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Resumption of injecting drug use following release from prison in Australia

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ABSTRACT

Introduction: Ex-prisoners with a history of injecting drug use (IDU) experience disproportionate drug-related harm. Rapid resumption of substance use following prison release is common and evidenced in high rates of overdose mortality. However, few studies have documented the rate of IDU resumption following prison release or identified risk factors for relapse.
Methods: Structured interviews were conducted with 533 adults with a history of IDU in Queensland, Australia prior to release from prison and approximately 1, 3 and 6 months post-release. Incidence of self-reported IDU resumption was calculated overall and for each follow-up interval. Risk factors associated with time to resumption of IDU were estimated using discrete-time survival analysis.
Results: IDU resumption was reported by 41% of participants during a median of 98 days of follow-up (IQR = 94–121), an overall crude incidence of 1.06 per person-year. The highest rate was observed in the first month (23%; crude incidence 2.24 per person-year). In adjusted discrete-time survival analyses, being unemployed at the previous interview (AHR = 1.59; 95%CI:1.10–2.30), shorter incarceration (≤90 days vs. >365 days; AHR = 2.20; 95%CI:1.33–3.65), and IDU during the index incarceration (AHR = 2.80; 95%CI:1.92–4.09) were significantly associated with time to IDU resumption; parole was protective (AHR = 0.66; 95%CI:0.47–0.92).
Conclusions: Evidence-based efforts to prevent IDU in prison and IDU resumption after release are important for both prisoner and public health. Enhancing opportunities for employment and capitalising on the short-term benefits of parole for ex-prisoners may delay resumption of IDU after release from prison. These strategies should complement rather than replace harm reduction efforts for this high-risk population.

1. Introduction

Globally, illicit and injecting drug users are over-represented in correctional settings (Fazel et al., 2006). In Australia, around two-thirds of prisoners report illicit drug use in the year prior to imprisonment and an estimated 45% have a history of injecting drug use (IDU; Australian Institute of Health and Welfare, 2015). Research findings show that imprisonment often fails to have any long-term beneficial impact on substance use trajectories, instead serving as a temporary interruption to use (DeBeck et al., 2009; Evans et al., 2009), as substance use is usually reduced or ceased during imprisonment. Incarceration is often considered an opportunity for the rehabilitation of prisoners with a history of problematic substance use. However, incarceration may increase the risk of return to IDU among those who cease injection prior to

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imprisonment (Genberg et al., 2015), and decrease the likelihood of IDU cessation following imprisonment in the longer term (Bruneau et al., 2004; DeBeck et al., 2009; Evans et al., 2009). Incarceration may also decrease access to the tools that support cessation, such as community participation (DeBeck et al., 2009). Collectively, these findings question the individual and societal benefits of incarcerating individuals whose non-violent offences are attributable to substance use.

Prisoners also experience high rates of co-occurring health and socio-economic disadvantage prior to incarceration including unemployment, housing instability, mental disorder, infectious and chronic disease and other social and health disparities (Baldry et al., 2006; Fazel and Baillargeon, 2011; Larney et al., 2013; Cutcher et al., 2014). Among those with a history of IDU, these factors may increase the likelihood of resumption of IDU following release from prison (Binswanger et al., 2012). In addition, the difficulties of community integration after release from prison (Mallik-Kane and Visher, 2008; Visher et al., 2011), and the challenges posed by return to drug using networks (Binswanger et al., 2012; Malouf et al., 2012) may exacerbate the risk of IDU resumption. Release from prison has been associated with engaging in high-risk IDU behaviour, with some studies reporting a rapid return to substance use following release from prison (Shewan et al., 2001; Kinner, 2006; Evans et al., 2009; Milloy et al., 2009; Binswanger et al., 2012), unemployment (Visher et al., 2011), homelessness (Evans et al., 2009), disruption or restricted access to drug (Dolan et al., 2005; Stallwitz and Stöver, 2007; Fu et al., 2013) and other medical treatment programs (Milloy et al., 2011), and recidivism (Håkansson and Berglund, 2012; Kirwan et al., 2015). For ex-prisoners, IDU carries a high risk of fatal (Merrall et al., 2010) and non-fatal (Winter et al., 2015) overdose, infectious disease acquisition and transmission (Dolan et al., 2005), and other poor health and social outcomes (Kinner, 2006; Mallik-Kane and Visher, 2008; Swan, 2015). There is increasingly compelling evidence that improving health outcomes for ex-prisoners have considerable individual and societal benefits (Kinner and Wang, 2014).

Longitudinal studies examining post-release health outcomes are scarce and often suffer from high rates of attrition, potentially resulting in biased estimation of substance use and other health and social outcomes. Critically, there is a gap in the literature on the rate of return to IDU following release from prison, and the factors associated with accelerated drug use resumption trajectories. It is important to establish the rate of IDU resumption to help tailor appropriate interventions and time their delivery accordingly. It is well established that the risk of overdose mortality is greatest in the first few weeks following prison release (Merrall et al., 2010), indicating that resumption of risky substance use in the community occurs swiftly for at least a subset of ex-prisoners. However, the relationship between release from prison and IDU resumption is dynamic and complex; many social, structural and interpersonal factors may influence return to IDU and the rate at which it occurs. In this study, we measured the rate of IDU resumption following release from prison in a cohort of ex-prisoners recruited in the weeks preceding release from custody in Queensland, Australia, and identified factors associated with time to IDU resumption.

2. Methods

2.1. Study design and setting

The *Passports* study was a multi-site, single-blinded, randomised controlled trial of a case-management re-entry intervention for sentenced adult prisoners in the state of Queensland, Australia. The study methods are described in detail elsewhere (Kinner et al., 2013). Baseline interviews were conducted within six weeks of expected release from prison and before randomisation in the seven prisons from which the majority of sentenced prisoners in the State were released. Participants were randomised to receive either usual care or a transitional intervention that included individualised case-management in the first four weeks following release (Kinner et al., 2013). Follow-up interviews occurred approximately 1 (FU1), 3 (FU2) and 6 months (to a maximum of 12 months) (FU3) after release from prison.

2.2. Participants

Prisoners due to be discharged from selected prisons from August 2008 to July 2010 were identified through correctional records and screened for eligibility. Eligibility criteria included (1) expected release within six weeks of interview, (2) sentenced (i.e., not pre-trial detention), (3) imprisoned for at least four weeks, and (4) able to give informed consent. Researchers not affiliated with correctional authorities explained the study and supplied a plain-language information sheet; participants provided written informed consent to participate. Of 1665 prisoners eligible and approached, 1325 (80%) consented to participate and completed a pre-release interview (Kinner et al., 2013). By key demographic and criminal justice indicators, participants were broadly representative of all persons released from prison in Queensland during the recruitment period, with the exception that women were intentionally oversampled to allow adequate numbers for sex-stratified analyses (Kinner et al., 2013).

Pre-release data were collected via face-to-face, researcher-administered structured questionnaires, typically taking 60–90 min to complete. Follow-up interviews were conducted by telephone in the community, or – for participants who had been reimprisoned – in prison either by telephone or face-to-face. Participants who did not report a lifetime history of IDU or were released more than eight weeks after their baseline interview were excluded from the analyses presented here.

2.3. Measures

The primary outcome measure was self-reported IDU resumption in the community, following release from prison. Instances of IDU that occurred during subsequent episodes of incarceration were excluded in these analyses. At baseline, participants were asked about their lifetime IDU history (ever vs. never), and at follow-up participants were asked about injection of specific drugs since release or most recent interview. The first injection – of cocaine, amphetamines, heroin, or other opioids – in the community following index incarceration was dichotomised into a single variable reflecting IDU resumption (yes/no) for each follow-up interval. The types of drugs injected and frequency of injection at each follow-up interview (number of days injected in the past 28 days) was recorded for descriptive purposes.

Selection of variables potentially correlated with IDU resumption following release were informed by the literature (Butzin et al., 2005; Kinner, 2006; Mallik-Kane and Visher, 2008; Binswanger et al., 2012; Malouf et al., 2012; Genberg et al., 2015) and obtained from baseline and follow-up surveys, and from medical and administrative records supplied by Queensland Corrective Services (QCS). Socio-demographic variables at baseline included age, sex, Indigenous status, and years of schooling (<10/10+years). Baseline measures of mental health included self-reported lifetime diagnosis of mental illness (yes/no), and psychological distress in the 4 weeks prior to interview, measured by the Kessler 10 (K10) (low/medium vs. high/very high distress)(Andrews and Slade, 2001). Participants also reported the number of visits received in prison in the preceding 4 weeks as a proxy for community social