, the findings demonstrate a need for more effective and accessible prison-based drug treatment programs, as well as better discharge and transitional support. Research suggests that the rising incarceration rate in the United States has not been matched by an increase in training to aid the transition from incarceration to community (Travis & Petersilia, 2001), indicating that greater numbers of recently released individuals are re-entering the community without adequate preparation, which is supported by our findings.

Female participants in this study started using drugs more quickly post-release than male participants. The median number of days to return to drug use was 30 days for men and one day for women. It is well established that women face a specific set of challenges as they transition from prison to the community. Incarcerated women are more likely than men to suffer from psychiatric disorders, chronic medical disorders, and drug dependence, and are more likely to have a history of injection drug use (Binswanger et al., 2010). Furthermore, in the post-release period, women may be returning to activities that are closely linked with drug use, including sex work (Strathdee et al., 2015). Like men, they may lack the resources to find housing in an area where it will be easier to avoid drugs. They also may be facing the added stressor of fighting to regain custody of children (Leverentz, 2010). Treatment programs must better address these gender-specific needs so that incarcerated women may develop the tools that will allow them to avoid drugs upon release.

The unique needs of heroin users also merit special attention by prison-based drug treatment programs, as our findings showed participants with a history of heroin use returning more quickly to drug use. Research shows that opiate replacement therapy (ORT) using methadone or buprenorphine paired with counseling improves participants' likelihood of entering drug treatment post-release, and reduces the likelihood of re-entering prison (Kinlock, Gordon, Schwartz, & O'Grady, 2008). However, fewer than half of U.S. prisons provide methadone or buprenorphine to prisoners (Nunn et al., 2009). Broader implementation of ORT in the correctional system has the potential to improve health

outcomes and reduce the risk of relapse among heroin users after they leave prison (Zaller et al., 2013).

Our results re-affirm the risks of the immediate post-release period by demonstrating the speed with which many participants returned to drug use. These findings highlight the urgent need for prison-based drug treatment programs designed to help Black Americans, particularly women and heroin users, begin healthier and more satisfying lives upon return to their communities.

Limitations

There are study-related limitations that should be acknowledged. First, the sample for this study is a convenience sample, and is not representative of all formerly incarcerated Black Americans. Second, because of the cross-sectional nature of this study, causality cannot be established. Third, data were collected through self-report, which may have resulted in underreporting of behaviors. Finally, our relatively small sample size may have prevented us from conducting more rigorous analyses, which could have biased the results.

Conclusions

Discharge planning support programs within correctional and community-based settings should be implemented to provide an opportunity for formerly incarcerated individuals to manage their addiction with the support of highly trained health professionals. Given the relationship between drug use and re-incarceration (Prendergast, 2009), the accessibility of such programs is crucial to reducing the burden of substance use problems and risk of recidivism among criminal justice-involved individuals. The potential for immediate return to drug use among our sample suggests that programs that focus specifically on healthy decision-making among women and heroin users are especially critical.

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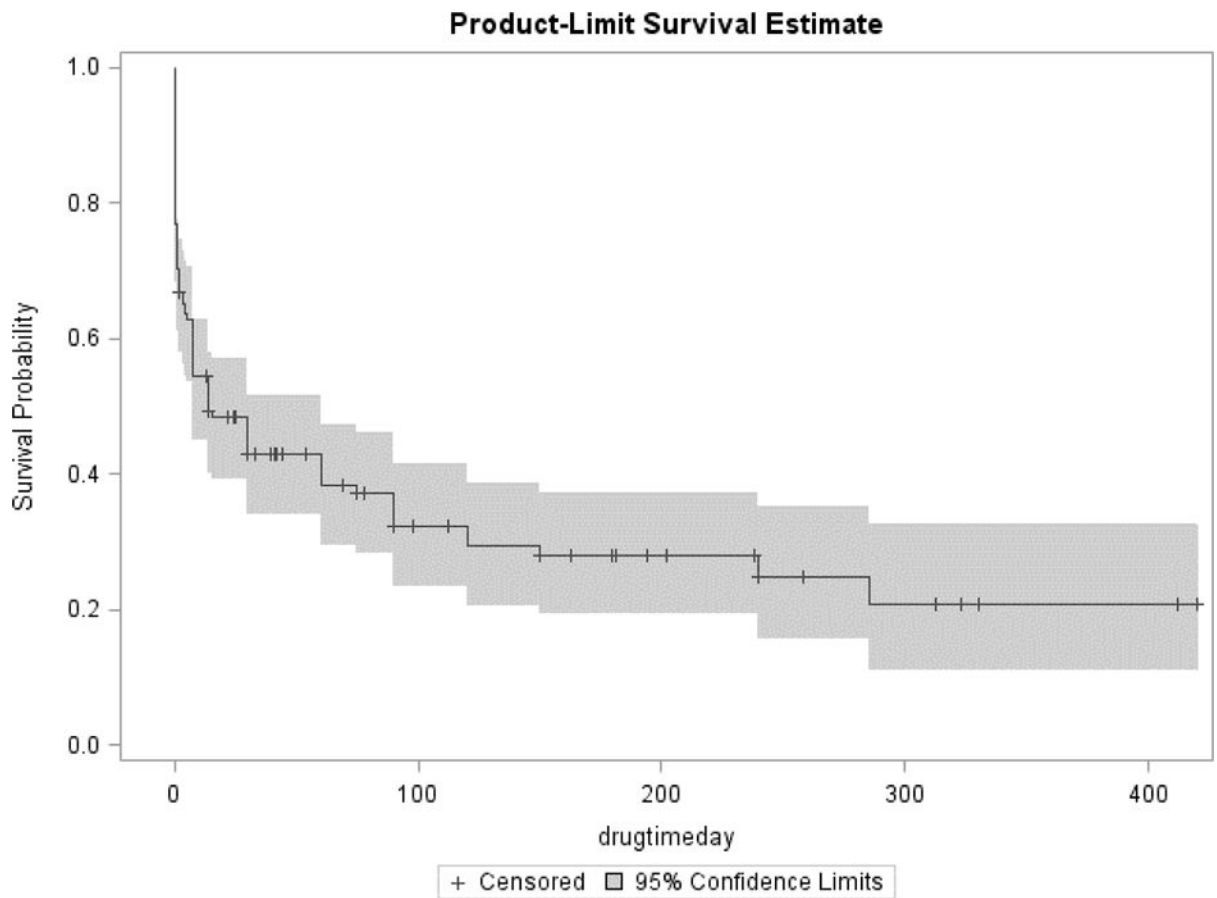


Figure 1. Survival curve for time to drug use post incarceration in days. Median survival time was 14 days; half of participants had used drugs within 2 weeks post-release). Out of 121 participants, 36 (29.8%) had used drugs within 1 day after release.

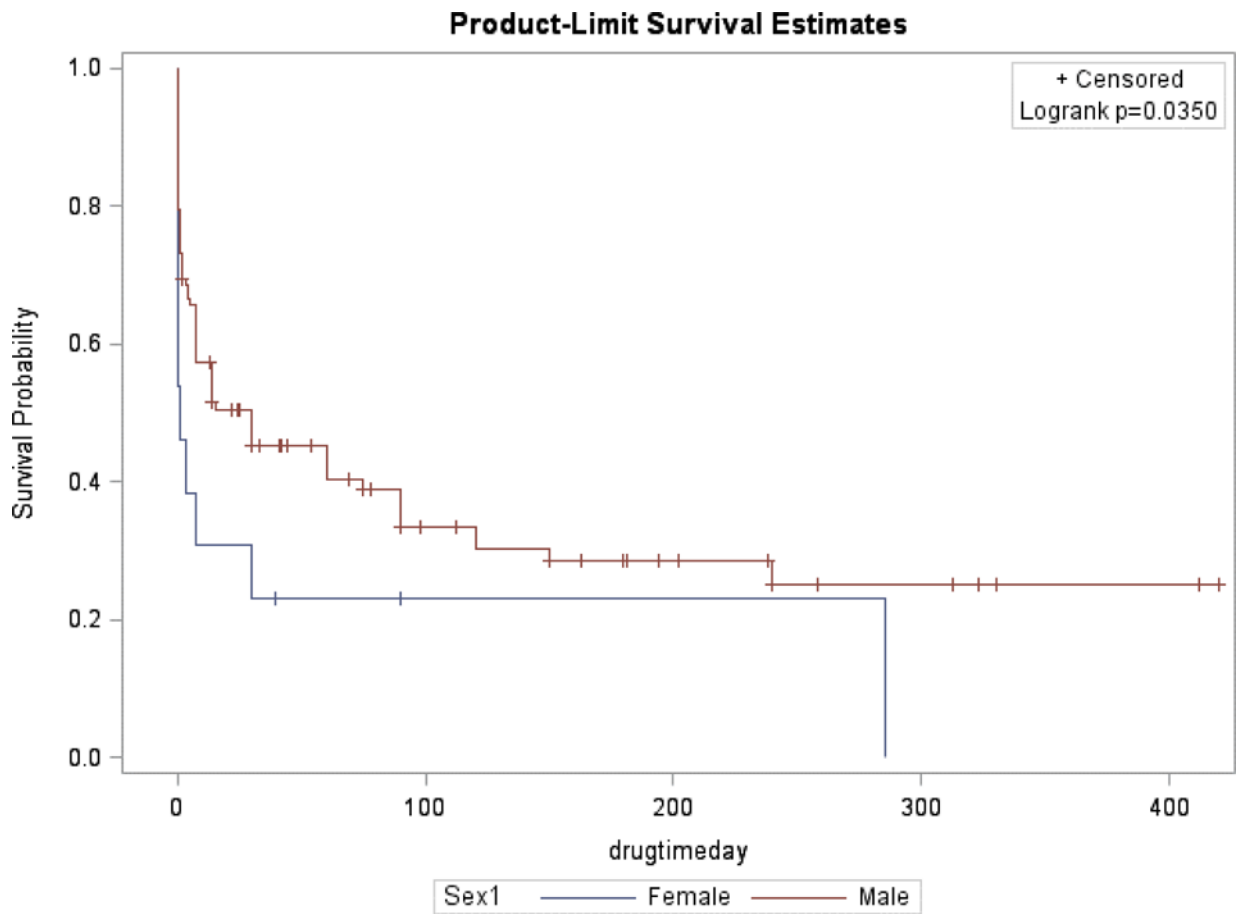


Figure 2. Survival curves of time-to-drug use post incarceration by sex. Women used drugs on average sooner after release than men. Log rank p-value = 0.035.

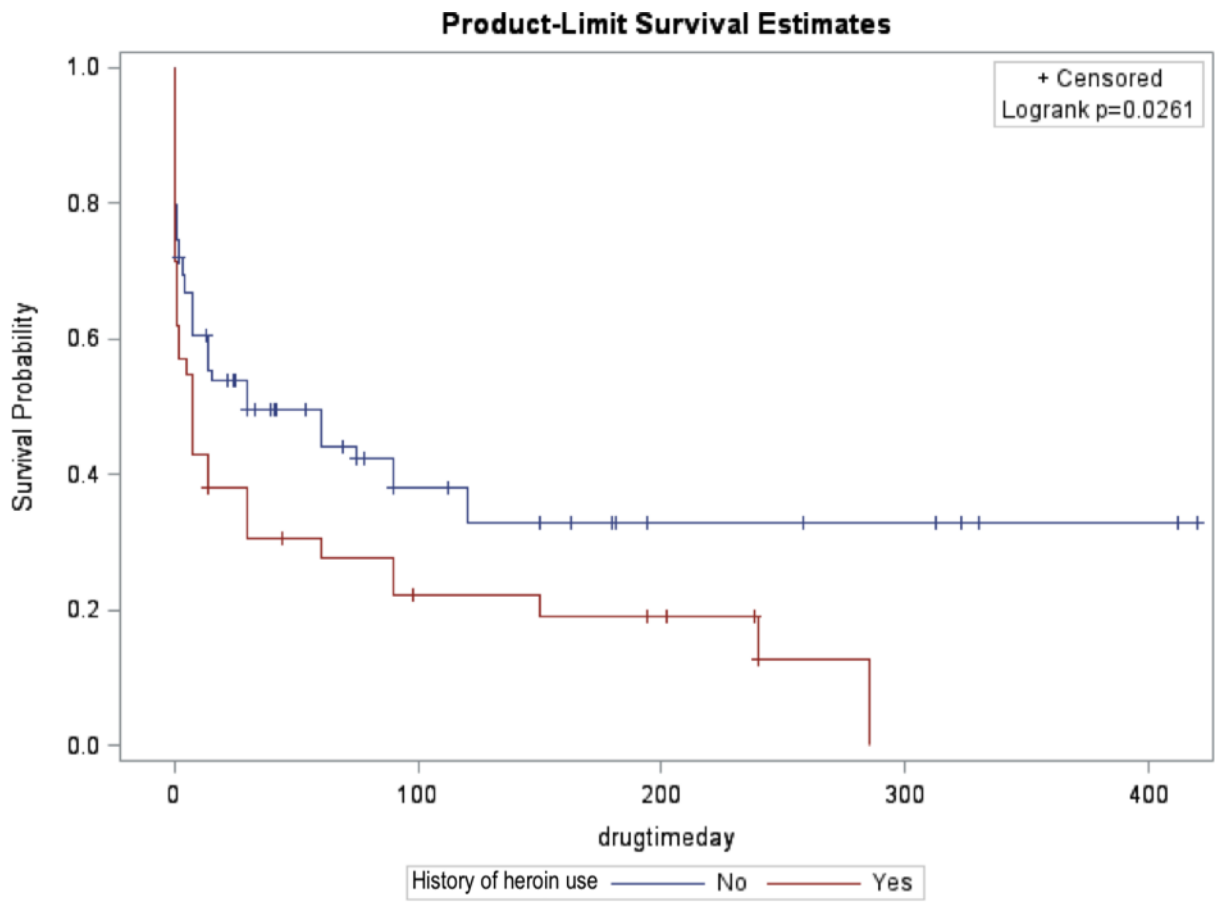


Figure 3. Survival curves of time-to-drug use post incarceration by history of heroin use. Those with a history of heroin use resumed their drug use on average sooner after release than those who had not ever used heroin. Log rank p-value = 0.026.

Table 1

Demographics of study population (n=121)

	Frequency	Percent
Total	121	100.0
Male gender	108	89.3
Non-hispanic	109	90.1
Age		
Less than 30	10	8.3
30 to 49	66	54.5
Over 50	45	37.2
High school education or more	76	62.8
Never married	88	72.7
Sexual orientation		
Heterosexual	96	79.3
Bisexual	17	14.1
Other	8	6.6
Incarceration duration under 5 years	98	81.0
Ever treated for drug abuse	104	86.0
Illicit drug use since release	82	67.8
Sex since release	101	83.5
Unprotected sex since release	77	63.6
History of powder cocaine use	80	66.1
Before most recent incarceration	74	92.5*
Since release from prison	31	38.8*
History of rock/crack cocaine use	57	47.1
Before most recent incarceration	56	52.9**
Since release from prison	19	33.3**
History of heroin use	42	34.7
Before most recent incarceration	37	88.1***
Since release from prison	23	54.8***
Used needle to shoot up drugs since release	7	5.8
How soon after release from most recent incarceration did you use drugs? (days)		
Did not use	39	32.2
Within 1 day	36	29.8
1 to 7 days	19	15.7
Over 7 days	27	22.3
Type of drug offense		
Drug distribution or intent to sell	75	62.0
Drug possession only	46	38.0

* percentage calculated by dividing the frequency by the number of participants who had ever used powder cocaine

** percentage calculated by dividing the frequency by the number of participants who had ever used rock/crack cocaine

*** percentage calculated by dividing the frequency by the number of participants who had ever used heroin

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Table 2

Crude hazards ratios, 95% confidence intervals, and p-values for post-release drug use

Predictors	Crude hazards ratios (95% CI)	p-value
Age		
Less than 30	1.00 **	0.78
30 to 49	1.29 (0.55, 3.02)	
Over 50	1.14 (0.48, 2.73)	
Sex		0.040
Men	1.00 **	0.04
Women	1.95 (1.03, 3.69)	
Marital status		
Other	1.00 **	0.24
Never married	0.75 (0.47, 1.21)	
Educational attainment		
Less than high school	1.00 **	0.99
High school or more	1.00 (0.64, 1.57)	
First incarceration		
No	1.00 **	0.73
Yes	0.87 (0.40, 1.90)	
Incarceration duration over 5 years		
No	1.00 **	0.77
Yes	0.92 (0.53, 1.61)	
History of powder cocaine use		
No	1.00 **	0.06
Yes	1.59 (0.97, 2.59)	
History of rock or crack cocaine use		
No	1.00 **	0.19
Yes	1.34 (0.87, 2.07)	
History of heroin use		
No	1.00 **	0.03
Yes	1.64 (1.06, 2.55)	
History of same sex partnership		
No	1.00 **	0.09
Yes	1.51 (0.94, 2.41)	
Type of drug offense		
Drug distribution or intent to sell	1.00 **	0.06
Drug possession only	1.52 (0.98, 2.34)	

** Reference category

Table 3

Crude and adjusted* hazards ratios and 90% confidence intervals for post-release drug use

Predictors	Crude hazards ratios (90% CI)	Adjusted hazards ratios (90% CI)
Sex		
Men	1.00 **	1.00 **
Women	1.95 (1.14, 3.33)	1.91 (1.10, 3.30)
History of powder cocaine use		
No	1.00 **	1.00 **
Yes	1.59 (1.05, 2.39)	1.39 (0.86, 2.27)
History of rock or crack cocaine use		
No	1.00 **	1.00 **
Yes	1.34 (0.93, 1.93)	1.08 (0.72, 1.64)
History of heroin use		
No	1.00 **	1.00 **
Yes	1.64 (1.14, 2.38)	1.49 (1.01, 2.19)
History of same sex partnership		
No	1.00 **	1.00 **
Yes	1.51 (1.01, 2.24)	1.34 (0.88, 2.04)
Type of drug offense		
Drug distribution or intent to sell	1.00 **	1.00 **
Drug possession only	1.52 (1.05, 2.19)	1.36 (0.93, 1.99)

* Multivariable cox proportional hazards model with predictors of sex, ever powder cocaine use, ever rock or crack cocaine use, ever heroin use, ever same sex partner, and type of drug offense.

** Reference category