

Effectiveness of the Initial Transitional Support (ITS) Service 2014-2017

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Aim

To evaluate the impact of the Initial Transitional Support (ITS) service, a 12 week reintegration support service for priority offenders under community supervision, on recidivism outcomes.

Methods

Using an intention to treat design, offenders who had been referred to the ITS as part of their parole or community order were compared to matched samples of offenders who had undergone Community Corrections supervision at a location where the ITS was not available. Equivalence in observed characteristics between treatment and comparison groups was achieved using the propensity score matching (PSM) method. Recidivism outcomes (any reoffending and return to custody) were analysed using a series of binary logistic regression models and survival analyses.

Results

A total of 684 offenders were retained in the treatment sample, split into parole (n=501) and community order (n=183) cohorts. Diagnostics indicated that the PSM procedure was successful in balancing covariates across treatment and comparison samples. There were no significant between-group differences in reoffending or return to custody for the parole cohort. For the community order cohort, offenders in the treatment sample were significantly less likely to return to custody than offenders in the comparison sample. Subgroup analyses indicated that outcomes may have differed as a function of Indigenous status.

Conclusion

Results suggest that the ITS may complement existing Corrective Services NSW case management efforts to stabilise offenders who are already serving a community-based sentence, resulting in reduced likelihood of order revocation or other return to custody. However, offenders who are transitioning from custody may require more intensive support to achieve measurable improvements in recidivism outcomes.

INTRODUCTION

Offenders disproportionately experience a range of complex functional and social support needs that influence their stability in the community and criminal justice outcomes such as reoffending and return to custody. This is particularly pronounced in the case of offenders who are transitioning into the community following a period of imprisonment. Recently released prisoners are at high risk of homelessness, poor mental health, substance abuse (Visher & Travis, 2003), and premature death (Griffiths et al., 2017); and former prisoners are at higher risk of chronic and infectious disease than the general population (Valera, Brotzman, Wilson, & Reid, 2017). Financial pressures (Wakefield & Uggen, 2010), unemployment (Holzer, Raphael, & Stoll, 2004), and low levels of family support (Travis, 2005) are also common.

Criminal justice factors can also exacerbate other difficulties that offenders experience in the community. A criminal record has so-called “collateral consequences” (Jonson & Cullen, 2015), meaning that it can be a significant barrier to accessing accommodation, employment, and other services. Imprisonment itself may be criminogenic (Jonson & Cullen, 2015) and diminish ex-prisoners’ capacity or efforts for social integration (Johns, 2014). Imprisonment and other engagement in the criminal justice system can further disrupt the continuity of accommodation, finance, employment, and social relationships in the community; outstanding need in areas such as accommodation can in turn pose structural barriers to resuming prosocial routines such as work (Webster, Hedderman, Turnbull, & May, 2001). Interventions to address criminogenic and other needs (e.g. substance abuse, educational and job-readiness programs) are often resource-limited and unavailable to many offenders in custody, with the result being that many re-enter the community with little preparation and minimal

improvement in their functioning in these areas (Jonson & Cullen, 2015; Lynch & Sabol, 2001).

Vulnerable offender groups such as women and Indigenous offenders may experience additional challenges when integrating or transitioning into the community. For example, whereas family supports are often regarded as central to offender reintegration (Farmer, 2017), women’s pathways to offending often involve abuse histories and early trauma, often within the family unit (Gobeil, Blanchette, & Stewart, 2016), which can limit their access to positive support from partners and relatives. Many women offenders have dependent children (Hall & Donelle, 2009) and may face challenges with gaining custody of and supporting their children, as well as greater difficulty finding appropriate employment and housing (Cobbina & Bender, 2012). Indigenous men and women also often experience a range of support needs relating to substance use and histories of violent victimisation as well as employment and education skills (Richards, 2015); cultural disengagement (Shepherd, Delgado, Sherwood, & Paradies, 2017); and limited experience of prosocial parenting and familial environments in the context of intergenerational trauma.

Reintegration programs offer an opportunity for recently released prisoners to adapt to the community environment. However, the diversity of re-entry programs and lack of rigorous evaluation has made it challenging to assess what works (Berghuis, 2018; Jonson & Cullen, 2015). Even well-designed programs with a good theoretical underpinning can have adverse consequences if implemented poorly (e.g. Jonson & Cullen, 2015). A recent meta-analysis and systematic review of re-entry programs targeting male offenders noted that the few included studies that conducted process evaluations reported a lack of program integrity because programs were not implemented as intended. It also called for more subgroup analyses to identify what works for whom and under what circumstances (Berghuis, 2018).

The aim of the current study is to evaluate the impact of the Initial Transitional Support (ITS) service, which delivers additional support services in concert with case management by Corrective Services NSW (CSNSW) Community Corrections to offenders who are recently released from custody or serving a community-based order. This report outlines the empirical background for such a service, with a focus on evidence and principles of effective reintegration of offenders into the community, and gives an overview of the operational history of the ITS. We then describe the development of a robust quasi-experimental method and the results of analyses designed to estimate the causal effect of the ITS on reoffending and return to custody outcomes.

Best practice principles for effective reintegration

The first few months following release from custody is the most critical period for parole success and offender reintegration (Baldry, McDonnell, Maplestone, & Peeters, 2006; Holland, Pointon, & Ross, 2007; Jonson & Cullen, 2015; Nelson, Deess, & Allen, 1999). The immediate post-release period is therefore a key juncture for offender management, not only to assist in developing prosocial routines and access to relevant resources but also to support offenders in building an identity outside the criminal justice system (Sotiri, 2016) and demonstrating that they deserve to return to society (Travis, 2000). Offenders have often expressed a need for help with re-entry (e.g. Jonson & Cullen, 2015; Visher, La Vigne, & Travis, 2004) and reported that reintegration services are useful (e.g. Ward, 2001).

Despite attempts across many jurisdictions to institute reintegration support, there is little formal evidence on effectiveness or the optimum design for such services, and no clear consensus on success factors for reintegration. Rigorous evaluation of services is challenging and few have been conducted (Jonson & Cullen, 2015). The majority of re-entry program trials have used a

quasi-experimental design and the main (or only) outcome assessed is recidivism. A recent systematic review and meta-analysis (Berghuis, 2018) reported mixed results among nine studies evaluating re-entry programs for adult men using randomised controlled designs and with recidivism as a key outcome measure. The overall trend favoured interventions, but with no statistically significant impact on reconviction or re-incarceration. Several evaluations in this review reported better outcomes for controls. Notably, only five of nine programs included a 'reintegration' measure (e.g. housing, employment, substance abuse, social support), which might provide insight into reasons for the success or otherwise of such a program.

Effective reintegration programs have been described alternately as those that address components of the Risk Needs Responsivity (RNR: Bonta & Andrews, 2016) model by addressing criminogenic needs of higher risk offenders (Jonson & Cullen, 2015), and those that adopt a strengths-based approach (Berghuis, 2018). A recent systematic review of qualitative evaluations of re-entry programs suggested that the key social and structural factors in program success include access to social support; housing and employment; the interpersonal skills of case workers; personalised approaches to case management; and continuity of care throughout the pre-release and post-release period (Kendall et al., 2018). Consistent with this, recent work in New South Wales concerned with the need to build genuine pathways out of the criminal justice system (e.g. Sotiri, 2016; Sotiri & Russel, 2018) has highlighted housing as a fundamental structural issue, and a need for long term support.

In the Australian Capital Territory (ACT), an extended throughcare pilot program (see Griffiths et al., 2017) offered 12 months post-release support to offenders with or without ongoing supervision orders, focused on accommodation, health, basic needs, income, and community connections. In this sense the intervention may

have more in common with rehabilitation programs for people with complex needs (including non-justice involved people) than with programs targeting criminogenic needs (e.g. Padgett, Gulcur, & Tsemberis, 2006). The evaluation suggested positive impacts of program participation on return to custody but was unable to explore this with robust statistical methods (Griffiths et al., 2017).

Taken together, findings from the literature can be summarised into four key principles, including housing first; throughcare; long term support; and community-based outreach. These principles are underpinned by a focus on structural factors that hinder reintegration including poverty, stigma, discrimination, and disconnection (Drabsch, 2006; Kendall et al., 2018; Sotiri, 2016).

Housing first

Of these four principles, “housing first” is arguably the most important, as safe and stable housing creates a foundation from which reintegration becomes possible (Sotiri & Russel, 2018). In other words, an individual’s capacity to address psychosocial issues such as mental health and substance abuse (Tsemberis & Eisenberg, 2000), and take advantage of opportunities for education and employment, requires some stability. Difficulty sourcing accommodation is the most significant challenge for people with complex needs exiting prison (Sotiri, 2016), who often experience both explicit and implicit discrimination in accessing housing (Sotiri & Faraguna, 2017). Unlike models of care that attach conditions (such as sobriety or mental health treatment) to develop “housing readiness” prior to entry into stable accommodation, housing first approaches consider housing as a right (Johnson, 2012). Stable housing (together with opportunities for employment) is recognised in both the UK (Farmer, 2017) and USA (Sotiri, 2016) as central to offender reintegration and desistance from crime. In turn, homelessness is a well-established risk factor for returning to

prison (Baldry et al., 2006; Bonta & Andrews, 2016; Willis, 2004).

Throughcare

Throughcare, or transitional planning that commences prior to release can help mitigate the change and upheaval that occurs with transition from custody to community (Nelson et al., 1999). It is regarded as essential for people with mental illness (Smith-Merry, Hancock, & McKenzie., 2017), and is particularly important for people with multiple complex needs and no other forms of support (Sotiri, 2016). It can also act as a “hook for change” when a personal connection is formed that continues support from prison into the community. This can maximise the opportunity of the ‘readiness for change’ that often occurs in the pre-release period, but can become disrupted when life outside becomes chaotic (Sotiri, 2016). Pre-release support is foundational for identifying participant needs and goals and building rapport, which can provide the necessary stability to engage with post-release support services. In some cases continuity of care has been reported to be a primary motivator for participating in throughcare programs (Kendall et al., 2018).

Long term support

Long term support is considered critical for people who have spent their lives being managed by the criminal justice and other systems, in order to build trust and engagement (Sotiri, 2016). Skilled workers building supportive relationships based on trust and respect have been identified as central to reintegration program efficacy (Kendall et al., 2018). The regimented, predictable and familiar structure of prison life is a vast contrast to life outside, which may be now unfamiliar (Growth, Kinner, Baldry, Conroy, & Larney, 2016), and for which people need to make frequent decisions and devise their own routines (Johns, 2014). This can be challenging for any offender, and particularly so for individuals with cognitive impairment and/or mental illness, which are common characteristics

of criminally involved people. Continuity of care helps provide the tools to become independent and develop so-called “recovery capital”, which may be particularly important among women offenders (Kendall et al., 2018).

Community-based outreach and support

Community-based outreach and support that meets people where they are (e.g. in a coffee shop rather than a parole office) and operates outside of the criminal justice context, can help individuals to forge identities outside of the criminal justice system (Sotiri & Faraguna, 2017). Development of a ‘new identity’ that is not defined by prison or engagement in the criminal justice system may be critical to successful reintegration (Johns, 2014). Many appointment-based services that require the client to travel to meet in an unfamiliar and alienating environment often struggle to engage with former prisoners, because post-release stressors can compound the financial and logistical challenges of frequent travel to multiple services (Sotiri & Faraguna, 2017).

Integration of offenders living in the community

While the empirical literature has tended to focus on reintegration needs of offenders following release from custody and associated re-entry programs, offenders who receive community-based sentences are also often likely to experience similar social support needs. Difficulties that are disproportionately represented among offender populations such as unemployment, financial insecurity, limited educational background, mental illness, substance use, and poor social relationships tend to predate imprisonment (although may in turn be aggravated by imprisonment; e.g. Berghuis, 2018), and would therefore represent active intervention needs regardless of the offender’s sentencing pathway. The time of offending for many individuals also often corresponds with deterioration of functioning in the community that may require intervention in

order to resume or improve stability. Of course, offenders serving community-based sentences may further have a history of prior criminal justice involvement, including disruptions associated with previous custodial sentences.

While the evidence is mixed, there are indications that appropriately managed community-based sentences can reduce reoffending relative to custodial sanctions alone (e.g. Villettaz, Gillieron, & Killias, 2015). This may be partly associated with the extensive disruptions to community functioning imposed by imprisonment (Webster et al., 2001) and the added burdens of support throughout the process of reintegration, relative to support to maintain or improve stability among offenders who remain in the community. Consistent with this, it has been suggested that high rates of recidivism among former prisoners is a reflection of failures in the reintegration process itself (Baldry et al., 2006; Gowns et al., 2016; Valera et al., 2017).

Notwithstanding these factors, given the common complexity of social support needs among offenders it may be expected that principles of effective reintegration described above would apply to similar services with offenders serving community-based sentences. The rehabilitative effect of interventions for criminogenic needs in the community is also likely increased when offenders are provided concurrent opportunities to participate in mental health treatment, substance abuse treatment, life skills, or employment-relevant training (Australian Law Reform Commission, 2017).

The Initial Transitional Support (ITS) service

In recognition of the need to support offenders’ integration into the community, CSNSW introduced the ITS in September 2014 as part of the Transitional Support Stream (TSS) of the Funded Partnerships Initiative (FPI). The ITS is a voluntary service that funds established non-

government, not-for-profit organisations to provide reintegration and social support for priority offenders in order to address domains of need outlined in their Community Corrections case plan. In this regard the ITS is additional to and complementary to existing case management services provided by Community Corrections as part of their community supervision requirements. Support for one offender is funded for approximately 3.5 hours per week for 12 weeks, with possibility of extension.

Since its inception the ITS was designed to be primarily targeted at parolees who have recently been released from custody. However, there are also provisions for referral of priority offenders who are serving community orders only, depending on placement availability. In order to participate offenders are required to have a medium-high to high risk of reoffending as assessed by the Level of Service Inventory-Revised (LSI-R: Andrews & Bonta, 1995), as well as identified case management needs relating to social support services that are out of scope for Community Corrections supervision.

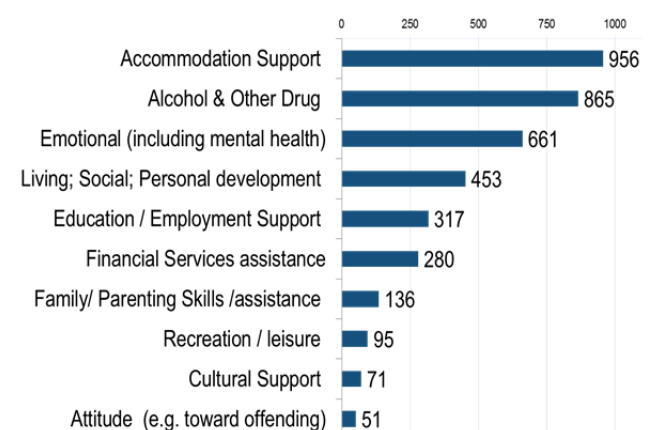
During the initial funding period of the ITS, which is the focus of the current study, the service was delivered at 14 sites across metropolitan and regional locations corresponding to the location of Community Corrections offices. An additional 11 'feeder' offices were able to submit referrals of offenders to the primary sites. Offenders were required to be undergoing supervision at one of the primary or feeder Community Corrections offices in order to be referred to the ITS.

Tasks supported by the ITS are based on offenders' case plan needs and categorised into ten domains, including accommodation; alcohol and other drugs; emotional and personal (including mental health); education and employment; financial services; family and parenting skills; recreation and leisure; cultural support; living skills and social and personal development; and attitudes. The ITS task domains are intended to align with dynamic risk

factors assessed by the Community Corrections case management formulation and with the LSI-R, and which form the basis of the reintegration case plan and inform referral to the ITS. ITS Guidelines suggest referral for a maximum of 3 task domains.

A review of ITS activity data over the study period (Figure 1; see also Thaler, Tran, Nelson, & Howard, in preparation), indicated that the most commonly referred tasks were related to domains of accommodation (n=956), alcohol and other drugs (n=865), emotional and personal (n=661), and living skills and personal development (n=453). The most infrequently referred was attitude (n=51).

Figure 1: ITS tasks allocated over the study period (n = 1274 offenders)



Study aims

The aim of the present study is to evaluate the effects of the ITS service on recidivism outcomes, including instances of reoffending and return to custody. In order to achieve this we applied a robust quasi-experimental design to compare outcomes between offenders who were referred to the ITS and a matched group who had similar observed characteristics although were subject to a critical instrumental factor that restricted their opportunity to access the service; namely, supervision at a Community Corrections office where the ITS was not available. Matching was

conducted using the propensity score matching (PSM) methodology, which is a widely used method of constructing quasi-experimental comparison groups in correctional research to account for observed risk factors (e.g. Posick, 2018; Wan, Poynton, van Doorn, & Weatherburn, 2014; Weatherburn, 2010; Wermink, Blokland, Nieuwbeerta, Nagin, & Tollenaar, 2010).

A secondary aim of the study is to conduct a preliminary exploration of how outcomes for ITS participants and non-participants may vary across target offender groups. Women and Indigenous offenders are identified by ITS policy as priority groups for intervention, and as previously discussed often have relatively complex or unique challenges to community integration that may influence their experiences of or benefits derived from services such as the ITS. The majority of reintegration programs described in the literature are targeted at male offenders, and as such it is not clear whether relevant interventions and principles generalise to other offender groups. There is a dearth of study about the effectiveness of throughcare programs for Indigenous offenders in particular (e.g. CIRCA, 2013). Exploring variation in outcomes across offender groups may help to inform best practice in providing support to identified vulnerable populations through services such as the ITS.

METHODS

Sampling

Treatment sample

The treatment group for this study was derived from data on all offenders who had been referred to the ITS over the period of 1 September 2014 to 14 September 2017. This included 1274 unique offenders who received a total of 1450 referrals. The referral conversion rate was high over the timeframe of measurement, with 97.5% of

referrals being accepted and resulting in allocation to participate in the program.

We applied an intention to treat methodology for inclusion of offenders in the treatment sample, meaning that all offenders referred to the ITS were included regardless of their subsequent participation in the ITS. This approach was adopted to reduce unobserved selection biases in the treatment group. In this report we correspondingly use the terms 'referred' and 'participated' interchangeably to describe offenders in the treatment group.

To be eligible for inclusion in the treatment group, referred offenders were required to meet a number of additional validity and data completeness criteria. This included having results from a valid LSI-R assessment completed within 5 years of the episode start date; verification of an LSI-R total score in the medium-high or high categories; and accurate data linkage across the multiple databases employed in the study. To reduce bias in developing an equivalent comparison group, eligible offenders were also required to have a community supervision episode that commenced within the ITS operational period (commencing from 1 September 2014), and to have been referred to the ITS during their first episode in that operational period. Only the offender's first ITS referral was considered and no offender could be represented in the treatment (or comparison) group more than once.

The above data cleaning and sampling parameters resulted in a final eligible treatment sample of 778 unique offenders, 572 of whom were referred while on parole and 206 of whom were referred while serving a community order. Data diagnostics indicated that the eligible treatment sample was representative of offenders referred to the ITS, in that eligible and excluded offenders did not differ significantly on key variables such as gender, Indigenous background, risk characteristics, or distribution of supervision types (parole or community order).

Comparison sample

The comparison group was drawn from a cohort of offenders who had commenced community supervision episodes over the measurement period, at a Community Corrections office where the ITS service was not available at the time. Offenders in this cohort were similarly required to have complete data resulting from successful database linkages, and valid recent LSI-R assessments indicating medium-high to high risk of reoffending. Only the first community episode in the study period was considered for each offender and subsequent episodes were excluded. To achieve equivalence with the process of referring treatment group offenders to the ITS, offenders in the comparison cohort were also required to have at least one documented contact or evidence of engagement with Community Corrections in the community. This derived an overall comparison cohort of 6564 offenders, including 3813 serving parole orders and 2751 serving community orders. This cohort was subsequently used to derive the final comparison sample through matching in the PSM procedure (see Analytical Plan).

Materials

Data

Three databases were merged to provide information on offenders for the purpose of this study:

FPI online portal. The FPI online portal is an operational database used for recording referral and service information for all offenders who are referred to any of the funded partnership initiatives, including the ITS. The portal is managed by the Partnerships and Community Engagement (PACE) division of CSNSW and records entries about service delivery by both external agency and CSNSW staff. Relevant content included demographic and sentencing features of offenders referred to the ITS, tasks assigned, and outcomes of the referral.

Offender Integrated Management System (OIMS).

OIMS is an operational database that is used to maintain data about all offenders under the supervision of CSNSW. OIMS was used to obtain details of offenders' custodial and community corrections episodes, LSI-R scores and programs completed. OIMS was also used to derive one of the outcome variables for the study, namely return to custody.

Reoffending Database (ROD). ROD is maintained by the NSW Bureau of Crime Statistics and Research (BOCSAR) and contains data on NSW Criminal Court finalisations. Primary data of interest from ROD related to the outcome of reoffending. Other ROD variables of interest included those relating to offenders' prior court appearances and criminal history, including offences coded per the Australian and New Zealand Standard Offence Classification (ANZSOC).

Explanatory variables

A range of independent variables were extracted from the abovementioned data sources to facilitate matching between treatment and comparison offenders, as well as to adjust for extraneous covariance in model estimates of treatment effect on outcomes. Explanatory variables were categorised as pertaining to offender demographics; criminal history; index episode characteristics; and dynamic risk and protective factors.

Demographic characteristics:

- Age at the start of the supervision episode;
- Gender;
- Indigenous status: whether the offender identified as being of Aboriginal or Torres Strait Islander descent;
- Socio-Economic Index for Areas (SEIFA) Index of Relative Socio-economic Advantage and Disadvantage (IRSAD) residential postcode at start of community order;

- Remoteness of residence: based on Accessibility Remoteness Index of Australia (ARIA) with areas categorised as major cities, inner regional, outer regional, remote and very remote.

Criminal history:

- COPAS rate: number of sanctions as a function of duration of criminal career (Copas & Marshall, 1998);
- Number of prior finalised court appearances with proven offences;
- Number of exceed Prescribed Concentration of Alcohol (PCA) offences (ANZSOC code 0411, 1431) in the five years prior to index contact.

Index offence characteristics:

- Concurrent offences: the number of proven concurrent offences at the index court appearance;
- Index offence: whether any of the index offences were categorised as violent (ANZSOC division 02); sexual assault and related offences (ANZSOC division 03); theft or break and enter offences (ANZSOC division 07, 08); offences against justice procedures (ANZSOC division 15);
- Severity of index offence: whether any proven offence at the index court appearance was strictly indictable;
- Number of days in custody for the index episode;
- Parole type: whether release onto parole was determined on a discretionary basis (State Parole Authority) or presumptively automatic (Court Based Release);
- Year of start of community order.

Dynamic risk and protective factors:

- LSI-R total risk score (medium-high / high);

- LSI-R domain scores (recoded into binary 'strength or no improvement required', 'some or considerable improvement required');
- Participation in custodial treatment programs (parolees only): hours of program participation during the index custodial episode for programs addressing criminogenic needs, and for programs addressing non-criminogenic needs;
- Alerts (yes/no): Alert codes in OIMS were used as a proxy for offenders' mental health and cognitive needs (Disability alert; Justice Health medical alert);
- History of mental illness and/or drug-related offending: binary indicator variables were constructed by identifying any previous court appearances that were (a) dismissed due to mental illness, or (b) in which illicit drugs were mentioned in court or police data.

It is noted that dynamic risk factors were considered particularly important to the matching process because they informed referral to the ITS. Balance between treatment and comparison groups would therefore be improved if comparison offenders had similar current case management needs to those that formed the basis of a referral to ITS service delivery among treated offenders. However, data diagnostics indicated that there was poor correspondence between ITS referral tasks and other needs data from LSI-R domain scores and Community Corrections case plans (see Appendix 1). As a result, LSI-R domain scores may be considered only a broad index of needs-based selection criteria for referral to the ITS.

Outcome variables

The outcome of reoffending was calculated from ROD court finalisation data. Reoffending was defined as any instance of conviction for a new offence during the survival period. For the purposes of this study, survival period was calculated as starting from the date of release from custody (for parolees) or date of start of the

index community episode (for offenders serving community orders). The survival period was calculated as ending at the earliest of a) the date of reoffending; b) the ROD data censoring date of 31 March 2018; or c) the date of death. Survival time included only the number of days in which the offender was free in the community and was adjusted for periods of reimprisonment that were not related to reoffending.

A second recidivism outcome of interest was whether offenders were imprisoned for any reason over the survival period. While offenders in the community order cohort did not necessarily have a history of imprisonment prior to the index episode, in the interests of brevity we apply the established terminology of 'return to custody' for this outcome. Return to custody status was derived from OIMS data and defined as any recorded of reimprisonment after the survival start date. As a result of differences in the time of data extraction, the data census date for return to custody outcomes was 31 August 2018.

Overall rates of return to custody were 56% for offenders on parole and 30% for offenders serving community orders. Rates of reoffending (adjusted for free time and censoring) were 53% for those on parole and 52% for those on community orders.

Analytical Plan

Sentencing pathway cohorts

Among those offenders who were referred to the ITS over the study period, 70.2% were referred as part of their parole and 29.8% were referred while on community orders.

These offender groups have notable differences in their pathways through the criminal justice system that may discourage simultaneous analysis as a homogeneous group. In particular, parolees are by definition reintegrating into the community following a head sentence of custody, whereas offenders on community orders may have limited recent or historical experience of imprisonment,

potentially conferring different service needs and processes of referral to the ITS. For example, preparatory analyses indicated that the interval between start of the community episode and referral to the ITS was substantially shorter for parolees (median = 21 days; IQR = 5-58 days) compared to offenders on community orders (median = 109 days; IQR = 59-201 days). Parolees also have prior opportunities to engage in CSNSW interventions during the custodial component of their sentence (which were included in the PSM procedure for this cohort), whereas similar data were not available for those on community orders. From a statistical perspective, parolees had a survival start date that was defined differently (date of release from custody) to offenders on community orders (start of the community order).

To account for the conceptual and statistical distinctions between these groups we conducted separate analyses, including development of equivalent treatment and comparison groups from the PSM method in addition to modelling of recidivism outcomes, for the parole cohort and for the community order cohort.

Propensity score matching

PSM was used to improve equivalence on observed selection variables that may also be relevant to recidivism risk between treatment and comparison offenders. Using both the treatment and comparison groups, separate logistic regression models were conducted for the parole and community order cohorts to estimate likelihood of being referred to the ITS. Each of the abovementioned explanatory variables was entered as a predictor into the model; the resulting regression equation was then used to calculate a propensity score for each offender.

Individual treatment and comparison offenders were matched using one-to-one matching without replacement. A caliper of 0.2 was selected to ensure relatively stringent matching of propensity between pairs (Austin, Jembere, & Chiu, 2018). The

caliper is defined in units of standard deviations of the logit of the estimated propensity score and represents the maximum distance that two units can be apart from each other on their estimated propensity scores. In one-to-one matching, each offender from the treatment group is matched with an offender from the comparison group who has the closest propensity score, provided it is within the caliper (i.e. 0.2). Each offender was only matched once, resulting in two matched groups of equal sample size. This resulted in a final sample of 501 matched pairs in the parole cohort and 183 matched pairs in the community order cohort.

Recidivism analyses

Primary analyses of outcome assessed odds of reoffending and return to custody within 12 months free time. All offenders in the sample had 12 months or more from survival start date until the return to custody data census date; however a number of offenders had less than 12 months free time until the reoffending census date and were therefore excluded from analyses of reoffending.

Reoffending and return to custody within 12 months were analysed with logistic regression models using a blocked design. In Block 1, treatment status (treatment or comparison) was entered as the sole predictor in the model to estimate the average treatment effect. In Block 2, a number of additional covariates were entered into the model to estimate treatment effects after accounting for factors that were expected to contribute to variance in outcome (see Tables 2-3).

In order to explore treatment effects on time to recidivism and optimise utilisation of the available sample, we also conducted a series of time variant survival models on reoffending and return to custody outcomes. In these models recidivism outcomes were not constrained to 12 months and individual variation in survival time was adjusted for. We correspondingly report Kaplan Meier log rank chi-squared tests of significance between

groups in addition to analyses of Cox proportional regression hazard ratios.

RESULTS

Matching model adequacy

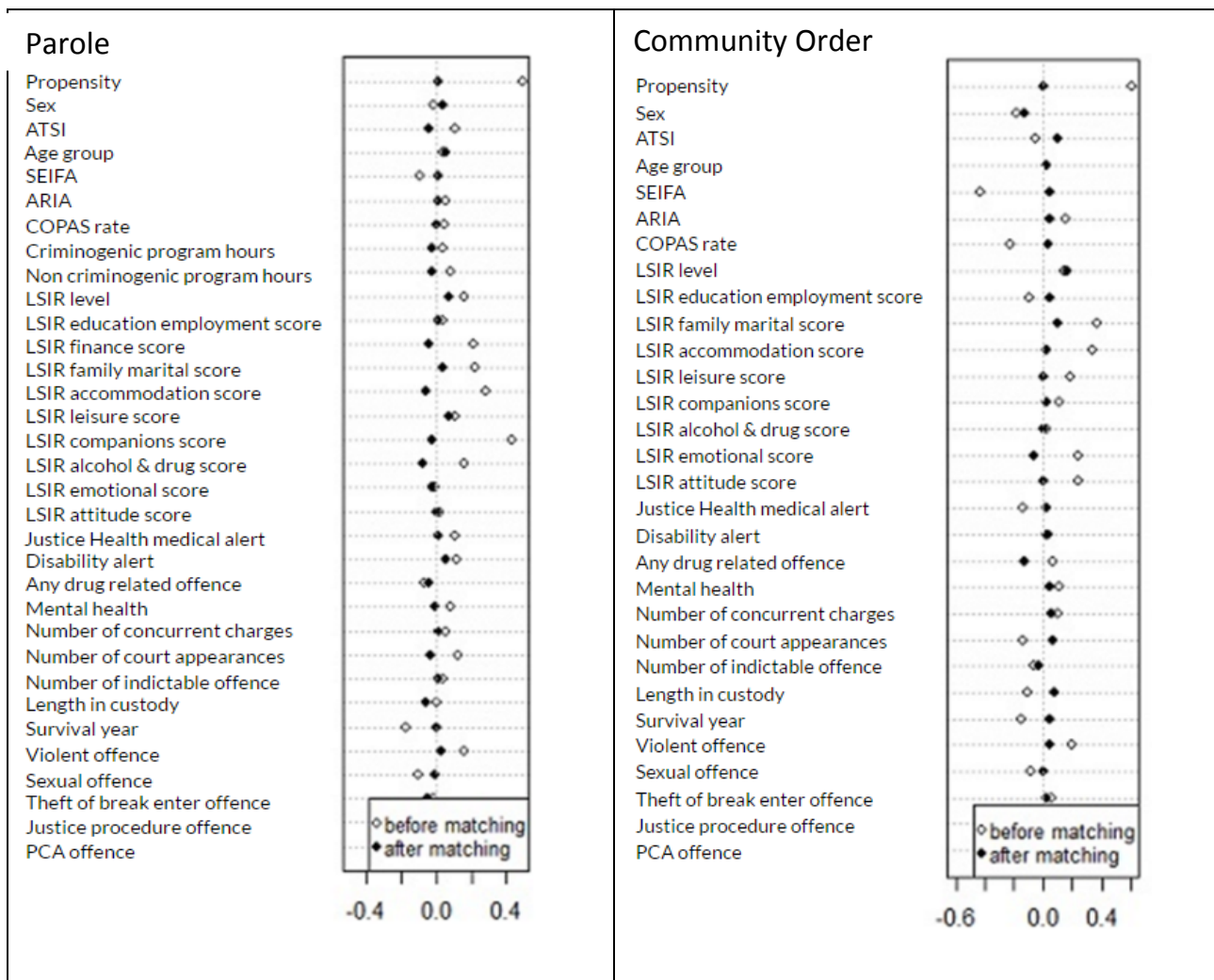
Following completion of the PSM procedure, a series of model adequacy checks were performed to test for equivalence between treatment and comparison groups. These included examination of standardised mean differences on independent variables before and after matching (see Appendix 2) in addition to chi-squared test statistics, which examine balance across the total of covariates that were used to estimate the propensity score (Thoemmes, 2012). Results indicated that balance was achieved between matched treatment and comparison groups in the parole cohort ($\chi^2=15.24$, $p=.995$, Caliper=0.20) and in the community order cohort ($\chi^2=11.83$, $p=.998$, Caliper=0.20). Distributions of propensity scores for unmatched and matched offenders are presented in Figure 2.

Sample characteristics

The final sample comprised 1002 matched offenders in the parole cohort (501 in each group) and 366 matched offenders in the community order cohort (183 in each group). As illustrated in Table 1, the matched treatment and comparison groups were well balanced on demographic variables including age, sex, and Indigenous status following the PSM procedure.

On average, offenders who were referred to the ITS were primarily male; aged between 25 and 44 years; of medium-high risk of reoffending; and had a high prevalence of historical violent and domestic violence offending. A high proportion of offenders referred to the ITS were Indigenous (39.9%). On average offenders were referred to the ITS in relation to three domains of need that were the focus of service delivery.

Figure 2. Distribution of propensity scores before and after matching for offenders in the parole cohort (left, n=1002) and the community order cohort (right, n=366)



Note. LSI-R financial score was dropped from the community order cohort dot plot as the means for treatment and comparison groups were both equal to 1 and no standardised mean difference was produced from the program.

Table 1 also shows that offenders who are referred to the ITS while on parole or while serving community orders were broadly comparable in terms of distribution of age, average LSI-R score, history of domestic violence, and number of domains of need at the time of referral. In contrast, offenders in the parole cohort were more likely to be male; more likely to be of Indigenous background; less likely to have an index domestic violence offence; and have a more extensive history of imprisonment, compared to offenders in the community order cohort.

Treatment effects on recidivism

Recidivism within 12 months

To estimate the impact of referral to the ITS on recidivism, we conducted separate logistic regression models on 12 month reoffending and return to custody outcomes for each of the parole and community order cohorts. Results are presented in Tables 2 and 3.

Table 1. Sample characteristics for offenders in the matched parole and community order cohorts

Characteristic	Parole (n = 1002)		Community Order (n = 366)	
	Treatment	Comparison	Treatment	Comparison
	% / M (SD)	% / M (SD)	% / M (SD)	% / M (SD)
Age				
17-24	15%	15%	18%	18%
25-34	38%	39%	38%	36%
35-44	33%	33%	30%	26%
45+	14%	13%	15%	20%
Sex				
Male	90%	89%	72%	74%
Female	10%	11%	28%	26%
Indigenous status				
Indigenous	43%	41%	33%	35%
Non-Indigenous	58%	59%	67%	65%
Parole type*				
Court Based Release	79%	81%	-	-
State Parole Authority	22%	21%	-	-
LSI-R risk level				
Medium-high	77%	75%	85%	83%
High	23%	25%	15%	18%
Criminal history				
Assault in last 5 years	56%	59%	42%	50%
PCA in last 5 years	13%	10%	10%	10%
Any DV	29%	28%	40%	36%
DV in last 5 years	43%	47%	42%	42%
Number of ITS domains	3.0 (1.1)	-	3.0 (1.1)	-
Days in custody	557.5 (759.5)	539.6 (731.5)	14.8 (47.7)	13.2 (46.7)
Prior custodial episodes	6.3 (5.6)	6.1 (5.2)	2.5 (3.8)	3.1 (3.9)
Age at earliest caution, conference or court	18.9 (7.4)	18.6 (7.3)	19.5 (6.6)	20.9 (8.7)

*A small number of offenders had separate orders for both discretionary parole through the State Parole Authority and automatic Court Based Release. In these cases the offender's release onto parole defaulted to the discretion of the State Parole Authority.

For offenders in the parole cohort, there was no impact of treatment on 12 month reoffending or return to custody outcomes. This was observed when entering treatment as the sole predictor variable in the model (Block 1) or after controlling for covariates including age, gender, Indigenous status, LSI-R score, historical offence categories, location of supervision, and year of supervision episode (Block 2).

Examination of covariates in Block 2 of the logistic regression models indicated that predictors of return to custody among offenders in the parole cohort included younger age; male gender; Indigenous background; higher recidivism risk as assessed by the LSI-R; and having a history of theft or break and enter offences. Predictors of reoffending within 12 months similarly included younger age, male gender, and Indigenous status, in addition to having a history of drug offences and being supervised earlier in the study period.

Table 2. Logistic regression models predicting return to custody (n=1002) and reoffending within 12 months free time (n=883) for the parole cohort.

Predictor variable	Return to custody				Reoffending			
	OR	95% CI		p	OR	95% CI		p
		Lower	Upper			Lower	Upper	
Block 1								
Treatment	0.94	0.730	1.203	0.611	1.13	0.86	1.47	0.379
Constant	1.30			0.004	1.07			0.502
Block 2								
Treatment	0.92	0.71	1.21	0.566	1.09	0.82	1.46	0.542
Male	1.88	1.21	2.92	0.005	1.54	0.98	2.43	0.064
Indigenous	2.32	1.72	3.12	0.000	1.64	1.19	2.27	0.002
LSI-R category (high)	1.68	1.22	2.32	0.002	1.21	0.85	1.71	0.284
Age group (15 to 24)	1			0.000				0.000
Age group (25 to 34)	0.52	0.33	0.80	0.003	0.52	0.32	0.83	0.006
Age group (35 to 44)	0.35	0.23	0.55	0.000	0.46	0.29	0.74	0.001
Age group (45+)	0.22	0.13	0.37	0.000	0.30	0.17	0.52	0.000
Location (Metropolitan)	1.14	0.85	1.53	0.372	1.13	0.82	1.54	0.458
Any drug-related offence	1.06	0.81	1.40	0.656	1.69	1.25	2.27	0.001
Violent offence	0.84	0.63	1.12	0.239	0.79	0.58	1.08	0.145
Theft or Break and enter offence	1.36	1.01	1.84	0.043	1.01	0.73	1.39	0.965
Justice procedure offence	0.86	0.64	1.14	0.285	1.31	0.97	1.77	0.083
Year of survival start (2014)	1			0.006				0.000
Year of survival start (2015)	1.31	0.88	1.95	0.178	1.18	0.79	1.75	0.422
Year of survival start (2016)	0.73	0.48	1.12	0.155	0.62	0.40	0.96	0.032
Year of survival start (2017)	1.12	0.68	1.85	0.664	0.10	0.05	0.21	0.000
Constant	0.94			0.869	1.05			0.898

Notes. Significant ($p < 0.05$) odds ratios (OR) are in bold. For categorical variables with three or more levels, an OR of 1 indicates that this category was specified as the reference category in the model.

For offenders in the community order cohort, a significant association was found between treatment and odds of return to custody. Offenders who were referred to the ITS were significantly less likely to return to custody compared to those in the comparison group. This outcome remained stable when entering treatment as the sole predictor in Block 1 (OR = .41; 95% CI = .26 - .65; $p < .0005$) and after adjusting for covariates in Block 2 (OR = .38; 95% CI = .23 - .62; $p < .0005$). The odds ratios indicated that offenders in the treatment group were 38%-41% as likely to return to custody within 12

months of starting their community order compared to offenders in the comparison group. No significant relationships were found between treatment and reoffending outcomes for the community order cohort.

Coefficients for covariates in the models at Block 2 indicated that among the community order cohort, offenders who were Indigenous or who had a history of justice procedure offences were more likely to enter custody within 12 months. Predictors of any reoffending within 12 months included age, history of offences against justice procedures and year of supervision episode.

Table 3. Logistic regression models predicting return to custody (n=366) and reoffending within 12 months (n=339) for the community order cohort

Predictor variable	Return to custody				Reoffending			
	OR	95% CI		p	OR	95% CI		p
		Lower	Upper			Lower	Upper	
Block 1								
Treatment	0.41	0.26	0.65	0.000	0.83	0.54	1.28	0.404
Constant	0.66			0.007	1.15			0.386
Block 2								
Treatment	0.38	0.23	0.62	0.000	0.77	0.49	1.22	0.270
Male	0.94	0.54	1.62	0.814	0.95	0.56	1.61	0.858
Indigenous	1.87	1.10	3.16	0.020	0.99	0.59	1.65	0.962
LSI-R category (high)	1.21	0.64	2.27	0.559	1.14	0.60	2.16	0.686
Age group (15 to 24)	1			0.167				0.083
Age group (25 to 34)	0.93	0.47	1.84	0.833	0.52	0.26	1.03	0.062
Age group (35 to 44)	1.22	0.60	2.49	0.581	0.47	0.23	0.98	0.043
Age group (45+)	0.49	0.20	1.18	0.109	0.36	0.16	0.80	0.013
Location (Metropolitan)	0.74	0.44	1.24	0.250	0.75	0.45	1.23	0.248
Violent offence	1.38	0.83	2.30	0.208	1.36	0.85	2.20	0.202
Theft or Break and enter offence	1.62	0.95	2.74	0.074	1.33	0.82	2.16	0.252
Justice procedure offence	2.80	1.61	4.86	0.000	2.22	1.28	3.85	0.004
Any drug-related offence	1.42	0.85	2.38	0.184	1.20	0.72	1.99	0.483
Year of survival start (2014)	1			0.781				0.001
Year of survival start (2015)	0.91	0.43	1.94	0.808	1.79	0.90	3.56	0.095
Year of survival start (2016)	0.78	0.35	1.74	0.550	1.15	0.56	2.37	0.713
Year of survival start (2017)	1.15	0.46	2.88	0.758	0.25	0.08	0.74	0.013
Constant	0.32			0.053	1.24			0.700

Notes. Significant ($p < 0.05$) odds ratios (OR) are in bold. For categorical variables with three or more levels, an OR of 1 indicates that this category was specified as the reference category in the model.

Survival analyses

Kaplan Meier survival analyses were also conducted on return to custody and general reoffending outcomes for the parole and community order cohorts. Survival curves are represented in Figures 3-6; the first vertical dotted line on each figure represents the median time to referral in the cohort whereas the second indicates comparative survival rates after 12 months.

Consistent with the 12 month recidivism analyses, for offenders in the parole cohort there was no effect of treatment on time to return to custody over a survival period of up to 1457 days (log rank

$\chi^2(1) = 0.00$; $p = .992$). Similarly, there was no association between treatment and time to any reoffending among the parole cohort (log rank $\chi^2(1) = 1.17$; $p = .732$).

For offenders in the community cohort, there was again a significant association between treatment and time to first return to custody (log rank $\chi^2(1) = 7.38$; $p = .007$). Offenders in the treatment group showed significantly longer time to return to custody compared to those in the comparison group. A follow-up Cox proportional hazard regression model indicated that after adjusting for survival free time, offenders in the treatment

group were two-thirds as likely to return to custody compared to those in the comparison group (Hazard Ratio (HR) = .67; 95% CI = .50-.90; p = .007).

Among offenders in the community order cohort, treatment also had a marginal association with survival time to reoffending (log rank $\chi^2(1) = 3.09$, p=.079). After adjusting for variance in survival period, offenders in the treatment group were estimated as being 80% as likely to reoffend compared to those in the comparison group (HR = .80; 95% CI = .62 – 1.0; p = .08).

Offender outcomes by gender and Indigenous status

Additional analyses were conducted to explore whether differences in recidivism outcomes among ITS participants and non-participants varied across identified priority offender subgroups, namely women offenders and Indigenous offenders. The above binary logistic regression models for 12 month reoffending and return to custody outcomes were replicated with separate additions of a treatment x Indigenous status interaction term and a treatment x gender interaction term.

Figure 3. Survival time to return to custody: parole cohort

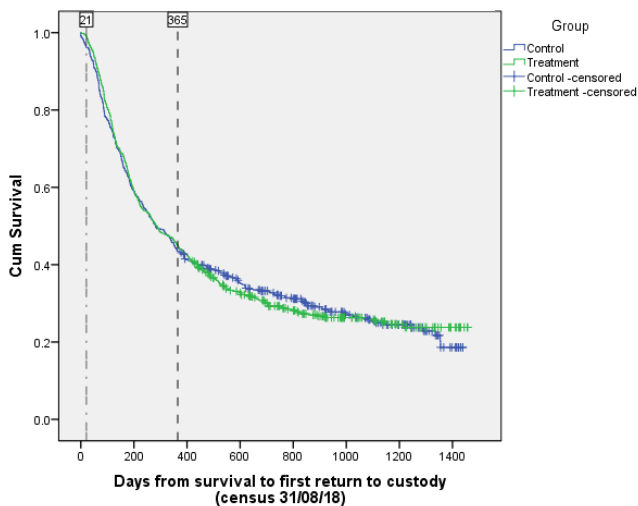


Figure 4. Survival time to first reoffence: parole cohort

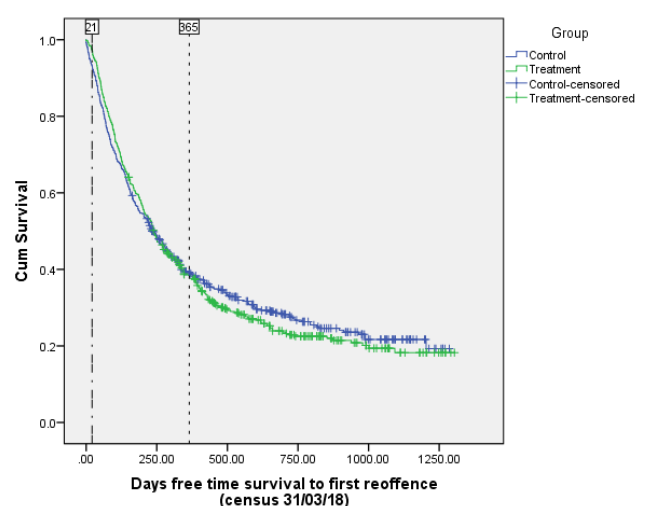


Figure 5. Survival time to return to custody: community order cohort

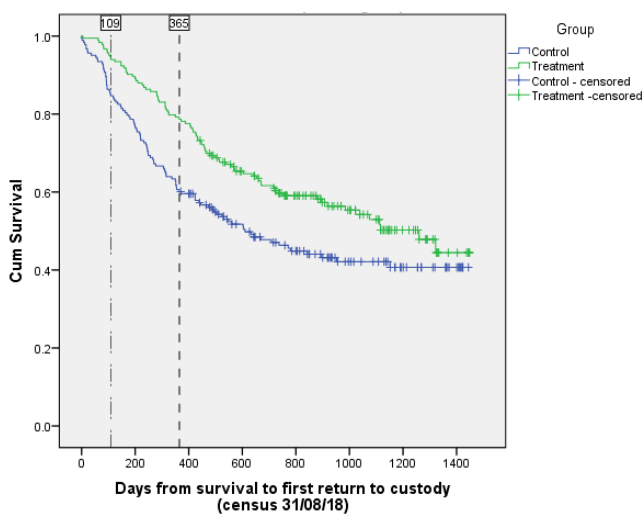
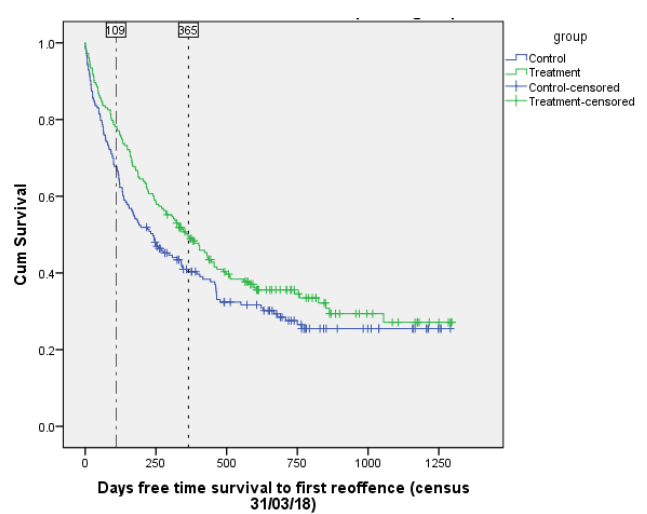


Figure 6. Survival time to first reoffence: community order cohort



In these models the interaction term can be interpreted as the ratio of odds ratios, or the magnitude of difference in odds of recidivism between treated and comparison offenders when group status equals 0 (e.g. non-Indigenous offenders) and when group status equals 1 (e.g. Indigenous offenders). It is noted that treatment

effects for higher order interactions (gender x Indigenous status) were not estimated due to unacceptably low cell sizes for some subgroups. Rates of reoffending and return to custody within 12 months as a function of Indigenous status and gender are given in Table 4.

Table 4. Number and rates of return to custody and reoffending within 12 months free time by treatment group, gender, and Indigenous status

Subgroup	Returned to custody			Reoffended		
	Indigenous	Non-Indigenous	Total	Indigenous	Non-Indigenous	Total
Parole cohort						
Male						
Treatment	122/176 (69.3%)	132/271 (48.7%)	254/447 (56.8%)	85/148 (57.4%)	137/249 (55.0%)	222/397 (55.9%)
Comparison	123/179 (68.7%)	132/271 (48.7%)	255/450 (56.7%)	91/138 (65.9%)	110/246 (44.7%)	201/385 (52.2%)
Female						
Treatment	16/37 (43.2%)	5/17 (29.4%)	21/54 (38.9%)	16/35 (45.7%)	7/17 (41.2%)	23/52 (44.2%)
Comparison	19/26 (73.1%)	9/25 (36.0%)	28/51 (54.9%)	16/24 (66.7%)	7/25 (28.0%)	23/49 (46.9%)
Total						
Treatment	136/213 (63.8%)	137/288 (47.6%)	273/501 (54.5%)	101/183 (55.2%)	144/266 (54.1%)	245/449 (54.6%)
Comparison	142/205 (69.3%)	141/296 (47.6%)	283/501 (56.5%)	107/162 (66.0%)	117/271 (43.2%)	224/434 (51.6%)
Community order cohort						
Male						
Treatment	12/42 (28.6%)	15/89 (16.9%)	27/131 (20.6%)	23/40 (57.5%)	39/87 (44.8%)	62/127 (48.8%)
Comparison	22/45 (48.9%)	30/90 (33.3%)	52/135 (38.5%)	23/40 (57.5%)	40/79 (50.6%)	63/119 (52.9%)
Female						
Treatment	6/18 (33.3%)	6/34 (17.6%)	12/52 (23.1%)	8/17 (47.1%)	17/34 (50.0%)	25/51 (49.0%)
Comparison	9/19 (47.4%)	12/29 (41.4%)	21/48 (43.8%)	7/16 (43.8%)	16/26 (61.5%)	23/42 (54.8%)
Total						
Treatment	18/60 (30.0%)	21/123 (17.1%)	39/183 (21.3%)	31/57 (54.4%)	56/121 (46.3%)	87/178 (48.9%)
Comparison	31/64 (48.4%)	42/119 (35.3%)	73/183 (39.9%)	30/56 (53.6%)	56/105 (53.3%)	86/161 (53.4%)

Within the parole cohort, there was a significant interaction term between treatment and Indigenous status for 12 month reoffending outcomes (Wald $\chi^2 = 9.73$; $p = .002$). Follow-up pairwise comparisons indicated that for Indigenous offenders, treatment was associated with lower odds of reoffending, whereas for non-Indigenous offenders this trend was reversed so that treatment was associated with higher odds of reoffending. Interactions between Indigenous status and treatment for return to custody outcomes, and all interactions between gender and treatment, were non-significant among offenders in the parole cohort ($ps > .11$).

Further, there were no significant interactions between treatment and Indigenous status ($ps > .49$) or between treatment and gender ($ps > .89$) for reoffending or return to custody outcomes among offenders in the community order cohort.

DISCUSSION

This study aimed to apply a robust quasi-experimental design to assess the impact of the ITS service on reoffending and return to custody outcomes. After matching to a comparison group of offenders on demographic and criminogenic characteristics, we found no effect of treatment for offenders on parole, either on return to custody or reoffending following the start of the index community episode. For offenders serving community orders, participation in the ITS was associated with a significantly reduced risk of return to custody. This effect was not replicated for reoffending outcomes, however.

The general pattern of null effects of the ITS on reoffending outcomes is consistent with previous studies of reintegration programs (Berghuis, 2018). Effects of the ITS on reoffending may be limited or difficult to detect because the service primarily addresses human and social capital needs, many of which have important and complex interactions with functional and criminal justice outcomes

although may not be considered as directly criminogenic (e.g. Gendreau, Little, & Goggin, 1996). For example, most ITS referrals addressed needs in domains such as accommodation and mental health, whereas few addressed offence supportive attitudes (see Figure 1). By comparison, the likelihood of reoffending among offenders in this study may have been more directly influenced by the extent to which they received interventions for criminogenic needs as part of their CSNSW case management, such as EQUIPS or the Practice Guide for Intervention (PGI: see Howard & Chong, 2019; Thaler, Chong, Raudino, & Howard, 2019). Consistent with this, a recent study of Community Corrections staff practices indicated that supervising officers tend to view social support needs as less relevant to their aims to promote behaviour change and reduce reoffending among offenders, and frequently refer these needs to external agencies such as the ITS (Tran, Thaler, Chong, & Howard, 2019).

Return to custody may be considered a more relevant outcome to the ITS logic model because it reflects aims to integrate offenders into the community and achieve stability of functioning over time, as evidenced by ongoing adherence to legal conditions of their sentence as well as absence of return to more serious offending behaviours. In this regard the results indicated that the ITS may act to stabilise offenders who are already established in the community while serving a community-based order, although not those offenders who were recently released from custody onto parole.

One interpretation of the different outcomes across cohorts is that in accordance with the risk principle (e.g. Bonta & Andrews, 2016), the intensity of the ITS is sufficient to achieve benefits for offenders serving community orders but not for parolees. Prior imprisonment is a strong actuarial predictor for recidivism risk (e.g. Raudino, Corben, van Doorn, & Galouzis, 2018; Xie, Neto, Corben, Galouzis, Kevin, & Eyland, 2018) and it may be expected that offenders who were released from a

head sentence of custody may have higher risk than those who received a community-based sentence only. Higher risk offenders with more complex needs may then be less likely to derive substantial benefit within the 12 week timeframe of the service compared to those with more moderate risk and needs.

A related consideration is that reintegration from custody may involve a different profile of intervention needs compared to processes of integrating or stabilising offenders who are already in the community. For example, given that imprisonment disrupts many fundamental community-based routines and resources such as housing and employment (e.g. Webster et al., 2001), parolees may be more likely to encounter difficulties (or experience more severe difficulties) in domains such as accommodation. Because the ITS acts as a broker for programs and services, as opposed to directly providing those programs and services, there may be variance in how successfully the ITS is able to address different domains of need. A recent process evaluation of the ITS (Thaler et al., in preparation) examined task referral outcomes and found that while the service often addressed accommodation tasks to the extent of being deemed completed, less than a quarter of completed referrals actually resulted in stable, long-term private or public housing. Difficulties addressing foundational needs such as housing when transitioning into the community may then have led on effects in impeding other integrative efforts and interventions, in accordance with the “housing first” principle (Sotiri, 2016; Sotiri & Russell, 2018).

On the other hand, offenders serving community-based sentences may often be referred to the ITS in response to relatively discrete or time-limited breakdowns in functioning, such as loss of employment or acute mental health issues, as opposed to a more comprehensive process of reintegration. Community Corrections staff often report acute crises or functional instability as a factor in the continuity of supervision (Thaler et al.,

2019); the option to refer offenders to the ITS under these conditions may assist in resolving threats to that continuity and could also serve as an alternative to revocation of the order. While further study is needed to better understand participation pathway differences between offenders on parole and community orders, there is the implication that the ITS may be more likely to achieve successful outcomes when it acts to complement the continuity of case management and stability in the community over time, as compared to facilitating the process of transition from custody.

A related observation is that while the ITS is by definition a transitional service, being oriented towards supporting offenders in the critical first 12 weeks of release, there appear to be practical barriers to providing this support. On average there was an interval of several weeks between release from custody and referral to the ITS among parolees in this study. Informal feedback from operational staff indicated that substantial time is often required to complete assessments and case planning before a referral to the ITS can be made. These factors may have influenced treatment outcomes for the parole cohort by disrupting the throughcare principle (e.g. Kendall et al., 2018). Current reforms within CSNSW to implement an improved Custodial Case Management model that emphasises integration and continuity of case management may support the ITS by improving forward planning and timeliness of transitional service delivery.

Outcomes among priority offender groups

Additional analyses indicated that participation in the ITS may have been associated with outcomes that differed across priority offender groups. Inclusion of interaction terms into our regression models for 12 month recidivism outcomes indicated that the association between treatment and reoffending differed significantly as a function of Indigenous status for offenders in the parole

cohort. While treatment was associated with lower odds of reoffending among Indigenous offenders, this trend was reversed for non-Indigenous offenders. All other interaction terms between treatment and Indigenous status or gender were found to be non-significant for offenders in both the parole and community order cohorts.

The pattern of results indicates that the ITS may be beneficial in reducing risk of reoffending for Indigenous offenders being released from custody to parole. An examination of reoffending rates at the subgroup level (see Table 4) suggested that this may be particularly pronounced for Indigenous women, although it is noted that low cell sample sizes prevented testing of Indigenous status x gender interactions. Indigenous offenders often have complex reintegration and social support needs (e.g. Richards, 2015; Willis, 2008) and the results suggest that addressing those needs may facilitate successful transition from custody to the community. There is also the implication that social support needs, such as those serviced by the ITS, may have greater relevance to criminal justice outcomes for Indigenous men and women (see also Watkins, 2011) compared to non-Indigenous offenders.

Conversely, from the results it is possible that participation in the ITS may have negligible or adverse impacts on reoffending for non-Indigenous offenders transitioning from custody to the community. One potential explanation is that offenders in this group may be relatively prone towards focusing on avenues of change that address more instrumental or noncriminogenic needs, to the neglect of other interventions that are designed to directly address criminogenic needs. There is some evidence that outcomes for non-Indigenous parolees in particular are influenced by community supervision (Galouzis & Meyer, in press), and it is possible that concurrent participation in the ITS may impact critical features of the continuity, working relationship, or behaviour change content of case management by Community Corrections.

It is noted that our subgroup analyses of priority offender groups are less likely to give a robust indication of causal effects of ITS participation compared to the primary analyses. This is primarily because matching through the PSM process occurred at grouping level of treatment only, and further matching of pairs on the basis of Indigenous status or gender was not conducted. While this approach to subgroup analysis is common in studies using PSM, it can result in broken matches within models and therefore may be more prone to error compared to approaches that incorporate subgroup matching into the PSM process (e.g. Liu et al., 2019; Wang et al., 2018). Given these factors the results should be interpreted as exploratory and indicative only. However, the pattern of results raises interesting implications for intervention with priority groups such as Indigenous men and women, and further research is needed to better understand within-group differences in offenders' experiences and outcomes of participation in the ITS.

Limitations

Some other limitations of the study are noted. As with any quasi-experimental evaluation, identification and development of an equivalent comparison group is a key challenge. While observed selection biases were accounted for by the relatively robust PSM approach, there remains the possibility that unobserved selection biases contributed to additional non-equivalence between groups that would impede attribution of differences to treatment effects.

A related limitation was that our design initially aimed to match treatment and comparison offenders on a critical selection variable in referral to the ITS, which relates to the offender's dynamic case management needs. However, initial analyses indicated that there was poor correspondence between ITS referral tasks and common sources of data on offender needs, including the recent LSI-R assessment and Community Corrections case plans. While we were able to improve equivalence

on important dynamic risk and protective factors by including LSI-R domain scores in the matching procedure, we acknowledge that this is a limited proxy of presenting needs that formed the basis of referral to the ITS. This limitation also precluded more process-oriented evaluations of whether ITS participants were better able to achieve case plan completion outcomes compared to comparison offenders. It has been noted that few evaluations of re-entry programs consider reintegration outcomes (Berghuis, 2018), despite the bluntness of reoffending measures as an indicator of program success (e.g., Hedderman, 2009).

Equivalence between treatment and comparison groups may have also been influenced by variability in time of referral to the ITS and how this relates to survival period. This was a particular challenge for the community order cohort, in which offenders were referred to the ITS some 3-4 months after starting their community episode (and survival period) on average, and in some cases substantially longer. Similar to other studies of community-based interventions where the survival period precedes the intervention, there is the possibility that selection for treatment is partly associated with the offender surviving for long enough to engage in treatment. Related biases were addressed to some extent by measures such as recording recidivism events for both treatment and comparison offenders that occurred prior to the opportunity for treatment, and using an intention to treat design. However, we acknowledge that the potential for selection bias may increase as a function of the interval between survival start and key treatment allocation factors.

Lastly, we note that in the applied context, interpretation of treatment effects for the ITS may be complicated by concurrent differences in other case management processes between treatment and comparison groups. All offenders in both the treatment and comparison groups were engaged in ongoing supervision by Community Corrections, and there is the clear possibility that offenders received other informal or formal services to

address social support needs. Unlike some other offender programs and services, the ITS may not be considered to deliver unique interventions that are otherwise largely unavailable. For example, in the absence of a service such as the ITS, Community Corrections officers may adopt a brokerage role for social support needs as part of their own case management activities. The aim of this study was to examine how the ITS complements or adds value to standard Community Corrections case management, and is not intended to inform conclusions about the effects of receiving (or not receiving) any assistance in addressing social support needs at the time of reintegration or when serving a community order.

Conclusion

Taken together, the results of this study suggest that over the initial years of ITS operations between 2014 and 2017, participation in the service tended to have minimal impacts on reoffending although may act to delay or attenuate risk of return to custody. Effects on return to custody outcomes were observed for offenders who were serving community orders but not for parolees. There is the implication that the ITS may have particular promise as a means of stabilising offenders who are already established in the community, potentially contributing to continuity in other case management over time and reducing the likelihood of a deterioration in functioning or resort to serious offending that precipitates reimprisonment.

On the other hand, the observed null results for parolees suggest that reintegration from custody is a uniquely challenging process. Efforts to address challenge through the ITS may be facilitated by further review of policies and practices relating to the specific domains and priority of needs among this cohort; emphasis on principles of throughcare such as planning prior to release and immediacy of service provision after release; and increasing the overall intensity and duration of support. This

impact evaluation has identified a range of other key issues that may be explored in future process evaluations, including the extent to which service referrals convert into quality outcomes to address needs, and sources of variability in the experiences and benefits of the service across different priority offender populations.

Previous work on reintegration service delivery (e.g. Ricciardelli, 2018; Schlager, 2018) has also highlighted the importance of a cooperative and empowering working relationship with offenders. A key benefit of services such as the ITS is the ability to promote development of a continuous and constructive relationship with offenders that extends their network of support in the community. From this perspective the ITS may become more effective as CSNSW further integrates case management services, particularly in conjunction with the new PGI model of community supervision which involves collaborative case planning and behaviour change interventions that complement the social support role of the ITS (Howard, Chong, Thaler, & Tran, 2019). Further research on mechanisms of change in the ITS and how they interact with other interventions and within-group moderators would be beneficial to inform best practice for the service and optimise outcomes of reintegrating and stabilising offenders in the community.

REFERENCES

- Andrews, D.A., & Bonta, J. (1995). *The Level of service inventory-revised*. Toronto: Multi-Health Systems.
- Austin, P. C., Jembere, N., & Chiu, M. (2018). Propensity score matching and complex surveys. *Statistical Methods in Medical Research*, 27(4), 1240-1257.
- Australian Law Reform Commission. (2017). *Pathways to Justice — An Inquiry into the Incarceration Rate of Aboriginal and Torres Strait Islander Peoples* (Final Report). Sydney: ALRC.
- Baldry, E., McDonnell, D., Maplestone, P., & Peeters, M. (2006). Ex-Prisoners, Homelessness and the State in Australia. *Australian & New Zealand Journal of Criminology*, 39(1), 20-33.
- Berghuis, M. (2018). Reentry programs for adult male offender recidivism and reintegration: A systematic review and meta-analysis. *International Journal of Offender Therapy and Comparative Criminology*, 62(14), 4655–4676.
- Bonta, J., & Andrews, D. A. (2016). *The Psychology of Criminal Conduct (6th Edition)*. New York: Routledge.
- Cultural and Indigenous Research Centre Australia (2013). *Evaluation of Indigenous Justice Programs Project B: Offender Support and Reintegration*. Sydney: CIRCA.
- Cobbina, J. E., & Bender, K. A. (2012). Predicting the future: Incarcerated women’s views of reentry success. *Journal of Offender Rehabilitation*, 5, 275–94.
- Copas, J., & Marshall, P. (1998). The offender group reconviction scale: A statistical reconviction score for use by probation officers. *Applied Statistics*, 47(1), 159-171.
- Drabsch, T. (2006). *Reducing the risk of recidivism*. Report No 15/06. Sydney: NSW Parliamentary Library Research Service.
- Farmer, M. S. (2017). *The Importance of Strengthening Prisoners’ Family Ties to Prevent Reoffending and Reduce Intergenerational Crime*. UK: Ministry of Justice.
- Galouzis, J.J. & Meyer, D. (in press). Effectiveness of post-incarceration supervision: A multi-level analysis of Indigenous and non-Indigenous offender outcomes on parole. *Criminal Justice and Behaviour*.
- Gendreau, P., Little, T., & Goggin, C. (1996). A meta-analysis of the predictors of adult offender recidivism: What works! *Criminology*, 34(4), 575-608.
- Gobeil, R., Blanchette, K., & Stewart, L. (2016). A meta-analytic review of correctional interventions for women offenders. *Criminal Justice and Behavior*, 43(3), 301–322.
- Griffiths, A., Zmudzki, F., Bates, S., Griffiths, A., Bates, S., Wicks, A., Baldry, E., et al. (2017). Evaluation of ACT Extended Through care Pilot Program Final Report. Canberra: ACT Corrective Services.
- Growns, B., Kinner, S., Baldry, E., Conroy, E., & Larney, S. (2016). *Supported accommodation services for people released from custody: A systematic review to inform the development of the Rainbow Lodge Program (Report No 335)*. Sydney: National Drug and Alcohol Research Centre.

- Hall, J., & Donelle, L. (2009). Research with women serving court-mandated probation or parole orders. *Canadian Journal of Nursing Research, 41*(2), 36–53.
- Hedderman, C. (2009). How not to assess probation performance: Constructing local reconviction rates. *Probation Journal, 56*(2), 111-127.
- Holland, S., Pointon, K., & Ross, S. (2007). *Who returns to prison? Patterns of recidivism among prisoners released from custody in Victoria in 2002-03*. Melbourne: Corrections Victoria
- Holzer, H. J., Raphael, S., & Stoll, M. A. (2004). Will employers hire ex-offenders? Employer preferences, background checks, and their determinants. In M. Pattillo, B. Western, & D. Weiman (Eds.), *Imprisoning America: The social effects of mass incarceration*, JCPR Working Papers (pp. 205–246). Northwestern University/University of Chicago Joint Center for Poverty Research.
- Howard, M.V.A. & Chong, C.S. (2019). *Effects of the Practice Guide for Intervention (PGI) on behaviour change intervention dosage among community-based offenders*. Sydney NSW: Corrective Services NSW.
- Howard, M.V.A., Chong, C.S., Thaler, O., & Tran, N.L. (2019). Innovations in a model for enhancing the behaviour change content of supervision with community-based offenders. *Advancing Corrections, 7*, 71-83.
- Johns, D. (2014). Semiotic Practices : A conceptual Window on the post-prison experience. *International Journal for Crime, Justice and Social Democracy, 3*(3), 98–112.
- Johnson, G. (2012). Housing First “Down Under”: Revolution, Realignment or Rhetoric? *European Journal of Homelessness, 6*(2), 183–191.
- Jonson, C. L., & Cullen, F. T. (2015). Prisoner reentry programs. *Crime and Justice, 44*(1), 517–575.
- Kendall, S., Redshaw, S., Ward, S., Wayland, S., & Sullivan, E. (2018). Systematic review of qualitative evaluations of reentry programs addressing problematic drug use and mental health disorders amongst people transitioning from prison to communities. *Health and Justice, 6*(4), 1-11.
- Lynch, J. P., & Sabol, W. J. (2001). *Prisoner reentry in perspective*. Washington D.C.: The Urban Institute, *Crime Policy Report*, Vol. 3.
- Liu, S.Y., Liu, C., Nehus, E., Macaluso, M., Lu, B., & Kim, M.O. (2019). Propensity score analysis for correlated subgroup effects. *Statistical Methods in Medical Research. Advance online publication: <https://doi.org/10.1177/0962280219850595>*.
- Nelson, M., Deess, P., & Allen, C. (1999). The first month out: Post-incarceration experiences in New York City. *Federal Sentencing Reporter, 24*(1), 72-75.
- Padgett, D. K., Gulcur, L., & Tsemberis, S. (2006). Housing first services for people who are homeless with co-occurring serious mental illness and substance abuse. *Research on Social Work Practice, 16*(1), 74-83.
- Posick, C. (2018). Reappraising the impact of offending on victimization: A propensity score matching approach. *International Journal of Offender Therapy and Comparative Criminology, 62*(8), 2374-2390.
- Raudino, A., Corben, S., van Doorn, G., & Galouzis, J. (2018). *The Community Triage Risk Assessment Scale (Community TRAS) - A statistical model for predicting recidivism among community-based offenders*. Sydney NSW: Corrective Services NSW.
- Ricciardelli, R. (2018). Parolee Perceptions of Case Management Practices during Reintegration Parolee Perceptions of Case Management Practices during Reintegration. *Victims & Offenders, 13*(6), 777-797.
- Richards, K. (2015). *Addressing the offending-related needs of non-violent Indigenous offenders*. Brisbane: Queensland University of Technology. Retrieved from <https://eprints.qut.edu.au/91278/>
- Schlager, M. D. (2018). Through the looking glass: Taking stock of offender reentry. *Journal of Contemporary Criminal Justice, 34*, 69-80.
- Shepherd, S. M., Delgado, R. H., Sherwood, J., & Paradies, Y. (2017). The impact of Indigenous cultural identity and cultural engagement on violent offending. *BMC Public Health, 18*(1), 1-7.
- Smith-Merry, J., Hancock, N., & McKenzie, K. (2017). *From Custody to Community: Transitioning people with mental ill-health from the criminal justice system to the community*. Sydney: Centre for Disability Research and Policy, University of Sydney.
- Sotiri, M. (2016). *An exploration of best practice in community based reintegration programs for people leaving custody in the US and the UK*. Canberra: The Winston Churchill Memorial Trust of Australia.
- Sotiri, M., & Faraguna, A. (2017). Shown the exit revisited: CRC’s every day experience in assisting people leaving custody. *Parity, 30*(1), 13-14.
- Sotiri, M., & Russel, S. (2018). Pathways Home: How can we deliver better outcomes for people who have been in prison? *Housing Works, 15*(3), 1-6.

- Thaler, O., Chong, C.S., Raudino, A., & Howard, M.V.A. (2019). *Process evaluation of the Practice Guide for Intervention (PGI): Staff experiences of implementation and continuing service delivery*. Sydney, NSW: Corrective Services NSW.
- Thaler, O., Tran, N.L., Nelson, P.K., & Howard, M.V.A. (in preparation). *Overview of the Initial Transitional Support (ITS) Service and an analysis of common support pathways*. Manuscript in preparation.
- Thoemmes, F. (2012, January 31). Propensity score matching in SPSS. *arXiv preprint arXiv:1201.6385*, Retrieved from <https://arxiv.org/abs/1201.6385>.
- Tran, N.L., Thaler, O., Chong, C.S., & Howard, M.V.A. (2019). *Process evaluation of the Practice Guide for Intervention (PGI): Staff perceptions of community supervision in the context of change*. Sydney, NSW: Corrective Services NSW.
- Travis, J. (2000). But they all come back: Rethinking prisoner reentry. *Sentencing and Corrections: Issues for the 21st Century*, 7, 1-17.
- Travis, J. (2005). *But they all come back: Facing the challenges of prisoner reentry*. Washington D.C.: The Urban Institute Press.
- Tsemberis, S., & Eisenberg, R. F. (2000). Pathways to Housing: Supported Housing for Street-Dwelling Homeless Individuals With Psychiatric Disabilities. *Psychiatric Services*, 51(4), 487–493.
- Valera, P., Brotzman, L., Wilson, W., & Reid, A. (2017). "It's hard to reenter when you've been locked out": Keys to offender reintegration. *Journal of Offender Rehabilitation*, 56(6), 412–431.
- Villettaz, P., Gillieron, G., & Killias, M. (2015). The effects on re-offending of custodial vs non-custodial sanctions: An updated systematic review of the state of knowledge. *Campbell Systematic Reviews*, 1, 1-92.
- Visher, C. A., & Travis, J. (2003). Transitions from prison to community: Understanding individual pathways. *Annual Review of Sociology*, 29(1), 89–113.
- Visher, C. A., La Vigne, N. G., & Travis, J. (2004). *Returning home: Understanding the challenges of prisoner reentry*. Washington D.C.: The Urban Institute Press.
- Wakefield, S., & Uggen, C. (2010). Incarceration and Stratification. *Annual Review of Sociology*, 36(1), 387–406.
- Wan, W., Poynton, S., van Doorn, G., & Weatherburn, D. (2014). Parole Supervision and Re-offending: A propensity score matching analysis. *Trends & issues in crime and criminal justice*, 485. 1-8.
- Wang, S.V., Jin, Y., Fireman, B., Gruber, S., He, M., Wyss, R., Shin, H.J., et al. (2018). Relative performance of propensity score matching strategies for subgroup analyses. *American Journal of Epidemiology*, 187, 1799-1807.
- Ward, L. (2001). *Transition from custody to community: Transitional support for people leaving Prison*. Melbourne: Office of the Correctional Services Commissioner.
- Weatherburn, D. (2010). The effect of prison on adult re-offending. *Crime and justice bulletin* (No. 143). Sydney: NSW Bureau of Crime Statistics and Research
- Webster, R., Hedderman, C., Turnbull, P.J. & May, T. (2001). *Building bridges to employment for prisoners*. London: Home Office.
- Wermink, H., Blokland, A., Nieuwebeerta, P., Nagin, D., & Tollenaar, N. (2010). Comparing the effects of community service and short-term imprisonment on recidivism: A matched samples approach. *Journal of Experimental Criminology*, 6(3), 325-349.
- Watkins, I. (2011). *The utility of Level of Service Inventory-Revised (LSI-R) assessments within NSW correctional environments*. Sydney NSW: Corrective Services NSW.
- Willis, M. (2004). *Ex-Prisoners, SAAP, Housing and Homelessness in Australia: Final Report to the National SAAP Coordination and Development Committee*. Canberra: Australian Institute of Criminology.
- Willis, M. (2008). Reintegration of Indigenous prisoners: Key findings. *Trends & issues in crime and criminal justice*, 364, 1-6.
- Xie, Z., Neto, A., Corben, S., Galouzis, J., Kevin, M., & Eyland, S. (2018). *The Criminal Reimprisonment Estimate Scale (CRES) - A statistical model for predicting risk of reimprisonment*. Sydney NSW: Corrective Services NSW.

APPENDIX 1

Validation of ITS task referrals against case plan needs

Given that the ITS is designed to address offenders' case management needs, a key consideration in developing an appropriate quasi-experimental design was that comparison offenders had similar needs to treated offenders. In other words, equivalence between groups would be improved if it were possible to identify that comparison offenders had needs that would warrant referral to the ITS in a similar way to treated offenders, had the service been available to them.

Records of ITS treatment needs are available via the FPI portal (but not OIMS) for those who were referred to the ITS; however, it stands to reason that such data is not available for offenders in the comparison group. In order to match the groups on treatment needs we therefore considered case planning data streams that were common to both groups.

Case plans in OIMS

Case plans developed by Community Corrections Officers list the task domain (e.g. accommodation), situation (e.g. 'Stable/positive', 'Negative in-home environment', 'Homeless'), priority for intervention, and status (e.g. 'active', 'complete'). Task domains are identified from corresponding LSI-R domains in addition to other data gathering for case formulation.

Case plans are regularly reviewed and updated by Community Corrections officers, with corresponding updates to data fields in OIMS. As a result, the case plan available at any given date (e.g. the case plan at the survival start date) could describe needs that were or were not active at the time of referral to the ITS.

Informal discussions with Community Corrections staff also raised the possibility that case plan data

from OIMS may not reliably describe the tasks referred to the ITS. Feedback indicated that the decision to refer tasks often depended on local decision making about the qualitative nature of those tasks and whether they were in scope for the officer or the ITS worker. As a result, while case plans from OIMS offer significant detail about needs, this information may not necessarily predict the domains or tasks of referral to the ITS.

As a test of correspondence between Community Corrections and ITS case plans, we examined accommodation case plan information on OIMS against referrals for accommodation assistance to the ITS (n = 1450 referrals; 1274 offenders). We used the case plan closest to the referral date. The accommodation "priority" column in the case plan did show a decrease in ITS accommodation referrals from 'first priority' (88% referred) to 'second' (82% referred) to 'third' (71% referred). However, of those with no accommodation priority listed, 67% also had an ITS accommodation referral. Similarly, for those not assigned an accommodation case plan goal (e.g. 'acquire appropriate housing') 56% had an ITS accommodation referral, compared with 77% with no referral.

LSI-R scores

An additional source of data that may inform ITS case plan needs is the LSI-R. Assessment with the LSI-R is a requirement for both referral to the ITS and inclusion in the sample for this study, and domains of LSI-R risk factors closely match domains of task referrals for the ITS. We therefore examined the utility of using common LSI-R data as a proxy indicator for offenders' needs and propensity for referral to the ITS.

For CSNSW case management purposes, LSI-R domain scores can be recorded into four categories: 'strength', 'no improvement needed', 'some improvement needed', and 'considerable improvement needed'. To simplify these data we recoded the scores into a binary indicator of

whether some or considerable improvement was needed. For offenders with multiple referrals, a domain was counted as 'referred' if there was at least one referral to that task domain.

In general offenders with no need for improvement were not referred to services for that domain. On the other hand, there were often few differences in service provision within a domain between individuals with significant needs. For example, 82% of the 666 offenders with an indicated need for improvement on the LSI-R accommodation domain were referred to the ITS with an accommodation task; however 68% of the 475 offenders who had the LSI-R accommodation domain marked as a strength were also referred to the ITS for accommodation tasks.

Similar patterns were observed for other domains of the LSI-R. For example, very few offenders did not require improvement on the LSI-R domain of alcohol and other drugs (n = 16; 1.4%) although relevant referrals to the ITS were not uniform (see Table A1). Similarly, while the vast majority of offenders showed needs for improvement in domains of recreation / leisure and finance, only

7% and 22% respectively were referred to the ITS for related tasks. It is noted that ITS tasks related to cultural skills did not have an equivalent domain in the LSI-R; this task domain was rarely the basis of referral to the ITS (n = 63) and almost exclusively pertained to Indigenous offenders (n = 56; 89%).

Variation in case management needs across different assessments and case plans is not unexpected, given that such needs are dynamic and amenable to change by definition. In an ideal scenario, identification of needs in an intervention case plan would be followed rapidly by resolution of that need. As noted, assessment of domains of need using the LSI-R and formulation of the Community Corrections case plan is often not concurrent to ITS referrals, which increases the likelihood of change. While the different data sources examined may each provide valid information about an offender's risk and needs profile, we concluded that Community Corrections case plans and LSI-R assessments did not reliably predict areas of need that formed the basis of referral to the ITS.

Table A1. Rates of correspondence between indicated need for improvement on LSI-R domains and referral to ITS tasks related to that domain.

LSI-R domain	Needs improvement		Strength		Total referred n (%)	Total needing improvement n (%)
	Referred	Not referred	Referred	Not referred		
	n (%)	n (%)	n (%)	n (%)		
Accommodation	545 (48)	121 (11)	323 (28)	152 (13)	868 (76)	666 (58)
Alcohol & Drugs	786 (69)	339 (30)	1 (0)	15 (1)	787 (69)	1125 (99)
Emotional/ Mental health	556 (49)	410 (36)	42 (4)	133 (12)	598 (52)	966 (85)
Education/ Employment	268 (24)	664 (58)	25 (2)	184 (16)	293 (26)	932 (82)
Financial	253 (22)	877 (77)	4 (0)	7 (1)	257 (23)	1130 (99)
Family	109 (10)	863 (76)	15 (1)	154 (14)	124 (11)	972 (85)
Attitude	43 (4)	1045 (92)	3 (0)	50 (4)	46 (4)	1088 (95)
Recreation / Leisure	79 (7)	1041 (91)	1 (0)	20 (2)	80 (7)	1120 (98)
Living skills/ Companions	406 (36)	713 (63)	8 (1)	14 (1)	414 (36)	1119 (98)

APPENDIX 2

Detailed balance of propensity scores before and after matching

Table A2. Balance of propensity scores before and after matching, parole cohort (n=1002)

Variable	Means Treated		Means Comparison		Std. Mean Diff.	
	Before	After	Before	After	Before	After
Propensity	0.16	0.15	0.12	0.15	0.49	0.01
Sex	0.89	0.89	0.89	0.88	-0.01	0.04
ATSI	0.42	0.43	0.37	0.45	0.11	-0.04
Age group	2.46	2.47	2.43	2.42	0.04	0.05
SEIFA	3.90	3.90	4.13	3.88	-0.10	0.01
ARIA	1.81	1.82	1.76	1.80	0.06	0.01
COPAS rate	1.04	1.04	1.02	1.04	0.05	0.00
Criminogenic program hours	0.58	0.58	0.55	0.60	0.04	-0.02
Non criminogenic program hours	0.16	0.16	0.13	0.17	0.08	-0.02
LSIR total score	0.23	0.23	0.16	0.20	0.16	0.08
LSIR education / employment score	0.83	0.83	0.81	0.82	0.04	0.01
LSIR finance score	0.99	0.99	0.97	0.99	0.22	-0.04
LSIR family marital score	0.86	0.86	0.78	0.84	0.22	0.04
LSIR accommodation score	0.58	0.58	0.44	0.61	0.28	-0.06
LSIR leisure score	0.98	0.98	0.97	0.97	0.11	0.08
LSIR companions score	0.99	0.99	0.96	1.00	0.43	-0.03
LSIR alcohol & drug score	0.99	0.99	0.97	1.00	0.16	-0.07
LSIR emotional score	0.80	0.80	0.80	0.81	-0.01	-0.02
LSIR attitude score	0.94	0.94	0.94	0.94	0.02	0.00
Justice Health medical alert	0.84	0.84	0.80	0.83	0.10	0.01
Disability alert	0.29	0.29	0.24	0.26	0.11	0.06
Any drug related offence	0.54	0.54	0.57	0.56	-0.07	-0.04
Mental health	0.10	0.10	0.08	0.10	0.08	-0.01
Number concurrent charges	5.06	5.03	4.78	4.99	0.05	0.01
Number of court appearances	13.24	13.26	12.20	13.56	0.13	-0.04
Number of indictable offence	0.36	0.32	0.31	0.30	0.04	0.01
Length in custody	3.16	3.16	3.16	3.22	0.00	-0.06
Survival year	2015.38	2015.38	2015.53	2015.38	-0.17	0.00
Violent offence	0.55	0.55	0.47	0.54	0.16	0.02
Sexual offence	0.04	0.04	0.06	0.04	-0.10	-0.01
Theft or break enter offence	0.37	0.37	0.38	0.39	-0.02	-0.05
Justice procedure offence	0.34	0.34	0.29	0.32	0.11	0.04
PCA offence	0.14	0.14	0.19	0.12	-0.15	0.05

Table A3. Balance of propensity scores before and after matching, community order cohort (n=366)

Variable	Means Treated		Means Comparison		Std. Mean Diff.	
	Before	After	Before	After	Before	After
Propensity	0.11	0.11	0.07	0.11	0.61	0.01
Sex	0.71	0.72	0.80	0.78	-0.18	-0.13
ATSI	0.32	0.33	0.35	0.28	-0.06	0.11
Age group	2.43	2.42	2.41	2.39	0.02	0.03
SEIFA	3.34	3.36	4.25	3.26	-0.43	0.05
ARIA	1.94	1.94	1.77	1.89	0.15	0.05
COPAS rate	0.38	0.38	0.48	0.37	-0.22	0.03
LSIR level	0.15	0.15	0.10	0.09	0.14	0.17
LSIR education / employment score	0.75	0.75	0.79	0.73	-0.09	0.05
LSIR finance score ^a	1.00	1.00	0.97	1.00	.	.
LSIR family marital score	0.91	0.91	0.81	0.89	0.37	0.09
LSIR accommodation score	0.66	0.66	0.50	0.65	0.34	0.02
LSIR leisure score	0.99	0.99	0.97	0.98	0.18	0.00
LSIR companions score	0.96	0.96	0.93	0.95	0.12	0.03
LSIR alcohol & drug score	0.97	0.98	0.93	0.95	0.16	0.03
LSIR emotional score	0.94	0.93	0.88	0.96	0.24	-0.07
LSIR attitude score	0.97	0.97	0.93	0.96	0.24	0.03
Justice Health medical alert	0.34	0.33	0.40	0.38	-0.13	0.23
Disability alert	0.11	0.10	0.10	0.09	0.03	0.04
Any drug related offence	0.59	0.59	0.56	0.61	0.07	-0.13
Mental health	0.13	0.13	0.09	0.12	0.11	0.05
Number concurrent charges	4.22	4.24	3.83	4.38	0.10	0.06
Number of court appearances	9.38	9.39	10.38	9.97	-0.14	0.07
Number of indictable offence	0.03	0.03	0.04	0.03	-0.07	-0.03
Length in custody	1.07	1.07	1.11	1.04	-0.11	0.08
Survival year	2015.42	2015.43	2015.55	2015.30	-0.15	0.05
Violent offence	0.51	0.51	0.42	0.53	0.19	0.04
Sexual offence	0.03	0.03	0.04	0.03	-0.08	0.00
Theft or break enter offence	0.29	0.29	0.26	0.26	0.06	0.02
Justice procedure offence	0.33	0.33	0.36	0.35	-0.06	-0.01
PCA offence	0.12	0.12	0.19	0.15	-0.19	-0.09

Note. ^a Given that LSI-R financial domain propensity scores were both 1 prior to matching, standardised mean differences were not produced.

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RP61	Evaluation of EQUIPS treatment pathways for domestic violence offenders in New South Wales – September 2019		pathways to post-release employment – August 2017
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