Health and well-being outcomes for drug-dependent offenders on the NSW Drug Court programme

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Abstract

Given the centrality of drug treatment to the drug court framework, the proliferation of drug courts in the United States, and their emergence more recently in Australia, it is surprising that such little attention has been given to assessing their therapeutic effect. This evaluation aimed to assess the health and well-being of drug-dependent offenders diverted to the New South Wales Drug Court, and monitor changes in their health and well-being throughout 12 months of programme participation. The study consisted of baseline interviews with 202 offenders accepted into the programme between February 1999 and April 2000, and follow-up interviews at 4, 8 and 12 months with participants who remained on the programme. Health and well-being was assessed at each follow-up using the Short Form-36 Health Survey (SF-36) the OTI social functioning scale, and self-reported spending as a proxy for illicit drug use. The health of male Drug Court participants prior to commencing the programme was significantly poorer than Australian population norms. The results provided evidence of significant and sustained improvements in health and well-being for the 51 participants who completed each follow-up interview. Furthermore, significant improvements were found for offenders who remained on the programme for at least 4 months but less than 12 months. However, the positive health outcomes are limited by the low programme retention rate. These results indicate that significant health outcomes can be achieved for at least some heavily drug-dependent, recidivist offenders through the drug court model. [Freeman K. Health and well-being outcomes for drug-dependent offenders on the NSW Drug Court programme. Drug Alcohol Rev 2003;22:409-416]

Key words: coerced treatment, drug court, drug-dependent, health, SF-36, well-being.

Introduction

The principal aim of court-mandated treatment for drug-dependent offenders is to reduce criminal recidivism [1]. However, court-mandated treatment also offers the potential for therapeutic benefits to the recipient of the treatment. Such benefits may include improved mental and physical health, increased skills for dealing with relapse, the development of life skills and enhanced social functioning. In turn, such outcomes may benefit the wider community through reduced reliance on social services and public health resources. Numerous studies have shown that many illicit drug users experience poor physical and mental health [2-6] and that voluntary drug treatment is effective in reducing illicit drug use and improving health and social functioning [7-13]. The evidence for the effectiveness of court-mandated drug treatment is less clear; however, international literature provides qualified support for the effectiveness of some forms of legally coerced treatment in reducing illicit drug use [14].

Specialist drug-treatment courts, often referred to as 'drug courts', offer a relatively new approach to legally coerced treatment. Drug courts adopt a problem-solving approach [15], seeking to reduce illicit drug use and criminal behaviour and address a range of other issues such as unemployment, family problems and mental health issues, through the provision of health and social services [16]. Among the distinctive features of drug courts are the hands-on judicial involvement in the offender’s treatment and the team approach to the rehabilitation of the offender, led by the judge and bringing together the prosecutor, defence, treatment provider and corrective services [17]. Relapse is accepted as part of the recovery process, with a system of graduated sanctions and rewards delivered in response to compliance with the programme [18].

Australia’s first specialized drug-treatment court, the NSW Drug Court, opened in Sydney in 1999.
Offenders who meet the programme's eligibility criteria are given the option to engage court-supervised treatment programme, lasting at least 12 months, or accept the traditional criminal justice sentence, namely gaol. The NSW Drug Court programme consists of four elements: drug treatment, social support, regular reporting to the Court and regular urine testing. Abstinence-based and pharmacotherapy drug treatments are available and are offered in community or residential settings, with over half the participants receiving a pharmacotherapy treatment [19]. Offenders are given a suspended sentence when they are accepted onto the NSW Drug Court programme, which is reviewed and finalized when the offender leaves the programme, either through successful programme completion, voluntary withdrawal from the programme or discharge from the programme due to non-compliance.

Despite the rapid growth of drug courts, relatively few studies of drug courts have been published in peer-reviewed journals [20]. Evaluations of drug courts that have been undertaken have focused primarily on their effectiveness in reducing offending, and have produced mixed findings [21–27]. Little focus has been placed on the therapeutic outcomes associated with participation on drug court programmes. The primary aim of this study was to investigate whether the NSW Drug Court had a positive impact on the health and well-being of programme participants. It was expected that health and well-being from pre-treatment to on-treatment would improve, and illicit drug-use while in treatment would be reduced.

**Method**

**Participants and procedures**

As the study being reported is part of a broader study reported elsewhere [28], only a brief description of the participants and procedures are presented. The first 219 offenders found eligible for the NSW Drug Court were approached to participate in the study, with 211 people consenting to participate. Of this group, nine respondents formed a pilot group and were excluded from the analysis, leaving a final sample of 202 people.

The baseline interviews were held between March 1999 and April 2000, were conducted face to face, and lasted approximately 40 minutes. Baseline interviews were conducted after participants had been accepted into the detoxification stage of referral to the NSW Drug Court but before they had commenced the programme. Follow-up interviews took 15 minutes to complete and were conducted 4, 8 and 12 months after the baseline interview for respondents participating on the programme at the time of the follow-up interview.

Ethics approval was obtained from NSW Corrections Health and verbal consent was obtained from participants. Trained interviewers were used to assist in maintaining standardized administration of interviews.

**Measures**

Two standardized assessment instruments, the Short Form-36 Health Survey (SF-36) [29] and the Opiate Treatment Index (OTI) social functioning scale [30], were used at each interview to measure health and well-being outcomes. The SF-36 contains eight multi-item variables: general health, mental health, bodily pain, physical functioning, social functioning, role limits-physical, role limits-emotional and vitality. Scores on each of these dimensions are transformed on a scale of 0 (worst health state) to 100 (best health state). The OTI social functioning scale scores people by summing the responses to 12 questions, with scores increasing as social functioning decreases. These instruments were chosen because of favourable findings with regard to their psychometric properties [31,32].

Difficulties collecting frequent, supervised, random urine samples necessitated the creation of an indicator of illicit drug use based on self-report data. There were concerns about the reliability self-report data generated from questions relating directly to illicit drug use as illicit drug use constitutes a programme breach, which can result in a custodial sanction. As self-reported spending has been shown to be related to self-reported illicit drug use [33], self-reported total weekly spending (including spending on illicit drugs) was used as a proxy measure for illicit drug use.

**Analysis**

All analyses were conducted in SPSS version 9.0 for Windows. Statistical differences between sub-populations were tested using $\chi^2$ for categorical data and t-tests for continuous data. Baseline health was examined using the 95% confidence intervals (CI) for the mean scores of each SF-36 health dimension and were compared with Australian normative data and a drug-using sample. The effect of the intervention was assessed for each outcome measure using the repeated measures multivariate of variance (MANOVA) method on the 51 participants who completed each interview. T-tests were used to test differences in mean outcome scores between baseline and 4 months for participants who failed to complete the 8 or 12-month follow-up interviews.
Results

Sample

Of the 202 baseline respondents, 51 respondents (25% of the baseline sample) completed all three follow-up interviews. As only people eligible for the NSW Drug Court programme were included in the study all subjects met the following programme eligibility criteria: dependent on an illicit drug; facing a prison sentence; pleaded guilty to a non-violent offence; and willing to participate on the programme.

The baseline sample was predominantly male (82%), aged between 18 and 62 years (mean = 27 years, SD = 6.7) and self-identified as European/Caucasian (78%). The majority of respondents (82%) cited heroin as their drug of choice, and 75% reported using heroin on a daily basis. Fifty respondents (25%) were receiving a pharmacological treatment for drug-dependence at the time of referral to the NSW Drug Court.

There was a high rate of attrition from the study, due primarily to respondents absconding from the programme or being in custody during the follow-up periods. Of the 202 people who completed a baseline interview, 112 (55%) completed a 4-month interview, 87 (43%) completed an 8-month interview and 65 (32%) completed a 12-month interview.

Pre-programme health

Due to the limitations associated with the small number of female participants, comparisons of pre-programme health of Drug Court participants with population norms has been limited to males. Table 1 displays the mean scores for male Drug Court participants aged 18-24 and 25-34 years, on the eight SF-36 dimensions. The respondents' mean baseline scores are compared with Australian population norms collected as part of the 1995 National Health Survey [34].

Changes in health and well-being measures

A comparison of socio-demographic and baseline health indicators of the 51 respondents who completed all follow-up interviews were compared with those who were missing at least one follow-up interview. No significant differences between groups were found on any of the variables examined, including; age, gender, relationship status, prior imprisonment, status, prior imprisonment, drug of choice, treatment type, and medical status, prior imprisonment, social functioning score and weekly spending and income.

Mean health and well-being scores at each interview, for the 51 participants who completed each follow-up interview, are shown in Table 3. The largest improvements in outcome scores occurred within the first 4 months of participation on the programme. These improvements were generally sustained at each follow-up period. The results of the MANOVA indicate statistically significant improvements at the 0.05 level in all but one measure of well-being (physical function-

Table 1. Mean (95% CI) SF-36 scores of NSW Drug Court participants and Australian population for males, aged 18-24 and 25-34 years

<table>
<thead>
<tr>
<th></th>
<th>Age 18-24 years</th>
<th></th>
<th>Age 25-34 years</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>NSW Drug Court</td>
<td>Australian norms</td>
<td>NSW Drug Court</td>
</tr>
<tr>
<td></td>
<td>(n = 68)</td>
<td>(n = 1216)</td>
<td>(n = 81)</td>
</tr>
<tr>
<td>Physical functioning</td>
<td>90.1 (86.7-93.5)</td>
<td>91.4 (89.8-93.0)</td>
<td>92.9 (90.3-95.5)</td>
</tr>
<tr>
<td>Role limits - physical</td>
<td>62.5 (52.7-72.3)</td>
<td>89.3 (87.3-91.3)</td>
<td>64.5 (55.9-73.1)</td>
</tr>
<tr>
<td>Bodily pain</td>
<td>64.3 (57.1-71.5)</td>
<td>82.8 (81.0-86.4)</td>
<td>60.2 (53.8-66.6)</td>
</tr>
<tr>
<td>General health</td>
<td>65.7 (61.1-70.3)</td>
<td>75.8 (74.4-77.2)</td>
<td>65.7 (60.3-71.1)</td>
</tr>
<tr>
<td>Vitality</td>
<td>56.3 (50.9-62.7)</td>
<td>70.2 (68.8-71.6)</td>
<td>57.7 (52.5-62.9)</td>
</tr>
<tr>
<td>Social functioning</td>
<td>63.2 (56.0-70.4)</td>
<td>88.0 (86.4-89.6)</td>
<td>60.8 (53.8-67.8)</td>
</tr>
<tr>
<td>Role limits - emotional</td>
<td>59.8 (49.2-70.4)</td>
<td>87.7 (85.5-89.9)</td>
<td>55.1 (45.3-64.9)</td>
</tr>
<tr>
<td>Mental health</td>
<td>58.5 (52.9-64.1)</td>
<td>77.5 (76.3-78.7)</td>
<td>58.0 (53.2-62.8)</td>
</tr>
</tbody>
</table>
Table 2. Mean (95% CI) SF-36 scores of NSW Drug Court participants and methadone maintenance clients (Ryan & White, 1996)

<table>
<thead>
<tr>
<th></th>
<th>NSW Drug Court (n = 88)</th>
<th>Methadone maintenance clients (n = 100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical functioning</td>
<td>88.5 (85.4–91.5)</td>
<td>81.6 (77.1–86.1)</td>
</tr>
<tr>
<td>Role limits—physical</td>
<td>59.9 (51.4–68.5)</td>
<td>48.7 (39.6–57.8)</td>
</tr>
<tr>
<td>Bodily pain</td>
<td>63.2 (56.9–69.5)</td>
<td>53.8 (50.5–57.1)</td>
</tr>
<tr>
<td>General health</td>
<td>58.8 (53.9–63.8)</td>
<td>42.2 (40.3–44.1)</td>
</tr>
<tr>
<td>Vitality</td>
<td>54.4 (49.0–57.3)</td>
<td>37.8 (35.2–40.4)</td>
</tr>
<tr>
<td>Social functioning</td>
<td>56.4 (50.3–62.5)</td>
<td>44.1 (40.9–47.3)</td>
</tr>
<tr>
<td>Role limits—emotional</td>
<td>48.1 (38.6–57.6)</td>
<td>35.0 (26.3–43.7)</td>
</tr>
<tr>
<td>Mental health</td>
<td>54.5 (49.5–59.5)</td>
<td>53.0 (49.8–56.2)</td>
</tr>
</tbody>
</table>

Table 3. Mean outcome scores at each interview for offenders who completed all follow-up interviews (n = 51)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>4 months</th>
<th>8 months</th>
<th>12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SE</td>
<td>Mean</td>
<td>SE</td>
</tr>
<tr>
<td>Physical functioning</td>
<td>88.9</td>
<td>2.3</td>
<td>93.1</td>
<td>1.6</td>
</tr>
<tr>
<td>Role limits—physical</td>
<td>69.1</td>
<td>5.2</td>
<td>91.2</td>
<td>3.3</td>
</tr>
<tr>
<td>Bodily pain</td>
<td>63.3</td>
<td>3.9</td>
<td>85.3</td>
<td>3.3</td>
</tr>
<tr>
<td>General health</td>
<td>63.3</td>
<td>3.4</td>
<td>70.1</td>
<td>3.3</td>
</tr>
<tr>
<td>Vitality</td>
<td>54.0</td>
<td>3.4</td>
<td>63.0</td>
<td>3.3</td>
</tr>
<tr>
<td>Social functioning</td>
<td>65.7</td>
<td>3.9</td>
<td>81.4</td>
<td>2.9</td>
</tr>
<tr>
<td>Role limits—emotional</td>
<td>52.3</td>
<td>6.0</td>
<td>68.6</td>
<td>5.6</td>
</tr>
<tr>
<td>Mental health</td>
<td>54.7</td>
<td>2.8</td>
<td>70.5</td>
<td>2.3</td>
</tr>
<tr>
<td>OTI social functioning</td>
<td>20.0</td>
<td>0.9</td>
<td>16.9</td>
<td>0.9</td>
</tr>
<tr>
<td>Weekly spending</td>
<td>1518.8</td>
<td>229.0</td>
<td>292.7</td>
<td>78.0</td>
</tr>
<tr>
<td>Weekly income</td>
<td>279.6</td>
<td>45.6</td>
<td>205.8</td>
<td>21.5</td>
</tr>
</tbody>
</table>

*p < 0.05, **p < 0.01.

Discussion

The primary aim of this study was to examine what, if any, improvements to health and well-being were achieved for offenders coerced into treatment via placement on the NSW Drug Court programme. An examination of baseline health scores indicate that, similar to clients entering voluntary methadone maintenance, Drug Court participants entering treatment have significantly worse physical and emotional health when compared to the general population. This finding indicates a need for a range of health services to address the physical and mental health needs of Drug Court participants in addition to the provision of drug and alcohol-specific treatment services. However, when compared to a sample from a community methadone maintenance programme, the Drug Court sample had significantly higher scores on four health dimensions, suggesting that health problems experienced by Drug Court participants are not as severe as those experienced by clients entering methadone treatment volun-
This finding may be due, at least in part, to a quarter of the Drug Court sample already receiving pharmacotherapy drug treatment at the time of referral to the NSW Drug Court.

The follow-up results provide evidence of considerable improvements to participants' well-being within 4 months of being placed on the NSW Drug Court programme. Furthermore, for those who remained in treatment, the improvements to health and well-being were maintained throughout 12 months of participation on the programme. In addition, the finding of a large reduction in mean weekly spending from over $1500 prior to commencing the programme to less than $300 while on the programme, despite no significant change in legal income, is suggestive of a reduction in illicit drug use while on the programme.

Despite being coerced into treatment, it appears that drug-dependent offenders who remain on the NSW Drug Court programme for at least 4 months can achieve significant improvement in health outcomes. The most significant aspect of these findings is that the changes were achieved and maintained with heavily entrenched drug users while they remained in the community, where their accessibility to illicit drugs remained largely unchanged.

However, the positive outcomes of the programme are tempered by the low rate of retention on the programme, with only 55% of the baseline sample actively participating in the programme at 4 months. Although some participants rejoined the programme after periods of non-participation, 60% of the baseline sample were terminated from the programme within 12 months of commencement, and were sentenced to full-time custody.

Retention on the NSW Drug Court programme is an important outcome, as time spent in treatment is one of the most consistent predictors of treatment success [35–38]. Various studies have shown that retention in drug treatment varies widely [7], and is associated with treatment modality, programme factors and client characteristics [39]. Studies comparing retention rates between drug treatment modalities have shown generally that clients stay longer in methadone maintenance treatment than in abstinence-based out-patient or residential treatment [38,40]. Comparing the retention rate between the NSW Drug Court programme and other treatment programmes is problematic because the NSW Drug Court programme offers a range of treatment modalities and enables participants to change treatment type. However, retention on the NSW Drug Court programme appears to be consistently lower than retention in non-legally mandated methadone maintenance programmes [40–42], a finding that is not unexpected given that approximately 40% of NSW Drug Court participants are assigned to out-patient abstinence or residential abstinence treatment [19]. It should also be noted that discharge from the NSW Drug Court programme does not necessarily result in total withdrawal from all drug treatment, as offenders receiving methadone maintenance treatment as part of their Drug Court programme can maintain their treatment both on entry to, and release from, custody.

The low rate of retention on the NSW Drug Court programme may also be associated with treatment orientation. Evidence suggests that methadone programmes that respond to continue illicit opiate use by discharging clients have lower retention rates than those that are more likely to respond to opiate use by increasing the methadone dose [42–44]. While the NSW Drug Court recognizes that participants may relapse while on the programme, the programme...
maintains an abstinence orientation, responding to illicit drug use by imposing short custodial sanctions and by discharging participants if illicit drug use persists.

Differences in client characteristics may also contribute to the disparity between retention rates in non-legally mandated treatment and the NSW Drug Court programme. Motivation for treatment and change have been found to be important for retention in treatment [45-48]. While there is evidence that extrinsic motivators such as legal pressure and sanctions can influence entry to, and retention in, treatment [49-52], the NSW Drug Court may be viewed by some offenders as an opportunity to evade detention rather than engage in treatment. While there has been no attempt to gauge participants’ willingness to engage in treatment, the high number of people absconding from the programme may be indicative of low levels of motivation among some Drug Court participants.

A more appropriate comparison of the NSW Drug Court retention rate may be made with other drug courts. Retention rates for US drug courts vary between courts [16]; however, data from a national survey of US drug courts estimates that approximately 60% of drug court participants remain on programmes for at least 1 year [53]: a considerably greater percentage than was retained by the NSW Drug Court. While the NSW Drug Court programme has been modelled on US drug court programmes, differences between the programmes may account for some of the difference in retention rates, and should be highlighted. Participants differ in regard to several characteristics, including ethnicity, education and illicit drugs used most commonly [16,19,54]. Furthermore, the NSW Drug Court targets recidivist offenders entrenched in drug use and criminal behaviour, while US drug courts cater for a range of offenders, from first-time offenders to recidivist offenders [53]. The comparatively low retention rate found for the NSW Drug Court in this study may be attributed partially to the study being undertaken in the first year of programme implementation, while drug courts have been in operation in the United States for over a decade. During much of the study period policies and procedures were being developed, and difficulties were experienced negotiating the roles of the court and treatment providers [55]. Many of these issues have since been resolved [56].

While the study suggests that the criminal justice system can have a role to play in effecting health outcomes through drug court programmes the limitations of the study must be acknowledged, and the significance of the findings not overstated. Changes to health and well-being were examined only for participants who remained on the programme for at least 4 months. It is unclear what, if any, improvements to health and well-being were achieved for the consider-ably large proportion offenders who remained on the programme for less than 4 months. Another limitation of the study is the measures used to assess illicit drug use while on the programme. More reliable measures of illicit drug use than were available for this study are needed to confirm that illicit drug use is reduced during participation in a drug court programme.

However, the findings of this study open up avenues for future investigations. Research adopting an experimental design is needed to assess whether the positive outcomes found for participants of the NSW Drug Court programme are unique to the programme, or if similar outcomes are experienced for offenders sentenced to gaol or other diversionary treatment programmes. Post-programme follow-up of drug court participants is also needed to assess the extent to which any improvements to health and well-being gained while on the programme are maintained once participation has ceased. Furthermore, the key treatment and programme factors that are necessary to achieve these positive effects need to be identified.

As one of the first investigations of health and well-being outcomes of drug court participation, these findings give support to the notion that drug courts can be used as a vehicle to achieve health outcomes. The questions of how the criminal justice system can best interface with the health system to achieve therapeutic outcomes, and how to increase the retention rate of court-mandated treatment programmes, remain open to further investigation. Given that the NSW Drug Court targets recidivist offenders, entrenched in drug use and criminal behaviour, a low retention rate is not unexpected. However, identification of client or programme characteristics that predict retention is needed to maximize the positive outcomes for drug court programmes.

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References


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