Outcome evaluation of a community alcohol and other drug intervention programme for offenders serving community sentences in Auckland, New Zealand

Amanda Wheeler, *University of Auckland*
Polly Websdell, *Waitemata District Health Board*
Puti Wilson, *Waitemata District Health Board*
Justin Pulford, *University of Queensland*
Susanna Galea, *University of Auckland*
Elizabeth Robinson, *University of Auckland*

The aim of this study was to follow-up an offender cohort directed to a community alcohol and drug (AOD) treatment programme via probation and assess whether self-reported substance use, impact of use and recidivism changed over 6-months. The cohort completed the Alcohol and Drug Outcome Measure (ADOM) at treatment entry and 3 and 6-months post-programme. Clients answered questions about treatment and its impact on recidivism and their health at follow-up. Data for 278 clients consenting to follow-up was available at entry; 96 completed 3-month and 53 6-month follow-up. Post-programme 3-month analysis (*n*=96) showed a significant reduction in alcohol and cannabis use. No further changes were evident between 3 and 6-months for the participants who completed the follow-up at 6-months. Physical health interference on daily functioning improved at 3-months and psychological health improved at 6-months. At both assessments most clients reported the programme had helped them reduce offending and were motivated to continue addressing their substance use. Enabling clients to address their AOD problems empowered them to address other health and psychosocial issues. Larger longer-term follow-up studies are required.

Concern about the links between problem drug use and crime has grown both internationally and in New Zealand; offenders report high rates of drug use and people with substance use issues are frequently offenders but the relationship between the two is complex (European Monitoring Centre for Drugs and Drug Addiction, 2007). Recognition of this has required the criminal justice system and probation services to look at the way they work with criminally involved people with substance use issues and typically initiatives have coerced offenders to some form of drug treatment programme (e.g. Drug Treatment and Testing Orders in the United Kingdom).

Following a review of mental health and alcohol and other drug (AOD) interventions in the criminal justice system in New Zealand (as part of the Government's Effective Intervention programme in 2006), a number of initiatives were developed to improve the way in which offenders in the criminal justice system could access and receive appropriate mental health and AOD treatment. The specific aims of the Effective Intervention programme were to:

- enhance the social functioning and mental health of this population
- assist in reducing the rate of AOD addiction and AOD addiction-related harm
- assist in reducing re-offending.

One of the initiatives was the Community Alcohol and Drug Service (CADS) Offender Programme, a three year pilot project receiving referrals from Northern Region Corrections and Northern Region Community Probation and Psychological Services. The aim of the pilot project was to improve health and reduce rates of recidivism among offenders with substance use disorders.

Clients were referred to the programme through Northern Region Corrections and Northern Region Community Probation and Psychological Services (CPPS). For the purpose of this outcomes evaluation, the focus was on clients referred through CPPS. Clients were referred to CADS Services for 'AOD assessment and treatment as required' by their probation officer as part of their community sentence. On referral to CADS the client completed an alcohol and other drug assessment alongside a brief assessment of presenting concerns and risks, usually with a designated CADS Offender Project clinician at the CPPS office.

After the assessment most clients were referred to a four week "Getting Started Group" aimed at people in the pre-contemplative stage of change (Prochaska, DiClemente, & Norcross, 1992). The group intervention was grounded in the evidence based approach of motivational interviewing (Miller & Rollnick, 2002), and focused on engaging people in treatment, and to enhance their knowledge. The topics covered in these weekly groups were designed to increase clients' awareness and knowledge about the impact of their substance use in order to assist them in moving to making a decision about their alcohol or other drug use. Topics included: (i) facts and effects of alcohol and other drug use; (ii) identifying impact of use on self and others; (iii) reducing harm of use; and (iv) setting goals

around AOD use. Group facilitators, who were all qualified and experienced alcohol and other drug clinicians, used motivational interviewing techniques, such as expressing empathy, rolling with resistance and eliciting change talk, to enhance intrinsic motivation for change. The groups were run at all five CADS units and at the seven CPPS offices across Auckland with varying group sizes; 8-12 at CPPS and between 20-25 clients at CADS units. On completion of the four week programme, clients were invited to an individual review and the outcome of which was either to continue with individual or group treatment, or to terminate the treatment episode.

In total 6005 referrals were made to the project in the 26 months up to 30th April 2010. These referrals constitute 4941 clients (some people have been referred on more than one occasion during this period). Of these referrals, 758 did not result in an appointment, 610 referrals resulted in people attending for assessment only and subsequently declining treatment and a further 876 clients attended more than once, however did not complete the recommended treatment programme and initiated an unplanned exit. Some clients (n=623) were assessed as requiring no further treatment by the AOD clinician completing the baseline assessment, the remaining 2074 completed treatment as recommended. Part of the project brief was to monitor clients' treatment progress over time (substance use and recidivism over 6-months), providing an opportunity to review the effectiveness of the CADS Offender Programme and guide further service development.

This paper describes the evaluation of self-reported outcome data on the effectiveness of the treatment intervention provided by CADS to an offender cohort.

Method

Study setting and design

The study took place in a general community AOD treatment service located in an urban centre of Auckland, New Zealand. CADS Auckland is the primary public provider of specialist AOD treatment in the region. The service employs clinicians from a range of professional backgrounds and operates according to a harm reduction approach.

As part of the overarching Offender Programme, CADS introduced an initiative to prospectively follow up a sample of CPPS-referred clients engaged in the pilot project in May 2009 (this was additional to the official project evaluation). Clients who consented to being followed up post-programme were administered the Alcohol and other Drug Outcome Measure (ADOM) at entry to the programme and then at two further time points (3 and 6-months post-programme). The ADOM is a generic outcome monitoring instrument designed for use in the New Zealand AOD treatment sector that assesses AOD use and the impact on health and well-being, employment, relationships, and self-reported involvement in any illegal activity (Deering et al., 2009). It is an 18-item questionnaire split into two discrete sections: Part A, covering type and frequency of substance use (11 items) and Part B, covering associated psychosocial issues (7 items) [see Appendix 1 of the companion paper p116]. A secondary aim of the pilot project was to evaluate the clinical utility of the ADOM in real world practice and this is reported in the companion paper.

Ethical approval was obtained for this project from the Auckland Ministry of Health, Health and Disability ethics committee (NTX/09/150/EXP).

Data collection

Data collected for the study included demographics (gender, age, and ethnicity), and treatment information (previous contact with CADS and number of treatment sessions attended). This data was retrospectively extracted (by the Project Coordinator) from the paper and/or electronic clinical file and the patient information management system and entered into an SPSS database with pre-determined response options.

The initial ADOM assessment was completed face-to-face with the client and a CADS clinician and the 3 and 6-month post-programme follow-ups were completed by the Project Coordinator or trained researcher by telephone. Clients also answered additional questions about the treatment and its impact on recidivism and their health at the two follow-up points. Other comments about their experience were elicited and if indicated, a brief intervention was offered (see Appendix 1). Each client nominated preferred contact times as part of their participation in the evaluation and five attempts were made (including evenings) to contact clients before a non-response was recorded.

Data analysis

Descriptive analyses were used to present the demographics of participants at the three time–points. Exact tests were used to compare the demographics of participants who completed 1, 2 or 3 questionnaires.

Change between baseline and 3-months (T0-T1;n=96) and between 3 and 6 months (T1-T2; n=53) in AOD type and frequency of use (ADOM Part A data) was analysed in SPSS (Version 15) using a Wilcoxon signed-ranked test (a non-parametric test for paired measures). Similarly change in psychosocial issues related to AOD use (ADOM Part B data) was analysed using a Wilcoxon signed-ranked test.

A generalised linear model using the generalised estimating equations (GEE) approach for correlated data was used to investigate the change over time in the use of alcohol and cannabis for those participants assessed at all three time points (T0, T1 and T2; n=53). Contrasts were set up to answer the specific hypotheses of whether there was a difference between 3 and 6 months and if no difference was found to investigate whether there was a difference between baseline and the average of the later two measurements. A poisson distribution of the errors was assumed and a log linear model used. The SAS procedure GENMOD was used for these analyses.

Results

A total of 1715 people who had been referred and assessed to enter the CADS Offender Programme between May and December 2009 were invited to participate in the self-reported outcome evaluation; 295 agreed to participate. Of the 295, 278 did participate and 17 could not be contacted. At 3-month post-programme follow-up 96 were

able to be contacted by phone (34.5% of baseline participants) and at 6-months post-programme 53 participated (55.2% of 3-month participants and 19.1% of baseline participants). Table 1 describes the participant group at the three time-points. The majority of the baseline cohort was male (85.6%), had a mean age of 32.3 years and less than half had previously attended CADS for treatment. They attended a mean of 5.3 CADS appointments (95% CI 4.78-5.88) as part of the Offender Programme.

Exact tests were used to compare the demographics of the participants from T0 who attended T1 with those who did not attend at T1 and the differences between those attending T1 who did or did not attend T2. There was no difference in gender or age characteristics found between either time period (gender T0-T1 p=0.28, T1-T2 p=0.43; age T0-T1 p=0.27, T1-T2 p=0.67). Ethnic make-up of the participant groups differed significantly at both time periods (T0-T1 p=0.04, T1-T2 p=0.01); primarily due to a reduction in Māori and Pacific peoples who were able to be contacted at both the 3 and 6-month post-programme follow-ups. The proportion of participants who were previous CADS clients also reduced between T0-T1 (p=0.06) but there was no difference between T1-T2 groups (p=0.83).

ADOM Part A items: type and frequency of AOD use

At the baseline programme assessment 65.8% (n=183/278) and 28.8% (n=80/278) of the participants reported using alcohol and cannabis respectively on at least one day in the previous four weeks. Of the participants who were contactable at the two post-programme follow-up points (3 and 6-months) the proportion reporting alcohol use remained similar to the total baseline group (58.3% at 3-months and 67.9% at 6-months) but the proportion reporting cannabis use diminished (19.8% at 3-months and 20.8% at 6-months). Table 2 shows the frequency (median number of days) of AOD use at baseline for the total group of 278 participants.

There was a significant decrease in the frequency of alcohol and cannabis use from baseline to 3-month post-programme follow-up for the 96 participants who were interviewed at both time-points (Table 3). Participant numbers for amphetamine-type stimulants, opioid, sedative/tranquiliser and injecting drug use were only small (with values of 1, 2 or 3 counts) and hence suggestions of any decrease (such as with sedative/tranquiliser use) is likely to be still undetectable. From 3-month to 6-month post-programme follow-up there were no significant changes in frequency of AOD use.

To further explore the relationship over the full time period a generalised linear model was used to investigate alcohol and cannabis use for the participants who completed an assessment at all three time points (n=53). Figure 1 shows the mean measurements (days of use/4 weeks) for this group at the three assessments over 6-months. There was a significant change in alcohol use between T1 and T2 (χ^2=3.84, df=1, p=0.05) but no difference between T0 and the average value at T1 and T2 (χ^2 =0.01, df=1, p=0.99). So although alcohol use reduced over the first 3 months it increased by 6-months and so any change from baseline was not maintained (Figure 1). Whilst frequency of alcohol use appeared to increase at 6-months, the amount of alcohol consumed on a typical day was reduced at 3-months (median 3 units/day) and the 6-month post-programme assessment found a median of 2 units consumed/day (Table 3). There was no difference in cannabis use between T1 and T2 (χ^2 =0.56, df=1, p=0.45) but there was a significant reduction between baseline (T0) and the average value at T1 and T2 (χ^2 =3.96, df=1, p=0.047). Figure 1 shows that cannabis use fell over the first 3-months but then there was little further difference between 3 and 6-months.

ADOM Part B items: psychosocial impacts of AOD use

Table 2 shows the degree of psychosocial issues reported by the total group at programme entry (n=278). The change in psychosocial issues for the participants who were contactable at 3 and 6-months post-programme respectively is shown in Tables 4 and 5. At 3-months the only significant change was found for physical health interference on day-to-day functioning with a significant decrease in the degree of interference. Between 3 and 6-months, there was no further change in this issue but there was a significant decrease in psychological or mental health interference on day-to-day activities.

Table 1. Participant details at programme entry (T0), 3-month (T1) and 6-month (T2) post-programme follow-up assessments

Measure	Baseline (T0)	Baseline & 3-months (T1)	Baseline & 6-months (T2)
	n=278 (%)	n=96 (%)	n=53 (%)
Gender			
Male	238 (85.6%)	79 (82.3%)	42 (79.2%)
Female	40 (14.4%)	17 (17.7%)	11 (20.8%)
Ethnicity			
European	95 (34.2%)	39 (40.6%)	23 (43.4%)
Māori	81 (29.1%)	20 (20.8%)	7 (13.2%)
Pacific Peoples	20 (7.2%)	11 (11.5%)	8 (15.1%)
Asian	13 (4.7)	7 (7.3)	6 (11.3)
Other[a]	25 (9.0)	11 (11.4)	6 (11.3)
Unknown	9 (3.2)	2 (2.1)	1 (1.9)
Age mean years (SD)	32.3 (10.9)	33.3 (11.5)	33.8 (12.0)
Previous CADS client	[b]		
Yes	114 (41.0)	32 (33.3%)	17 (32.1%)
No	163 (58.6)	64 (66.7)	36 (67.9)

[a] Other includes African and those with multiple ethnicities
[b] One person Unknown

Table 2. ADOM Part A and Part B Items at Baseline (T0) *n*=278

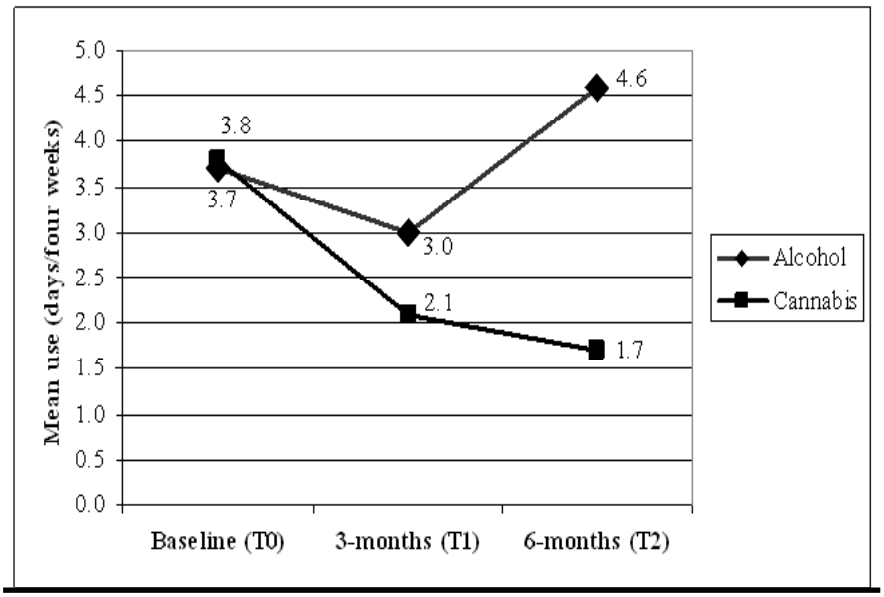
PART A Measure	Interview	PART B Question	Participant Response				
In the past 4 weeks		In the past 4 weeks	never	< weekly	1-2 x week	3-4 x week	Daily
Median days used (range)		%					
Alcohol	2 (0-28)	Q12. Physical Health Interference	72.2	12.6	8.5	1.1	5.6
Cannabis	0 (0-28)	Q13. Psychological Health Interference	74.3	11.9	10.1	2.2	1.5
Amphetamine-type stimulants	0 (0-22)	Q14. AOD use led to Family/Friend Conflict	77.6	14.6	4.5	1.5	1.9
Opioids	0 (0-28)	Q15. AOD use led to Work/Activity Interference	80.7	13.4	4.1	0.7	1.1
Sedatives/tranquilisers	0 (0-4)	Q16. Engaged in Work/Other Activity	30.1	5.9	8.9	6.3	48.7
Injected drug use	0 (0-8)	Q17. Housing Difficulties	89.2	5.6	0.4	0.4	4.5
Median units on typical day (range)		Q18. Illegal Activity	89.2	9.0	1.1	0.4	0.4
Alcohol	4 (0-96)						
Cigarettes/Nicotine	10 (0-65)						

Table 3: Change for ADOM Part A items between participants in both Baseline (T0) and 3-month (T1) post-programme follow-up and between participants in both 3-month (T1) and 6-month (T2) post-programme follow-up

Measure	Interview			Measure	Interview		
In the past 4 weeks	Baseline T0 (*n*=96)	3-month T1 (*n*=96)	*p*†	In the past 4 weeks	3-month T1 (*n*=53)	6-month T2 (*n*=53)	*p*†
Median days used (range)				Median days used (range)			
Alcohol	1.5 (0-28)	1 (0-28)	0.03	Alcohol	1.0 (0-28)	2 (0-28)	0.20
Cannabis	0 (0-28)	0 (0-28)	0.02	Cannabis	0 (0-28)	0 (0-28)	0.31
Amphetamine-type stimulants	0 (0-10)	0 (0-3)	0.07	Amphetamine-type stimulants	0 (0-3)	0 (0-0)	0.50
Opioids	0 (0-28)	0 (0-3)	0.09	Opioids	0 (0-28)	0 (0-0)	0.50
Sedatives/tranquilisers	0 (0-4)	0 (0-1)	0.05	Sedatives/tranquilisers	0 (0-1)	0 (0-3)	0.33
Injected drug use	0 (0-4)	0 (0-28)	0.33	Injected drug use	0 (0-28)	0 (0-0)	0.16
Median units on typical day (range)				Median units on typical day (range)			
Alcohol	4 (0-40)	3 (0-58)	0.06	Alcohol	2 (0-58)	2 (0-35)	0.21
Cigarettes/Nicotine	10 (0-45)	10 (0-30)	0.30	Cigarettes/Nicotine	10 (0-30)	7 (0-35)	0.30

SE=standard error; †Paired Wilcoxon signed-rank test

Figure 1. Change in AOD use between programme entry (T0), 3-month (T1) and 6-month (T2) post-programme follow-up for participants assessed at all three time points (*n*=53)



Additional questions

Figure 2 shows that the majority of participants (>68%) agreed/strongly agreed with all five of the attitudinal follow-up statements (Appendix 1) regarding the CADS treatment programme, their AOD use and the impact of AOD use on their offending at both the 3 and 6-month post-programme assessments; indicating that they felt the treatment they received was appropriate and motivated them to address behaviour, which included reducing offending.

Discussion

The primary aim of this study was to evaluate the effectiveness of the treatment intervention provided by CADS to an offender cohort with self-reported outcome data. This is the first study of such a programme in New Zealand and it involved a cohort of clients in contact with addiction services who would be considered as having complex needs specifically highlighted by their offending behaviour. Overall there was a reduction in alcohol and cannabis use at 3-months post-programme follow-up. Between 3 and 6-months participants' cannabis use appeared to plateau whilst the frequency of alcohol use increased. Over the first 3-months there was also a trend for participants to report a reduction in the amount of alcohol consumed on a typical day and between 3 and 6-months this level of use remained stable.

There was a significant improvement in participants reported impact of their physical health on day-to-day functioning at 3-months and at 6-months there was a significant improvement in participants reported impact of their psychological or mental health on day-to-day functioning. The ADOM Part A and B results are suggestive of problem improvement and combined with reports that participants found treatment they received appropriate and motivated them to address behaviour (including reducing offending), indicates this change is attributable, at least in part, to the CADS treatment programme. However, these positive outcomes cannot be generalised given the low response rates at the post-programme follow-up points (34.5% at 3-months and 19.1% at 6-months) and the possibility of bias given the self-reported nature of the results. It is also possible that a number of the participants who could not be contacted at follow-up had reoffended and had re-entered the criminal justice system. Future evaluation needs higher post-programme response rates and objective data such as urine tests, re-offending rates and supervisory reports to confirm these findings. Also, while the findings for alcohol and cannabis use are positive, a cohort with a higher frequency of other drug use (e.g. amphetamine-type-stimulants and opioids) is needed to give better indication of the effectiveness of the CADS treatment programme with these types of users.

As identified above a major limitation in this project was the difficulty in contacting participants by phone after they had exited the CADS treatment programme at three and six months. Consequently as participant

Figure 2: Participant attitudes to treatment, AOD use and offending at 3-month (T1 *n*=96) and 6-month (T2 *n*=53) post-programme follow-up

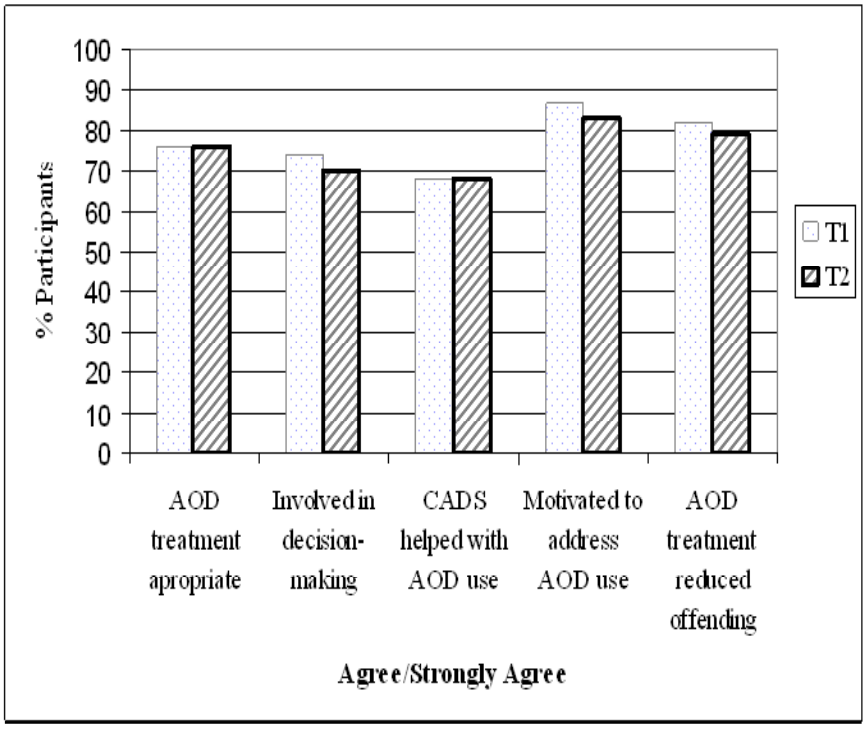


Table 4. Change in ADOM Part B items for participants in both Baseline (T0) and 3-month (T1) post-programme follow-up (n=96)

Question			Participant	Response		$p^{\dagger}$	Participant Change†
In the past 4 weeks	never	< weekly	1-2 x week	3-4 x week	Daily		*n*
Q12. Physical Health Interference							
Baseline (T0): %	65.6	15.6	12.5	-	6.3	0.04	8 positive
Follow-Up (T1): %	84.4	4.2	4.2	2.1	5.2		26 negative
							62 no change
Q13. Psychological Health Interference							
Baseline (T0): %	70.8	13.5	11.5	3.1	1.0	0.43	19 positive
Follow-Up (T1): %	74.0	9.4	6.3	3.1	7.3		18 negative
							59 no change
Q14. AOD use led to Family/Friend Conflict							
Baseline (T0): %	80.0	13.7	2.1	1.1	3.2	0.30	6 positive
Follow-Up (T1): %	85.4	8.3	3.1	-	3.1		12 negative
							77 no change
Q15. AOD use led to Work/Activity Interference							
Baseline (T0): %	80.2	15.6	2.1	-	2.1	0.12	5 positive
Follow-Up (T1): %	90.6	4.2	3.1	-	2.1		14 negative
							77 no change
Q16. Engaged in Work/Other Activity							
Baseline (T0): %	25.0	5.2	14.6	4.2	51.0	0.62	21 positive
Follow-Up (T1): %	32.3	2.1	8.3	5.2	52.1		21 negative
							54 no change
Q17. Housing Difficulties							
Baseline (T0): %	89.6	4.2	-	-	6.2	0.77	9 positive
Follow-Up (T1): %	86.5	5.2	2.1	2.1	4.2		8 negative
							79 no change
Q18. Illegal Activity							
Baseline (T0): %	89.6	9.4	-	-	1.0	0.48	5 positive
Follow-Up (T1): %	93.8	4.2	1.0	1.0	-		8 negative
							83 no change

†Wilcoxon signed-rank test

Table 5. Change in ADOM Part B items for participants in both 3-month (T1) and 6-month (T2) post-programme follow-up (*n*=53)

Question		Participant	Response			*p*†	Participant Change†
In the past 4 weeks	never	< weekly	1-2 x week	3-4 x week	Daily		n
Q12. Physical Health Interference							
Follow-Up (T1): %	84.4	4.2	4.2	2.1	5.2	0.41	6 positive
Follow-Up (T2): %	88.7	1.9	5.7	-	3.8		7 negative
							40 no change
Q13. Psychological Health Interference							
Follow-Up (T1): %	74	9.4	6.3	3.1	7.3	0.008	1 positive
Follow-Up (T2): %	90.6	1.9	5.7	-	1.9		10 negative
							42 no change
Q14. AOD use led to Family/Friend Conflict							
Follow-Up (T1): %	85.4	8.3	3.1	-	3.1	0.52	5 positive
Follow-Up (T2): %	88.7	1.9	5.7	-	3.8		3 negative
							45 no change
Q15. AOD use led to Work/Activity Interference							
Follow-Up (T1): %	90.6	4.2	3.1	-	2.1	0.70	2 positive
Follow-Up (T2): %	94.3	3.8	1.9	-	-		2 negative
							49 no change
Q16. Engaged in Work/Other Activity							
Follow-Up (T1): %	32.3	2.1	8.3	5.2	52.1	0.31	13 positive
Follow-Up (T2): %	20.8	-	11.3	5.7	62.3		9 negative
							31 no change
Q17. Housing Difficulties							
Follow-Up (T1): %	86.5	5.2	2.1	2.1	4.2	0.11	5 positive
Follow-Up (T2): %	86.5	5.2	2.1	2.1	4.2		1 negative
							47 no change
Q18. Illegal Activity							
Follow-Up (T1): %	93.8	4.2	1.0	1.0	-	0.20	1 positive
Follow-Up (T2): %	98.1	1.9	-	-	-		5 negative
							47 no change

†Paired signed-rank test;

numbers reduced with time so did the reliability of the comparative analyses. Offenders are renowned for being transient and therefore follow-up studies such as this will always be difficult to administer. Larger participant numbers at the follow-up points would allow changes in sub-groups of the population to be detected. Suggestions to increase follow-up participation have included offering clients different options when they engage in the treatment programme such as email and texting as well as a phone call and these are planned for future studies at CADS. With respect to the current data we have tried to overcome these issues by assessing change between periods with only those who had completed assessments at both time points (e.g. T0-T1 analysis was conducted with the 96 participants and T1-T2 analysis was conducted with the 53 participants with data at both time points). We also conducted repeated measures analyses which used all the information available for each time point to compare changes over the three time points. Although the estimates may be biased because of the large decrease in people able to be contacted this allowed us to investigate whether changes in the shorter term were maintained.

Treatment for substance misuse has been linked with reducing crime, improving health and employment (including reduced spread of infectious disease) (Basu, Paltiel, & Pollack, 2008; McLellan et al., 1997). However, assessment and post-programme follow-up with offenders mandated to attend AOD treatment to demonstrate the effectiveness of treatment programmes such as this have numerous challenges including: client reluctance to divulge information because of fear of penalties from the criminal justice system; the chronic relapsing nature of AOD problems; and the transient nature of the offender population during the programme and after treatment exit. These problems are not unique to this project and are reported with other innovative programmes that divert substance using offenders into treatment (Barton, 1999; Freeman, 2003; Harvey, Shakeshaft, Hetherington, Sannibale, & Mattick, 2007; McMurran, 2007; Penny & Ernie, 2001; Reilly, Scantleton, & Didcott, 2002). However, they impact on the evaluation processes and need to be taken into account when looking at how to improve the intervention's effectiveness.

In summary, taking all of the above considerations into account, the results suggest that this innovative treatment programme has empowered offenders mandated to attend AOD treatment and to make changes for themselves. Initially, by enabling clients to mitigate the effects of substance use on their physical and psychological health, work and other day-to-day activities and reducing involvement in criminal or illegal activity. In the longer term, the CADS treatment programme has the potential to have more of a positive impact on other health and psychosocial issues such as finding stable living conditions, engaging in paid and voluntary employment and resolving larger issues such as family conflict. Ideally, any future evaluation would involve a longer follow-up period, a greater number of participants, a variety of follow-up options and objective measures alongside self-reported client outcomes.

Acknowledgements

This study was made possible through funding from Te Pou, the National Centre of Mental Health Research, Information and Workforce Development. The authors acknowledge the staff and clients of CADS who so willingly participated in the study.

References

Barton, A. (1999). Breaking the crime/drugs cycle: the birth of a new approach? *The Howard Journal of Criminal Justice, 38*(2), 144-157.

Basu, A., Paltiel, A. D., & Pollack, H. A. (2008). Social costs of robbery and the cost-effectiveness of substance abuse treatment. *Health Economics, 17*(8), 927-946.

Deering, D., Robinson, G., Wheeler, A., Pulford, J., Frampton, P., Dunbar, L., et al. (2009). *Preliminary work towards validating a draft outcome measure for use in the alcohol and drug sector*. Auckland: Te Pou o te Whakaaro Nui (National Centre of Mental Health Research, Information and Workforce Development).

European Monitoring Centre for Drugs and Drug Addiction. (2007). Drugs and crime - a complex relationship. *Drugs in focus* Retrieved November 12, 2010, from http://www.emcdda.europa.eu/attachements.cfm/att_44774_EN_Dif16EN.pdf

Freeman, K. (2003). Health and well-being outcomes for drug-dependent offenders on the NSW Drug Court programme. *Drug and Alcohol Review, 22*(4), 409-416.

Harvey, E., Shakeshaft, A., Hetherington, K., Sannibale, C., & Mattick, R. P. (2007). The efficacy of diversion and aftercare strategies for adult drug-involved offenders: a summary and methodological review of the outcome literature. *Drug and Alcohol Review, 26*(4), 379-387.

McLellan, A. T., Woody, G. E., Metzger, D., McKay, J., Durrell, J., Alterman, A. I., et al. (1997). Evaluating the effectiveness of addiction treatment: reasonable expectations, appropriate comparisons. In J. Egerston, D. Fox & A. Leshner (Eds.), *Treating Drug Abusers Effectively* (pp. 7-40). Oxford: Blackwell.

McMurran, M. (2007). What works in substance misuse treatments for offenders? *Criminal Behaviour and Mental Health, 17*(4), 225-233.

Miller, W. R., & Rollnick, S. (2002). *Motivational interviewing: Preparing people for change*. New York: Guilford Press.

Penny, H., & Ernie, L. (2001). A process evaluation of the CREDIT (court referral and evaluation for drug intervention and treatment) pilot programme. *Drug and Alcohol Review, 20*(2), 223-230.

Prochaska, J. O., DiClemente, C. C., & Norcross, J. C. (1992). In search of how people change. Applications to addictive behaviors. *American Psychologist, 47*(9), 1102-1114.

Reilly, D., Scantleton, J., & Didcott, P. (2002). Magistrates' Early Referral into Treatment (MERIT): preliminary findings of a 12-month court diversion trial for drug offenders. *Drug and Alcohol Review, 21*(4), 393-396.

Corresponding Author:

Amanda Wheeler
School of Human Services,
Faculty of Health
Griffith University
Queensland
Australia
a.wheeler@griffith.edu.au

Appendix 1: Additional Questions

1. The treatment that I received is appropriate to my culture or lifestyle

1	2	3	4	5
Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

2. I felt involved in making decisions about the treatment I received

1	2	3	4	5
Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

3. CADS has helped reduce the problems from my alcohol and other drug use

1	2	3	4	5
Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

4. I am motivated to continue addressing my drug/alcohol issues

1	2	3	4	5
Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

5. Addressing my alcohol or other drug use has helped me to reduce my offending

1	2	3	4	5
Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

6. What other comments would you like to make about your experience at CADS?

7. Anything further that CADS can assist you with?

Further action required?