



The effect of the New South Wales Drug Court on reoffending, imprisonment, health, and child welfare.

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Abstract

Aims

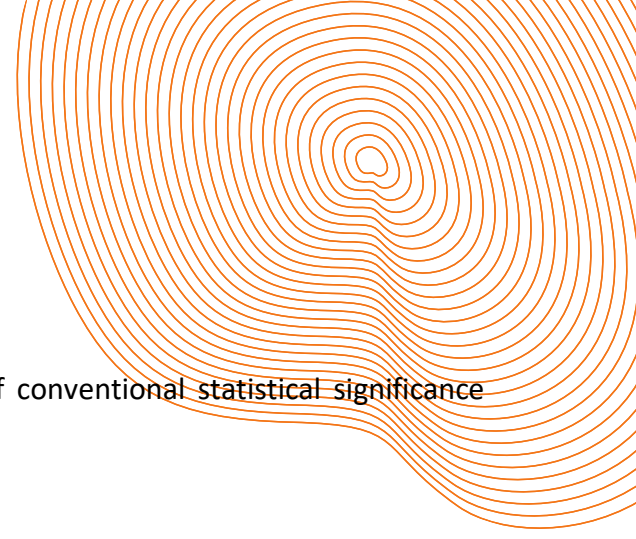
The aim of this study was to evaluate the impact of the NSW Drug Court on (1) the risk of reoffending (2) the likelihood of emergency medical treatment or hospitalisation (3) the likelihood of imprisonment (4) the risk that a Drug Court defendant's child or children would be the subject of a risk of significant harm (ROSH) report and (5) the likelihood that a Drug Court defendant's child or children would be placed in out-of-home care (OOHC).

Method

The study sample consisted of all those referred to the Parramatta Drug Court between the 1st of January 2016 and the 31st of December 2020, however, to allow sufficient time for outcomes to be observed, the observation period extends to 31 December 2023. The study cohort consists of 197 control group members and 1,366 treatment group members. Treatment and control groups were matched using entropy matching (EM). Differences between matched treatment and control group outcomes were assessed using logistic regression.

Results

Compared with those who were eligible for the Drug Court but who were not placed on the Drug Court program, participants in the Drug Court program were 17.4 percentage points (pp) less likely to reoffend within 12 months, 12.7 pp less likely to reoffend within 24 months and 12.7 pp less likely to receive a prison sentence. In addition, their children were 4.9 pp less likely to be placed in OOHC (4.8% vs 9.7%). In relative terms, which constitutes a 30 per cent lower risk of reoffending at 12 months, an 18 per cent lower risk of reoffending at 24 months, an 18 per cent lower risk of imprisonment and a 51 per cent lower risk of a child being placed in OOHC. In addition, the odds



ratio for drug related ED admissions is at the borderline of conventional statistical significance (0.050).

Conclusion

The NSW Drug Court program reduces reliance on custodial sanctions, enhances public safety, and reduces the number of children placed in out-of-homecare.



Introduction

Drug Courts are premised on the assumption that if an offender's crime is drug-related, reducing their drug consumption should reduce their involvement in drug-related crime. Participants in Drug Court programs internationally are typically subject to close monitoring, including frequent meetings with the Drug Court team and frequent testing for drug use. Progress toward abstinence is also usually rewarded in some way, while relapse or non-compliance with program conditions typically attracts a sanction (e.g. a short stay in prison). Beyond these common features there are many differences, including the point at which entry into the Drug Court program occurs (pre or post sentence), the length of the program, the eligibility requirements, the type(s) of treatment available and the sanctions imposed for non-compliance with program conditions (Collins, Agnew-Pauley & Soderholm 2019).

The available evidence suggests that Drug Courts are effective in reducing re-offending. A review conducted for the Campbell Collaboration by Mitchell et al. (2012) concluded that Drug Courts are reducing adult re-offending rates by up to 12 percentage points. Earlier reviews of Drug Court effectiveness have also been favourable (US Government Accountability Office 2011; Wilson, Mitchell & MacKenzie 2006; Belenko 1998). In Australia, significant reductions in re-offending were found by Lind et al. (2002) in their randomised trial evaluation of the NSW Drug Court program and by Weatherburn et al. (2008, 2020) in two follow-up evaluations of the same program. Kornhauser (2018) concluded in his review of Australian drug court programs that they reduce re-offending more than conventional sanctions, although he cautioned that certainty on this issue should be 'tempered by mixed results and methodological limitations' (Kornhauser 2018, p. 76).

So far, however, there has been little research into whether participation in a Drug Court program results in improvements in health and social functioning. This is surprising because dependence on illicit drugs is typically injurious to both (Darke et al. 2019, Daley 2013). The research gap is unfortunate because the social and economic value of a Drug Court (or any offender rehabilitation intervention) depends not just on whether it reduces the risk of re-offending but whether it reduces the likelihood of imprisonment or improves outcomes in areas such as health and well-being, child welfare and employment. In this article we report the results of a comprehensive study into the effects of the NSW Drug Court on participant health and social functioning. In the next section we review the studies that have so far been conducted to assess the impact of Drug Court programs on health and social functioning. We then describe the operation of the NSW Drug Court, focussing on the process of entry into the Drug Court program and how this was used to select treatment and control groups.

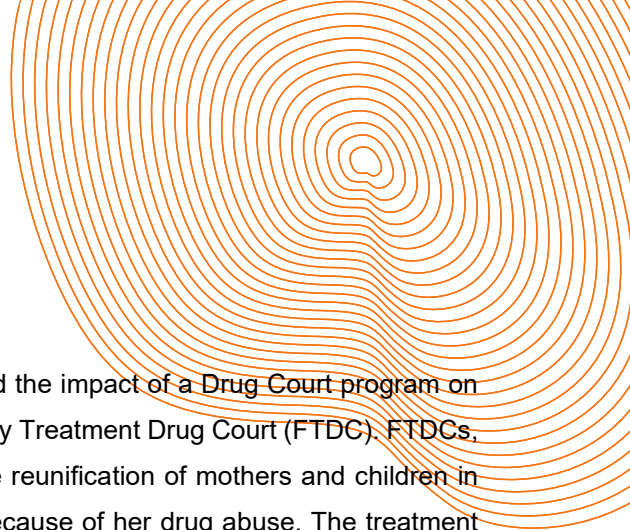


Relevant past research

Marlowe et al. (2003) conducted one of the first randomised control trial (RCT) designs testing for changes in illicit drug use (as well as re-offending) among Drug Court participants. They randomly assigned Drug Court participants to one of two conditions. The first (n = 98) followed the typical Drug Court regime requiring twice weekly meetings with the Drug Court judge as well as 'status' meetings whenever participants in this group exhibited poor performance. The second group (n = 99) had no scheduled meetings with the Drug Court judge but received the same case management services, urinalysis monitoring, rewards, and punishments as those who required to meet twice weekly with the Drug Court judge. Marlowe et al. (2003) followed participants in both groups for fourteen weeks but found no difference between the two groups in counselling attendance, urinalysis confirmed abstinence or self-reported substance use.

Gottfredson et al. (2005) randomly assigned 235 offenders eligible for the Baltimore Drug Court program to either the program (treatment group) or to 'treatment as usual' (control group). The proposed allocation to each group was presented as a recommendation to the Drug Court judge, however in nearly all cases he followed the recommendation. Tests for pre-treatment differences between the two groups revealed no significant difference in terms of age, gender, or race. Three years later Gottfredson et al. (2005), followed up 157 of the original 235 subjects (93 treatment; 64 control) and assessed them in terms of mortality and self-reported drug use, employment, physical and mental health, and family and social relationships. Although an earlier study using the same subjects had revealed a substantial reduction in offending (Gottfredson & Exum 2002), Gottfredson et al. (2005) found no significant differences between treatment and control groups on any of these outcomes.

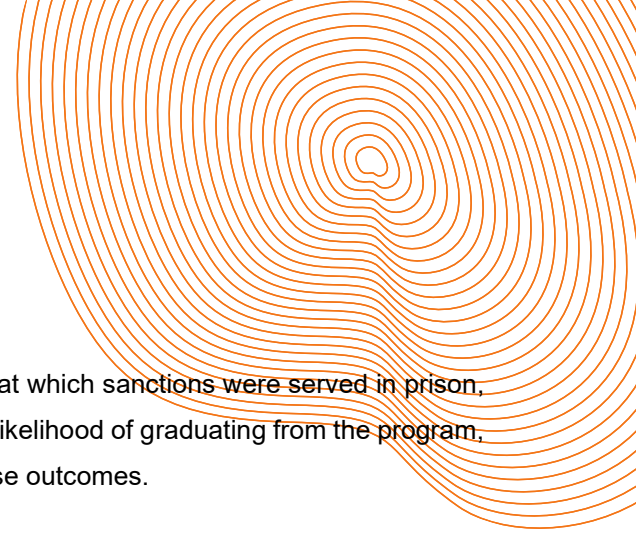
Leukefeld et al. (2007) followed up 500 offenders eligible for the Kentucky Drug Court program who were randomly assigned to either a control condition involving only the usual Drug Court supports/requirements or a treatment program involving both these supports/requirements as well as an enhanced job training program. The treatment group was then divided into two subgroups (low vs high upgrading), according to the percentage of intervention sessions they attended. The job training program was intensive, involving 4-5 weeks on how to obtain employment, 13-15 weeks on maintaining employment and 6 weeks on upgrading employment. A total of 496 of the original 500 participants in the study were interviewed approximately one year after allocation to the assigned condition. The interviews revealed that both treatment subgroups outperformed the control group in terms of jobs in the past year, days worked at a legitimate job in the past year and income from a legitimate job in the past year. The high upgrading subgroup also reported fewer episodes of drug and alcohol use than the low upgrading subgroup.



Worcel et al. (2008) is one of the very few studies to have examined the impact of a Drug Court program on child welfare outcomes. The US program they examined was a Family Treatment Drug Court (FTDC). FTDCs, while modelled on conventional Drug Courts, have as their goal the reunification of mothers and children in cases where the child has been removed from the mother's care because of her drug abuse. The treatment group consisted of 301 mothers deemed eligible for the program. The control group consisted of a group of mothers not placed on the program but matched in terms of race, marital status, employment status, previous child protection contact, parental risk factors, previous termination of parental rights, type of child abuse allegation, number of children involved in the allegation, the child's risk factors, whether an infant was involved in the case, and frequency of drug use. The study found that FTDC mothers spent twice as much time in treatment as non-FTDC mothers and were significantly more likely to be reunified with their children than non-FTDC mothers. Comparable results have since been found in other evaluations of FTDCs (Zhang et al. 2019).

Dakof et al. (2010) were also interested in the impact of FTDCs on maternal and child welfare. They compared two programs, both of which were designed to reduce illicit drug use among mothers and reduce the contact their children had with child protection authorities. Participants in the study were randomly allocated to a group, which adhered to intensive case management services ICMS (a conventional Drug Court program) in Florida and or to an 'Engaging Moms' Treatment Group (EMP), which received a more intensive intervention including, among other things, training in parenting skills, emotional regulation, problem solving, and communication skills (Dakof 2010, p. 265). No differences between the ICMS and EMP groups were observed in relation to substance use or the proportion who graduated from each program. At 18 months post drug court enrolment, however, 77 per cent of mothers in the EMP group had positive child welfare outcomes versus 55 per cent of mothers assigned to ICMS. Participants in the EMP group were found to be more likely than those in the control group to have their child or children returned to their custody.

Several Australian studies have evaluated the impact of Drug Court programs on health and social functioning, however many of these evaluations lack a valid control group and had a high drop-out rate (Wittouck 2013; Freeman 2002; Payne 2008). Jones (2013) is a noteworthy exception. In his study, one hundred thirty-six participants were randomly allocated into intensive judicial supervision (IJS) or supervision-as-usual (SAU) conditions. The IJS group were required to report back to the judge twice weekly during Phase 1 of the program. Phase 1 for these participants was also extended from the usual three months to four months (n.b. after Phase 1, the intensity of supervision is reduced). The SAU group reported back weekly and their period in Phase 1 was kept at three months. Jones (2013) found IJS participants had lower odds of returning positive urinalysis tests and accumulated fewer sanctions (accrued days in custody) than those in



the SAU group. He did not find any significant difference in the rate at which sanctions were served in prison, time spent on the program, progression to later program phases, or likelihood of graduating from the program, but pointed out that his study had low statistical power to detect these outcomes.

The NSW Drug Court

The Drug Court of NSW is a specialist court that provides an alternative to prison for eligible participants with drug dependencies that have committed certain crimes. The Drug Court sits in four locations, Parramatta, Toronto, Sydney and Dubbo. It takes referrals of eligible potential participants from the Local and District Courts. All criminal cases begin in the Local Court. The Local Court deals with most criminal matters including summary offences, which are crimes such as stealing, assault and possession of drugs. The NSW District Court is an intermediate court that deals with serious criminal offences, except for murder, treason, and piracy. It also handles appeals from lower courts and civil proceedings.

Under the Drug Court Act 1998 and Drug Court Regulation 2020, a person is deemed to be eligible for the program if (a) they have been charged with an offence that does not involve certain serious offences such as commercial drug supply, offences involving violent conduct, or sexual assault (b) it is highly likely that the person would, if convicted, be sentenced to imprisonment (c) the person has pleaded guilty or indicated an intention to plead guilty (d) the person appears to be dependent on the use of prohibited drugs; (e) the person's usual place of residence falls within prescribed Local Government Areas (f) the person does not have a mental health condition that could prevent active participation in the program (g) the person is 18 years of age or over, and (h) proceedings for the person's offence are not within the Children's Court jurisdiction.

The process of entry into the Drug Court program begins when a court dealing with an offender decides that the offender is prima facie eligible and willing to participate in the Drug Court program. When this happens, it refers the offender to the Drug Court for eligibility assessment. This assessment normally involves making sure the offender is not facing any other outstanding and ineligible charges, and that the offender resides in the catchment area of the Drug Court. If the Drug Court confirms the offender's eligibility and a place on the program is available, the offender enters the program and (for the purposes of this study) the treatment group. In some weeks, the number of offenders referred exceeds the number of places in the program. When this happens, the Drug Court holds a ballot to determine who will proceed to the eligibility assessment stage. Those who succeed in the ballot and are confirmed eligible enter the treatment group. Those who fail in the ballot but who would have been eligible for placement on the Drug Court program, form the control group in this study. Note that, since confirmation of eligibility occurs after the ballot, allocation to treatment and control groups cannot be regarded as random. Those who succeed in the ballot but who are subsequently found ineligible are dropped from all analyses in the article.



Study Aims

This study was approved by the NSW Population and Health Services Ethics Committee on the 26/06/2023 (Approval no. 2022/ETH02482).

The study reported here addresses four related questions in relation to Drug Court participants. Compared with a matched sample of offenders eligible for the Drug Court but dealt with in a conventional court setting:

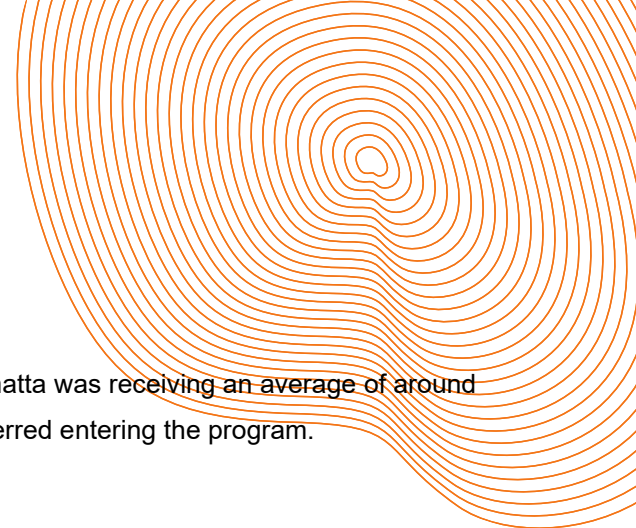
1. Are Drug Court participants less likely to reoffend?
2. Are they less likely to be imprisoned?
3. Are they less likely to require emergency medical treatment or hospitalisation?
4. Are their children less likely to be reported to child protection authorities as being at risk of significant harm (ROSH) or to be placed in out-of-home care (OOHC)?

Questions (3) and (4) have been examined in a limited number of overseas studies but have never been examined in connection with an Australian Drug Court program. Moreover, while aims (1) and (2) have been explored in previous evaluations of the NSW Drug Court, the latest evaluation (Weatherburn et al. 2020) examined long-term outcomes for a cohort of offenders who were referred to the NSW Drug Court in 2001; a time when most drug related offending was associated with heroin use. The predominant drug of choice among participants in the current study is methamphetamine. While there is an opioid pharmacotherapy for heroin dependence, no such treatment yet exists for methamphetamine dependence. It remains unclear, therefore, whether the Drug Court program is as effective in dealing with methamphetamine-related crime as it was in dealing with heroin related crime.

Method

Study setting

This study was conducted between the period of 1st of January 2016 and the 31st of December 2020 at a time when the NSW Drug Court was operating in three locations, Parramatta, Toronto, and Sydney. However, for the purposes of this study only the Drug Court at Parramatta and its participants at that location were considered. Parramatta is a city of 275,000 people located about 26 km west of the Sydney Central



Business District. At the time of this study, the Drug Court at Parramatta was receiving an average of around 500 referrals each year, with approximately 30 per cent of those referred entering the program.

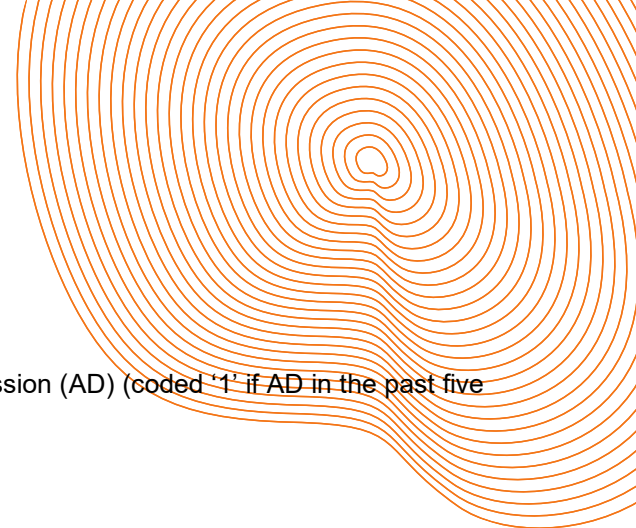
Study sample

The study sample consisted of all those referred to the Parramatta Drug Court between the 1st of January 2016 and the 31st of December 2020, however the observation period extends to 31 December 2023. The study cohort consists of 197 control group members and 1,366 treatment group members. Data on referrals was extracted from the administrative database of the NSW Drug Court and then linked with corresponding records involving the same people in datasets held by the NSW Bureau of Crime Statistics and Research (BOCSAR) (demographics, current offence(s), criminal history), the NSW Ministry of Health (MOH) (emergency department presentations, hospitalisations), and the NSW Department of Communities and Justice (DCJ) (ROSH reports, OOHC placements). The Centre for Health Record Linkage (CHeReL) performed the linkage. At no stage did the researchers have access to any identified data.

Design and methods.

Covariates

The variables selected for matching were based on past research into the correlates of reoffending (Stavrou & Poynton 2016) and prior admissions to emergency departments and/or hospitals for drug-related problems (see below). The following covariates were included in the matching: Age group: (coded '1' if 18-26, '2' if 27-33, '3' if 34-39 and '4' if 40+); Sex (coded '1' if male, '0' if female), age at first contact with the criminal justice system (CJS contact) (coded '1' if 10-14', '2' if 15-19, '3' if 20-25, '4' if 26+); Race (coded '1' if Aboriginal or Torres Strait Islander, '0' otherwise); seriousness of principal offence (coded '1' if not serious, '2' if fairly serious and '3' if very serious); concurrent offences (coded '0' if one, '1' if 2 to 4 and '2' if 5 or more); prior violent offence (coded '1' if convicted of a violent offence in the previous five years, '0' otherwise); prior property offence (coded '1' if convicted of a property offence in the previous five years, '0' otherwise); prior justice offence (coded '1' if convicted of a justice procedure offence in the previous five years, '0' otherwise); prior prison (coded '1' if previously imprisoned, '0' otherwise); prior substantiated ROSH report coded ('1' if participant has a child who was the subject of a substantiated ROSH report in the previous five years, '0' otherwise); prior OOHC (coded '1' if the participant has a child who was placed in OOHC in the previous five years, '0' otherwise); prior emergency department (ED) admission (coded '1' if admitted to an ED in the previous five years, '0' otherwise), prior ED drug admission (coded '1' if admitted to an ED for a drug related



reason in the previous five years, '0' otherwise); prior hospital admission (AD) (coded '1' if AD in the past five years, '0' otherwise).

Outcomes

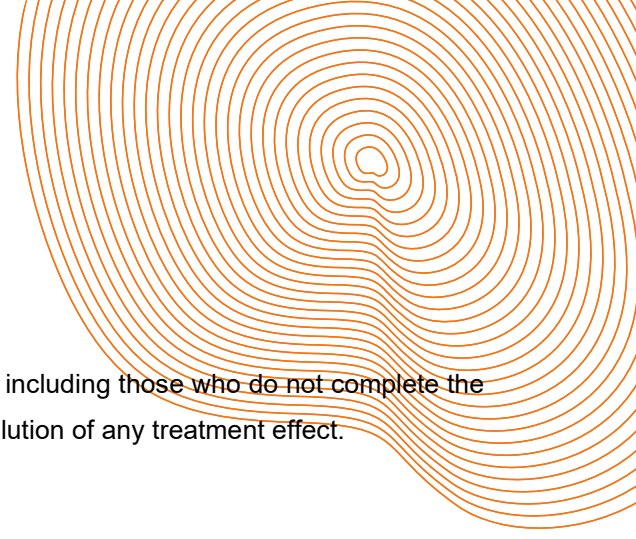
The following outcomes were compared for the treatment and control groups.

1. Reconvicted of an offence that occurred within one year of referral to the Drug Court.
2. Reconvicted of an offence that occurred within two years of referral to the Drug Court.
3. Imprisoned for the offence(s) that led to the Drug Court Referral.
4. Offender's child the subject of a ROSH report within five years of referral to the Drug Court.
5. Offender's child placed in OOHC within five years of referral to the Drug Court.
6. Admitted to an ED within five years of referral to the Drug Court.
7. Admitted to an ED for a drug-related reason within five years of referral to the Drug Court.
8. Admitted to hospital within five years of referral to the Drug Court.
9. Admitted to hospital for a drug-related reason within five years of referral to the Drug Court.

Analysis techniques

Treatment and control groups were matched using entropy matching (EM) (Hainmueller 2017). In contrast to propensity score matching (PSM), which attempts to balance treatment and control groups in terms of the predicted probability of treatment (propensity score), EM assigns a weight to each observation, so that the moments (e.g., mean, variance) of the treatment and control group covariate distributions are identical. Entropy matching outperforms PSM and has the advantage of not requiring constant trial and error with alternative covariates to obtain optimal propensity score specification (Parish et al. 2018; Jann 2021).

The analysis was based on the principle of intention-to-treat (ITT). In other words, the treatment group consists of all those accepted onto the Drug Court program, regardless of whether they completed that program, left it of their own volition or were removed from the program by the Drug Court judge. We adhere to the ITT principle because it carries much less risk of selection bias than comparing those who complete the program with those

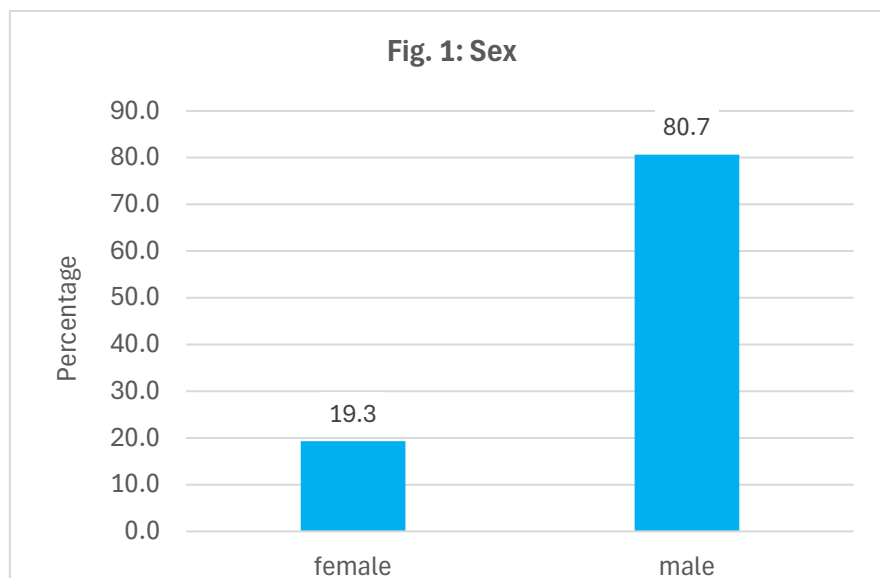


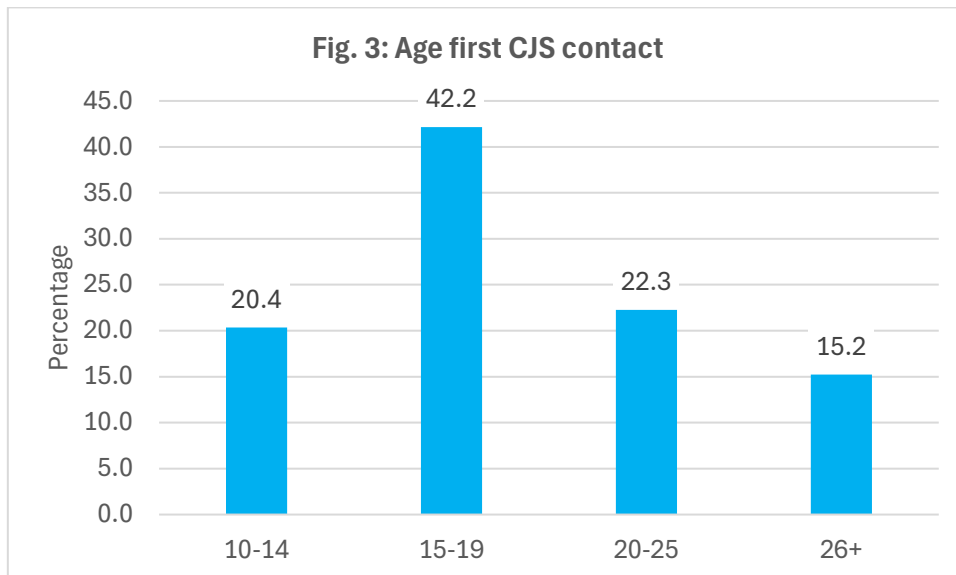
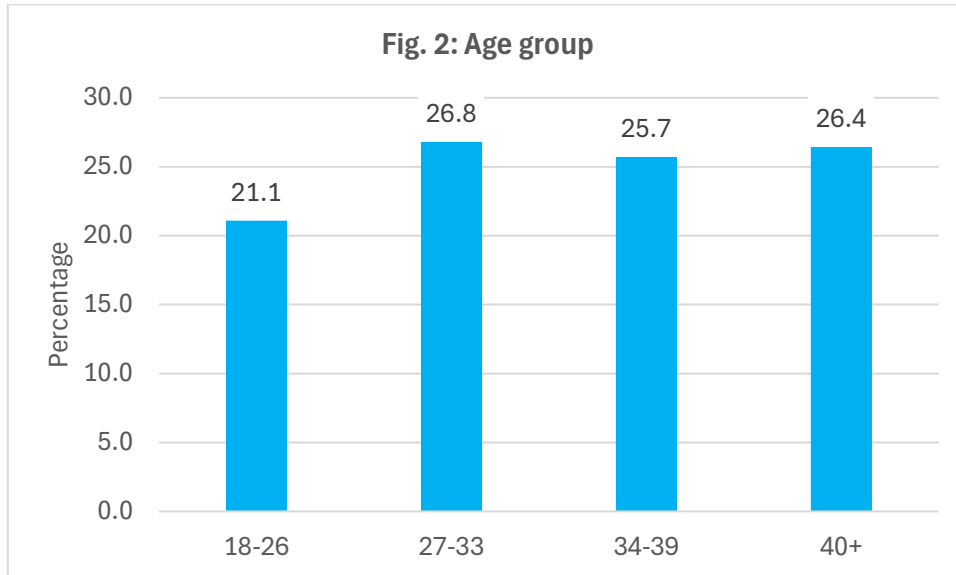
who are not accepted on to it (Gupta 2011). It is acknowledged that including those who do not complete the treatment program in the treatment group will inevitably result in a dilution of any treatment effect.

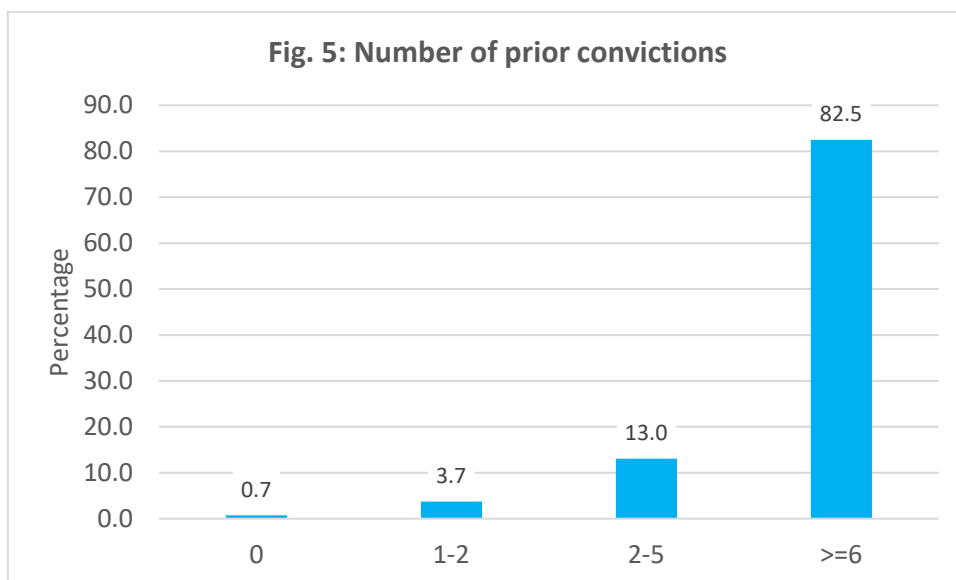
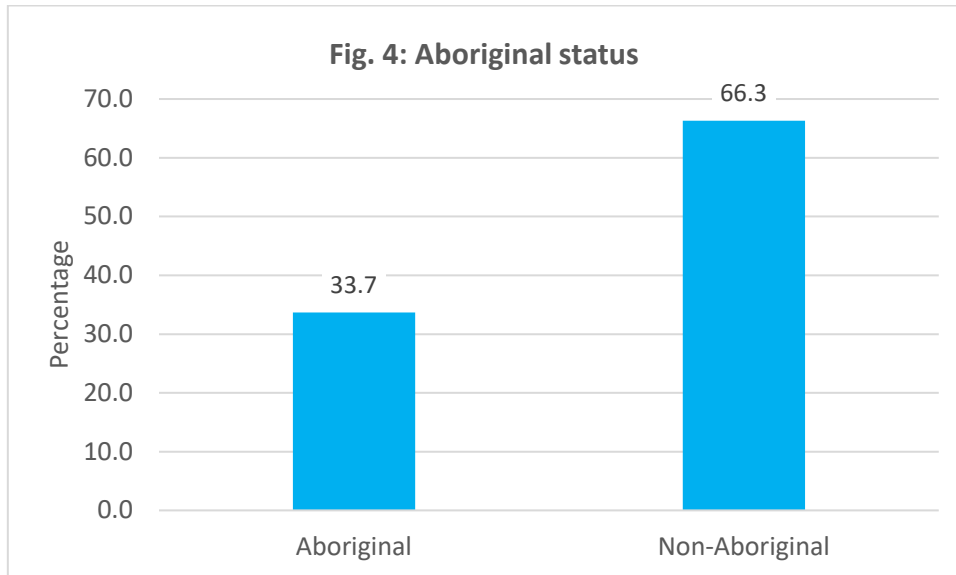
Results

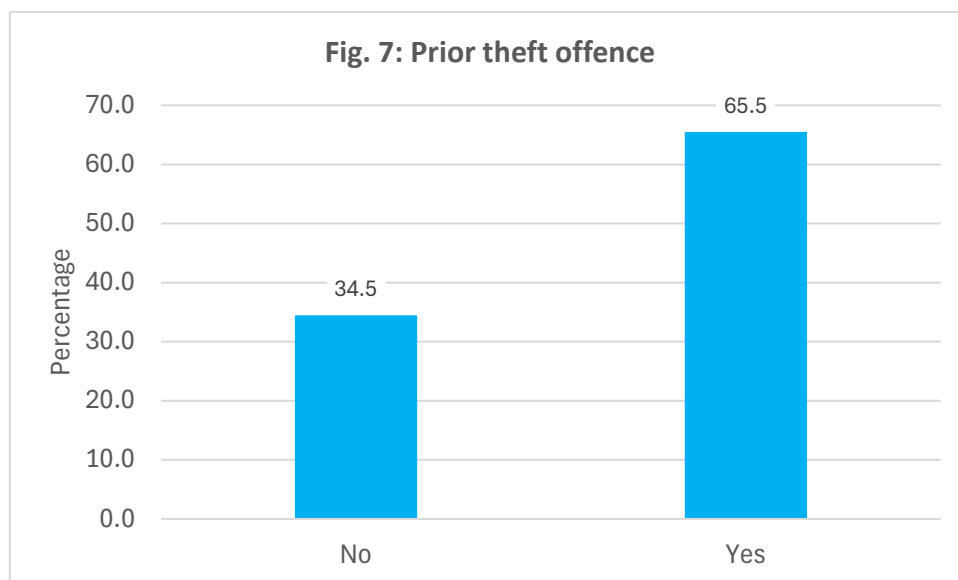
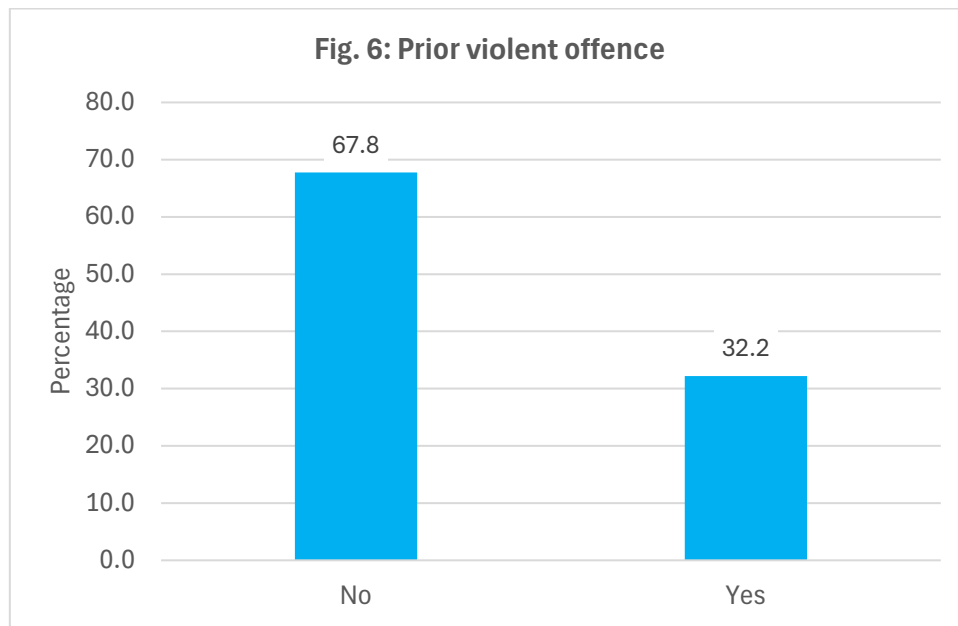
Descriptive statistics

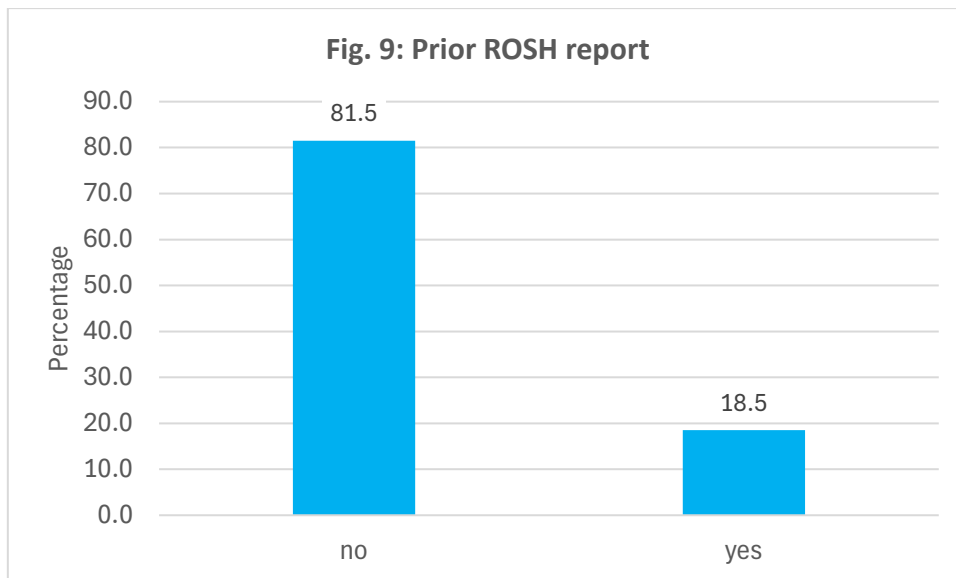
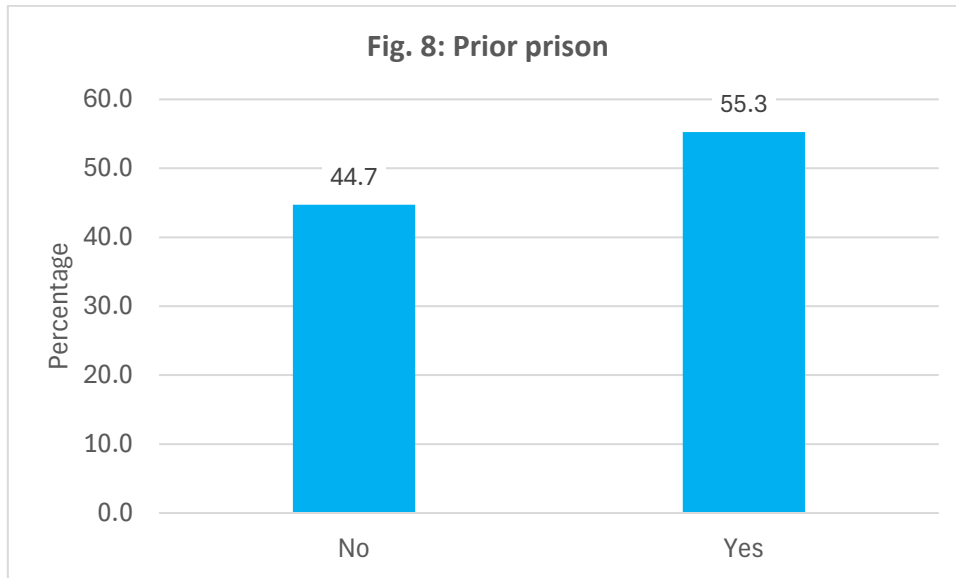
Figures 1 to 14 characterise the total sample in terms of sex (Figure 1), age group (Figure 2), age at first contact with the criminal justice system (Figure 3), Aboriginal status (Figure 4), number of prior convictions (Figure 5), whether previously convicted of a violent offence (Figure 6), whether previously convicted of a theft offence (Figure 7), whether previously imprisoned (Figure 8), whether their child or children have in the last five years been identified by child protection authorities as at risk of significant harm (ROSH) (Figure 9), whether their child or children have in the last five years have been placed in out-of-home care (OOHC) (Figure 10), whether in the last five years, they have been admitted to an emergency department (ED) for any reason (Figure 11) or for a drug-related reason (Figure 12) and whether, in the last five years, they have been admitted to hospital for any reason (Figure 13) or for a drug-related reason (Figure 14).

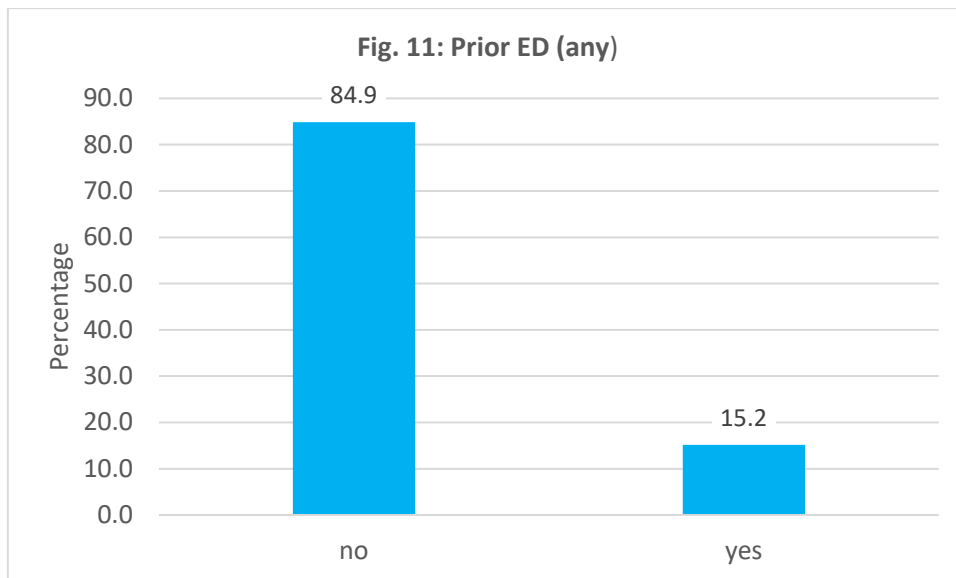
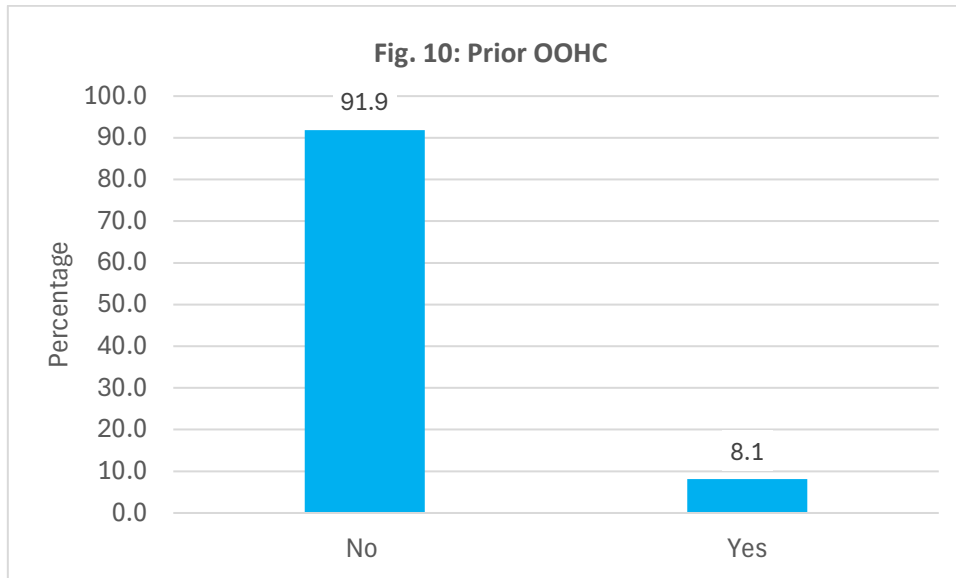


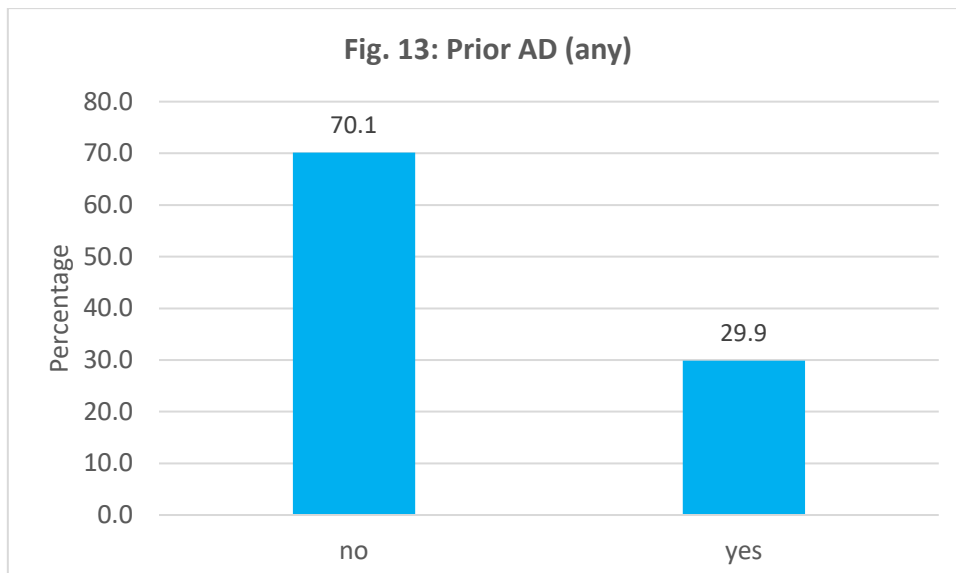
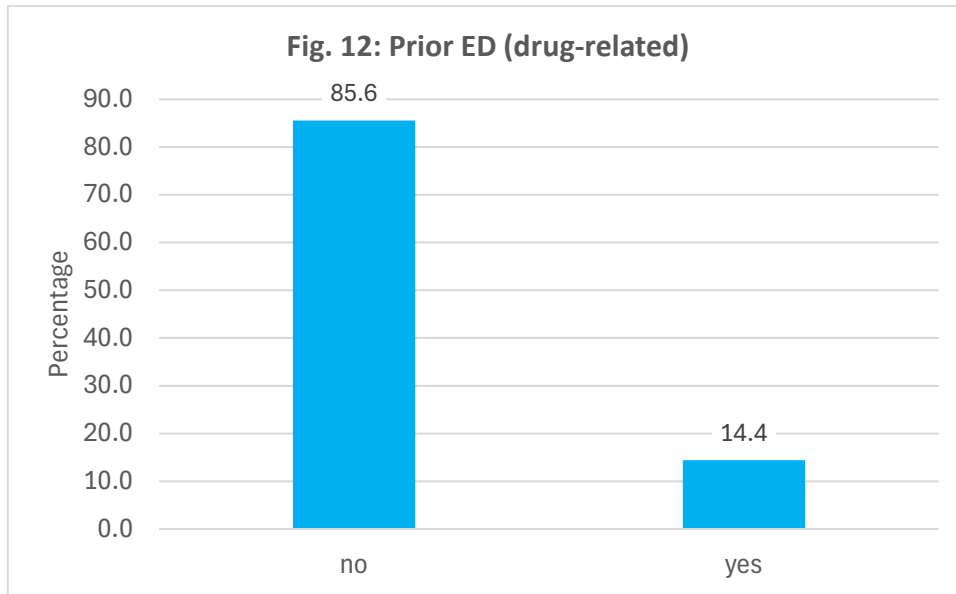


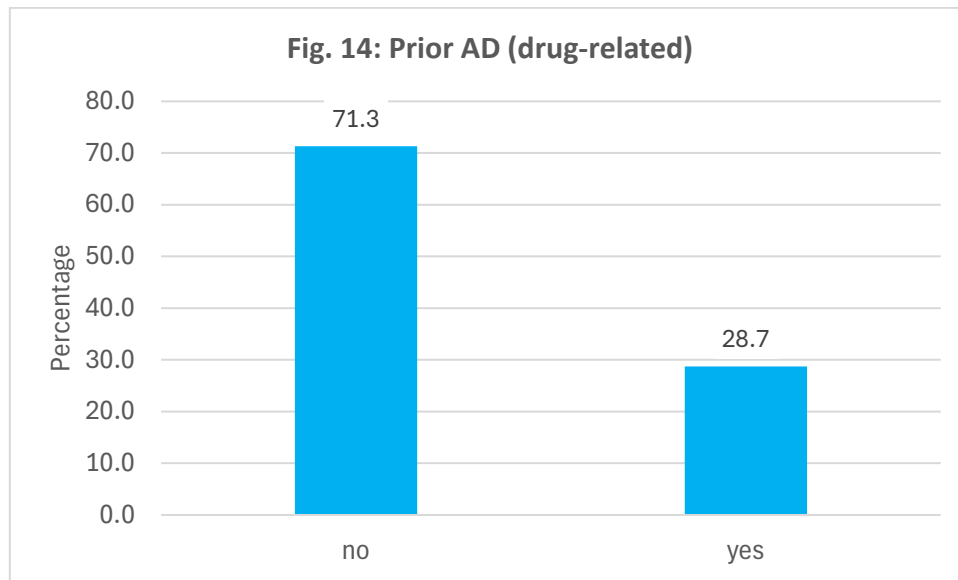












Chi-square tests were conducted to examine the bi-variate relationship between each covariate and treatment status prior to matching. Table 2 shows the test results for the pre-matching comparison of treatment and control groups. Sex is the only variable whose distribution varies significantly between control and treatment groups. A higher proportion of women are in the treatment group.

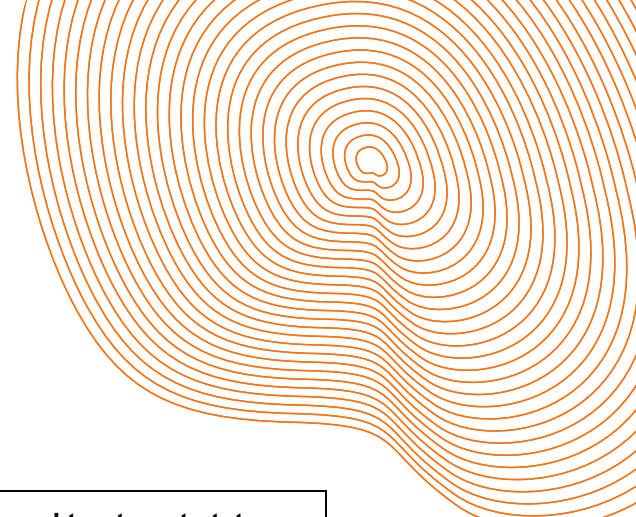


Table 2: Bivariate relationship between covariates and treatment status

Variable	Group		N	p-value
	Control	Treatment		
Sex				< 0.001
female	11.71	88.29	111	
male	36.36	63.64	322	
Age group				0.801
18-26	33.13	66.87	163	
27-33	30.68	69.32	176	
34-39	34.19	65.81	155	
40+	29.27	70.73	123	
Aboriginal status				0.12
Aboriginal	27.98	72.02	218	
Non-Aboriginal	34.09	65.91	399	
Seriousness of offences				0.035
not serious	24.71	75.29	170	
fairly serious	32.99	67.01	291	
very serious	37.82	62.18	156	
Concurrent offences				0.321
1	32.3	67.61	71	
2-4	37.3	62.68	142	
>=5	30.4	69.59	388	
Age first contact				0.07
10-14	33.83	66.17	133	
15-19	33.97	66.03	262	
20-25	22.79	77.21	136	
26+	37.21	62.79	86	
Prior court apps.				0.074
0 to 6	42.86	57.14	162	
7 to 12	26.67	73.33	244	
more than 12	31.99	68.01	211	
Prior prison				0.378
No	30.23	69.77	301	
Yes	33.54	66.46	316	

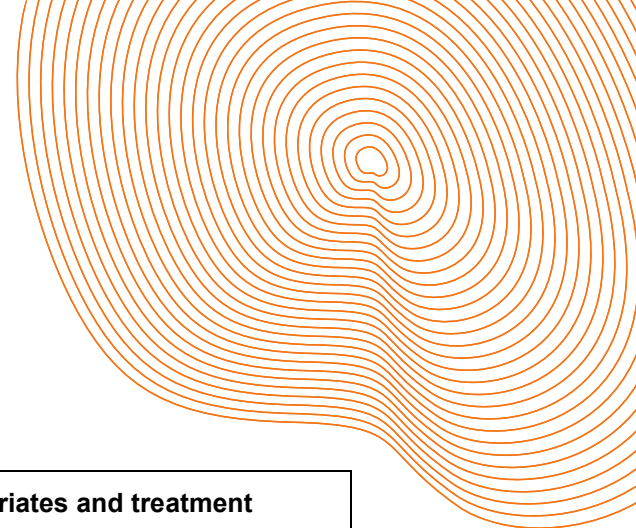


Table 2 (cont.): Bivariate relationship between covariates and treatment status				
Variable	Group		N	p-value
	Control	Treatment		
Prior violence				0.897
No	31.75	68.25	400	
Yes	32.26	67.74	217	
Prior theft				0.173
No	28.51	71.49	221	
Yes	33.84	66.16	396	
Prior justice				0.222
none	36.57	63.43	175	
one	32.72	67.28	162	
two	25.00	75.00	116	
more than two	31.10	68.90	164	
Prior ROSH for children				0.196
No	33.01	66.99	515	
Yes	26.47	73.53	102	
Prior OOHC for child/ren				0.512
No	32.32	67.68	560	
Yes	28.07	71.93	57	
Prior ED (any)				0.694
No	31.62	68.38	525	
Yes	33.70	66.30	92	
Prior ED (drugs)				0.701
No	31.64	68.36	531	
Yes	33.72	66.28	86	
Prior admission (any)				0.962
No	31.87	68.13	433	
Yes	32.07	67.93	84	
Prior admission (drugs)				0.878
No	31.75	68.25	441	
Yes	32.39	67.61	176	



Matching

We now need to determine whether the treatment and control groups are properly matched in terms of the factors (other than treatment) that could influence entry into treatment or risk of re-offending. Table 2 shows the results of the standardised bias checking.ⁱ The standardised bias is obtained by dividing the mean value of each treatment variable value by its standard deviation. The left-hand column lists the covariates, the second column shows the standardised bias prior to matching, and the final column shows the standardised bias after matching. The standardised bias after matching is less than 0.001 for all variable values except sex, where it is 0.002. The treatment and comparison groups are identical in terms of our covariates.

Table 3: Entropy matching results		
	Standardised bias	
Variable	Before matching	After matching
Sex	-0.385	-0.002
2.Age group	0.025	<0.001
3.Age group	-0.052	<0.001
4.Age group	0.058	<0.001
2.Age first group	-0.083	<0.001
3.Age first group	0.211	0.001
4.Age first group	-0.104	-0.001
Aboriginal	-0.138	<0.001
2.Seriousness group	-0.045	<0.001
3.Seriousness group	-0.161	-0.001
1.Concurrent group	-0.132	<0.001
2.Concurrent group	0.117	0.001
2.Prior court group	0.101	<0.001
3.Prior court group	-0.030	<0.001
Prior prison	-0.055	<0.001
Prior violence	-0.003	<0.001
Prior theft	-0.121	<0.001
Prior justice	0.119	<0.001
Prior Rosh	0.105	<0.001
Prior OOHC	0.045	<0.001
Prior ED any	-0.042	<0.001
Prior ED drugs	-0.042	<0.001
Prior AD any	-0.003	<0.001



Outcomes

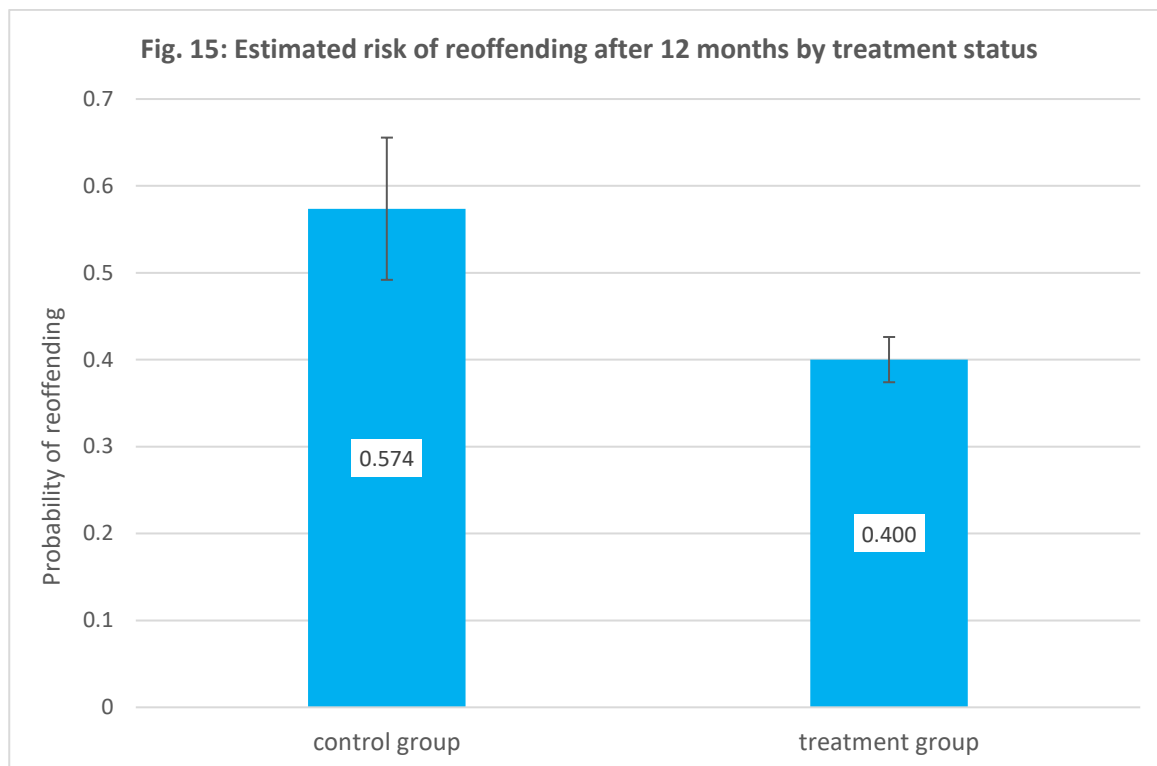
Table 4 shows the results of the outcome analysis.

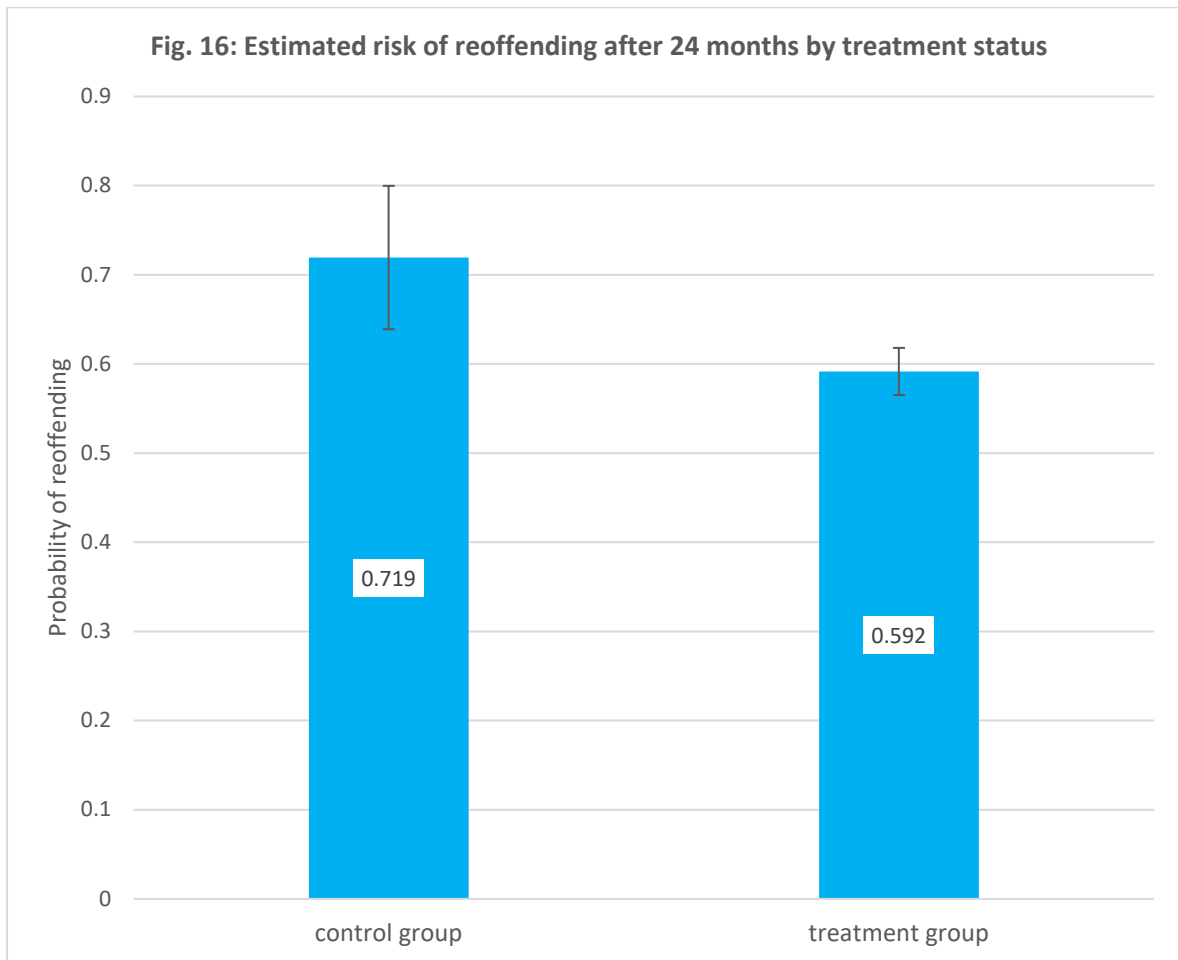
Table 4: Effect of treatment on Drug Court outcomes						
Outcome	Odds ratio	std. err.	z	P> z 	Lower 95% CI	Upper 95% CI
Reoffending (12mths)	0.496	0.089	-3.91	0	0.349	0.704
Reoffending (24mths)	0.565	0.119	-2.71	0.007	0.374	0.854
Prison	0.568	0.117	-2.74	0.006	0.379	0.852
ED admission (any)	0.625	0.166	-1.78	0.076	0.372	1.050
ED admission (drugs)	0.591	0.159	-1.96	0.05	0.348	1.001
AD admission (any)	0.761	0.154	-1.35	0.178	0.512	1.132
AD admission (drugs)	0.763	0.157	-1.32	0.187	0.510	1.141
ROSH	0.767	0.153	-1.33	0.183	0.518	1.134
OOHC	0.472	0.165	-2.14	0.032	0.238	0.938

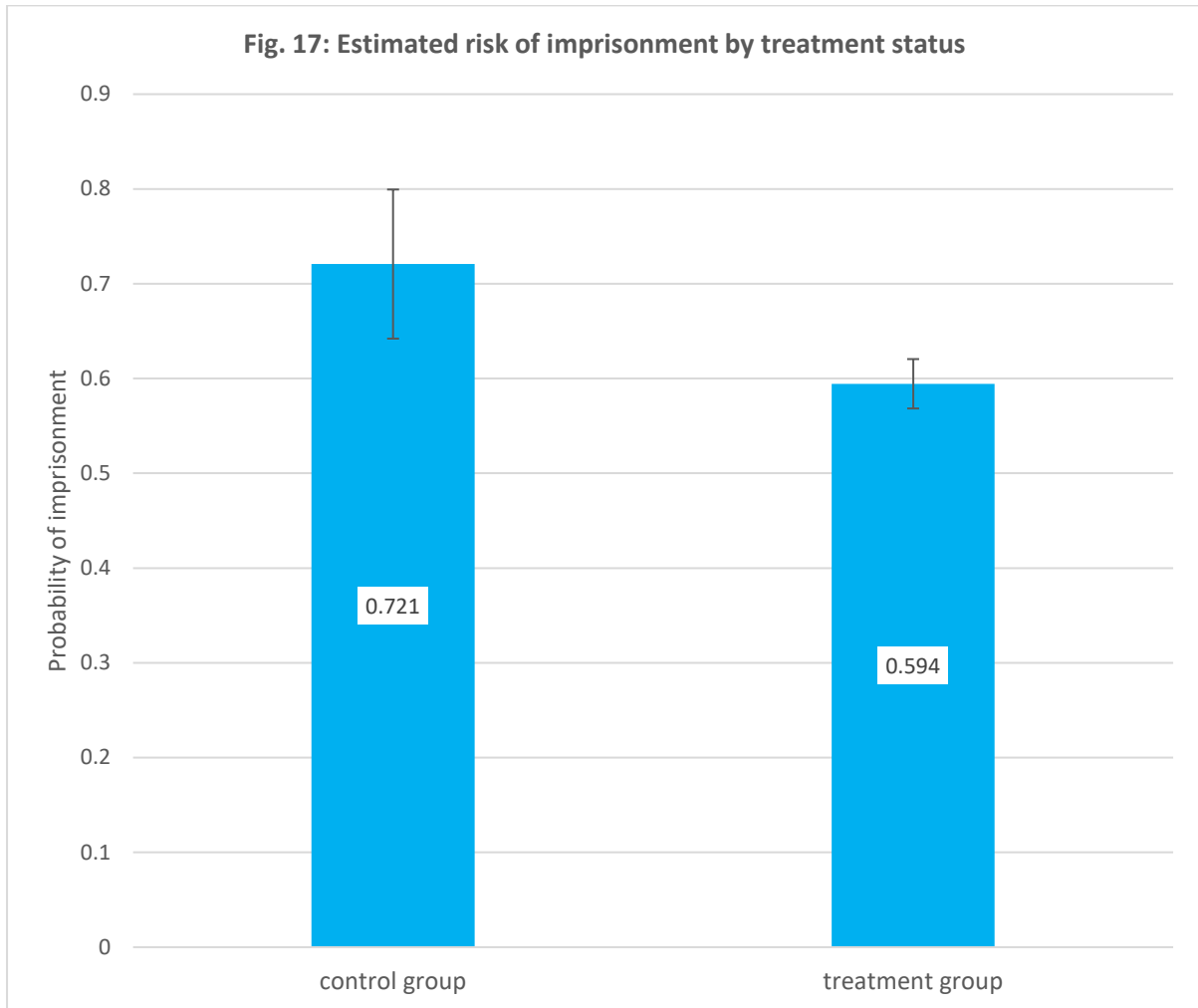


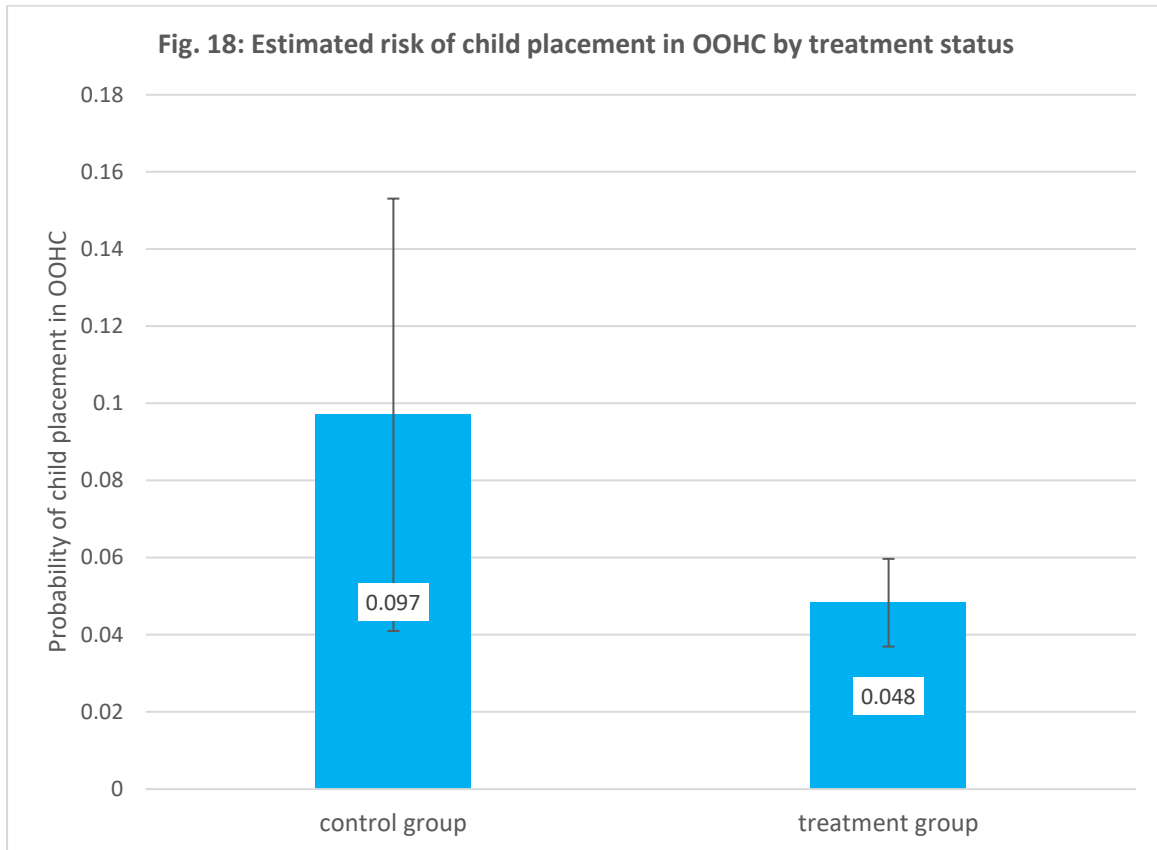
The odds ratios are all less than one (suggesting better outcomes for the treatment group), however there are only four outcomes where the treatment group fares significantly better than the control group. They are reoffending within 12 months (OR: 0.469, CI: 0.349-0.704), reoffending within 24 months (OR: 0.565, CI: 0.374-0.854), imprisonment (OR: 0.568, CI: 0.379-0.852) and placement of a participant's child or children in OOHC (OR: 0.472, CI: 0.238-0.938). The odds ratio for drug related ED admissions (OR: 0.591, 0.348-1.001) is at the borderline of conventional statistical significance.

Odds ratios have no intuitive interpretation, but it is possible to express the significant treatment effects in terms of probabilities. Figures 1 to 4 do this for each of the outcome comparisons that are significant.











Discussion

In this evaluation we sought to determine whether participants in the NSW Drug Court program are (1) less likely to reoffend; (2), less likely to be imprisoned; (3) less likely to require emergency medical treatment or hospitalisation and/or; (4) less likely to have had a child or children reported as at risk of significant harm (ROSH) or placed in out-of-home care (OOHC) (compared with a matched sample of offenders dealt with in a conventional court setting).

Compared with those who were eligible for the Drug Court but who were not placed on the Drug Court program, participants in the Drug Court program were 17.4 percentage points (pp) less likely to reoffend within 12 months, 12.7 pp less likely to reoffend within 24 months and 12.7 pp less likely to receive a prison sentence. In addition, their children were 4.9 pp less likely to be placed in OOHC (4.8% vs 9.7%). In relative terms, that constitutes a 30 per cent lower risk of reoffending at 12 months, an 18 per cent lower risk of reoffending at 24 months, an 18 per cent lower risk of imprisonment and a 51 per cent lower risk of a child being placed in OOHC. In addition, the odds ratio for drug related ED admissions is at the borderline of conventional statistical significance (0.050).

The findings in connection to reoffending and imprisonment are consistent with past research on the effectiveness of Drug Courts in reducing the risk of reoffending (Mitchell et al. 2012; US Government Accountability Office 2011; Wilson, Mitchell & MacKenzie 2006; Belenko 1998; Lind et al. 2002; Weatherburn et al. (2008, 2020). Past research has also shown that the NSW Drug Court is significantly less expensive than prison (Goodall, Norman & Haas 2008). The current findings therefore add weight to past evidence that Drug Courts are a cost-effective alternative to conventional criminal justice processing among non-violent offenders whose crimes are drug related (Drake et al. 2009, Montgomery et al. 2024).

The absence of any significant difference between treatment and control groups in the health outcomes is open to several interpretations. One is that our measures of health (hospital and emergency department admissions) are too blunt to pick up differences between the two groups in health and well-being. It is worth remembering in this connection that improvements in health can manifest themselves in a variety of ways unlikely to be reflected in emergency department or hospital admissions. Standard health assessment tools such as the Opioid Treatment Index (OTI) (Darke et al. 1992) and the 36-Item Short Form (SF-36) (RAND 1992), for example, include questions related to self-reported health status, self-reported involvement in vigorous or strenuous activity, reduced pain, and discomfort, improved mental health, and increased mobility. Earlier studies of the drug diversion programs have reported

significant changes in these more subtle measures of health and social functioning following entry into treatment (NSW Department of Communities and Justice 2020; Freeman 2002).

The other possibility is that the study lacked the power to detect differences in emergency department and hospital admissions. This would explain why the point estimates for the health outcomes are all less than one, but none of the effects are significant. As it happens, power calculations for the four health outcomes reveal the study had very little capacity to detect better health outcomes in the treatment group even if they existed. The chance of detecting a significant effect among health outcomes in the current study was: (ED presentation (any) = 0.36; ED presentation (drug related) = 0.43; hospital presentation (any) = 0.48; hospital presentation (drug related) = 0.45). Studies looking to measure improvements in the health of participants in drug diversion programs using officially recorded treatment data, clearly need to ensure they recruit large numbers of participants into the study.

The third possibility is that those who receive treatment are more likely to seek it in the future. It is worth remembering that most Drug Court participants have had no previous contact admission to an emergency department or hospital, whether for a drug related reason or any reason (see Table 1). Other studies have also found an increase in treatment seeking following first entry into treatment for AOD related problems (Cederbaum, Guerrero, Mitchell & Kim, 2014; Fleury, Grenier, Cao & Huynh, 2022). A pooled analysis of five randomised clinical trials of different AOD treatments found increases in visits to several types of medical and psychiatric outpatient services, reductions in hospitalisation for mental health reasons but no change in hospitalisation for medical reasons (Olmstead, Cohen & Petry, 2012).

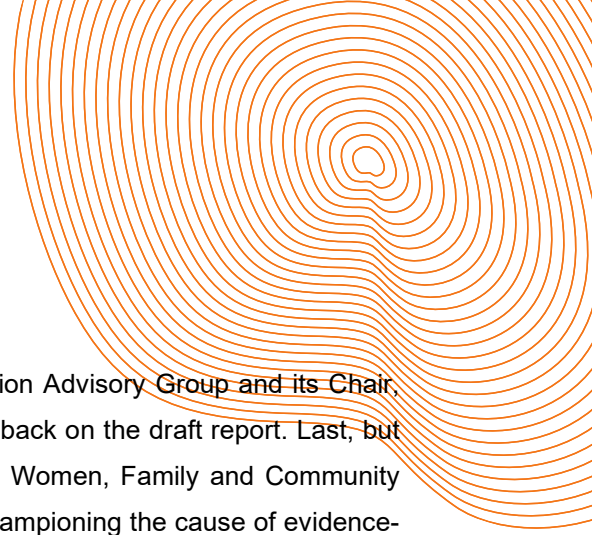
One of the more important findings to emerge from our study is that Drug Court participants were less likely to have their child or children placed in out-of-home care. The finding is consistent with Dakof et al. (2010) and Zhang et al. (2019), both of whom found that Drug Court participants in their treatment group were more likely than those in the control group to have their child or children returned to their custody. The reason for this finding is not entirely clear. It may be because those who go to prison (an outcome more likely in the control group) are more likely to have their child or children placed in out-of-home care. It may be because child protection authorities are less likely to remove a child from parental/caregiver custody if the parent or caregiver is making a serious effort to address their drug use. Whatever the reason, any reduction in the use of out-of-home care is to be welcomed. Placement in such care is expensive. The NSW Independent Pricing and Regulatory Tribunal (IPART 2024) estimates that each child placed in out-of-home care costs the NSW Government AUS\$60,000 per annum and private providers even more.

Although we have improved on past evaluations of Australian Drug Courts in several ways, the current study is not without its limitations. The principal limitation of the current study is the small control group. The Drug Court's preference to place all offenders eligible for the Drug Court program on the program is entirely understandable, however one consequence of that policy is a low rate of recruitment into the control group and consequent increase in the Type 11 error rate (assuming the null hypothesis is true when it is not). A second key limitation is that we had to rely on official records (ED and hospital admissions) to obtain measures of health outcomes. While these measures have the advantage of being objective and easy to source, ED and hospital admissions are ambiguous indicators of morbidity. They may also reflect changes in the willingness of those suffering from health problems to seek treatment. The final limitation of the study is the possibility of omitted variable bias. Matching only guarantees equivalence between treatment and control groups on variables that have been measured (viz. observables). It is always possible some unmeasured factor differing between the two groups affected the outcomes we observed.

Future research could seek to address some of the puzzles and limitations emerging from the present research. For example: 1) whether the lower rate of placement of Drug Court participant children in out-of-home care reflects either (a) a greater likelihood of removing children from families where one or both parents are imprisoned or (b) a greater likelihood of **not** placing children into OOHC when parents are making some visible effort to address the issues that might otherwise result in OOHC. 2) a better understanding of why Drug Court programs have no significant effect on health outcomes when those outcomes are measured in terms of ED and hospital admissions. 3) a deeper understanding of how Drug Court participants themselves view the strengths and limitations of Drug Court programs. Notwithstanding these reservations, the evidence presented in this report indicates that the NSW Drug Court program reduces reliance on custodial sanctions, enhances public safety, and reduces the number of children placed in out-of-home care.

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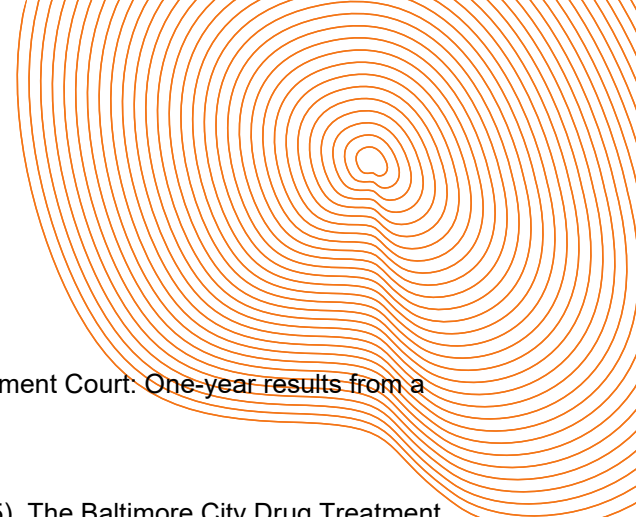


Commission of NSW. Thanks also to the NSW Drug Court Evaluation Advisory Group and its Chair, Louise Pounder, Director, Justice Programs, DCJ for providing feedback on the draft report. Last, but by no means least, sincere thanks to Philippa Hetherton, Director, Women, Family and Community Safety, DCJ for arranging DCJ's funding for this research and for championing the cause of evidence-based policy.

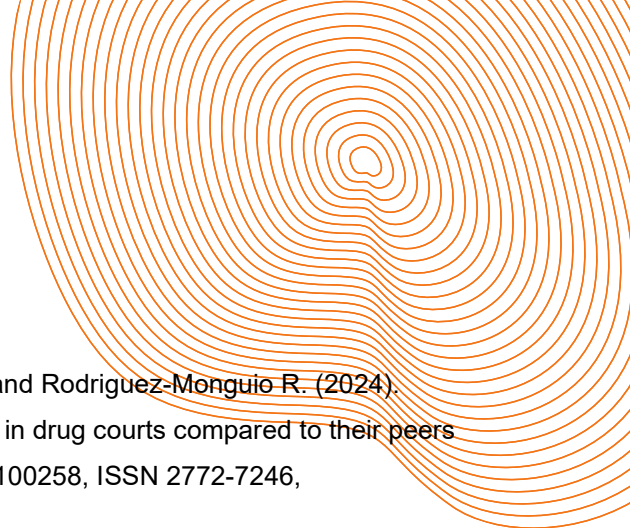


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ⁱ The reference to collinearity here means that two variables are so closely correlated, they cannot be placed in the same model.