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New South Wales Drug Court Evaluation: Interim report on health and well-being of participants

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Despite the current popularity of drug courts, there have been few comprehensive evaluations of their effectiveness in reducing recidivism or in improving the health and well-being of participants. This bulletin reports on the health and well-being of offenders participating in the NSW Drug Court Trial using the SF-36 health questionnaire and the OTI social functioning scale. Two hundred and two NSW Drug Court participants were interviewed at program entry and 112 of these participants were re-interviewed after four months of participation on the program. The results showed that while NSW Drug Court participants were in significantly poorer health than the general Australian population prior to commencing the program, they were significantly healthier than a group seeking methadone maintenance treatment voluntarily. There were significant improvements for NSW Drug Court participants after four months on the program across all measures of health and well-being examined. At the four-month interview, participants were scoring within the normal range or higher on the measures relating more closely to physical health, but remained significantly impaired on several measures relating more closely to emotional well-being. The findings also indicated a high level of satisfaction with the program, with participant satisfaction being related to health and well-being at the four-month mark.

INTRODUCTION

The New South Wales (NSW) Drug Court Trial is one of several initiatives the NSW Government has undertaken in recent years in order to divert drug-using offenders from the traditional criminal justice system. The aim of the NSW Drug Court is to reduce the criminal activity of drug-dependent offenders by directing them into supervised drug treatment designed to reduce their drug use and increase their ability to function as law-abiding citizens. From the outset of the Trial, evaluations were planned to monitor the progress of the Court, assess its cost-effectiveness, and determine its impact on participants. The focus of this bulletin is to present preliminary findings from the evaluation study examining the well-being of NSW Drug Court participants and their satisfaction with the program.

The introduction of the bulletin involves an exploration of the link between drug dependency and crime, and the use of legally coerced drug treatments, including drug courts, as an alternative criminal justice approach to the drug–crime problem. The effectiveness of these treatment programs is examined with particular attention given to drug courts. An outline of the rehabilitation program used in the NSW Drug Court Trial, and a brief description of the evaluation studies of the Court being conducted by the NSW Bureau of Crime Statistics and Research (BOCSAR) are also provided.

The second section outlines the methodology used to evaluate the effect of the NSW Drug Court program on participants' health and well-being and their satisfaction with various aspects of the program. The third section presents the results on the well-being of NSW Drug Court participants prior to program entry and approximately four months into their participation on the program. The satisfaction of participants with various aspects of the NSW Drug Court Trial is also presented. The bulletin concludes with a discussion of these findings and their implications for the effectiveness of the NSW Drug Court Trial.

ILLICIT DRUG USE AND CRIME

The drug–crime nexus has been widely acknowledged for many years. Although the causal relationship between drug use and crime is contentious, it is clear that there is a strong association between criminal behaviour and illicit drug use. Studies have shown an over-representation of illicit drug users in the criminal justice system, and that, for heroin and cocaine addicts, the frequency of offending is strongly associated with the level of drug use.

Several Australian studies have shown a higher prevalence of illicit drug use among prisoners than in the general population. In a recent survey of NSW

prisoners, over 40 per cent reported using heroin in the six months prior to their imprisonment (Kevin 2000). This figure is vastly higher than the proportion of Australians who have ever used heroin in their lifetime, which is estimated at two per cent (Higgins, Cooper-Stanbury & Williams 2000).

Overseas and Australian research has revealed an over-representation of illicit drug users in persons arrested by police. In the United States of America (United States), regular monitoring of drug use by police arrestees through the Arrestee Drug Abuse Monitoring program, collecting data from 40,000 adult arrestees in 32 sites, has shown a high level of illicit drug use among police arrestees across a wide geographic area. Over 50 per cent of adult males in each site tested positive to at least one drug. Cocaine use was detected in more than one-third of arrestees in 20 of the sites in the program. Tests for opiate use showed that the prevalence for opiate use among arrestees in the United States was lower than that detected for cocaine. Nevertheless, in 12 sites, 10 per cent or more of adult arrestees tested positive for opiates (National Institute of Justice 2000).

A recently introduced Australian drug use monitoring program, Drug Use Monitoring in Australia (DUMA), supports the finding of an over-representation of illicit drug users among police detainees. While virtually no cocaine use was detected, 22 per cent of male and 39 per cent of female police detainees tested positive to opiates (Makkai 1999). Moreover, the monitoring program found that 40 per cent of males detained on charges of property offences tested positive for opiate use (Makkai 1999). The DUMA findings provide evidence of a strong link between property offending and heroin use, and support the proposition that offenders with an expensive drug habit commit high income-generating offences (Wish & Johnson 1986).

Research also indicates that the frequency of offending increases with the level of an offender's illicit drug dependence. In a study of incarcerated offenders, Chaiken (1983) found that for both violent and non-violent offenders, those who had a high level of spending on heroin had the highest crime rates. Another study of opiate users in the United States found that crime rates for offences including robbery, burglary and other theft offences increased with the self-reported frequency of heroin use (Johnson et al. 1985).

Additional evidence for a link between level of illicit drug use and frequency of offending can be found in a study of incarcerated property offenders in NSW. Stevenson and Forsyth (1998) found heroin users had a higher median weekly income from burglaries ($3000) than non-users of heroin ($1000). Moreover, the study found that higher rates of burglary were significantly associated with greater expenditure on illicit drugs regardless of the type of illicit drug used.

LEGALLY COERCED TREATMENT

Clearly, a substantial proportion of criminal activity is undertaken to fund illicit drug use. As the prevalence of illicit drug use increases and drug-dependent offenders continue to reappear before the courts, it has become increasingly apparent that the traditional criminal justice system is not effective in breaking the cycle of drug use and crime.

While the traditional punitive criminal justice option of imprisonment reduces offending for the period of incarceration, the rate of reoffending for drug-dependent offenders once released from prison remains high. In NSW, almost 50 per cent of imprisoned property offenders reoffend and receive a full-time custodial sentence within two years of their release (Thompson 1995).

In response to the failure of the traditional criminal justice system to elicit long-term behaviour change among drug-dependent offenders, alternative options have been sought. Legally coerced treatment for alcohol- and drug-dependent offenders has been used in the United States since the 1930s, and in Australia for over 20 years[1] (Leukefeld & Timms 1988). The principal aim of coerced treatment is to divert drug-dependent offenders into treatment in order to reduce the severity of their dependency, and in turn, reduce their offending. Typically, offenders are given the option of participating in the treatment or accepting the traditional criminal justice path (Hall 1997). In many such programs, offenders are threatened with penalties, including incarceration, if they do not comply with treatment specifications.

Legally coerced treatment interventions have been argued to have both criminal justice and therapeutic goals. The criminal justice system comes from an institutional framework of protecting society. As such, the major goals of legally coerced treatment from the criminal justice perspective are to achieve beneficial outcomes for the community through a reduction in criminal activity related to drug dependence. Additional benefits to the criminal justice system potentially include a reduction in the number of persons who are incarcerated and improved caseloads for traditional courts. Alternatively, therapeutic goals are seen more in relation to benefits to the recipient of the treatment. These goals relate to the well-being of individuals, including improved health, increased skills for dealing with relapse, the development of life skills, increased employability, and enhanced social functioning. While coming from different frameworks, both sets of goals are inter-related as the ability to realise criminal justice goals is likely to be enhanced by first attending to the therapeutic goals of treatment (Swain 1999).

To date, evaluations of legally coerced treatments have focused on their success in limiting reoffending and reducing drug use. While voluntary community-based methadone maintenance treatment has been found to be effective in reducing drug use and criminal behaviour (Ward, Mattick & Hall 1992; Hall 1996), there is debate as to whether or not legally coerced treatment for drug-dependent offenders provides equivalent outcomes. Due to the lack of Australian evaluations, evidence for the effectiveness of legally coerced treatment programs is largely drawn from programs conducted in the United States during the 1960s. In a review of the role of legal coercion in the treatment of offenders with heroin problems, Hall (1997) found reasonable evidence in the international literature to suggest legally coerced treatment programs are effective in reducing drug use and criminality.

DRUG COURTS

Specialist drug treatment courts, often referred to as 'drug courts', offer a relatively new approach to legally coerced treatment. Although many drug courts offer offenders a choice of participation on the program, the

alternative, usually a custodial penalty, is such that there is a often a significant incentive to join the program. The criminal justice implication of not participating in a drug court program, and the judicial supervision of treatment once on the program, has led drug courts to be seen by many as a form of legally coerced treatment.

Despite having operated in the United States for over a decade, drug courts have only been introduced in Australian criminal justice systems over the past two years. While drug courts vary widely in structure and share many features with other legally coerced treatment programs, most drug courts appear to contain the following elements:

- immediate intervention;
- nonadversarial adjudication;
- hands-on judicial involvement in the offender's treatment;
- treatment programs with clear rules and structured goals; and
- a team approach, led by the judge and bringing together the prosecutor, defence, treatment provider and corrective services (Hora, Schma & Rosenthal 1999).

The enthusiasm with which drug courts have been embraced in the United States and elsewhere has been astonishing. Since the first of this style of court was introduced in 1989, over 500 drug courts have commenced operation in the United States, and an additional 281 are currently being planned. By June 2000, an estimated 200,000 adults had enrolled in a drug court program (OJP Drug Court Clearinghouse and Technical Assistance Project 2000). NSW was the first Australian State to adopt the drug court approach. In February 1999, the NSW Drug Court commenced as a two-year pilot program modelled on United States drug courts. Within 12 months, plans were underway in several other Australian States for interventions based on a drug court model, and NSW was preparing to open a drug court for juveniles.

Despite the rapid growth of drug court programs there have been few comprehensive evaluations conducted to assess their success in meeting either criminal justice or therapeutic goals. Furthermore, the studies conducted to date have been marred by methodological limitations, such as the lack of adequate comparison groups, limited outcome measures and inadequate follow-up periods (Belenko 1998). Notwithstanding these shortcomings, evidence is emerging regarding the effectiveness of drug courts in regards to several factors.

Of the existing studies, the primary focus has been concerned with the effectiveness of these specialist courts in reducing recidivism and illicit drug use. In a review of drug court programs in the United States, Belenko (1998) found that criminal behaviour, as measured by arrest rates, reduced substantially during program participation. Furthermore, examination of post-program recidivism rates has consistently shown that the rate of recidivism for drug court program *graduates* is significantly lower than that for comparison groups. However, if all drug court participants (including both graduates and non-graduates) are compared with non drug court control groups, the differences in post-program recidivism rates are not so large. An evaluation of the Escambia and Okaloosa drug court programs found that 30 months after starting a program, 48 per cent of drug court graduates had been arrested, compared with 63 per cent of the comparison group consisting of matched probationers (Peters & Murrin 2000). However, the study also showed that 86 per cent of program non-graduates were arrested during the follow-up period.

In relation to drug use, Belenko found that illicit drug use is substantially reduced while offenders are on a drug court program. On average, 18 per cent of United States drug court participants return a positive urine test, compared with over 35 per cent of persons on probation (OJP Drug Court Clearing House and Technical Assistance Project 2000). However, there is little information available on post-program drug use for drug court graduates.

While there are encouraging signs pointing to the success of drug courts in reducing criminal behaviour, information regarding the effect of drug court programs on the health and well-being of participants is scarce. Many drug courts now offer a range of support services to treat not only drug dependence but a range of associated personal problems that most participants experience, such as unemployment, family problems, and mental health issues. The comprehensive range of services offered comes in recognition of the need to address a range of issues if participants are to achieve long-term rehabilitation (OJP Drug Court Clearinghouse and Technical Assistance Project 1999). However, the only indicators of well-being regularly collected by drug courts in the United States, aside from urine test results, are related to employment and parenting. As of June 2000, 73 per of all United States drug court graduates had gained or retained employment. Furthermore, over 1,000 drug-free babies had been born to drug court participants and 3,500 parents participating on drug court programs regained custody of their children (OJP Drug Court Clearing House and Technical Assistance Project 2000). While these appear to be positive outcomes, no comparisons with other criminal justice options are provided. Moreover, we have little knowledge of how participants' health and social functioning might be altered throughout their participation on a drug court program.

DESCRIPTION OF NSW DRUG COURT PROGRAM

Only a brief outline of the NSW Drug Court program will be provided here as a detailed account has been published elsewhere (see Freeman, Lawrence Karski & Doak 2000).

The NSW Drug Court is presided over by a District Court judge and has both Local and District Court jurisdiction. Persons are referred to the NSW Drug Court after appearing at one of the courts in the catchment area and entering a plea of guilty or an intention to so plea. The court must be satisfied that the person would be highly likely to be sentenced to a full-time imprisonment term if convicted. Offences referred to the NSW Drug Court must fall within a restricted range designed to exclude persons charged with offences involving violence, sexual offences and drug trafficking. To be eligible for the NSW Drug Court program, persons must be found by the Court to be dependent on a prohibited drug, to be willing to participate on the program and to not be suffering from any mental condition that would restrict their participation on the program.

The eligibility criteria for the NSW Drug Court program were created to target heavy drug users, well entrenched in the criminal justice system. Because this group of offenders are likely to offend frequently, changing the criminal behaviour of this group would have a greater impact on the level of crime committed in the community than if the court targeted first-time offenders who are less likely to reoffend.

Once accepted into the program, the NSW Drug Court must convict the offender and impose an initial sentence which is then suspended for the duration of the offender's participation on the NSW Drug Court program. On termination of the program, either through successful completion, at the participant's request, or due to non-compliance, a final sentence is imposed. The final sentence must take into account the nature of the offender's participation on the program and any time held in custody since commencing the program, and cannot be longer than the initial sentence.

Before being accepted into the NSW Drug Court program, a program plan is designed to address the specific needs of the individual. There are four aspects to each program plan:

- treatment for drug dependence;
- social support and the development of living skills;
- regular reports to the Court; and
- regular, supervised urine testing.

Drug Court participants can be assigned to a range of treatment options including methadone, naltrexone and abstinence-based treatments. Each of these treatment options are available in residential and community settings. Furthermore, treatment plans may be re-negotiated and changed with the Court's approval throughout the duration of one's program. Methadone is the most common form of drug treatment for participants, with over 50 per cent of participants assigned to either community or residential methadone treatment (Freeman, Lawrence Karski & Doak 2000).

The NSW Drug Court also requires all participants to attend individual counselling and relapse prevention training, delivered by heath care providers associated with the Court. Support, supervision and living skills training are provided to each participant by the Probation and Parole service. Participants are also strongly encouraged by the Court to enrol in vocational and educational courses while on the program, and obtain employment prior to graduating from the program.

Participants can be sanctioned for breaching their program. The severity of the sanctions can range from being directed to remain in court until all matters have been heard, to being subject to imprisonment for up to 14 days for any one breach. Rewards are given to encourage participants making progress on the program. Rewards can include a reduction in supervision or reduction in the severity of suspended sanctions.

The program was designed to take approximately 12 months to complete, with participants required to progress through three phases before graduating from the program. The level of supervision and requirements imposed on participants decreases with each successive phase, and participants can be demoted to previous phases if their progress is not satisfactory. Although the NSW Drug Court recognises that relapse is a common occurrence in recovery from drug dependence, participants can have their program terminated if the Court determines that there is no useful purpose in them remaining on the program. Participants can also choose to withdraw from the program at any stage.

EVALUATION OF THE NSW DRUG COURT TRIAL

Prior to the commencement of the NSW Drug Court Trial, BOCSAR committed to conducting three evaluation studies of the Trial. The first provides ongoing monitoring of key aspects of the NSW Drug Court. The second is designed to determine the cost-effectiveness of the NSW Drug Court in reducing recidivism compared with that of the conventional criminal justice system. The third study focuses on the effect of the NSW Drug Court program on participants, examining changes in the well-being of participants throughout their participation on the program and assessing their satisfaction with the program. The remainder of this bulletin focuses on the third of these evaluation studies.

STUDY OF NSW DRUG COURT PARTICIPANT WELL-BEING AND SATISFACTION

There were three primary objectives of this study. The first was to compare the level of well-being of NSW Drug Court participants prior to commencing the program with that of other populations. The second was to assess the extent to which participation on the NSW Drug Court program impacted on the well-being of participants. The assessment of participant well-being included measuring general physical and psychological health, and assessing social functioning. Level of drug use was also used as an indicator of well-being.

The third objective of the study was to investigate participants' satisfaction with various elements of the NSW Drug Court program.

METHOD

DESIGN

The study is a prospective single group observational study of NSW Drug Court program participants. Each person in the study acts as his or her own control throughout the study. A pre-program baseline of indicators of well-being were collected to allow for comparisons with future outcomes of participants and with other populations. Further interviews were to be carried out 4 months, 8 months, and 12 months after program entry. As the program was designed to take approximately 12 months to complete, it was anticipated that the fourth-round interview at 12 months would coincide with completion of the program. A fifth interview was planned at 16 months, which was assumed to be four months after program completion. However, because the program generally takes longer than 12 months to complete, the fifth-round interviews are now being conducted four months after program completion. This design allowed for regular monitoring of well-being indicators throughout participation on the program and four months after completion of the program.

This bulletin presents preliminary results from the study, examining only data from the baseline interviews and the interviews conducted four months later.

DESCRIPTION OF SUBJECTS

Two hundred and twenty-one of the first 250 potential NSW Drug Court participants were approached to participate in the study. Twenty-nine people were not invited to participate in the study as they commenced the NSW Drug Court program before an interview could be arranged. Of the 221 people who were approached to be interviewed, 7 people declined to participate in the study, and a further 12 people who were interviewed were later found to be ineligible for the NSW Drug Court program, leaving a sample of 202 people in the baseline sample of the study. Given the high participation rate (97% of eligible persons approached for interview), it is reasonable to conclude that the sample included in this study are reasonably representative of the participants on the NSW Drug Court Trial.

The baseline interviews were conducted after respondents had been accepted into the detoxification assessment stage of the NSW Drug Court referral process, but before they had been accepted onto the NSW Drug Court program.

An attempt was made to re-interview all respondents who completed the baseline interview and were still participating in the NSW Drug Court program four months after completing the baseline interview. Of the 202 respondents interviewed prior to commencement on the NSW Drug Court program, 112 (55%) were interviewed approximately four months later. Of the 90 people who were not re-interviewed, 58 (64%) had their Drug Court programs terminated prior to the interview period, 21 (23%) had absconded from the Drug Court program at the time of interview and could not be located, 1 had died, 1 refused and a further 9 (10%) were not interviewed for some other reason, for example, if they were in custody.

PROCEDURES

Standardised assessment instruments were used to measure the health and social functioning status of participants prior to their commencement on the NSW Drug Court program and again at the four-month interview.

For the baseline interview the schedule consisted of the Short Form-36 question Health Survey (SF-36) (Ware et al. 1993), the Opiate Treatment Index (OTI) social functioning scale (Darke et al. 1992), a modified version of the OTI drug use scale, and questions regarding drug use history, weekly income and spending, drug treatment history, criminal history and demographic details. Information on participants' prior convictions and prior imprisonment was obtained from the NSW Drug Court Case Management System. The baseline interviews were conducted from March 1999 to April 2000 and were face to face interviews lasting approximately 40 minutes. The interviews were conducted while the subject was being held in the cells awaiting a court appearance.

The interview conducted four months later included the SF-36, the OTI social functioning scale, weekly income and spending, and questions regarding the participant's satisfaction with various aspects of the NSW Drug Court program. These interviews were also face to face, were conducted within the Drug Court complex and took approximately 15 minutes to complete. The second round of interviews commenced in July 1999 and were completed in August 2000.

Subjects were told that participation in the study was voluntary and that the information they provided was confidential and would not affect their acceptance into, or participation on, the NSW Drug Court program. The interviews were conducted by interviewers independent of the NSW Drug Court program.

INTERVIEW SCHEDULE

SF-36 Health Survey

The SF-36 is a well-established questionnaire containing multi-item scales used for measuring eight dimensions of health and well-being: physical functioning (10 items), role limitations due to physical functioning (4 items), pain (2 items), general health (2 items), vitality (4 items), social functioning (2 items), role limitations due to emotional functioning (3 items) and mental health (5 items). An additional single item dimension, called health transition, compares current health with a person's health one year ago.[2] All items pertaining to each dimension (excluding health transition) are summed and transformed to form a scale from 0 to 100, where a higher score indicates a better state of health or well-being.

The definitions of each of the dimensions are given below:

- Physical functioning: the extent to which a person is limited by their health in performing a range of physical activities, from playing strenuous sport to bathing and dressing.
- Role limit-physical: the extent to which a person's physical health impacts on their work or other daily activities.
- Bodily pain: the intensity of pain experienced and the extent to which the pain affects a person's daily activities.
- General health: current health status and health expectations relative to others.
- Vitality: a person's level of energy and fatigue.
- Social functioning: the extent to which health or emotional problems impact on a person's social activities with others.
- Role limit-emotional: the extent to which a person's emotional problems impact on their work or other daily activities.
- Mental health: the amount of time a person experiences depression, anxiety, nervousness and happiness.

Opiate Treatment Index

The OTI is an Australian instrument developed to measure outcomes for people receiving treatment for opiate use, including their level of drug use and social functioning. Modified versions of these two scales were used in the present study. A modified version of the OTI drug use scale was given to subjects in the baseline interview, and the social functioning scale was used in both the baseline and four-month interviews.

The OTI drug use measure requires subjects to recall their last two episodes of drug use to provide an estimate of recent daily consumption. As the subjects in this study had been in custody prior to their baseline interview, their most recent drug use episodes were often not representative of their typical drug use prior to their incarceration. Therefore, the drug use scale was altered to provide an estimate of their typical drug use in the four weeks prior to their current period of imprisonment.

The OTI social functioning scale consists of questions relating to various aspects of social functioning, including housing, employment, family and relationships. However, in the first phase of a person's NSW Drug Court program, participants are usually discouraged from seeking employment and associating with past friends. As participants progress on the program and their commitments decrease, they are encouraged to seek training and employment. Consequently, it is reasonable to expect that in the early stages of program participation compliance with the program could preclude participants from gaining high scores on social functioning as measured by the OTI. As such, changes in social functioning, as estimated by the OTI, may not reflect the real extent of improvement over the reference period. Note that the validity of the OTI social functioning scale should increase in the later rounds of interviews for participants who have progressed to a NSW Drug Court program phase that enables them to obtain employment.

The OTI social functioning scale was altered such that the reference period for questioning was shortened from six months to four months in the second round of interviews in order to concur with the time period between interviews.

Spending on illicit drugs

Level of drug use was nominated as an additional indicator of well-being. The NSW Drug Court program requires all participants to submit to random, supervised urine testing on a regular basis as a condition of program participation. However, there is reason to question the reliability of these results as an accurate indication of level of drug use. It became apparent in the first few months of the Court's operation that many of the urinalysis tests were not conducted randomly or under supervision, resulting in substitution of some urine samples. Furthermore, many participants do not supply a urine sample if they know it will test positive to an illicit substance. While the participant may be sanctioned for a program breach, no urine test result is recorded.

Spending behaviour was used as a proxy for level of illicit drug use. It was assumed that daily living expenses would not be substantially affected by participation on the NSW Drug Court program, and that any changes in overall spending behaviour are likely to be heavily influenced by spending on illicit drugs, and thus, to be associated with a participant's level of drug use. As a result, each participant was asked for their average weekly legal income and their average weekly spending at each interview.

Participant satisfaction

Participants were asked to rate five aspects of the program on a five-point Likert scale. The participants were asked to rate their satisfaction with treatment services; their satisfaction with Probation and Parole services; their satisfaction with Legal Aid; the fairness of the NSW Drug Court; and the ease of the program.

Participants were also asked for their perceptions of the best and worst aspects of the NSW Drug Court program.

RESULTS

BASELINE CHARACTERISTICS

Of the 202 people who took part in the baseline round of interviews, 165 (82%) were male and 37 (18%) were female. Participants were primarily European/ Caucasian (157 persons, or 78%). Ten per cent identified themselves as Aboriginal or Torres Strait Islanders, and 5 per cent identified themselves as Asian. The respondents' ages ranged from 18 to 62 years, with the average age at the time of the baseline interview being 27 years. Thirty-eight per cent were married or in a de facto relationship at the time of the baseline interview. The median weekly legal income for subjects, as ascertained from self-reports, was $165, while the median weekly spending of respondents was $1000.

Sixty-one per cent of respondents reported having a chronic illness at the time of entry to the program. Women were significantly more likely to report a chronic illness (84%) than were men (56%, χ^2=10.0, df=1, p=0.002).

Pattern of drug use

The overwhelming majority of baseline respondents (82%) identified heroin as their drug of choice. The next most common drug of choice was amphetamines, preferred by 10 per cent of respondents. The average age when the drug of choice was first used was 18 years, while the average age of first daily use of the drug of choice was 19 years. Interestingly, those who nominated heroin as their drug of choice were significantly older when they commenced using this drug compared with those who nominated an alternative drug as their drug of choice (19 years of age compared with 17 years of age: t=2.8, df=199, p=0.005).[3]

Table 1 shows the respondents' pattern of drug use during their most recent non-custodial four-week period.

From Table 1 it can be seen that the illicit drugs most commonly used by respondents were heroin and cannabis. Eighty-seven per cent of respondents reported using heroin during their most recent non-custodial four-week period, and 75 per cent reported using heroin every day during this period. Fifty-seven per cent reported using cannabis at some time during this period, while 31 per cent reported using cannabis every day.

Table 1 also indicates a pattern of polydrug use for most respondents during the reference period. Only 31 respondents (15%) reported using only

Table 1: Respondents' drug use in the four weeks prior to current imprisonment

	Use in past four weeks		*Daily use*	
Drug	***No.***	***%***	***No.***	***%***
Heroin	175	86.6	151	74.8
Other opiates	26	12.9	5	2.5
Alcohol	49	24.3	10	5.0
Cannabis	116	57.4	63	31.2
Amphetamines	63	31.2	20	9.9
Cocaine	45	22.3	18	8.9
Tranquillisers	76	37.6	22	10.9
Hallucinogens	13	6.4	0	0.0
Inhalants	3	1.5	0	0.0

Note: n=202. Percentages add to more than 100 because many respondents used more than one drug during the time frame.

one of the drugs surveyed (excluding alcohol). Of these, 26 used only heroin, three used only cannabis and two used only amphetamines.

Treatment history

The median number of treatment episodes attempted prior to commencement on the NSW Drug Court program was five, with 36 (18%) of the baseline respondents reporting no prior treatment episodes.[4] One hundred and thirteen respondents (56%) had previously been on a methadone program, 71 (35%) had previously been admitted to an inpatient detoxification centre, while 45 (22%) had undergone outpatient detoxification. Seventy-three respondents (36%) had commenced a residential rehabilitation program, 52 (26%) had attended outpatient counselling regarding their drug use, 39 (19%) had participated in a self-help group and 14 (7%) had received naltrexone.

Fifty respondents (25%) were receiving a pharmacological drug treatment at the time of referral to the NSW Drug Court. Of these, 42 (84%) were on methadone. Women were more likely than men to be receiving a pharmacological drug treatment (38% compared with 22%). This represents a statistically significant difference (χ^2=4.2, df=1, p=0.041).

Criminal history

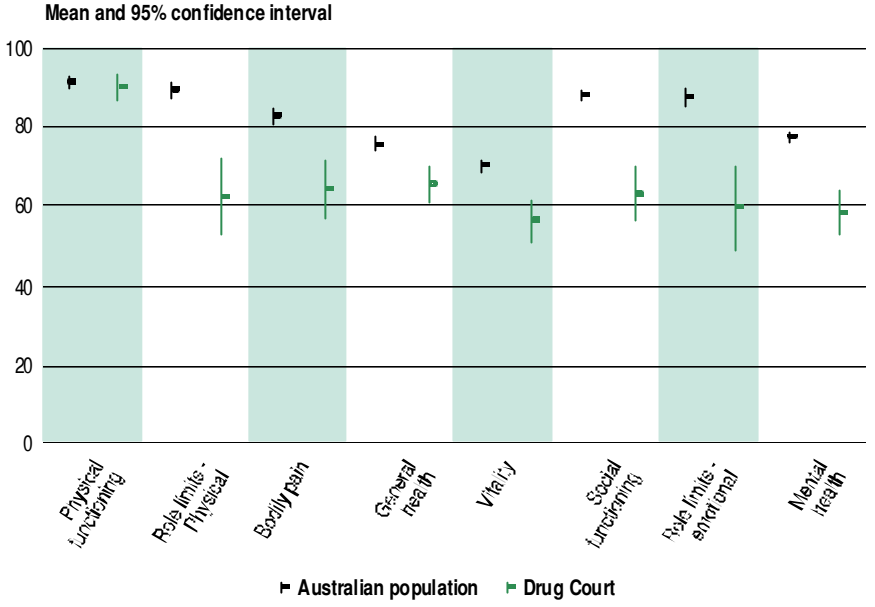
On average, baseline respondents received their first criminal conviction at 17 years of age. The median number of prior convictions for respondents was 12 and the maximum number was 62. One person had not received a conviction prior to being referred to the NSW Drug Court. Seventy-six per cent of respondents had previously received a custodial prison sentence.

Health status

The health and well-being of NSW Drug Court participants prior to program entry as assessed at baseline by the SF-36 was compared with population norms collected as part of the 1995 National Health Survey (ABS 1997). The normative data collected are based on a random sample of 18,800 adult residents of private dwellings throughout Australia. The normative data were broken down by a range of variables including age and gender. In the comparison of NSW Drug Court participants with the normative data, two age ranges for males and females were selected: 18 to 24 years and 25 to 34 years. These categories account for 90 per cent of the male respondents and 73 per cent of the female respondents to the baseline interviews.

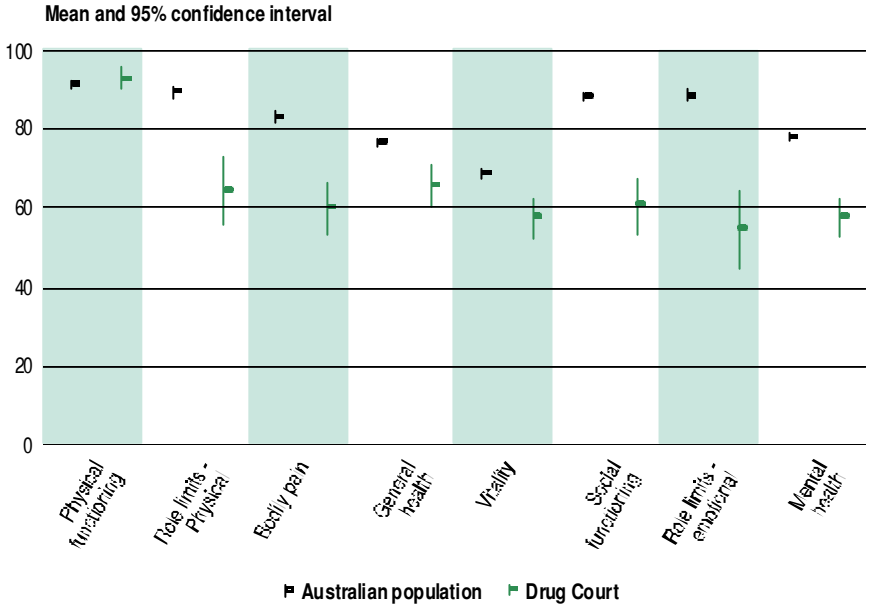
Figure 1 shows the 95 per cent confidence interval ranges for the mean SF-36 scores of male NSW Drug Court participants at baseline, compared with Australian population norms, by age.[5]

Figure 1(a): Baseline mean SF-36 scores of NSW Drug Court participants and Australian population for males, aged 18-24 years



Note: NSW Drug Court mean scores n=68, Australian population mean scores n=1216. Data were missing for one male NSW Drug Court participant in the 18-24 year age group.

Figure 1(b): Baseline mean SF-36 scores of NSW Drug Court participants and Australian population for males, aged 25-34 years



Note: NSW Drug Court mean scores n=81, Australian population mean scores n=1956.

There were 69 male NSW Drug Court participants between the ages of 18 and 24 at the time of the baseline interview, but SF-36 data were missing for one participant. There were 81 male participants aged between 25 and 34 years.

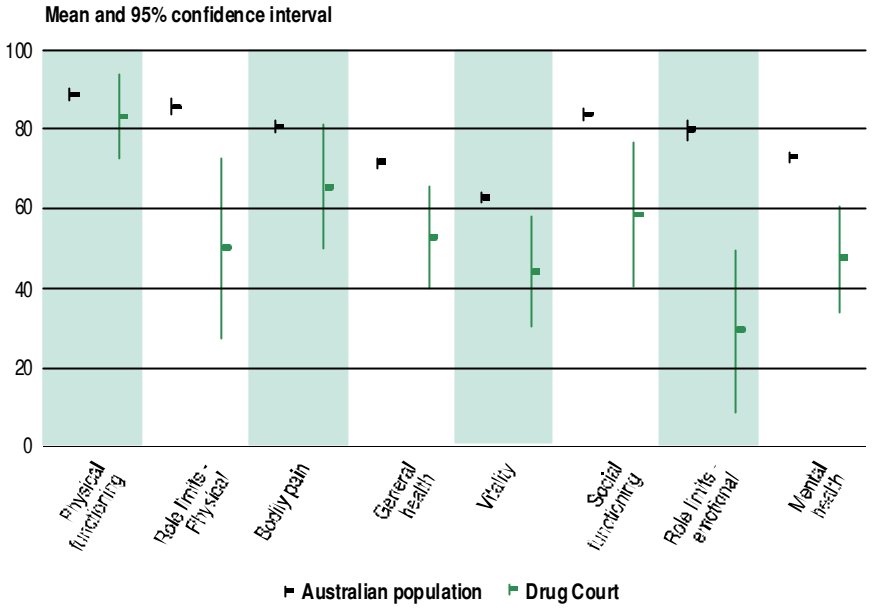
As seen in Figures 1 (a) and (b), NSW Drug Court participants were in extremely poor health prior to entering the NSW Drug Court program, compared with the general male population. On seven of the eight dimensions of health and well-being measured by the SF-36, NSW Drug Court participants had mean scores significantly lower than the Australian male population norms. For males in both age groups, there was only overlap between NSW Drug Court participant mean scores and Australian male population norms at the 95 per cent confidence interval on the physical functioning dimension. The same pattern was found at the 99 per cent confidence interval for each dimension. The physical functioning dimension relates to limitations in performing physical activities of differing difficulty, from lifting heavy objects to bathing and dressing oneself. The results indicate that although male NSW Drug Court participants experienced significant impairments in their mental and physical health prior to commencing the NSW Drug Court program, their heath status did not place significant limitations on their physical activities.

Figure 2 shows the 95 per cent confidence interval ranges for the mean SF-36 scores of female NSW Drug Court participants prior to entry on the NSW Drug Court program, compared with Australian population norms, by age.

The number of female NSW Drug Court participants in each of the age ranges was considerably smaller than that for males. Only 15 female NSW Drug Court participants were aged between 18 and 24 years at the time of the baseline interview, and only 12 were aged between 25 and 34 years.

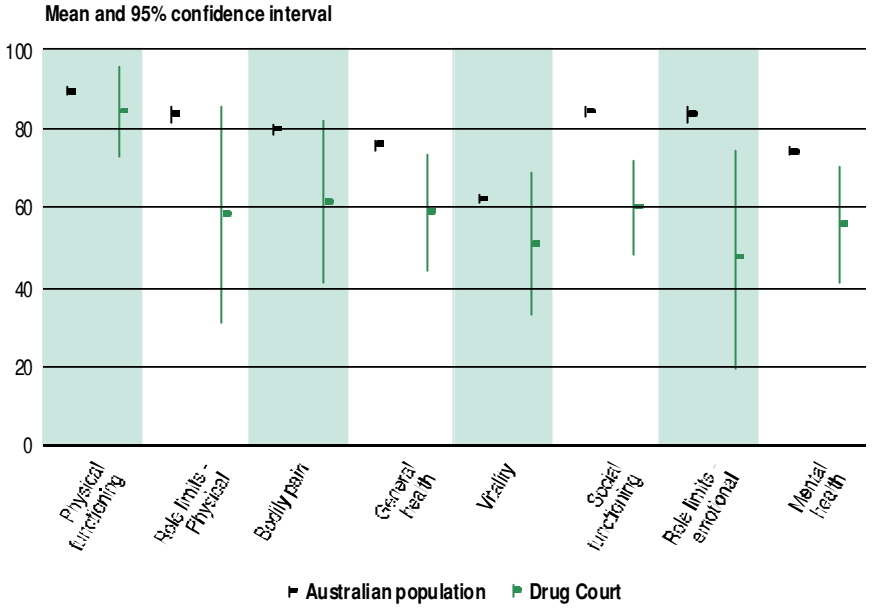
The results indicate that female participants were in poorer health prior to commencing the NSW Drug Court program than the Australian female population on a number of health and well-being dimensions. From Figure 2(a) it can be seen that there was no overlap at the 95 per cent confidence interval range between NSW Drug Court participant mean scores and Australian population norms for females aged 18 to 24 on the following six dimensions: role limits-physical, general health, vitality, social functioning, role limits-emotional and mental health. Moreover, there was no overlap at the 99 per cent confidence interval range for the general health, social functioning, role limits-emotional and mental health dimensions. These findings indicate that the health of female NSW Drug Court participants was significantly worse than the health of women of the same age in the general population on these dimensions.

Figure 2(a): Baseline mean SF-36 scores of NSW Drug Court participants and Australian population for females, aged 18-24 years



Note: NSW Drug Court mean scores *n*=15, Australian population mean scores *n*=1331.

Figure 2(b): Baseline mean SF-36 scores of NSW Drug Court participants and Australian population for females, aged 25-34 years



Note: NSW Drug Court mean scores *n*=12, Australian population mean scores *n*=2182.

Figure 2(b) shows that at the 95 per cent confidence interval level, female participants aged between 25 and 34 were found to have significantly lower mean scores than the Australian population on four of the eight dimensions. There was no overlap at the 95 per cent confidence interval range for the general health, social functioning, role limits-emotional and mental health dimensions of health and well-being. Only the social functioning dimension was shown to have no overlap between mean scores for NSW Drug Court participants and the Australian population at the 99 per confidence interval level.

Although it appears that female NSW Drug Court participants fared better than male participants when compared with Australian population norms on a range of dimensions, such a conclusion may be erroneous. The failure to detect significant differences between the mean scores of female participants and Australian population norms on several health and well-being dimensions may be due to a lack of power because of the small sample size, rather than an absence of any real differences between the groups.

While it is reasonable to presume that the low SF-36 scores obtained by NSW Drug Court participants are related to their drug use, it is important to note that persons experiencing greater socio-economic disadvantage have poor health and well-being scores (ABS 1997). As NSW Drug Court participants generally fall into the low socio-economic category, low SF-36 scores would be expected regardless of level of drug use.

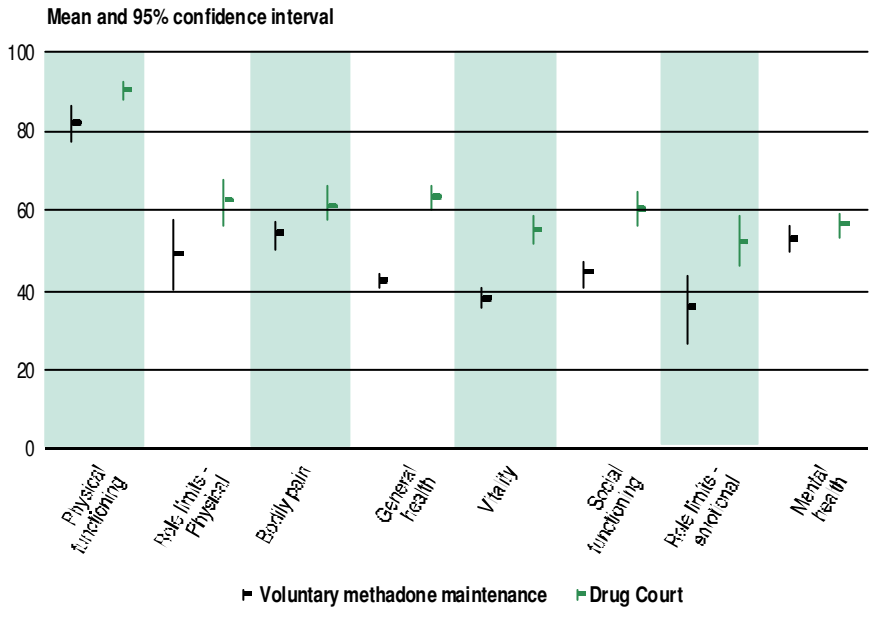
Data were also obtained for comparison with another drug-using population. The comparative data were collected by Ryan and White (1996) from a sample of 100 persons entering a voluntary methadone maintenance program in South Australia from February 1993 to March 1994. The sample's age ranged from 18 to 42 years old, with an average age of 29 years. Fifty-eight per cent of the sample were male and 17 per cent were employed either full-time or part-time at the time of the interview. Figure 3 shows a summary of the 95 per confidence interval ranges for the mean SF-36 scores of the methadone maintenance clients at program entry compared with a sub-sample of baseline mean scores for NSW Drug Court participants, aged 18 to 42 years old.

Although NSW Drug Court participants generally have poorer health prior to commencing the program than the Australian population, Figure 3 shows their health to be significantly better than the group voluntarily entering methadone maintenance treatment. As seen in Figure 3, the mean scores for the NSW Drug Court participants were higher for each of the health and well-being dimensions measured by the SF-36 compared with the group voluntarily entering methadone maintenance. At the 95 per cent confidence interval range, the mean scores of the two groups overlapped on only the role limits-physical and mental health dimensions. However, at the 99 per cent confidence interval range overlap between the mean scores of the two groups were found on two additional dimensions: bodily pain and role limits-emotional. This outcome suggests that, at treatment entry, the NSW Drug Court participants were in significantly better health than voluntary patients entering a methadone maintenance clinic on a range of health and well-being dimensions, including physical functioning, general health, vitality and social functioning.

The relationship between baseline drug use and measures of well-being was also examined. Baseline mean scores on the SF-36 dimensions, the OTI social functioning scale and self-reported spending were compared with self-reported level of drug use. Correlations were evaluated using Kendall's tau-b. The only significant correlations between a dimension of well-being and level of drug use was between the amount of heroin used and the OTI social functioning score and the SF-36 role limit-physical dimension ($r=0.116$, $p<0.05$; $r=-0.122$, $p<.05$). Although the correlations were small, the results indicated that social dysfunction and the impact of poor physical health on daily activities were significantly associated with higher levels of heroin use.[6]

The baseline well-being scores were also examined to identify if there were any significant differences in baseline scores for respondents who used a combination of heroin and tranquillisers with those heroin users who did not use tranquillisers. The Kruskal-Wallis test was used to identify significant differences between groups. The results showed a significant difference between groups on three SF-36 dimensions: bodily pain, general health and social functioning. On these dimensions, those who used tranquillisers had lower health and well-being scores than those who did not (bodily pain: $\chi^2=7.3$, df=1, $p=0.007$; general health: $\chi^2=3.9$, df=1, $p=0.050$; social functioning: $\chi^2=4.3$, df=1, $p=0.039$).

Figure 3: Baseline mean SF-36 scores of NSW Drug Court participants and methadone maintenance clients, aged 18-42 years



Note: NSW Drug Court mean scores $n=195$, methadone maintenance mean scores $n=100$.

CHANGES IN HEALTH AND WELL-BEING

Changes in well-being over the first four months of the program were examined for the 112 participants who completed both baseline and second-round interviews. The second-round interview for each respondent was conducted approximately four months after the respondent commenced the NSW Drug Court program. Although a participant's program may be temporarily interrupted as a result of periods of absconding from the program or being held in custody, it was not considered appropriate to exclude such periods when calculating the four-month period between baseline and second-round interviews.

Representativeness of second-round sample

As 45 per cent (90 persons) of the 202 NSW Drug Court participants who completed a baseline interview were not able to be interviewed four months later, it was important to identify any significant deviations between the group who were interviewed at four months and those who had dropped out of the study.

Table 2 compares the 112 participants who completed the four-month interview with the 90 who had dropped out of the second-round interviews.

Table 2(a) shows that no statistically significant differences were found between the two groups on gender, age, ethnicity, relationship status, drug of choice, treatment at entry, chronic illness and prior imprisonment. Table 2(b) also shows no significant differences between participants who completed the four-month interview and those who did not on age at first use of drug of choice, age at first daily use, number of prior treatment episodes, age at first criminal conviction and number of prior convictions. Table 2(c) shows that baseline measures of weekly legal income and weekly spending were very similar for both groups. Furthermore, there were no statistically significant differences beween the two groups on any of the well-being measures used in this study. Therefore it is possible to conclude that the group who completed

Table 2(a): Characteristics of participants who completed the four-month interview and those who did not

	Completed four-month interview (n=112)		*Four-month interview dropouts (n=90)*		*Chi square test*		
Characteristics	***No.***	***%***	***No.***	***%***	c^2	***df***	***p***
Gender							
Male	91	81.3	74	82.2	0.03	1	0.859
Female	21	18.8	16	17.8			
Age							
18-24	52	46.4	32	35.6	2.77	2	0.250
25-34	46	41.1	47	52.2			
35 and over	14	12.5	11	12.2			
Ethnicity							
Caucasian	85	75.9	72	80.0	0.09	2	0.654
ATSI	11	9.8	9	10.0			
Other	16	14.3	9	10.0			
Relationship status							
Married/defacto	40	35.7	38	42.2	0.09	1	0.345
Single	72	64.3	52	57.8			
Drug of choice							
Heroin	89	79.5	76	84.4	1.73	2	0.421
Amphetamine	11	9.8	9	10.0			
Other	12	10.7	5	5.6			
On treatment at entry							
No	85	75.9	67	74.4	0.06	1	0.813
Yes	27	24.1	23	25.6			
Chronic illness							
No	47	42.0	32	35.6	0.86	1	0.354
Yes	65	58.0	58	64.4			
Prior imprisonment[a]							
No	27	25.2	20	22.7	0.17	1	0.684
Yes	80	74.8	68	77.3			

a completed four-month interview *n*=107, four-month interview dropouts *n*=88.

Table 2(b): Characteristics of participants who completed the four-month interview and those who did not

	Completed four-month interview (n=112)		*Four-month interview dropouts (n=90)*		*Kruskal Wallis test statistic*		
Characteristics	***Mean***	***SD***	***Mean***	***SD***	c^2	***df***	***p***
Age at first use of drug of choice	18.50	5.5	18.30	3.9	0.02	1	0.886
Age at first daily use	19.6	5.6	19.8	4.2	0.74	1	0.388
Number of prior treatment episodes	4.8	3.0	5.0	3.0	0.12	1	0.903
Age at first criminal conviction	17.2	5.5	16.9	4.2	0.22	1	0.882
Number of prior convictions[a]	13.7	10.0	15.0	11.7	0.33	1	0.564

a completed four-month interview *n*=106, four-month interview dropouts *n*=88.

the four-month interview were broadly similar to the group who did not, and hence likely to be a representative sample of NSW Drug Court participants.

SF-36 Health Survey

Changes in mean SF-36 scores from the baseline to the four-month interviews were examined for all 112 respondents who completed both rounds of interviews. Data for the SF-36 were not normally distributed, requiring the use of non-parametric techniques for data analysis. Each participant's baseline mean scores were matched to their mean scores at the four-month interview. A Wilcoxon signed ranks statistics test was used to detect the statistical significance of any changes. The results were analysed for the entire sample as the small number of female participants would render an analysis by gender unreliable.

Figure 4 presents a summary of the mean scores on the eight SF-36 dimensions at the baseline and four-month interviews for the 112 people who completed both rounds of interviews. Because one person had data missing at four months on the general health dimension, the results for this dimension are based on 111 respondents.

Figure 4 shows that, compared with the baseline scores, the four-month scores

Table 2(c): Characteristics of participants who completed the four-month interview and those who did not

	Completed four-month interview (n=112)		*Four-month interview dropouts (n=90)*	
Characteristics	***Median***	***Range***	***Median***	***Range***
Weekly legal income	$165	$0-$2,000	$170	$0-$2,000
Weekly spending	$1,000	$120-$12,500	$1,400	$50-$12,000

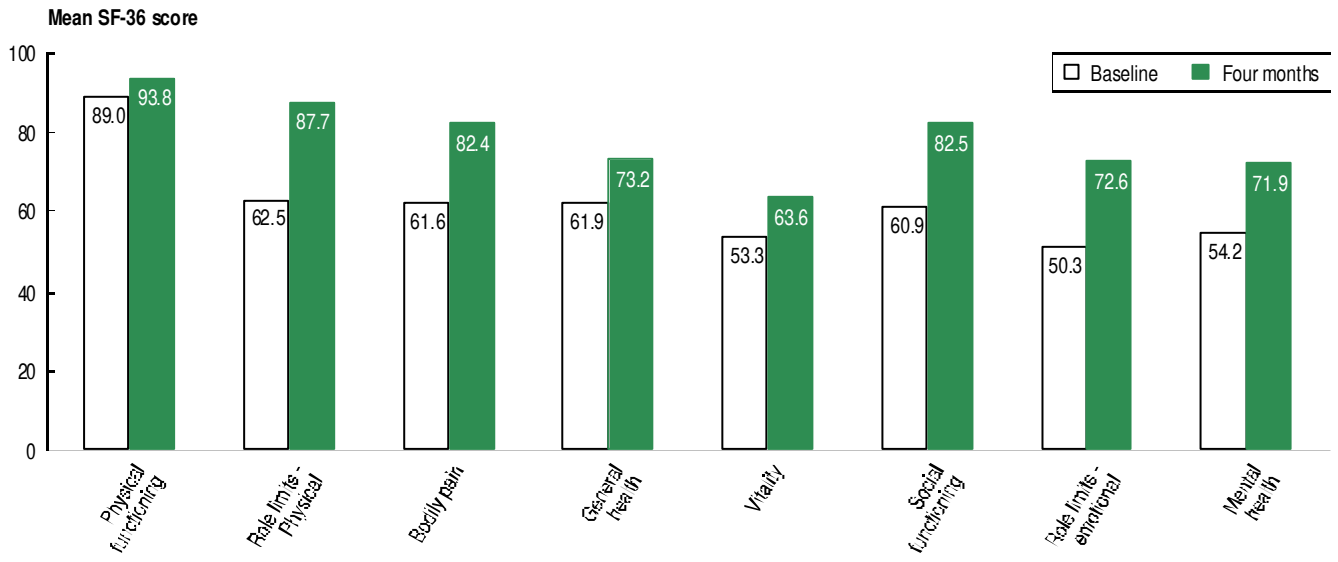
of NSW Drug Court participants were higher on all health and well-being dimensions examined by the SF-36. The Wilcoxon signed ranks test was statistically significant for each of the eight SF-36 dimensions (p<0.001).[7]

Mean scores on the SF-36 at four months were also compared with the Australian population norms. The comparison was only made for male participants as there were too few female participants in each age category to make a meaningful comparison. The 95 per cent confidence intervals of the mean scores for male NSW Drug Court participants, aged 18 to 24 years and 25 to 34 years, at four months compared with the Australian population norms are shown in Figure 5(a) and 5(b).

The comparison shows that at the four-month mark, the mean scores of male NSW Drug Court participants on the physical health dimensions were either within the normal range for Australian males of the same age or were higher. However, despite significant improvements from baseline mean scores, the four-month mean scores on dimensions more closely related to mental and emotional well-being were still below mean scores for the Australian population.

There was no overlap between the mean scores of the NSW Drug Court participants and the Australian population norms at the 95 or 99 per cent confidence intervals on the physical functioning dimension for males aged 18 to 24 years. Figure 5 (a) shows that while there was an overlap between mean scores on the role limits-physical and general health dimensions, the NSW Drug Court participants had higher mean scores than the population norms. Mean scores on the bodily pain dimensions were very similar for both groups.

Figure 4: Mean SF-36 scores at baseline and four-month interviews for participants who completed both interview rounds



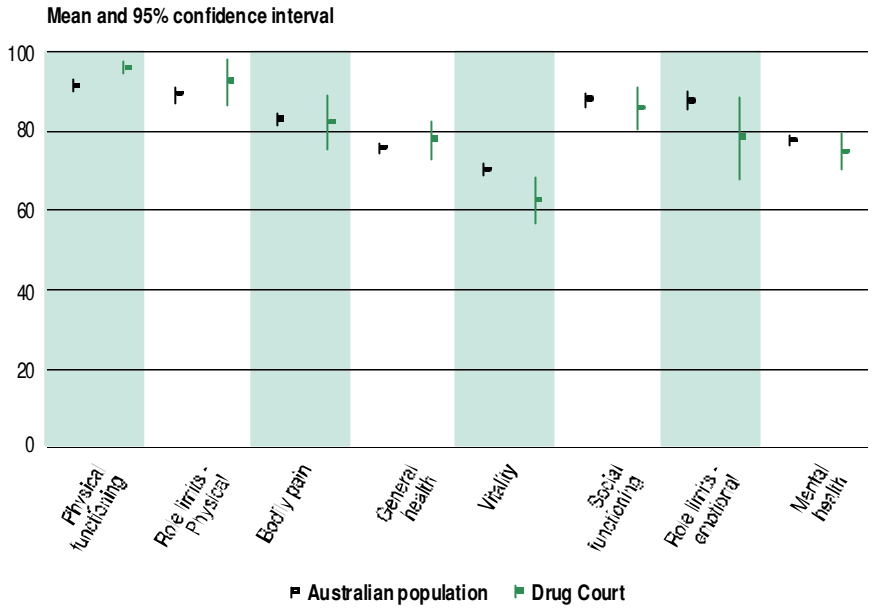
Note: n=112 for all dimensions except for general health where n=111 participants.

Although there was an overlap, the mean scores of NSW Drug Court participants for the vitality, social functioning, role limits-emotional and mental health dimensions tended to be lower than the Australian population norms. However, only the vitality dimension was significantly lower than the population norm. As seen in Figure 5(a), there was overlap at the 95 per cent confidence interval range between NSW Drug Court participants and the population norms on the three other dimensions.

Figure 5(b) shows that, compared with the Australian population norms, male NSW Drug Court participants, aged 25 to 34 years, had higher mean scores at four months on three of the four physical health dimensions: physical functioning, role limits-physical and bodily pain. However, only the physical functioning dimension was significantly higher at the 95 per cent confidence interval level. The same pattern of results was found at the 99 per cent confidence interval range. Although there was an overlap of mean general health scores between the two groups, the scores on this dimension were lower for NSW Drug Court participants compared with the Australian population.

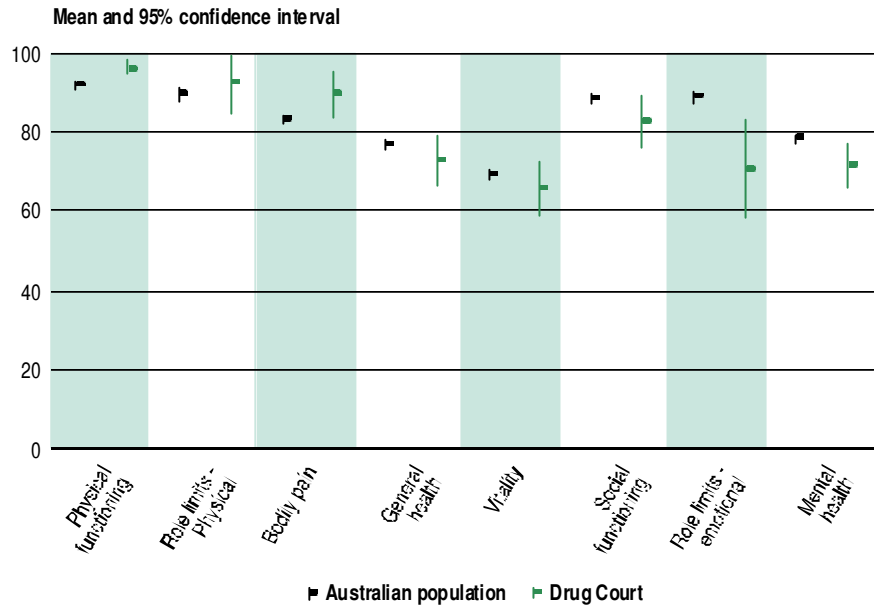
As Figure 5(b) illustrates, NSW Drug Court participants have significantly poorer mean scores at the 95 per cent confidence interval level on the role limit-emotional and mental health dimensions compared with the Australian population. The mean scores on the remaining two dimensions, vitality and social functioning, were lower for NSW Drug Court participants compared with the general population. However, there were overlaps between the mean scores at the 95 per cent confidence interval on these two dimensions.

Figure 5(a): Four-month mean SF-36 scores of NSW Drug Court participants and Australian population for males, aged 18-24 years



Note: NSW Drug Court mean scores *n*=43, Australian population mean scores *n*=1216.

Figure 5(b): Four-month mean SF-36 scores of NSW Drug Court participants and Australian population for males, aged 25-34 years



Note: NSW Drug Court mean scores *n*=42, Australian population mean scores *n*=1956.

OTI social functioning

Changes in social functioning scores were examined for all participants who completed the OTI social functioning questionnaire in both rounds of interviews. One respondent at each round of interviews failed to complete the OTI social functioning questionnaire, leaving 110 in the sample used to assess change over the first four months of participation in the program. As with the analysis of the SF-36 scores, a separate analysis by gender was not appropriate due to the small number of female participants who completed the four-month interview. A paired t-test was conducted on the data, revealing a significant improvement in social functioning (t=-4.31, df=109, p<.001), with a mean score of 20 at baseline falling to 16 at four months.

The OTI social functioning scale is likely to underestimate improvements in social functioning measured at the four-month mark because it includes length and stability of employment as factors that contribute to social functioning. NSW

Drug Court participants are discouraged by the Court from obtaining employment in the first four months of their program as it may hinder participation in other aspects of the program, such as attending Court and treatment. Those participants who were employed at the baseline interview would, on the most part, have had to restrict or leave their employment commitments once they commenced the NSW Drug Court program. Any reduction in employment would have a negative impact on their OTI social functioning score, although it would be viewed positively by the Court.

Estimate of spending on illicit drugs

Changes in legal income and spending between the two interview rounds was used as a proxy for identifying changes in illicit drug use. Figure 6 shows weekly legal income and spending at the baseline and four-month interviews.

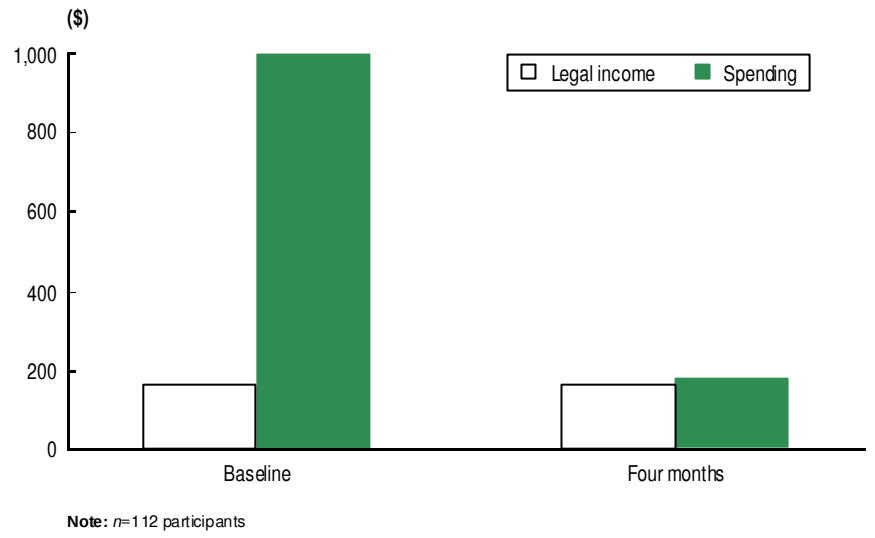
The median weekly legal income at the baseline and four-month interviews were very similar ($165, $162). In contrast, the amount spent by participants per week fell dramatically over the time period. The median weekly spending fell from $1000 per week at the baseline interview to $180 per week at the four-month interview. Clearly, the reduction in spending cannot be attributed to a reduction in legal income. It seems likely that the reduction in spending is attributable, at least in part, to a reduction in spending on illicit drugs, and therefore a reduction in drug use.

PARTICIPANT SATISFACTION

The results of the client feedback questions from the four-month interview show that participant satisfaction with the NSW Drug Court program is very high. Table 3 shows the level of participant satisfaction with the NSW Drug Court program.[8]

Over eighty per cent of respondents stated they were either satisfied or very satisfied with the treatment services offered, the support provided by Probation and Parole, and the legal representation provided by Legal Aid. Less than 10 per cent indicated they were dissatisfied with the treatment services offered to them or the support provided to them by Probation and Parole. Only 3 per cent indicated any dissatisfaction with Legal Aid.

Figure 6: Weekly legal income and weekly spending at baseline and four months



Note: *n*=112 participants

Table 3: NSW Drug Court participants' satisfaction with program at four months

	Very dissatisfied		*Dissatisfied*		*Neither satisfied nor dissatisfied*		*Satisfied*		*Very satisfied*		*Total*
	No.	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	
Satisfaction with treatment	4	3.6	4	3.6	11	10.0	41	37.3	50	45.5	110
Satisfaction with Probation and Parole[a]	5	4.6	4	3.7	11	10.1	37	33.9	52	47.7	109
Satisfaction with Legal Aid[b]	2	2.0	1	1.0	11	10.8	40	39.2	48	47.1	102
	Very unfair		*Unfair*		*Neither*		*Fair*		*Very fair*		*Total*
	No.	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	
Perceived fairness of the Court	0	0.0	4	3.6	14	12.7	30	27.3	62	56.4	110
	Very difficult		*Difficult*		*Neither*		*Easy*		*Very easy*		*Total*
	No.	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	
Ease of program	4	3.6	31	28.2	36	32.7	24	21.8	15	13.6	110

Note: *n*=110 participants.

a data missing for one person.

b response not applicable for eight persons who did not use Legal Aid.

Furthermore, 84 per cent of respondents perceived the NSW Drug Court to be fair or very fair, with over 50 per cent rating it as 'very fair'.

Participants were also asked to rate the ease of the program on a five-point scale from very difficult to very easy. The most common response, given by 33 per cent of respondents, was that the NSW Drug Court program was 'neither easy nor difficult'. Fourteen per cent of respondents found the program to be very easy, while only 4 per cent found the program to be very difficult.

Participants were also invited to nominate the best and worst aspects of the NSW Drug Court program via open-ended questions allowing for multiple responses. Answers were coded into common themes of responses with only answers that related directly to program delivery being included. Therefore, any responses relating to personal outcomes, such as, 'the best thing is that I am drug-free', were not included in the analysis. The results are summarised in Table 4.

Of the 112 people interviewed at four months, two did not complete this section, 84 persons cited one or more elements of the NSW Drug Court program as 'the best aspects' and 54 persons provided one or more elements as 'the worst aspects'. The remaining persons interviewed could not identify specific aspects of the program as best or worst.

As seen in Table 4, treatment was most commonly reported as the best aspect of the NSW Drug Court program (56% of respondents). The category 'treatment' includes responses referring to pharmocotherapy treatment, counselling, relapse prevention programs and rehabilitation programs. The next most commonly cited 'best' aspect was the general support received from the NSW Drug Court Team and services providers (17 responses, 15% of respondents). Support and services offered by the Probation and Parole Service was given as one of the best aspects of the program by 11 per cent of respondents (12 responses).

Of those who identified a negative aspect of the program, treatment was most commonly named as the worst aspect of the program (15 responses, 14% of respondents). This was followed by the regularity of court appearances (12 responses, 11% of respondents) and sanctions (11 responses, 10% of respondents). Nine responses referred to other aspects of the NSW Drug Court program such as a perception of inconsistency in the way the Court dealt with people and an overly demanding number of commitments while on the program.

The measures of satisfaction were analysed to test for any association with indicators of well-being. Kendall's tau-b correlations were conducted between each measure of satisfaction with the program, and the four-month scores on the SF-36 dimensions, the OTI social functioning scores and self-reported spending. Table 5 presents the correlations between participant satisfaction and measures of well-being.

Table 5 shows that a participant's perception of program ease was related to their well-being, with participants scoring more poorly on well-being measures also finding the program more difficult. The perceived degree of program difficulty increased as mean scores on four SF-36 dimensions, namely, general health, social functioning, role limits-emotional and mental health, decreased. Scores on the OTI social functioning scale also indicated that as social functioning declined, the perceived difficulty of the program increased.[9]

The levels of satisfaction with treatment and Probation and Parole services were also positively correlated with two SF-36 dimensions, general health and vitality. In addition, satisfaction with Probation and Parole was also significantly correlated with the OTI social functioning score, indicating greater satisfaction for people with a higher degree of social functioning.

DISCUSSION

This bulletin examines the well-being of NSW Drug Court participants prior to commencing the NSW Drug Court program and after being on the program for approximately four months. It presents preliminary results of an interview study investigating the extent to which placement on the NSW Drug Court program affects participants' health and social functioning, and the level of participant satisfaction with the pilot program. To our knowledge it is the first evaluation study of drug court participants that examines health and well-being outcomes of participants.

BASELINE HEALTH AND WELL-BEING

As expected, the baseline health measures indicate that NSW Drug Court

Table 4: Best and worst aspects of the NSW Drug Court program

Best aspect of program	*No. of responses*	*% of respondents*
Treatment	62	56.4
General support	17	15.5
Probation & Parole	12	10.9
Regular court appearances	6	5.5
Regular urine testing	5	4.5
Legal Aid	3	2.7
Total	**105**	

Worst aspect of program	*No. of responses*	*% of respondents*
Treatment	15	13.6
Regular court appearances	12	10.9
Sanctions	11	10.0
Probation & Parole	7	6.4
Regular urine testing	2	1.8
Expenses	2	1.8
Other	9	8.2
Total	**58**	

Note: *n*=110 participants. Percentages do not add to 100 because respondents could nominate more than one aspect.

Table 5: Kendall's tau-b correlation between well-being measures at four months and satisfaction

Dimension of well-being	*Satisfaction with treatment*	*Satisfaction with Probation & Parole*	*Satisfaction with Legal Aid*	*Court fairness*	*Ease of program*
SF-36 dimensions[a]					
Physical functioning	0.09	0.01	0.05	-0.01	0.13
Role limits - physical	0.05	-0.16	-0.17	-0.16	0.10
Bodily pain	0.11	0.14	-0.01	-0.04	0.07
General health	0.26**	0.25**	0.16	0.10	0.28**
Vitality	0.19*	0.20*	0.14	0.02	0.12
Social functioning	0.10	0.04	-0.06	0.02	0.23**
Role limits - emotional	0.11	0.10	0.02	0.00	0.27**
Mental health	0.13	0.12	0.10	0.09	0.33**
OTI - social functioning[b]	-0.14	-0.16*	-0.10	0.00	-0.24**
Self reported spending[a]	-0.05	-0.04	-0.04	0.05	0.02

Note: *p<0.05, **p<0.01.

a n=110 for satisfaction with treatment, court fairness and ease of program, n=109 for satisfaction with Probation & Parole, n=102 for satisfaction with Legal Aid. One additional response missing for general health dimension.

b n=108 for satisfaction with treatment, court fairness and ease of program, n=107 for satisfaction with Probation & Parole, n=100 for satisfaction with Legal Aid.

participants were in significantly poorer health than the general Australian population. Males were in very poor health on a range of physical and psychological dimensions of well-being prior to commencing the program, yet did not report suffering significant impairment in their ability to perform physical activities. Likewise, female participants were in significantly poorer health on a range of health and well-being dimensions compared with the Australian population. Female participants in the NSW Drug Court Trial were found to have a lower level of well-being in terms of their social functioning, mental health, and emotional problems. Their general health ratings were also below the Australian population norms for their age group.

Although NSW Drug Court participants were in poorer health than the general population, they were in superior health compared with a group of voluntary methadone maintenance patients entering treatment.[10] Studies identify a range of issues which lead persons to commence treatment, and for many people a range of factors are important. While pressure from the law has been found to be a significant influence on the decision to enter voluntary treatment, factors to do with lifestyle, relationships and 'hitting rock bottom' also impact on this decision (Weatherburn, Lind & Forsythe 1999; Bammer & Weekes 1993). It is possible that the lower health and well-being levels found among voluntary methadone maintenance patients contribute to their disenchantment with their lifestyle and influence their decision to enter treatment. The superior health and well-being of NSW Drug Court participants may indicate that, although these people experience significant impairment in their health, they had not hit 'rock bottom' at the time they commenced the NSW Drug Court program.

The results also showed that NSW Drug Court participants who used a combination of heroin and tranquilliser prior to commencing the program were in significantly poorer health on a range of dimensions compared with heroin users who did not use tranquillisers. This finding has implications for the expectations the NSW Drug Court may place on participants. Those whose pattern of drug use includes heroin and tranquillisers may be expected to commence the program with more severe health and well-being issues than other participants.

CHANGES IN MEASURES OF WELL-BEING

The results indicate that the general well-being of NSW Drug Court participants improved substantially after placement on the program. At four months there were significant improvements on each of the SF-36 health dimensions and the OTI social functioning scale, and a dramatic reduction in spending was recorded.

Moreover, when the four-month mean SF-36 health scores for men were compared with Australian population norms a difference emerged between the dimensions that relate more closely to physical health and those that relate more closely to aspects of psychological health and well-being. At the four-month interview, male participants were scoring within, or better than, the normal range on dimensions of physical functioning, role limits-physical, bodily pain and general health. Conversely, for both age groups of males, mean scores for NSW Drug Court participants on the vitality, social functioning, role limits-emotional and mental health dimensions tended to be lower than the population norms. Male NSW Drug Court participants aged 18 to 24 had significantly lower mean scores than Australian males of the same age on the vitality dimension, while male participants aged 25 to 34 years scored significantly lower than 25 to 34 year old Australian men on the role limits-emotional and mental health dimensions.

As the SF-36 relies on a person's perception of their own health, the high mean scores at four months on the physical health dimensions may reflect respondents' perceptions of their health in relation to their drug-dependent peers, or their past physical condition, rather than any real superiority on these dimensions compared with the average Australian male of the same age. As almost half of the NSW Drug Court

participants interviewed at four months indicated they suffered from a chronic illness, it is unlikely that the group would be superior to the population norms for physical health after only four months. However, it is clear that older male participants still considered themselves to be experiencing a degree of dysfunction in relation to their mental health, and still found their emotional health limited their ability to perform their daily activities.

Supporting a significant change in behaviour over the four-month period was the dramatic reduction in spending, which is consistent with a reduction in spending on illicit drugs. It should be acknowledged, however, that participants may have been reluctant to admit to spending that exceeded their legitimate income because drug use and offending while on the NSW Drug Court program result in a breach of program rules and can result in a custodial sanction. In order to encourage respondents' honesty participants were assured of confidentiality and were made aware of the interviewer's independence from the NSW Drug Court Team.

PARTICIPANT SATISFACTION

At four months, the overall level of participant satisfaction with the services provided by the NSW Drug Court and perceived fairness of the Court was high. Treatment services were by far the most commonly cited 'best' aspect of the program, with 56 per cent of respondents identifying some aspect of treatment in their answer. The next most commonly cited 'best' aspect of the program was the general support provided by the staff associated with the NSW Drug Court program. Although less than 50 per cent of persons interviewed identified a negative aspect of the program, the most commonly cited 'worst' aspect was also treatment (14% of respondents). Some respondents were generally dissatisfied with the treatment stream they were receiving, while others thought some aspect of the treatment they were directed to attend, such as counselling, was inappropriate for them. It is important to note that participants may change treatment streams several times while on the program with the Court's approval.

While the levels of satisfaction with the NSW Drug Court program are surprisingly high, it may be that respondents' perceptions of the NSW Drug Court were influenced by their previous experiences with the criminal justice system. The drug court model is one of judicial support as well as supervision, with the Court having expectations that participants are likely to relapse into drug use. A participant is only terminated from the program if the Court finds that there is no highly suitable treatment plan available for the person, or if the Court finds that there is no useful purpose to be served by the participant remaining on the program. Under this model, a participant may relapse periodically into drug use and, in some cases, reoffend, and still remain on the program. In contrast, for the vast majority of participants, previous experiences with the criminal justice system had resulted in at least one custodial penalty.

It is interesting to observe that respondents' satisfaction with the program was related to their own health and social functioning. Those participants who experienced greater difficulties in terms of general health, social functioning, mental health, or emotional problems, were likely to find the program more difficult than respondents in a better state of health and social functioning. Likewise, participants who gave themselves poorer ratings on general health and vitality were more likely to be dissatisfied with the services and support provided by treatment services and Probation and Parole.

These findings suggest that, while current service provision for the majority of participants may be appropriate, those participants experiencing more severe health problems while on the program may need more support and treatment services than the program currently provides.

CONCLUSION

The preliminary findings reveal significant impairment in the health and well-being of NSW Drug Court participants before commencing the NSW Drug Court program, provide evidence of improvements in well-being for people participating on the program and indicate a high level of participant satisfaction with the program.

The study shows that although NSW Drug Court participants commence the program in very poor health, they are in a significantly better state of health and well-being than heroin users voluntarily entering a methadone maintenance program. This finding suggests that persons directed into treatment by the NSW Drug Court enter drug treatment before they reach the lows of persons seeking treatment voluntarily.

In addition, the study shows that despite their poor level of health and well-being at program entry, NSW Drug Court participants experience considerable improvements in well-being within the first four months of being on the program. These findings provide evidence of health and well-being benefits to participants of the NSW Drug Court program.

Furthermore, the findings indicate satisfaction with the program and a perception by participants that the program is fair. Treatment services were identified as the most valued aspect of the program by participants, and satisfaction with the program was found to be related to the participant's own well-being.

In drawing these conclusions, it is necessary to address a few important caveats.

Firstly, one limitation of the study was that only those participants who were actively participating on the program at four months were interviewed a second time. Although no significant baseline differences were found between the group that was interviewed at four months and the group that was not, it is not clear whether differences would have emerged at four months. It is possible that participants who remained on the NSW Drug Court program at four months had greater improvements in health and social functioning than those who had absconded or had their program terminated.

It is also reasonable to assume that persons not interviewed due to termination or absconding from the program may have had significantly different responses in regard to their satisfaction with the program and their perceptions on the fairness of the Court and difficulty of the program.

Only interviewing persons actively participating on the program at four months may have overestimated the positive effects of the NSW Drug Court program. However, another aspect of the study design may have worked against this bias by overestimating health at baseline, thereby underestimating improvements in health. All potential participants are required to undergo a detoxification stage in custody where they withdraw from drugs under medical supervision before commencing the program. As baseline measures were taken after participants had been in the detoxification assessment stage for at least seven days, any improvements during the detoxification assessment stage have not been taken into account. Therefore, changes in health scores from baseline to four months underestimate changes in health since being referred to the NSW Drug Court program. Nonetheless, it can be concluded with reasonable confidence that, on balance, NSW Drug Court participants experience significant improvements in their well-being while participating on the program.

Another caveat is that it is unknown if such benefits are a result of the program or if similar results would have been obtained for persons following the mainstream criminal justice path. The current pre-post design allows for the monitoring of the health and social functioning of NSW Drug Court participants throughout the program but does not allow for comparisons to be made with offenders in the traditional criminal justice system. Without comparison with the mainstream criminal justice option for these offenders, namely gaol, it is not known if such improvements in participants' well-being were unique to the NSW Drug Court program. While incarcerated, offenders have reduced access to illicit drugs and have access to a range of health services. It is doubtful, however, that imprisoned offenders would experience such significant improvements over a range of well-being dimensions as was experienced by NSW Drug Court participants.

While the preliminary results indicate benefits in health and social functioning to offenders on the NSW Drug Court program, additional information is needed to assess if these benefits are maintained over time.

Three more rounds of interviews are planned for respondents remaining on the NSW Drug Court program. Two of these rounds will be conducted while the participants remain on the program, each at four-month intervals (i.e. at eight months and twelve months after baseline interview), to examine ongoing changes in health and social functioning throughout participation on the program. A follow-up interview will be also be conducted on participants four months after they successfully graduate from the program to assess if benefits obtained while on the program are maintained after graduation.

NOTES

1 The NSW Drug and Alcohol Court Assessment Programme was established in 1979.

2 This item was not included in the analysis as it did not load on to any of the eight health and well-being dimensions. Furthermore, the 12-month reference period for the question was not appropriate as the study used four-month intervals between interviews.

3 One person who identified heroin as their drug of choice and commenced heroin use at 58 years of age was excluded from this analysis.

4 The number of prior treatment episodes reported in this bulletin differs from that reported in the NSW Drug Court monitoring reports due to a difference in data sources.

5 Confidence intervals for all SF-36 mean scores were calculated using *t*-values.

6 Statistically significant correlations were found between some SF-36 health dimensions and level of tranquilliser use, however the measure of tranquilliser use was considered too crude to be reliable.

7 Results of the Wilcoxon signed ranks test for each of the dimensions: physical functioning Z=-3.97, p<001; role limits-physical Z=-5.34, p<001; bodily pain Z=-5.56, p<001; general health Z=-4.98, p<001; vitality Z=-3.57, p<001; social functioning Z=-5.78, p<001; role limits-emotional Z=-4.05, p<001; mental health Z=-6.12, p<001.

8 The participant satisfaction section of the interview was not completed by two participants due to time constraints.

9 It should be noted that a high score on the OTI social functioning scale indicates low social functioning.

10 While NSW Drug Court participants' health at treatment entry was superior to that of the group voluntarily receiving methadone maintenance treatment, it is unknown if there were changes to participants' health from the time of their arrest to the time they commenced the NSW Drug Court program.

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