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The Magistrates Early Referral Into Treatment (MERIT) program: health outcomes

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Executive summary: the MERIT program and its outcomes

This aim of this study is to assess the efficacy of the NSW MERIT program in achieving its intended health outcomes — in particular, reduced drug use and improved health and social functioning.

What is MERIT?

MERIT (the Magistrates Early Referral Into Treatment Program) is an intervention program based in NSW Local Courts that gives adult defendants with drug problems who are eligible for bail the opportunity to receive individualised drug treatment. The Court makes the defendant's involvement in MERIT a condition of bail and the Magistrate is then able to consider the defendant's progress in treatment as part of final sentencing. The defendant is not required to enter a plea of guilty in order to participate in the program.

Program activity

As at 30 June 2007, the MERIT program was operating within all of the State's Area Health Services, covering 60 local courts. Collectively, these courts manage about 80% of all court appearances in New South Wales. Under the program, 13,728 people have been referred for assessment, 8378 were accepted for treatment, and 4917 (62% of those who had exited the program) successfully completed it.

Study design

MERIT teams located in each Area Health Service in NSW collected information on MERIT participants as they entered and left the program. Interviews were obtained with 2833 people who entered the program during the main study period, (1 April 2004 to 30 June 2006) and with 1470 people as they completed it. This comprised 82% of all those entering and 67% of those completing the program.

Standard measuring instruments were administered which related to participants' drug use and associated behaviours, and their physical and mental states.

Results

The main problem drugs at program entry were cannabis (41% of participants), heroin (28%) and amphetamines (23%). Additionally, a third of all program participants were daily users of cannabis.

By program exit at three months, levels and types of illicit drug use and associated risk behaviours were reduced by significant amounts: a high proportion had substantially decreased the frequency and intensity of their drug use and many reported abstinence from their principal drug of concern. Thirty-eight per cent were abstinent from all illegal drugs. The results indicate that the MERIT program is successful in reducing participants' drug use and in achieving or maintaining abstinence from illegal drugs for many participants, at least for the duration of the program.

The measures of health and psychological adjustment show significantly lower levels of physical and psychological health among participants at program entry than in the general population. A high proportion of participants experienced severe psychological disturbance. By program exit, the mental, physical and social functioning of the great majority of participants had improved considerably. An increased proportion were in employment.

Over 90% of participants who completed the program said they were satisfied or very satisfied with their experience. Ninety-six per cent said their needs had been met and 98% said that the services they received had helped them deal more effectively with their problems.

It is generally acknowledged that three months of treatment (the planned duration of the program) is a minimum time in which to expect changes in drug-related behaviour. The challenge for treatment providers in the MERIT program was to modify entrenched criminal and drug using behaviours within this short time-frame. Despite the difficulties, considerable changes were evident at program exit in the drug using behaviours and social and psychological adjustment of those who completed the program.

The research design imposed limitations on the study. Although the ideal would have been a randomised controlled trial, the methodological and practical issues proved insurmountable. Also, changes were only measured at the end of the program and it is not possible to say to what extent they were sustained.

Despite these limitations, this study provides evidence that the MERIT program is successful in achieving positive health outcomes. The evidence presented in this report supports the program as a successful option for drug-affected defendants appearing before Magistrates courts.

1 Background and aims

Drug treatment policy in Australia has developed within the context of a strong harm minimisation philosophy (Ministerial Council on Drug Strategy 1993, 2004). Complementing this is an increasing emphasis on the use of the criminal justice system to divert defendants into drug treatment (Freiberg 2000; Makkai 2002). The first specifically designated 'drug court' commenced in western Sydney, New South Wales, in 1999 on a limited trial basis. This was followed by similar initiatives in other States including the Court Referral, Education, Drug Intervention and Treatment (CREDIT) scheme in Victoria (Heale and Lang 2001).

Following a high-level Statewide Drug Summit, New South Wales introduced the Magistrates Early Referral Into Treatment (MERIT) program on a pilot basis in a rural location — the North Coast Region (NSW Government 1999; Reilly, Scantleton and Didcott, 2002; Passey et al 2003). In contrast to the metropolitan-based Drug Court which targets convicted serious defendants facing prison sentences, MERIT is an 'early' court scheme which operates at the pre-plea stage. It was intended to target defendants charged with relatively minor offences appearing at the Local Court, with the aim of breaking the 'drug/crime' cycle (NSW Government 1999; Spooner, Hall and Mattick 2001).

1.1 The MERIT program

The target population consists of adult defendants who have a demonstrable illicit drug problem, are eligible for bail, and are motivated to engage in treatment for their drug problems. Defendants charged with serious violent or sexual offences, or those with wholly indictable offences (ie, charges which could not be heard in the Local Court jurisdiction) are not eligible to participate. Entry into the Program is voluntary and, in contrast to some other diversion programs, participants are not required to enter a prior guilty plea (NSW Chief Magistrate's Office 2002). Nor is participation restricted to first time offenders.

The expected program duration is set at approximately three months, reflecting the average Local Court bail period (NSW Attorney General's Department 2002).

Many MERIT participants have complex health, social, familial, financial and vocational needs, as well as their outstanding legal matters. Throughout their time in MERIT, participants are managed by a team of caseworkers who maintain a high level of contact with the defendant to provide drug treatment, support, and/or supervision as necessary.

MERIT participants may also be referred by their caseworkers to a wide range of ancillary services, such as accommodation and housing services, employment and vocational services and psychiatric and psychological services, while continuing to be case managed by the MERIT team. Participants may be transferred to another MERIT team after acceptance into the program, usually to accommodate their living arrangements.

Potential participants may be referred by police, magistrates, Legal Aid Commission solicitors, Aboriginal legal services, private legal practitioners, probation and parole officers or family and friends. Participants can also refer themselves or be referred by other drug and alcohol services. After giving informed consent, potential participants are bailed to the next court date to attend an assessment by the MERIT team following which, if they are deemed elgible and suitable, they may be bailed to MERIT. Potential participants may voluntarily commence treatment (withdrawal management and/or participation in the pharmacotherapy program) before formal acceptance, and may continue with this even if not accepted into MERIT.

The magistrate is encouraged to undertake an increased level of judicial supervision as a core element of the program. This usually involves one or two additional 'mentions' to establish how a defendant is progressing and to offer encouragement or admonishment, as appropriate. If possible, the same magistrate deals with the defendant throughout the bail order and the final sentencing.

The completion of the MERIT program usually coincides with the final hearing and sentencing. The magistrate is provided with a comprehensive report on the participant's response to treatment. The relevance of compliance or non-compliance with the MERIT program to the determination of the final sentence is at the discretion of the magistrate.

Although the stipulated program length is three months, MERIT caseworkers also attempt to arrange for longer term treatment or aftercare. Many MERIT participants continue treatment on a voluntary basis. Others may continue in treatment as part of a bond imposed by the magistrate.

1.2 Intended program outcomes and performance indicators

The measure of performance is a key element in the NSW Government's commitment to quality care and accountability in the public sector. As MERIT is a State-wide program, part of its implementation is the systematic measurement of key performance indicators.

The MERIT Program Evaluation and Monitoring Framework, which has been formally adopted by the NSW Attorney General's Department, outlines the main objectives of the MERIT Program (NSW Attorney General's Department 2003):

- Decreased drug-related crime by participants, during the program and following completion
- Decreased illicit drug use by participants, during the program and following completion
- Improved health and social functioning among participants, during the program and following completion
- Sentences that reflect the better rehabilitation prospects for successful MERIT participants.

Two of these, decreased drug use and improved health and social functioning, are the subject of this report. Best practice outcome performance indicators for alcohol and other drug interventions involve measuring changes on a number of key areas of client functioning from the beginning to the end of treatment (Dale & Marsh 2000). If possible, changes are also measured after treatment.

The core health related performance indicators are:

- reduced illicit drug use
- reduced overdose risk
- reduced blood borne disease risk behaviours
- improved social functioning
- improved physical health
- improved psychological adjustment.

In addition, assessment of the degree of client satisfaction with the service, which is recognised as an important indicator of quality of care in the health field (Australian Council on Healthcare Standards 2006), is included as a performance indicator.

2 Methods

2.1 Research design

Health outcome monitoring for the MERIT program involves a standardised interview schedule which is administered to MERIT participants at program entry and again at program exit. The questions are administered with the same protocol on both occasions.

The design of the study required MERIT caseworkers to administer the questionnaire. Studies using clinicians rather than dedicated research workers to collect data for monitoring and evaluation purposes have reported difficulty ensuring compliance.[1] For this reason, considerable efforts were made to select instruments that would be not only valid and appropriate but also clinically useful, and to make results accessible in a convenient and timely manner for clinicians to use during treatment. The process is similar to that of concurrent recovery monitoring (McLellan et al 2005), in which outcome measures are collected and reported by clinicians at the beginning and during treatment both as a guide to clinical management and as a way of evaluating recovery progress.

The research design for this study is partly based on a study conducted by the NSW Network of Alcohol and Drug Agencies, which piloted a comprehensive outcome measure with a group of volunteer agencies in 1997–98, with data collected at baseline and at a 12 month follow-up (NADA 1999). The results of the pilot illustrated the potential of such studies in assessing results of treatment but also uncovered practical difficulties such as lack of commitment by agencies, incomplete and/or unreliable recording of data, and resistance to collecting data necessary to measure outcomes. The design of the MERIT study has attempted to address these problems by incorporating the data collection procedures into routine MERIT operations and making results for individual participants clinically relevant and immediately available.

[1] For example, Lawrinson (2004), writing about the development of the Brief Treatment Outcome Measure: '…clinicians, whilst generally being positively predisposed towards using the instrument, expressed concerns relating to the burden of administering and the clinical utility of conducting outcome monitoring'.

2.1.1 Data collection and management

The health outcomes questionnaire was administered by caseworkers to all participants at program entry, as part of the assessment protocol, and again at program exit (see Appendices 1 and 2). Results were entered into the MERIT database by individual MERIT teams, typically by the administrative officer and/or caseworkers. The database calculates scores for the individual health-related measures automatically and can produce a printout for each client, which may then be incorporated into the assessment and casework process (see Appendix 3).

Scores for individual program participants are designed to be used by caseworkers as an aid in assessment, since they provide a 'snapshot' of a person's physical, mental and emotional state on entering and exiting the program.

Once in the database, data relating to participants' scores were collated quarterly in a de-identified format into a statewide MS Access database. This was used to analyse the data presented in this report.

The data were subject to a quality control process to maintain accuracy (see Appendix 4). This took place first at data entry level, where the data were subject to logical checks as they were entered into the database. Data were also vetted every three months when data from all MERIT sites were incorporated into the statewide database. Quality control checks included the elimination of illegal and missing values, resolving inconsistencies and 'outliers', and correcting date errors. The process was automated as much as possible and supplemented by manual checking.

The questionnaire used for the health outcomes study was trialled for six months by two Area Health Service MERIT sites. MERIT staff at each site were trained in business rules and administration of the interviews and use of the outcome measures (see Appendices 5 and 6). The measures were then implemented statewide as a standard assessment and outcome tool.

As the validity of the results depends in part on those successfully interviewed being representative of all MERIT participants, MERIT teams were encouraged to interview as high a proportion of participants as possible. A benchmark was set of achieving interviews with 80% of those entering and exiting the MERIT program.

Table 2.1: Data collection instruments

Program objective	Indicator	Questionnaires used
Reduced drug use	Self reported drug use	Severity of Dependence Scale
	Occasions of drug use	Brief Treatment Outcome Measure (items measuring drug use)
Reduced drug-related risk behaviours	Needle sharing	Brief Treatment Outcome Measure
	Overdoses	
Improvement in social functioning	Social functioning	SF 36
	Source of income and accommodation	NSW Minimum Dataset items
Improvement in physical health	Self reported health status	SF 36
Improvement in psychological adjustment	Mental health assessment	Kessler-10

In cases where program participants were transferred from one MERIT team to another, provision was made for the recipient team to record both entry and exit interview.

2.1.2 Duration of study

The data collection period was 1 April 2004 to 30 June 2006, with a further period of three months (to 30 September 2006) to include exit interview data from participants given an entry interview on or before 30 June. The study was formally endorsed by the NSW Health Council from 1 October 2004.

2.2 Data collection instruments

Instruments were selected whose reliability and validity are acknowledged in the literature, which allowed for comparability with other studies, and which were currently used by the Health Department of NSW. Data already collected as part of the assessment process were used wherever possible in order to keep data collection to a minimum.

Criteria used for selecting evaluation tools included:

- relevant to the assessment process and to case planning
- time effective — taking a short time to administer
- outcome focused
- cost effective and readily available
- able to be administered by MERIT staff and easy to interpret
- valid for purpose intended
- tested for validity and reliability
- able to be administered within MERIT time frame
- consistent with evaluation of similar programs.

The questionnaires and tests used, with the indicators to be measured, are shown in Table 2.1.

2.2.1 Measuring drug use

The measures of drug use and changes in drug use in this study were similar to those used by other outcome studies of drug diversion programs for adult criminal defendants; that is, self-reported measures of frequency and intensity of use.[2] The questions originally formed part of the Brief Treatment Outcome Measure (BTOM), a brief, multi-dimensional instrument developed for assessing treatment outcomes for people receiving maintenance pharmacotherapies. A psychometric evaluation study indicated that the BTOM has good reliability, acceptable validity and was capable of measuring change in treatment outcome (Lawrinson et al 2005).

Urinalysis would have been desirable as a means of assessing participants' current drug use (though this may also have problems as a reliable and objective indicator). Urinalysis is used by some similar programs as a monitor of participants' progress, but it was not used consistently enough to provide data for this study. However, a comparison was made of urinalysis results and the self-report data for some MERIT participants and this is reported in Appendix 7.

The section of the BTOM used in this study gives totals for the participant's reported occasions of use of each of nine classes of drug in the last month. It also gives an indication of the extent of the participant's poly-drug use, based on the questions about drug use.[3]

A variety of measures was used in assessing changes in drug use. Briefly, these are:

- proportion of participants using each type of drug at entry and exit
- changes in frequency and intensity of drug use
- changes in consumption of principal drug of concern
- measures of abstinence at program exit
- changes in extent of polydrug use.

2.2.1.1 Frequency and intensity of drug use

These are measures of change in use of each of seven classes of drug (or nine when alcohol and tobacco are included). Participants were asked, for each drug used, on how many days they had used it in the previous month (giving a frequency score); and what was the average number of doses (eg, hits, joints) of that drug they used on each occasion of use (giving an intensity score, calculated by multiplying the average number of doses per day by the number of days used in the previous month). Though the frequency and intensity scores are a crude measure of drug use, they give a record of any use of a particular drug in a particular time period.

Changes between program entry and exit were measured in terms of proportionate reductions in the two measures. A consideration here is that some program participants reported abstinence from their principal drug of concern at program entry; others reported that they had used no illegal drugs in the month preceding entry. This issue is discussed in more detail in section 4.3.4.

2.2.1.2 Principal drug of concern

There are difficulties in attempting to measure changes in consumption of the 'main problem drug', which may be defined in a variety of ways by both participant and caseworker. Also, the main problem drug identified (as reported by the participant) may change between the entry and exit interviews, making it impossible to compare entry and exit data in this way.

However, the concept of 'principal drug of concern' has face validity for both participant and caseworker. It is also collected as a data item by the NSW Minimum Dataset (NSW Department of Health 2005). For these reasons, analyses were conducted of changes in use of principal drug cited by the client at entry. These analyses were:

- reduced frequency in days of use of principal drug of concern
- reduced intensity of use of principal drug of concern (calculated by multiplying the average number of doses per day by the number of days used in the previous month).

[2] A review of outcome studies of diversion schemes for adult drug-involved offenders (Harvey et al 2006) found that of those which included drug use among their outcome variables, three used indicators such as urinalysis and the remaining two-thirds self report data similar to that collected in this study.

[3] In accordance with the BTOM, the original earlier version of the questionnaire collected data as 'heroin/opiates'; in later versions, information on heroin and other opiates was collected separately. Hence some Figures and Tables give information in all three categories.

2.2.1.3 Measures of abstinence at program exit

Abstinence from drugs in in the month before program exit can be used as a measure of reduced drug use.

The measures reported in this study are:

- proportion of users of each drug used at program entry who were abstinent from that drug at exit
- proportion of users of each principal drug of concern who were abstinent from that drug at exit
- proportion of program participants who were abstinent from all drugs at exit.

2.2.2 Risk behaviour (BTOM component)

These questions from the BTOM ask about the extent to which MERIT participants put themselves at risk of contracting or transmitting blood borne viruses through sharing drug injecting equipment. A question is also asked about experiences of drug overdoses.

Program participants were asked:

- whether they had injected drugs and if so, how recently (this is a NSW Minimum Data Set item [NSW Department of Health, Centre for Drug and Alcohol 2005])
- how many times in the previous three months they had used a needle and syringe after someone else had already used it
- whether they had shared any injecting equipment in the previous three months
- how many times they overdosed from any drug in the last three months.

2.2.3 Severity of Dependence Scale (SDS)

The **Severity of Dependence** scale was developed as a screening tool to measure the degree of dependence experienced by users of a variety of drugs; it focuses on psychological aspects of dependence such as impaired control, anxiety about use and difficulty stopping (Gossop et al 1995; Swift et al 1998). It was used in this study to measure the degree of dependence experienced in relation to the principal drug of concern, as defined by the client.

Research indicates that in general a level of 4 is indicative of dependence, although this varies somewhat for different classes of drug. Scores of 4 or slightly more are indicative of dependence at the lower end of the spectrum while higher scores are indicative of more severe dependence.

2.2.4 Psychological adjustment: Kessler-10

The Kessler-10 (K-10) is a 10 item scale measuring non-specific psychological distress (Kessler & Mroczek 1994, Andrews & Slade 2001). It measures the level of anxiety and depressive symptoms a person may have experienced in the four weeks before interview. Higher scores are consistent with a diagnosis of a depression and/or anxiety disorder and are associated with a higher risk of ever having made a suicide attempt.

The K-10 forms part of the National Survey of Mental Health and Wellbeing (Australian Bureau of Statistics 2001). It is one of the main outcome assessment tools used with the NSW Mental Health Outcomes and Assessment Training Project. (NSW Department of Health 2002).

2.2.5 Physical/social/emotional functioning: SF-36

The SF-36 (Short Form, 36 questions) is an instrument developed to measure health and well-being. The validity and reliability of the instrument are well established; it has been widely used in Australia and population standards have been developed (Australian Bureau of Statistics 1997; Ware et al 2000). It consists of 36 questions that reflect a person's functioning status, symptoms/well being and overall health.

The SF 36 has eight multi-item scales:

- **General health:** personal evaluation of health, including current health outlook.
- **Mental health:** extent of depression and anxiety, general positive affect.
- **Bodily pain:** intensity of pain and effect of pain on normal life.
- **Physical functioning:** extent to which health limits physical activities.
- **Role functioning–physical:** extent to which physical health interferes with normal activities.

- **Role functioning–emotional:** extent to which emotional problems interfere with normal activities.
- **Social functioning:** extent to which physical or emotional problems interfere with normal social activities.
- **Vitality:** levels of energy and vitality.

The questionnaire items pertaining to each dimension are summed and transformed to form a scale from 1 to 100, where a higher score indicates a better state of health or well-being. Individual scores are interpreted relative to population norms (Australian Bureau of Statistics 1997).

2.2.6 Social functioning

Social stability and functioning were assessed by questions about the participant's main source of income and the nature of their usual accommodation. Collection of these two items is a mandatory part of the NSW Minimum Data Set (NSW Department of Health, Centre for Drug and Alcohol 2005) and they are collected routinely for all participants at program entry. The information was collected again at program exit in order to assess changes in social functioning. In addition, social functioning in terms of ability to perform normal social activities was measured by one of the SF-36 sub-scales.

2.2.7 Client satisfaction questionnaire

The degree of client satisfaction with the service is recognised as an important indicator of quality of care in the health field (Australian Council on Healthcare Standards 2006). For this reason, participants were given a brief questionnaire about their degree of satisfaction with the program at program exit.

The questions were taken from the West Australian Health Department's Best Practice Core Counselling Skills Manual (Dale & Marsh, 2000), (questions 1, 2 and 5) and from the BTOM (questions 3 and 4). The questions were selected to cover the major domains of client satisfaction with the program.

3 Health status and drug use of MERIT participants at program entry

Information on drug use and health status was collected in interviews with participants conducted at or shortly after entry to the MERIT program. The aggregated scores were used to produce a health profile of participants at entry to the program which can be compared to norms from the general population and other populations.

3.1 Achieved sample

The Health Outcomes questionnaire was administered to 2833 of the 3450 people admitted to the MERIT program during the main study period, which is 82.1% of those eligible for interview. The base number used throughout the report varies slightly for individual tables as not all participants completed all sections of the questionnaire.

A comparison of those interviewed and those not interviewed at program entry (Table 8.1 in Appendix 8) showed some differences between them: those not interviewed were more likely to be female, Aboriginal, and/or to use amphetamines as their principal drug; and less likely to be employed, living in privately owned accommodation, and/or use cannabis as their principal drug. These differences should be borne in mind in generalising the findings in this report to all MERIT participants, although the high proportion of people interviewed suggests that the findings are reasonably representative.

3.2 Drug use

Participants were asked asked whether they had used each class of drug in the previous month, on how many days in the previous month they had used each class, and (for the drugs used) the average number of times used per day.

The proportion using each drug at any time in the month before entry is shown in Figure 3.1 and in Table 9.1 in Appendix 9.

The most common illegal drugs used at program entry were cannabis (74%), amphetamines (36%), tranquillisers (21%) and heroin (20%) with a smaller proportion using other opiates, cocaine and other drugs.

3.2.1 Frequency of use

The average frequency of use (number of days of use in the previous month) at program entry varied according to each drug (Figure 3.2 and Table 9.2 in Appendix 9).

Figure 3.1 Proportion of participants using each drug type at program entry (*n* = 2833)

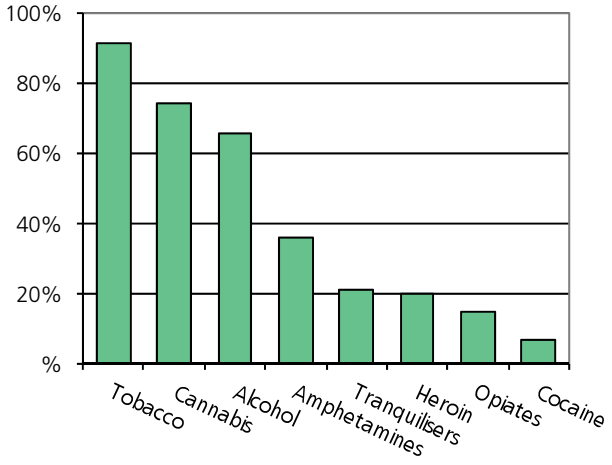


Figure 3.2: Average frequency of use (days per month)

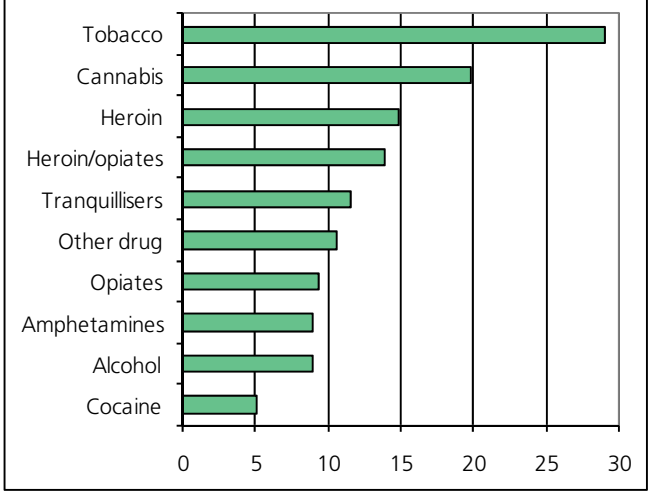
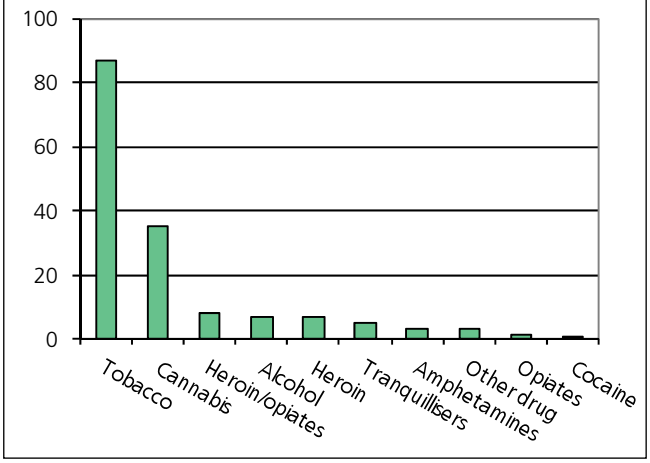


Figure 3.3: Percentage of all program entrants who use each drug type daily



3.2.2 Daily users

The proportion of daily users varied considerably with each drug (Figure 3.3 and Table 9.3 in Appendix 9). Most notable is that 35% of all program participants were daily users of cannabis and 87% were daily users of tobacco.

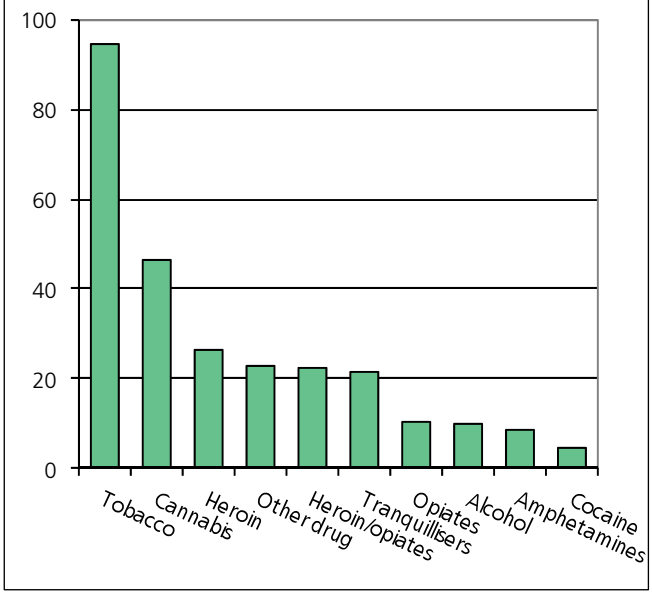
Looking only at people who used a drug in the previous month (rather than all people interviewed), 46% of all cannabis users and 26% of heroin users were daily users (see Figure 3.4 and Table 9.4 in Appendix 9).

3.2.3 Intensity of use

The intensity of use of each drug was also measured as the number of occasions of use in the past month (number of days used multiplied by average number of doses/hits). It is acknowledged that this is a crude estimate of quantity, since it is based on the client's self report; and quantity or units of drugs of very different psychometric properties and potency are measured equivalently (eg, a cone or joint of cannabis; a dose of heroin). Nevertheless, it does give an overall indication of the drug using patterns of MERIT participants.

As expected, the amount used varied according to type of drug (see Table 9.5 in Appendix 9). Averaged over the month before program entry, the mean dose per day was 11.3 for cannabis, 2.4 for tranquillisers, 2.1 for heroin, 1.5 for amphetamines and 0.6 for cocaine. For comparison, the mean dose per day for tobacco was 17.2 and for alcohol, 3.2.

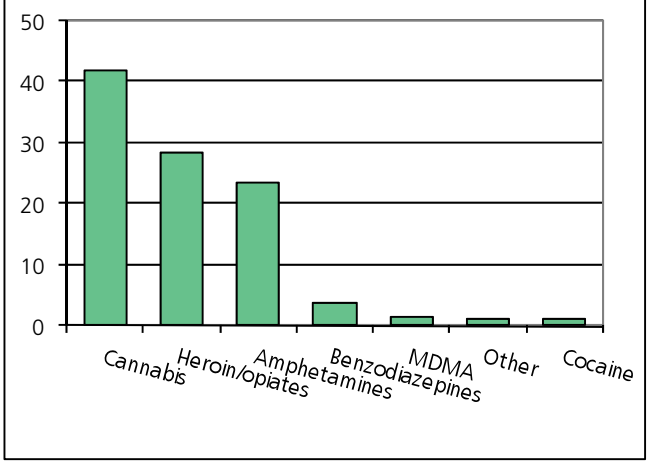
Figure 3.4: Percentage of users of each drug who were daily users at program entry



3.2.4 Principal drug of concern

The drugs most often cited by MERIT participants as their principal drug of concern were cannabis (41%), heroin (28%) and amphetamines (23%) (Figure 3.5 and Table 9.6 in Appendix 9). It should be noted that heroin was nominated by some as their principal drug of concern, even though they may have been registered on the pharmacotherapy program and were not using illegal opiates at program entry. This may explain why heroin was nominated as a principal drug more frequently than it was reported to be used in the previous month.

Figure 3.5: Principal drug at program entry (percentage of all participants)



3.3 Individual drug use scores: highlights

3.3.1 Cannabis use

A high proportion of the entrants to the program were cannabis users (74% of all MERIT participants) with over a third of these (46%) being daily users (see Table 9.4 in Appendix 9). The average daily dose of cannabis (usually joints or cones) was also high at 11 per day (Table 9.5 in Appendix 9). This is consistent with the finding that 37% of MERIT participants present with cannabis as the principal drug of concern (NSW Attorney General's Department 2006).

3.3.2 Tobacco use

Although tobacco use is not targeted by the MERIT program — since MERIT is funded by the Commonwealth's Illicit Drug Diversion Initiative — attention should be drawn to the fact that 91% of MERIT participants were tobacco users, 87% of these being daily users.

3.3.3 Alcohol

The target population for the MERIT program is people with criminal charges at the local court with an illicit drug problem. This by definition excludes people whose main or only drug of concern is alcohol.[1] However, although all people accepted onto the program were recorded as having an illicit drug problem, 65% had also used alcohol in the month before coming onto the program and 10% of these were daily users — figures similar to those of the general Australian population (Australian Institute of Health and Welfare 2003). Some program entrants reported consuming alcohol at a problematic level (eg, 17% of drinkers drank an average of 6 standard drinks or more per day over the previous month, and 9% of drinkers [6% of all MERIT participants interviewed] drank on average 10 or more standard drinks per day). This is likely to be an underestimate of problem drinkers since it averages drinks over a month and does not include some binge drinkers. In fact, 10.5% of alcohol users were drinking more than 20 standard drinks a day on the days when they were drinking.

Some MERIT teams have used the AUDIT (Alcohol Use Disorders Identification Test) or Drinkcheck (Saunders et al 1993) as part of the assessment. One team (NCAHS, Northern Section), found that 42% of the men (*n*=467) and 19% of the women (*n*=107) who were given the AUDIT at program entry were rated as drinking at a harmful level.

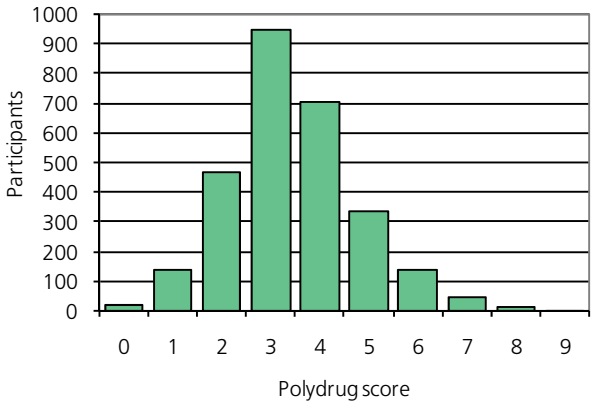
[1] Except at Far West MERIT, which services the Broken Hill and Wilcannia Courts. Defendants with a primary alcohol problem are included in the trial Rural Alcohol Diversion Program servicing Orange and Bathurst Courts, which is modeled on the MERIT Program, but not included in this report.

3.4 Polydrug use

This score gives an indication of the number of major categories of drug (heroin, other opiates, cannabis, cocaine, tranquillisers, amphetamines, tobacco, alcohol, other drugs) used in the previous month.

At program entry, the 2833 accepted MERIT participants included in the study reported use of an average 3.4 types of drug during the month previous to program entry. This is out of a possible 9 drug classes including alcohol and tobacco. When alcohol and tobacco are excluded the average number of types of drug used was 1.8. The drugs included are heroin, other opiates, cannabis, cocaine, amphetamines, tranquillisers, and drugs not otherwise specified. The distribution of scores at program entry for the 9 drug classes including alcohol and tobacco is shown in Figure 3.6.

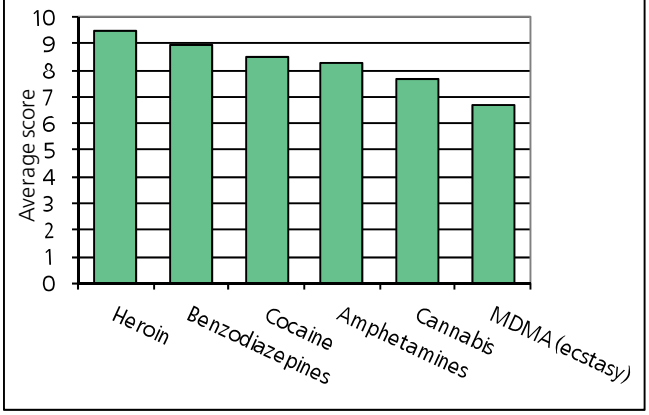
Figure 3.6: Distribution of polydrug scores (*n*=2830)



3.5 Dependence: severity of dependence scores

The average score for dependence on the main identified drug of concern, as measured by the Severity of Dependence Score (SDS) was high, with a mean score of 8.4 for all participants. The SDS score varied, though not substantially, for individual types of drug (see Figure 3.7 and Table 9.7 in Appendix 9).

Figure 3.7: Average SDS score by principal drug of concern (*n*=2721)



3.6 Risk-taking behaviour

At program entry, 66% of 2823 program participants said they had at some time injected drugs. Although 52% had injected within the previous three months, only 11% of them had shared needles or other injecting equipment during that time.

Two per cent (64 of 2833 participants) had one or more overdosing episodes in the three months before referral to MERIT.

3.7 Social stability and functioning

Of 2830 participants, 56% were unemployed (ie, on temporary benefits, had no income, or were dependent on others) at the time of program entry. Employment (full or part time) was the main source of income for 17%. Ninety-one per cent lived in rented or privately owned (ie, stable) accommodation.

3.8 Kessler-10 scores

Scores on the K-10 were grouped into ranges according to degree of psychological distress as reported by the participant (Figure 3.8 and Table 9.8 in Appendix 9). The range of scores is based on 2751 people accepted onto the MERIT program. The comparative population figures are from the NSW Adult Health Survey (Australian Institute of Health and Welfare 2003).

It is evident from these profiles that a substantial proportion of MERIT participants are experiencing severe levels of distress at program entry, and are likely to have a severe mental disorder consistent with a diagnosis of a severe depression and/or anxiety disorder (NSW Department of Health 2002). The profiles are substantially worse than that of a sample of the NSW general population.

The score profile of women accepted into the program was appreciably worse than that of men, with 41% of the women scoring in the 'very high' range (see Appendix 9, Table 9.8b). The male/female difference is consistent with figures from the NSW Adult Health Survey.

3.9 SF-36 health dimension scores

The mean scores for 2718 MERIT participants at program entry were compared on each of these eight dimensions with those of a sample of the general population (NSW Adult Health Survey 2003). The MERIT sample scored appreciably lower on most of the dimensions (indicating poorer health) than the population means, as shown in Figure 3.9 and Table 9.9 in Appendix 9.

All differences between the MERIT entry scores and NSW norms[2] were statistically significant at the $P \leqslant 0.001$ level for men and women, with the exception of 'role limits physical', which was $P \leqslant 0.02$ for women.

An analysis of the SF-36 scores by SDS score at program entry showed that poorer health scores were associated with more severe levels of dependence (see Appendix 9, Table 9.10).

Figure 3.8: Score ranges for Kessler-10 (current psychological distress)

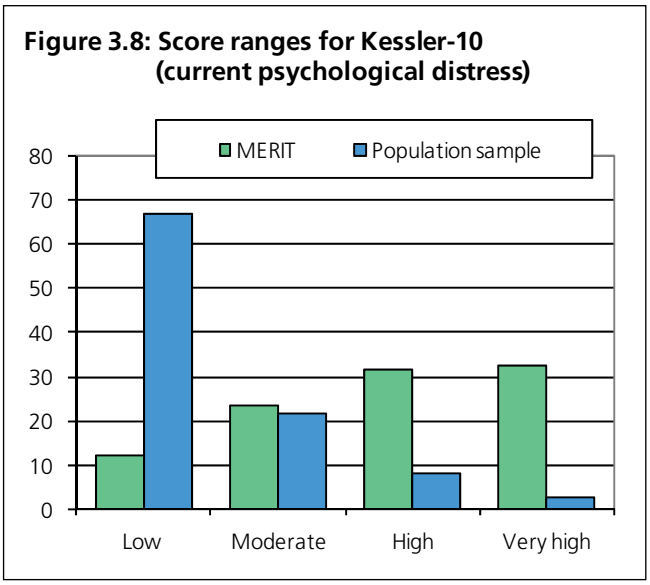
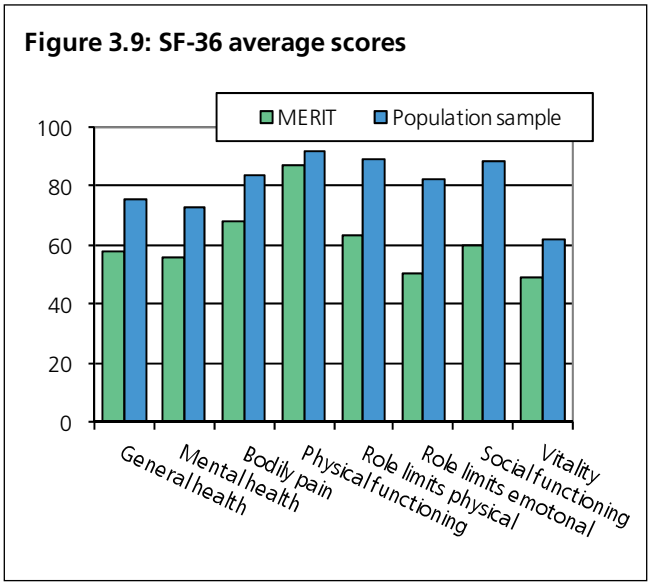


Figure 3.9: SF-36 average scores



[2] Using one sample *t*-test (not age standardised).

3.10 Health profiles: an overview

The results indicate that MERIT participants have considerably poorer health at program entry than the general Australian population. The Kessler-10 measure indicates that a high proportion of MERIT participants are experiencing severe psychological distress. Their SF-36 health dimension scores are substantially lower than that of the general population, indicating a lower level of physical and psychological health.

The Kessler 10 score profiles are of particular significance in relation to MERIT assessment and interventions: 33% of accepted MERIT participants had a K-10 score at program entry of 30 or above, which may indicate a high suicidal risk (NSW Department of Health 2002). There is a strong association between a high score on the K-10 and a diagnosis of anxiety and affective disorders and, to a lesser extent, other mental disorders (Andrews and Slade 2001).

4 Health outcomes: changes in health status and drug use at program exit

4.1 Achieved sample

During the study period, 3458[1] people exited the program. Of those, 2200 completed it and 1470 of them (66.8%) were interviewed at program exit. Of these 1470, 1411 had both an entry and an exit interview within the study period.[2] Eight MERIT teams completed interviews with over 70% and four teams with over 80% of those eligible for an exit interview.

4.1.1 Program non-completers[3]

Thirty-six per cent of all people exiting the MERIT program in the study period did not complete it. They were found to be in breach of program conditions (eg, non-compliance), withdrew voluntarily, or were removed by the court after being charged with further offences or for other reasons. In general, this is a difficult group to capture for interview at program exit and only 42 non-completers were interviewed as they exited the program. Their interview scores have not been included in the main findings of this report, which relate to program completers only. It should be noted that there are some clear differences in the characteristics of program completers and non-completers (NSW Attorney General's Department 2006) which means that the health outcomes reported here may not be representative of all program participants.

4.1.2 Comparison of matched pairs with program completers not interviewed

The demographic profile of MERIT participants completing the program who were interviewed both at program entry and program exit ('matched pairs') was compared with participants who completed the program but were not interviewed to ascertain the degree to which those interviewed at exit were representative of all those completing the MERIT program (see Table 8.2 in Appendix 8). This found that those not interviewed at exit were more likely to be Aboriginal and/or to cite amphetamines as their principal drug; and less likely to have cannabis as their principal drug. In these respects the 'matched pairs' sample cannot be said to be truly representative of all those who completed the MERIT program.

4.2 Health outcomes measures: an overview

The following sections of this report describe findings relating to reductions in drug use, degree of drug dependence and risk behaviour, and improvements in psychological adjustment as measured by the K-10 scale and various aspects of health and social functioning as measured by the SF-36. An assessment is also included of client satisfaction with their experience of the program.

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[1] The program entry and exit populations in this study are not completely concordant as they are drawn from slightly different periods. Exit interviews were collected for an extra three months in order to maximise the number of matched pairs of entry and exit interviews.

[2] The numbers for comparison of the exit and entry scores vary slightly for individual tables due to missing or invalid data.

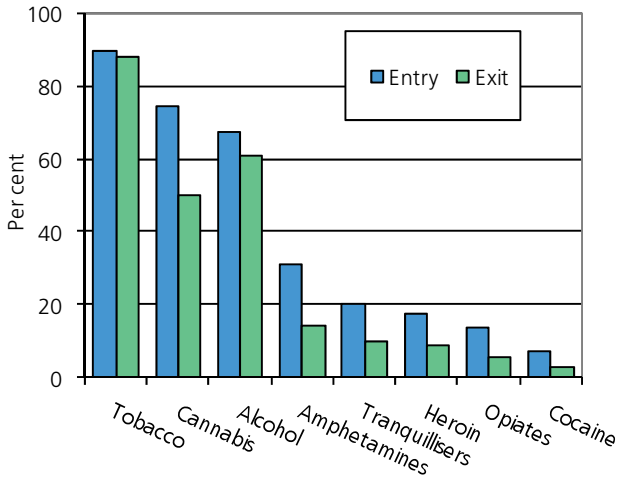
[3] A separate study, in progress at the time of writing, uses the health-related data, offence profiles and demographic data to predict probability of program non-completion.

4.3 Health outcomes: drug use

4.3.1 Proportion of participants using each drug type at entry and exit

The proportion using each drug at any time in the month before entry and before exit is shown in Figure 4.1 and in Table 10.1 in Appendix 10. At program exit, there was a substantial decrease in the proportion of participants using each type of drug. The differences between entry and exit in the number of participants using each drug are statistically significant (McNemar's test) at the level of $P \leqslant 0.001$ for opiates, heroin, cocaine, cannabis, amphetamines, tranquillisers, and a category of 'other illicit drugs'. For tobacco, the level of significance is $P \geqslant 0.01$.

Figure 4.1: Proportion using each drug type at program entry and exit (1402 matched pairs)



4.3.2 Reductions in frequency of drug use

The frequency of use was substantially reduced at program exit for every drug type ($P \leqslant 0.001$, Wilcoxon signed rank test) (Figure 4.2 and Table 10.2 in Appendix 10).

A high proportion of program participants substantially decreased the days they used each illegal drug type; almost all had decreased their use to some degree (Figure 4.3 and Table 10.3 in Appendix 10). A small proportion actually increased frequency of use of a particular drug; this was particularly true of cannabis where 12% had increased their frequency of use, possibly to compensate for reduced use of other drugs.

Figure 4.2: Frequency of drug use at entry and exit (days per month)

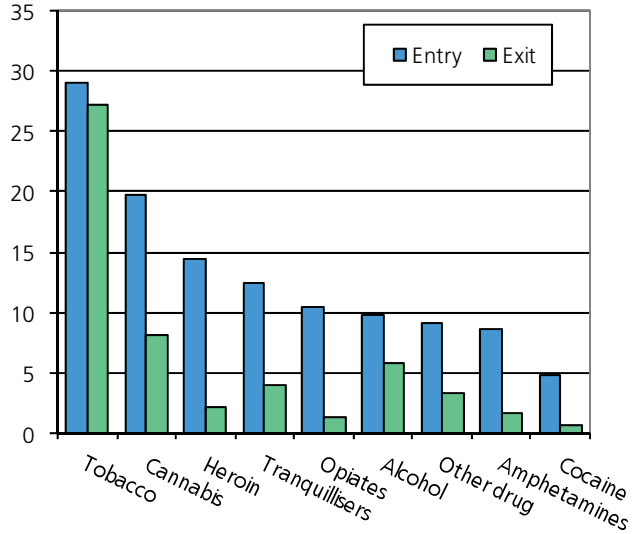
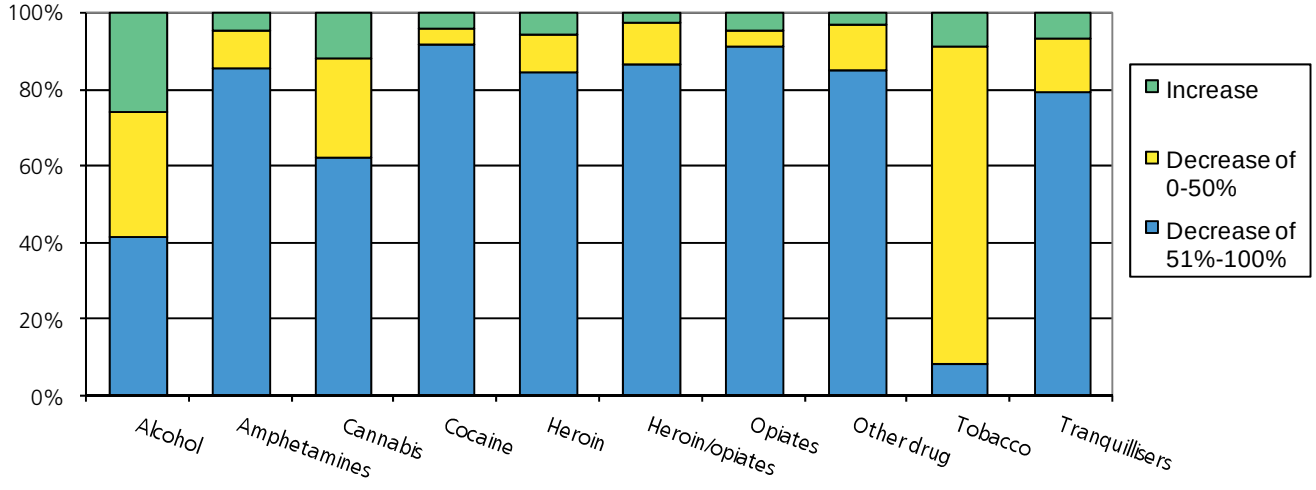


Figure 4.3: Changes in frequency of use of each drug type



4.3.3 Reductions in proportion of daily users

As with frequency of use, there was a considerable reduction in daily use between entry and exit for each class of illegal drug, (Figure 4.4 and Table 10.4 in Appendix 10).

The measure of changes in intensity of use between program entry and exit show decreases in the use of illegal drugs (Figure 4.5 and Table 10.5 in Appendix 10) similar to those reported for frequency. The differences were also highly significant ($P \leqslant 0.001$, Wilcoxon signed rank test).

4.3.4 Principal drug of concern

The substances most often cited by participants as their principal drug of concern were cannabis (42%), heroin (27%) and amphetamines (23%) (see also section 3.2 above).

4.3.3.1 Reduced frequency of use of principal drug of concern

Many participants decreased the use of their principal drug type by a substantial amount. Almost all had decreased their use to some degree (Figure 4.6 and Table 10.6 in Appendix 10). A small proportion increased the use of their principal drug.

4.3.3.2 Reduced intensity of use of principal drug of concern

The intensity of use of participants' principal drug type was also decreased from program entry to exit (Figure 4.7 and Table 10.7 in Appendix 10).

Figure 4.4: Proportion of daily users among users of each drug type at entry and exit

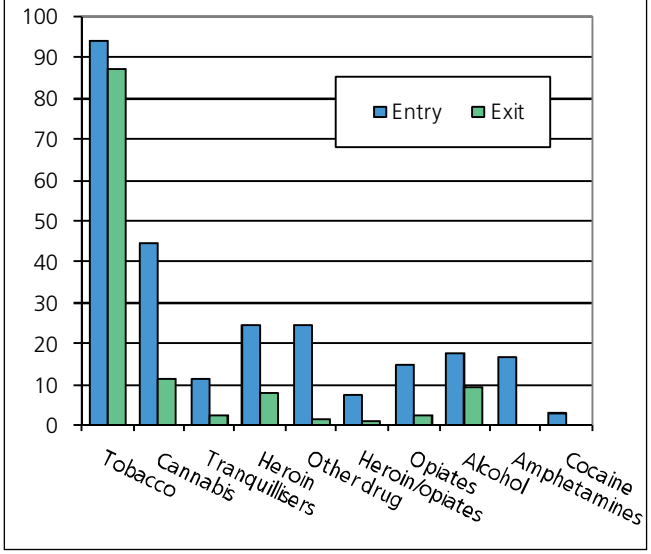


Figure 4.5: Changes in the intensity of use of each drug type

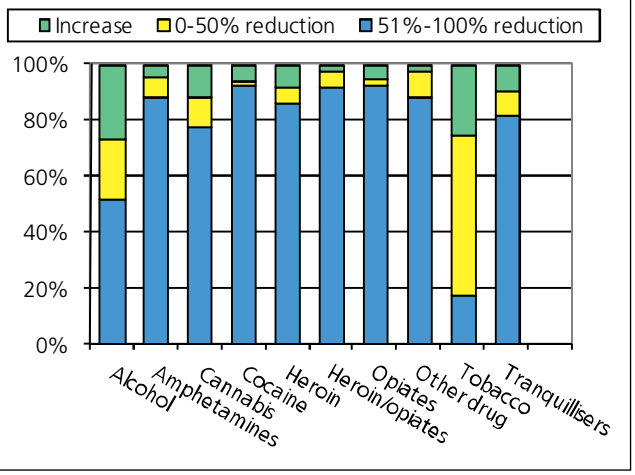


Figure 4.6: Changes in frequency of use of principal drug of concern

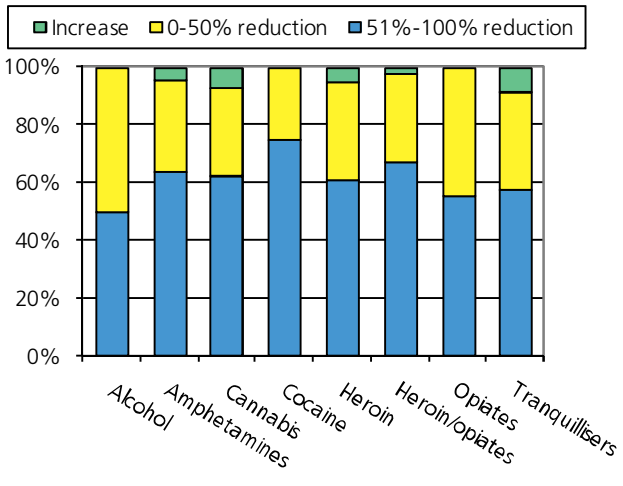
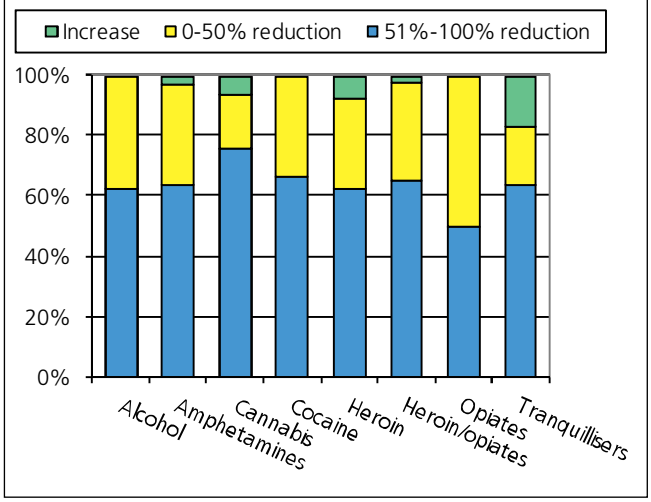


Figure 4.7: Changes in intensity of use of principal drug of concern



4.3.5 Measures of abstinence at program exit

Some participants reported abstinence from their principal drug of concern at program entry; others reported that they had used no illegal drugs in the month preceding entry.

Almost half of the heroin users who reported not using heroin at program entry were participants in the pharmacotherapy program at that time. Other reasons for abstinence from the principal drug of concern at program entry, as cited in case notes, included:

- the participant was in custody or a detoxification facility for all or part of the month preceding program entry
- the principal drug of concern was not currently being used due to shortages, circumstances or personal preference
- the participant was a polydrug user with no one obvious principal drug of concern
- the participant was experiencing a period of abstinence at program entry.

Participants who were abstinent from their principal drug of concern at entry and also abstinent from this drug at exit have not been included in calculations of changes in use of principal drug (see section 4.3.3), since this would falsely suggest that they did not respond to treatment by reducing their drug use. However, they are included when considering abstinence, since a nil score on exit for those with nil score on entry can be regarded as 'maintainance of abstinence' from the principal drug of concern.

Similarly, 237 (8.4%) of 2823 people accepted into the program reported no illegal drug use at all in the month preceding program entry. An audit of these participants of one MERIT program found that the great majority of them were either being maintained on the pharmacotherapy program, were in custody or jail in the month preceding entry, or were experiencing a genuine period of abstinence (often precipitated by arrest on drug-related criminal charges). That is, although abstinent, they did fulfil the criterion for admission to the program of having a current illicit drug problem.

4.3.4.1 Abstinence at exit from each drug used at entry

The proportion achieving abstinence from most illegal drugs over the month before exit was high — between 62% and 84% — but lower for cannabis, at 37% (Figure 4.8 and Table 10.8 in Appendix 10). A relatively low proportion was abstinent from alcohol and tobacco, legal drugs not specifically targeted by MERIT.

4.3.4.2 Abstinence from principal drug of concern at exit

Figure 4.9 and Table 10.9 in Appendix 10 show the proportion abstinent from their principal drug of concern at exit. This includes those participants who were not using their stated principal drug of concern at entry. The proportion achieving or maintaining abstinence was over 60% for all drug types except cannabis (46% maintaining abstinence).

Figure 4.8: Abstinence at program exit from drugs used at program entry

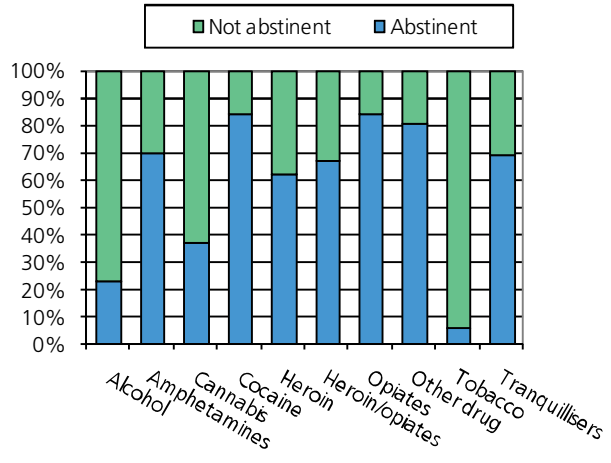
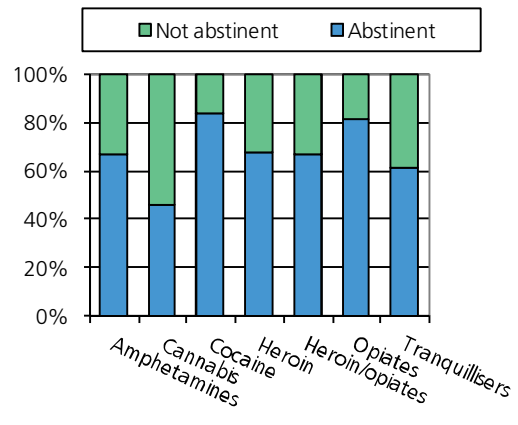


Figure 4.9: Abstinence from principal drug of concern at program exit



4.3.4.3 Abstinence at exit from all illegal drugs

Of 1393 people completing interviews[4] on exiting the program, 530 (38%) reported no illegal drug use at program exit. The reports from one MERIT team were compared with supervised urinalysis results at program exit and showed a high degree of concordance[5]. Although the high proportion of abstinence is not surprising, given that almost all those completing an exit interview were program completers and hence motivated to minimise their drug use, it is commendable given the considerable history of illicit drug use in the great majority of participants.

4.3.6 Changes in extent of poly drug use

Another measure of reduced drug use is changes in the number of types of drug used between program entry and exit. The poly drug use score indicates the number of major drug categories used in the previous month. Two scores are calculated: the first is of a possible 9 drug classes including alcohol and tobacco; the second excludes alcohol and tobacco. The illicit drugs included are heroin, other opiates, cannabis, cocaine, amphetamines, tranquillisers, and drugs not otherwise specified.

The average number of classes of drug used in the previous month (including alcohol and tobacco) for the 1409 participants who had both entry and exit scores for polydrug use was 3.3 on entry and 2.5 at exit. For illicit drugs only the score was 1.8 at entry and 1.0 on exit. These differences in score between entry and exit are highly significant ($P \leqslant 0.001$, paired *t*-test).

4.4 Health outcomes: severity of dependence

The mean Severity of Dependence (SDS) score at program entry for the 1409 people with both an entry and an exit interview was 8.2. This score decreased to 5.5 on exit indicating that though still dependent, the degree of dependence was less severe. The distribution of scores is shown in Figure 4.10.

The mean SDS score decreased for each principal drug of concern between entry and exit (Figure 4.11 and Table 10.10 in Appendix 10), with the differences being significant at the $P < 0.001$level (paired *t*-test) for heroin, cannabis, amphetamines and a category of 'other illegal drugs'. There was no significant difference for alcohol.

Figure 4.10: Mean SDS score distribution at program entry and exit

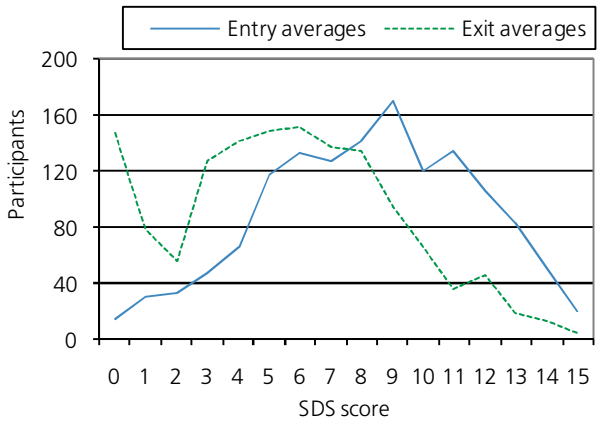
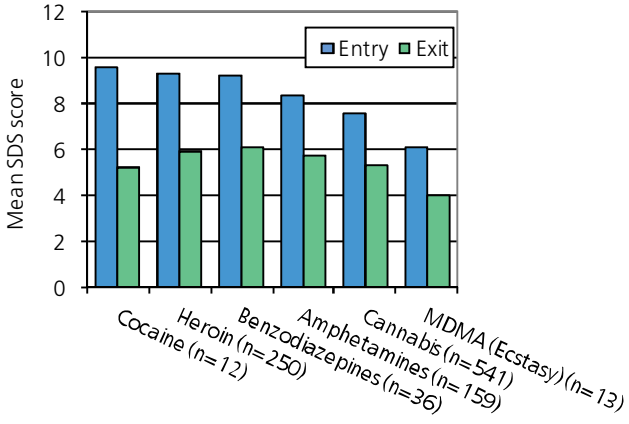


Figure 4.11: Mean SDS scores for principal drug of concern at program entry and exit



[4] The base number used throughout the report varies slightly for individual tables as not all participants completed all sections of the questionnaire.

[5] See Appendix 7: Validation of drug use.

4.5 Health outcomes: risk behaviour

The questions asked in this section of the Health Outcomes Study were designed to give an indication of the extent MERIT participants put themselves at risk of contracting or transmitting blood-borne viruses. Information about drug overdoses was also collected.

In 1178 matched pairs of entry and exit interviews, 9.2% of participants reported sharing needles and/or injecting equipment in the three months before program entry. This proportion had decreased to 3.3% by program exit. The difference is significant ($P \leqslant 0.001$).

In 1409 matched pairs of interviews, 33 participants (2.3%) reported overdosing in the three months before interview. This had decreased to 8 (0.6%) at program exit ($P \leqslant 0.001$).

4.6 Health outcomes: social stability and functioning

For 1409 program participants with both an entry and an exit health outcomes interview, there was relatively little change in their accommodation profile between entry and exit, with 92% living in rented or privately owned accommodation at entry and 85% at exit. Five per cent were in residential rehabilitation at time of program exit.

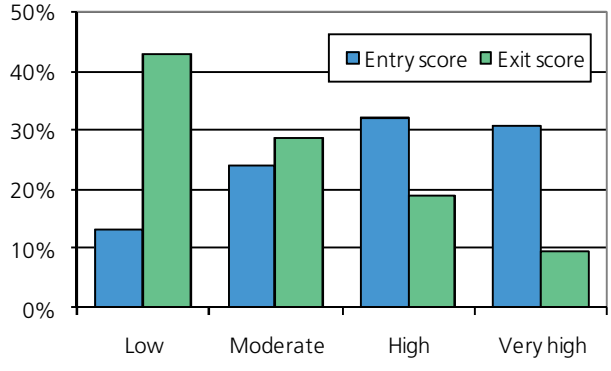
The proportion whose main source of income was full or part time employment rose from 20.0% at program entry to 27.5% at exit ($P \leqslant 0.001$). This finding is particularly encouraging since employment is often regarded as a key indicator of success in drug and alcohol treatment programs.

4.7 Health outcomes: the Kessler-10 measure of psychological distress

Comparison of scores on K-10 for participants who were interviewed at program entry and exit showed a considerable decline in psychological distress levels between entering and exiting the MERIT program ($P \leqslant 0.001$, paired *t*-test). (Figure 4.12 and Table 10.11 in Appendix 10). Although almost all participants had a lower K-10 score at program exit, 10% of them still had a score of 30 or above at exit.

Andrews comments that 'patients whose scores remain above 24 after treatment should be reviewed and specialist referral considered' (Andrews 2003). An audit was performed on a sample of MERIT participants who had a high exit score. This revealed that most of them had long-standing physical or diagnosed mental health issues (eg, chronic anxiety, severe depression, post-traumatic stress disorder) not resolvable within the constraints of the MERIT program. As the K-10 measures current psychological distress, transient problems (eg, with accommodation or relationships) may also have contributed to a high score in some cases.

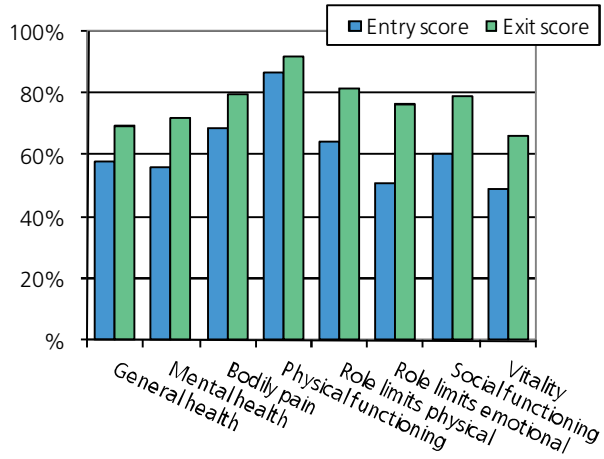
Figure 4.12: Changes in Kessler-10 scores from program entry to exit



4.8 Health outcomes: the SF-36 measure of physical and psychological well-being

The scores at entry to and exit from the program were compared for those who had both interviews (Figure 4.13 and Table 10.12 in Appendix 10). These show statistically significant improvements in average score on all eight health dimensions ($P \leqslant 0.001$). The scores at program exit approach those of the general population.

Figure 4.13: Mean SF-36 scores at program entry and exit



4.9 Measure of client satisfaction

Program participants were given the MERIT client satisfaction questionnaire and asked to rate their answers to the five questions on a four point scale (Questions 1 and 2) or a five point scale (Questions 3, 4 and 5).[6] The questions and percentage selecting each response were:

1. To what extent has the MERIT program met your needs?

- *All/most of my needs have been met: 96%*
- *Only a few/none of my needs have been met 4%*

2. Have the services you received helped you to deal more effectively with your problems?

- *Yes, they helped a great deal/helped somewhat 98%*
- *No, they didn't really help/made things worse 2%*

3. To what extent were you satisfied with the treatment service you received?

- *Extremely/very satisfied 92%*
- *Satisfied 7%*
- *Not very satisfied/Not at all satisfied 1%*

4. To what extent were you satisfied with the relationship established between yourself and the counselor?

- *Extremely satisfied/very satisfied 93%*
- *Satisfied 6%*
- *Not very satisfied/not at all satisfied 1%*

5. If a friend were in need of similar help, would you recommend our program to him or her?

- *Yes, definitely/yes, generally 98%*
- *No/definitely not 2%*

Over 90% of the 1311 program completers who answered the questionnaire said they were satisfied or very satisfied with all five of the dimensions covered by the questions. Only 4% felt that few or none of their needs had been met and almost all (98%) said that the services they received had helped them deal more effectively with their problems.

The client satisfaction questionnaires were also completed by 37 participants who did not complete the program. The great majority of them assessed the program favourably: 84% felt that most or almost all of their needs had been met (question 1) and over 90% answered each of other four questions positively.

The high degree of satisfaction expressed is similar to that reported by the Lismore MERIT pilot study, where 84% said they were satisfied or very satisfied with their treatment plan and with their caseworker support (Passey et al 2003).

[6] see Appendix 2 for the complete questionnaire.

5 Discussion and conclusions

5.1 Methodological considerations

This was a 'before and after' study of the effects of the MERIT program upon its participants, but (as is often the case with studies of social interventions), it was not possible to use the 'gold standard' of a randomised controlled trial, in which potential participants would have been randomly assigned to the MERIT program or to standard processing by the magistrates court, and the outcomes for the two groups would have been compared). This means that it is not possible to impute a causal relationship between the MERIT intervention and the outcomes. It is possible that selection bias ('opting into' MERIT; and a focus on program completers only); and biases due to reliance on self-report, have confounded the findings, which might not have seemed so positive if these biases were removed.

However, although a randomised controlled trial is the best design for determining the effectiveness of an intervention, circumstances surrounding the delivery of social programs often make rigorous evaluation difficult, if not impossible (see, for example, Weatherburn 2005). As Rychetnik et al have contended, 'study design alone cannot suffice as the main criterion for the credibility of evidence about public health interventions' (Rychetnik et al 2002). They propose a schema for appraising quantitative evaluations of interventions which take into account the validity of the research design and the magnitude, consistency, coherence and plausibility of the putative relationship. Our study does fulfil the essential criteria proposed by Rychetnik et al and we suggest that it can be used as evidence that the MERIT program is meeting its major health-related aims.

The practical and fiscal constraints of this study meant that data was collected from participants by their service providers rather than by an independent investigator. To facilitate this process, data collection instruments were designed to be clinically useful as part of a process of service delivery monitoring (as discussed in section 2.1). However, the data collection methods produced a number of constraints which must be borne in mind when assessing the results.

One of the most important of these is that data collection points were restricted to program entry and program exit. Thus it is not possible to say to what extent improvements in the participants' health profiles and drug use are sustained after exit. A longer follow-up of MERIT participants, although highly desirable, would require dedicated funding, and is likely to be difficult due to the lifestyle, social instability and non-compliance of the subject group. Some studies have attempted post-program follow-up of people receiving an intervention for problematic drug use. In particular, the evaluation of the Lismore MERIT pilot program (Passey et al 2003) found that improvements in health and drug use were reduced but still continuing when participants were interviewed between 3 and 9 months after exiting the program.

A second constraint is that the health outcomes interviews were not administered to all program participants and the results may not be representative of all MERIT participants. A comparison of the demographic and health characteristics of participants interviewed and not interviewed at program entry; and a comparison of program completers who were and were not interviewed at exit showed some significant differences (see Tables 8.1 and 8.2 in Appendix 8). The results of this study may therefore not hold for those MERIT participants not included in the study.

Attempts made by MERIT workers to secure interviews at program exit with participants not completing the program met with little success. This is perhaps not surprising given that many exited the program fairly early: of the 1258 non-completers eligible for an interview 845 (67%) had exited within eight weeks (56 days) of entering MERIT, which was the cut-off date for interviewing them. Also, early exit from the program may have resulted from complex life-style or other problems, including breach of bail conditions, which could have contributed to an unwillingness to participate. However, it is possible, as MERIT caseworkers attest from their experience with participants who do not complete the MERIT program, that participation in the MERIT program may produce positive outcomes with program non-completers as well as completers.

Although the number of subjects involved and the proportion of achieved entry and exit interviews is relatively high for this kind of study (82% of all program acceptances were interviewed at program entry and 67% of those completing the program were interviewed at exit), some MERIT teams achieved a lower interview rate. All teams achieved an acceptable rate for entry interviews (none were below 60%), but five MERIT teams interviewed fewer than 60% of those who were eligible at exit. This may have represented a selection bias (eg, towards participants with more favourable outcomes). Interviews from these teams made up 14% of all exit interviews.

To investigate the potential bias, participants with exit interviews from the MERIT teams with a low exit interview rate were compared with those from the remaining MERIT teams on a range of demographic and health characteristics. There were few differences between these two groups, and the differences found were not great enough to have skewed the achieved sample significantly. We conclude that the comparatively low interview rate of some MERIT teams did not bias the results of this study.

It is an open question whether the measure of participant satisfaction was compromised by asking participants to complete the questionnaire at program completion, at a time when a final report on their progress was shortly to be presented to the court. It can be argued that some participants may have pretended to greater compliance and satisfaction in order to enhance their chances of a favourable report. To minimise this, it was suggested to caseworkers (see Appendix 5) that the questionnaire be administered by someone other than the participant's caseworker to avoid bias; alternatively that it could be given to the participant at program exit with an addressed and stamped envelope to post back to the program; or completed by the participant and put into a box at reception. These measures were implemented by some MERIT teams, but only in a limited way. The results of the client satisfaction survey, which show extremely high levels of satisfaction with various aspects of the MERIT program, must therefore be treated with caution.

However, the high degree of satisfaction expressed is similar to that reported by the Lismore MERIT pilot study, where 84% said they were satisfied or very satisfied with their treatment plan and with their caseworker support (Passey et al 2003). In that study, the researchers were independent of the MERIT program and the interviews were carried out some time after exit, so the answers should not have been influenced by a possible faking or social bias factor.

5.2 Health profiles and drug use: overview and implications

5.2.1 Use of illegal drugs

Almost all participants had reduced their drug use considerably by program exit. The proportion achieving or maintaining abstinence at exit from their principal drug of concern was 67% for those whose principal drug was heroin or amphetamines and 46% for those citing cannabis as their principal drug. It may be unrealistic to expect total abstinence from illicit drugs in the relatively short three month time frame allowed for intervention, but 37% of the participants reported no illegal drug use at all in the month preceding program exit (this includes some[1] who were abstinent for a variety of reasons at program entry).

Changes in the extent of polydrug use, that is, the number of types of drug used, is another useful measure. The average number of illicit drug types was 1.8 at program entry and 1.0 on exit, a difference which is statistically significant. Similarly, the Severity of Dependence scale, which measures the degree of dependence experienced in relation to the principal drug of concern, showed a significant decline for each principal drug type between program entry and exit. This is notwithstanding the continuation, for many participants, of minor cannabis use.

5.2.2 Tobacco use

Although tobacco is not specifically targeted by the MERIT program, it is notable that 91% of participants were tobacco users, 87% of them being daily users. The most commonly cited number of cigarettes used per day was 20. Access to quit smoking programs services is available while in the program and participants are routinely offered this service if they are motivated to cut down on or stop smoking.

[1] 8% of all program entrants were abstinent at entry.

5.2.3 Alcohol use

Alcohol may not be cited as the principal drug of concern for MERIT participants, but alcohol abuse is an important health issue for many and is taken into consideration in the overall treatment plan. The case plan for a client with excessive alcohol use may include liaision with a general practitioner to identify and treat health issues related to alcohol abuse; pharmacotherapy treatment; referral to inpatient detoxification or home detoxification; providing appropriate education and information; and promoting changes in lifestyle.

5.2.4 Health profiles

Scores for the eight SF-36 health dimensions encompassing psychological functioning, social functioning and mental health were all substantially below the normal range for Australian adults at program entry. All of the measures showed a statistically significant improvement at program exit. Similarly the K-10 scores of psychological adjustment showed substantial improvement at exit.

It is notable that 10% of participants had a high K-10 score at exit, indicating high psychological distress. A survey of one MERIT program found that many participants had a long-standing physical or mental health diagnosis, such as chronic anxiety, severe depression or post-traumatic stress disorder.

5.2.5 Health status of MERIT participants: comparisons with other studies

The information collected by this study provides a profile of the MERIT participants' health status at program entry. This information supplements that reported in the MERIT program Annual Report (NSW Attorney General's Department 2006) and that collated by the National Drug and Alcohol Minimum Dataset (Australian Institute of Health & Welfare 2006). It also enables comparisons to be made with clients of other alcohol and drug treatment services and other populations.

The Kessler-10 measure of psychological distress: the K-10 has been included in a number of State surveys including the New South Wales (NSW) Continuous Health Survey, Australian Bureau of Statistics health surveys, with patients in contact with mental health services in NSW and in the Australian Drug Use Monitoring study (DUMA). The profile of MERIT participants at program entry is substantially worse than that of the general population (NSW Adult Health Survey 2003). It is similar to the results of the Australian Drug Use Monitoring study which found that 30% of adult police detainees scored 'very high' on the K-10 scale; and that females were more likely than males to score either 'high' or 'very high' — 70% compared with 54% (Schulte 2005) (see Table 5.1).

Table 5.1: Kessler-10 scores in among MERIT participants, adults in New South Wales and drug dependent Police detainees

Kessler-10 score range	MERIT: at program entry		General adult population (NSW Adult Health Survey 2003)		Drug dependent police detainees (Schulte et al 2005)
	Males	Females	Males	Females	People
Low (10–15)	13.2%	8.7%	69.7%	64.2%	12%
Medium (16–21)	24.0%	21.1%	20.5%	22.5%	19%
High (22–29)	32.2%	29.4%	7.1%	9.5%	29%
Very high (30–50)	30.6%	40.8%	2.2%	3.3%	41%

The National Drug Strategy Household Survey found that 19.6% of those who had used an illicit drug in the previous month scored high or very high on the K-10 (Australian Institute of Health and Welfare 2005). The survey looked separately at the K-10 score of those respondents reporting any use of heroin, amphetamines, and cannabis. Comparison with the MERIT population showed (see Table 9.8, c to e, in Appendix 9) that of those who used heroin in the previous month, a similar proportion scored 'high' or 'very high' on the K-10 in the two populations. However, the proportion of amphetamines and cannabis users scoring high or very high on the K-10 in the MERIT population was much higher than users of these drugs in the National Household Survey. The difference may be due to differing patterns of drug use between the two populations.

SF-36: the SF-36 (Short Form, 36 questions) is an instrument developed to measure health and well-being. The SF-36 is very widely used and population standards have been developed (Australian Bureau of Statistics 1997, Ware et al 2000).

The SF-36 scores of MERIT participants at program entry are significantly lower than that of the general population, indicating a lower level of physical and psychological health (see section 3.9 on page 13). The mean scores of the MERIT participants are similar to those reported for a sample of NSW Drug Court participants (Freeman 2002). They are also similar to people commencing a pharmacotherapy program (Ryan & White 1996; Deering et al 2004); and to participants of residential drug rehabilitation programs (Mattick et al 1998; Network of Alcohol & Other Drug Agencies NSW 1999).

The finding that poorer scores by MERIT participants on the SF-36 are associated with more severe levels of dependence (see section 3.9) reflects similar findings from a survey of amphetamine users from metropolitan Adelaide (Vincent & Shoobridge 1998).

5.3 Is the MERIT program fulfilling its aims in relation to the health and social functioning of participants?

Although the MERIT program has both health and criminal justice objectives (see section 1.2 on page 3) only those relating to health are considered in this report. The extent to which the program is fulfilling its criminal justice objectives is currently being monitored by the NSW Attorney General's Department (Passey et al, in press).

The findings presented in this report indicate that for program completers there are significant improvements in health, social and psychological functioning and a small increase in the proportion in employment. Completing the MERIT program is associated with reduced drug use. Participants use a smaller amount of drugs and use fewer types of drugs at the end of the program. A significant number of participants are abstinent from all illegal drugs at program exit. There is also a considerable reduction in risk behaviours.

We conclude that MERIT is successful, at least for the duration of the program, in decreasing participants' drug use and improving their health and social functioning.

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7 Appendices

MRN: _____

EPISODE NO: _____

Admin Officer Use only

MERIT PROGRAM
HEALTH-RELATED OUTCOME INDICATORS

PROGRAM ENTRY VERSION

1. Drug use
2. The Severity of Dependence Scale
3. Risk behaviour
4. Extent of recent drug use
5. Psychological adjustment: Kessler-10
6. Physical/social/emotional functioning: SF-36

CLIENT NAME: _____

DATE: _____

NOTES:

Version 3

July 2004

1. Drug use

In this section you will be asked about your use of drugs and alcohol in the **last 3 months.** This does not include methadone maintenance treatment, but may include "street methadone" or "diverted doses".

1. What drug is causing you the greatest concern?

   Please specify (only one drug or alcohol)

   _____

2. How do/did you usually take this drug?

Ingest (eat, drink, swallow)	☐	1
Smoke	☐	2
Inject	☐	3
Sniff (powder)	☐	4
Inhale (vapour)	☐	5
Other	☐	6

3. What other drugs or alcohol have caused you concern over the last 3 months?

   Please specify (one or more drugs, up to a maximum of 3)

   1. _____

   2. _____

   3. _____

2. The Severity of Dependence Scale (SDS)

These five questions ask about how you have been thinking and feeling about your main problem drug in the **last 3 months**, even if you have not been using:

(a) Over the last 3 months did you ever think your use of this drug was out of control? **(Please tick appropriate box)**

- ☐ Never or almost never (0)
- ☐ Sometimes (1)
- ☐ Often (2)
- ☐ Always or nearly always (3)

(b) Did the prospect of missing this drug make you very anxious or worried?

- ☐ Never or almost never (0)
- ☐ Sometimes (1)
- ☐ Often (2)
- ☐ Always or nearly always (3)

(c) Did you worry about your use of this drug?

- ☐ Not at all (0)
- ☐ A little (1)
- ☐ Quite a lot (2)
- ☐ A great deal (3)

(d) Do you wish you could stop?

- ☐ Never or almost never (0)
- ☐ Sometimes (1)
- ☐ Often (2)
- ☐ Always or nearly always (3)

(e) How difficult would you find it to stop or go without?

- ☐ Not difficult (0)
- ☐ Quite difficult (1)
- ☐ Very difficult (2)
- ☐ Impossible (3)

Scoring: each of the five items is scored on a four point scale from 0-3. Addition of the five items produces a total score with higher scores indicating a higher level of dependence.

SDS SCORE = /15

3. Risk behaviour

1. Did you last inject/hit up any drug

- In the last 3 months ☐ 1
- More than 3 but less than 12 months ago ☐ 2 >
- 12 months ago or more ☐ 3 >
- Never injected ☐ 4 >
- Not stated/inadequately described ☐ 9

Go to 'Extent of recent drug use', section 4

2. How many times in the last 3 months did you use a needle and syringe after someone else had already used it (including your sex partner and even if it was cleaned)?

Please specify _____ times

3. In the last 3 months, did you share any spoons, filters, water, tourniquets, drug solution/mix, or swabs with anyone else?

No ☐ 0

Yes ☐ 1

4. How many times have you overdosed from any drug in the last 3 months?

Please specify _____ times

4. Extent of recent drug use

The next nine questions are about the drugs and alcohol you have taken in the last month. Please refer to Charts at Appendix 1 of 'A Guide to Scoring'.

1. (a) How many days in the last month did you use tobacco?

   Please specify _____days

   (b) On average, how many cigarettes did you have on those days when you did use tobacco?

   Please specify _____cigarettes

2. (a) How many days in the last month did you drink alcohol? (beer, wine, spirits)

   Please specify _____days

   (b) On average, how many standard drinks did you have on those days when you were drinking? (please refer to standard drinks chart if required)

   Please specify _____drinks

3. (a) How many days in the last month did you use heroin?

   Please specify _____days

   (b) On average, how many (hits / pills / smokes – circle whichever is appropriate) did you have on those days when you used heroin?

   Please specify _____hits/pills/smokes

4. (a) How many days in the last month did you use another opioid-based drug (excluding heroin)? That is, morphine, pethidine, codeine or illegally obtained methadone?

   Please specify _____days

   (b) On average, how many (hits / pills / smokes / oral street (diverted) methadone– circle whichever is appropriate) did you have on those days when you used an opioid-based drug (excluding heroin)?

   Please specify _____hits/pills/smokes/ oral street methadone

5. (a) How many days in the last month did you use cannabis?

   Please specify _____days

   (b) On average, how many (cones / joints – circle whichever is appropriate) did you have on those days when you used cannabis?

   Please specify _____cones/joints

6. (a) How many days in the last month did you use cocaine?

   Please specify _____ days

   (b) On average, how many (hits / snorts / pipes – circle whichever is appropriate) did you have on those days when you used cocaine?

   Please specify _____ hits/snorts/pipes

7. (a) How many days in the last month did you use amphetamines?

   Please specify _____ days

   (b) On average, how many (pills / snorts / hits / pipes – circle whichever is appropriate) did you have on those days when you did use amphetamines?

   Please specify _____ pills/snorts/hits/ pipes

8. (a) How many days in the last month did you use tranquilisers (benzos, valium, rohypnol)?

   Please specify _____ days

   (b) On average, how many (pills / hits – circle whichever is appropriate) did you have on those days when you did use tranquilisers?

   Please specify _____ pills/hits

9. (a) How many days in the last month did you use another drug (please specify)?

   No other drug used _____ ☐ 0009

   (Go to Kessler-10)

   Other drug used (please specify)_____

   Please specify _____ days

   (b) On average, how many (hits / pills / smokes / doses – circle whichever is appropriate) did you have on those days when you did use it?

   Please specify _____ hits/pills/smokes/doses

4. Psychological adjustment: Kessler-10

Please circle numbers

Question 1

In the past 4 weeks, about how often did you feel tired out for no good reason?

None of the time 1
A little of the time 2
Some of the time 3
Most of the time 4
All of the time 5

Question 2

In the past 4 weeks, about how often did you feel nervous?

None of the time 1
A little of the time 2
Some of the time 3
Most of the time 4
All of the time 5

Question 3

In the past 4 weeks, about how often did you feel so nervous that nothing could calm you down?

None of the time 1
A little of the time 2
Some of the time 3
Most of the time 4
All of the time 5

Question 4

In the past 4 weeks, about how often did you feel hopeless?

None of the time 1
A little of the time 2
Some of the time 3
Most of the time 4
All of the time 5

Question 5

In the past 4 weeks, about how often did you feel restless or fidgety?

None of the time 1
A little of the time 2
Some of the time 3
Most of the time 4
All of the time 5

Question 6

In the past 4 weeks, about how often did you feel so restless you could not sit still?

None of the time 1
A little of the time 2
Some of the time 3
Most of the time 4
All of the time 5

Question 7

In the past 4 weeks, about how often did you feel depressed?

None of the time 1
A little of the time 2
Some of the time 3
Most of the time 4
All of the time 5

Question 8

None of the time 1
A little of the time 2
Some of the time 3
Most of the time 4
All of the time 5

Question 9

In the past 4 weeks, about how often did you feel so sad that nothing could cheer you up?

None of the time 1

A little of the time 2

Some of the time 3

Most of the time 4

All of the time 5

Question 10

In the past 4 weeks, about how often did you feel worthless?

None of the time 1

A little of the time 2

Some of the time 3

Most of the time 4

All of the time 5

6. Physical/Social/Emotional Functioning: SF-36

These questions are about your health, how you feel and how well you are able to do your usual activities. If you are unsure give the best answer you can.

Please circle your answer

1. In general, would you say your health is:

Excellent	1
Very good	2
Good	3
Fair	4
Poor	5

2. **Compared to one year ago**, how would you rate your health in general **now**?

Much better now than one year ago	1
Somewhat better now than one year ago	2
About the same as one year ago	3
Somewhat worse now than one year ago	4
Much worse now than one year ago	5

3. The following questions are about activities you might do during a typical day. As I read each item, please tell me if your health **now** limits you a lot, limits you a little, or does not limit you at all in these activities?

Does your health limit the following activities for you?	Yes, limited a LOT	Yes, limited a LITTLE	NO, not limited at all
• **Vigorous activities** such as running, lifting heavy objects, participating in strenuous sports	1	2	3
• **Moderate activities** such as moving a table, pushing a vacuum cleaner, bowling or playing golf	1	2	3
• Lifting or carrying groceries	1	2	3
• Climbing **several** flights of stairs	1	2	3
• Climbing **one** flight of stairs	1	2	3
• Bending, kneeling or stooping	1	2	3
• Walking **more than one kilometre**	1	2	3
• Walking half a kilometre	1	2	3
• Walking 100 metres	1	2	3
• Bathing or dressing yourself	1	2	3

4. During the **past 4 weeks**, have you had any of the following problems with your work or other regular daily activities **as a result of your physical health?**

	YES	NO
• Cut down on the amount of time you spent on work or other activities	1	2
• Accomplished less than you would like	1	2
• Were limited in the kind of work or other regular daily activities	1	2
• Had difficulty performing the work or other regular daily activities (eg it took extra effort)	1	2

5. During the **past 4 weeks**, have you had any of the following problems with your work or other regular daily activities **as a result of any emotional problems** such as feeling depressed or anxious?

	YES	NO
• Cut down on the amount of time you spent on work or other activities	1	2
• Accomplished less than you would like	1	2
• Did not do work or other activities as carefully as usual	1	2

6. During the **past 4 weeks**, to what extent has your physical health or emotional problems interfered with your normal social activities like family, friends, neighbours, or groups?

Not at all	1
Slightly	2
Moderately	3
Quite a bit	4
Extremely	5

7. How much **bodily pain** have you had during the **past 4 weeks**?

No bodily pain	1
Very mild	2
Mild	3
Moderate	4
Severe	5
Very severe	6

8. During the **past 4 weeks**, how much did pain interfere with your normal work, including both work outside the home and housework?

Not at all	1
Slightly	2
Moderately	3
Quite a bit	4
Extremely	5

9. These questions are about how you feel and how things have been with you during the **past 4 weeks.** For each question, please give the one answer that comes closest to way you have been feeling. How much of the time during the **past 4 weeks**….

	All the time	Most of the time	A good bit of the time	Some of the time	A little of the time	None of the time
Did you feel full of life?	1	2	3	4	5	6
Have you been a very nervous person?	1	2	3	4	5	6
Have you felt so down in the dumps that nothing could cheer you up?	1	2	3	4	5	6
Have you felt calm and peaceful?	1	2	3	4	5	6
Did you have a lot of energy?	1	2	3	4	5	6
Have you felt down?	1	2	3	4	5	6
Did you feel worn out?	1	2	3	4	5	6
Have you been a happy person?	1	2	3	4	5	6
Did you feel tired	1	2	3	4	5	6

10. During the **past 4 weeks**, how much of your time has your **physical health or emotional problems** interfered with your social activities (like visiting with friends, relatives etc)?

All of the time	1
Most of the time	2
Some of the time	3
A little of the time	4
None of the time	5

11. How true or false is each of the following statements for you?

	Definitely True	Mostly True	Don't Know	Mostly False	Definitely False
I seem to get sick a little easier than other people	1	2	3	4	5
I am as healthy as anybody I know	1	2	3	4	5
I expect my health to get worse	1	2	3	4	5
My health is excellent	1	2	3	4	5

Appendix 2: MERIT health outcome study exit questionnaire

Note: the program exit version of the questionnaire is not reproduced in full here as most sections are identical to those in the entry version. The exception is additional questions relating to Social Functioning (Income Sources & Accommodation) and the Client Satisfaction Questionnaire.

Income sources and accommodation

(These two items are already on the assessment form as they form part of the minimum data set. However they also need to be asked at follow-up).

1. What is your main source of income?

Full-time employment	1
Part-time employment	2
Temporary benefit (eg, sickness, unemployment,)	3
Pension (eg, aged, disability)	4
Student allowance	5
Dependant on others	6
Retirement fund	7
No income	8
Other	98

If other, please specify _____

2. Do you live in a

Rented house or flat (public or private)	1
Privately owned house or flat	2
Boarding house	3
Hostel	4
Psychiatric home/hospital	5
Alcohol/other drug treatment residence	6
Shelter/refuge	7
Prison/detention centre	8
Caravan on serviced site	9
No usual residence/homeless	10
Other	98

If other, please specify _____

MERIT Client Satisfaction Questionnaire

Please circle your answer

1. To what extent has the MERIT program met your needs?

Almost all of my needs have been met	4
Most of my needs have been met	3
Only a few of my needs have been met	2
None of my needs have been met	1

2. Have the services you received helped you to deal more effectively with your problems?

Yes, they helped a great deal	4
Yes, they helped somewhat	3
No, they didn't really help	2
No, they made things worse	1

3. To what extent were you satisfied with the treatment service you received?

Extremely satisfied	4
Very satisfied	3
Satisfied	2
Not very satisfied	1
Not at all satisfied	0

4. To what extent were you satisfied with the relationship established between yourself and the counselor?

Extremely satisfied	4
Very satisfied	3
Satisfied	2
Not very satisfied	1
Not at all satisfied	0

5. If a friend were in need of similar help, would you recommend our program to him or her?

Yes, definitely	4
Yes, generally	3
No, not really	2
No, definitely not	1

Please return this questionnaire in the envelope provided.

Thank you for taking a few minutes to complete this questionnaire on your experience with our program. Your information will remain confidential.

Appendix 3: Specimen entry and exit scores for an individual client

NRAHS MERIT — **Client Health-Related Outcomes Report**

MRN/Client code	350027	Eps No.	1	Date Program Exit	22/12/2004
FirstName	Dame Edna			Date of Interview:Entry	7/09/2004
LastName	Everage			Date of Interview:Exit	20/12/2004

Severity Of Dependance Scale	Entry Interview scores	Exit Interview scores	
SDS Score	3	2	
Risk Behaviour			
Used-Needle/syringe occasions	0	0	
Other Equipment sharing	No	No	
Occasions of Drug Use (units/month			
ODUS Score-Tobacco	750	750	
ODUS Score-Alcohol	40	30	
ODUS Score-Heroin	0	0	
ODUS Score-Other Opioids	0	0	
ODUS Score-Cannabis	24	0	
ODUS Score-Cocaine	0	0	
ODUS Score-Amphetamines	8	0	
ODUS Score-Tranquillisers	0	0	
ODUS Score-Other Drug	8		
Other Drug:	M.D.M.A. (Ecstasy)	M.D.M.A. (Ecstasy)	
Polydrug Use Scale-all	5	3	
Polydrug Use Scale-except Tobacco and Alcohol	3	1	
Kessler 10			
K10-TotalScore	17	11	
The higher the score on the Kessler-10 the higher the level of psychological distress.	K10: Score Guide	10-15 Low 16-21 Moderate	22-29 High 30-50 Very high
SF-36			SF-36: NSW Norms
GeneralHealth	72	97	72
MentalHealth	80	92	76
BodilyPain	100	100	77
PhysicalFunctioning	100	100	83
RoleLimitsPhysical	100	100	80
RoleLimitsEmotional	66.67	100.00	83
SocialFunctioning	50	100	85
Vitality	90	90	65
In general, low scores on the SF-36 indicate lower levels of functioning.			
Income and Accommodation			
Principal Income	Full-time employment	Full-time employment	
Usual Accommodation	Rented house or flat (public	Rented house or flat (public	

Appendix 4: Data quality procedures

Missing and non-credible data

Outliers, drug use scores: exclude on a case by case basis. Unrealistically high scores: exclude (to avoid skewing of means); refer to minimum and maximum values below.

Run 'delete query' for records with no interview data.

Missing values: eliminate where specific scores or most data is missing. Remove cases with dubious or many missing values from the data. (Database excludes cases from drug use score calculations where drug use scores are missing.)

SDS: Exclude illegal values (>15). Exclude blanks scores for efore/after comparisons.

Blanks and zero values K-10: records with 1 or more fields missing are averaged on the data present (as per recommended algorithm).

Negative scores on the SF-36 (due to data entered being deleted): eliminate.

Records with no values or any missing values for the SF-36 are excluded from that calculation.

Exclude illegal values and exclude blanks for before/after comparisons for: overdoses/needle sharing: K-10; SF-36 sub scores; client satisfaction scores.

Zero values / blanks: distinguish between zero values and defaults; score of 0 is not included for some calculations.

Genuine values are to be distinguished from default values.

Means for individual drugs are calculated after excluding people with 0 value for that drug (entry interviews) unless principal drug, when they are included.

Cases excluded on rules and illegal dates

Illegal dates/date errors.

Data is excluded from cases with an entry interview who were not accepted into the program.

Entry interview: date cannot be before date of assessment. If so, it is a data entry error.

Exclude exit interviews who were not interviewed at entry.

Check dates of entry interviews: is it within 14 days of acceptance onto program? Database gives warning at time of data entry but does not exclude as they may be valid cases.

Exit interview (for program completers) should be at least 10 weeks after program entry.

Appendix 5: Administration of MERIT outcome measures

The MERIT Outcome Monitoring design is a 'before and after' study, with provision to assist in client assessment and case management. A standard set of questions is administered to MERIT participants at program entry and again at program exit. This means that the same questions must be administered in the same format and follow the same procedure on both occasions. For methodological and practical reasons it is not envisaged that participants be followed up after program exit, although this may be undertaken later as a separate study.

Following are some practical and administrative issues which should be followed in administering the questionnaires.

- It is highly desirable for caseworkers to administer the questionnaires rather than allowing participants to complete them. The Kessler-10 and SF-36 can be either self-completed or interviewer administered. However, be aware that a client may be unable or unwilling to self-complete; it is better to complete them with the client if there is any question of difficulty. All items should be based on the client's response, not clinician's guesses or assumptions.
- Caseworkers should acquaint themselves with interpretation of K-10 and SF-36 scores. (See articles on the Kessler-10 and an extract from the SF-36 Manual — supplied). A high score on the Kessler-10 indicates a higher level of psychological distress; in general, low scores on the SF-36 indicate lower levels of functioning. Note that a high score on the Kessler-10 is associated with a high risk of previous suicide attempts. (Refer to norms: supplied).
- It is not necessary to calculate scores. The database does this automatically and can print them out for individual participants.
- Ranges or approximations (eg, between 'some' and 'most') are not acceptable. If the client self completes some of the questions, go over them to ensure all are answered and there are no approximations.
- The exact wording and format of the questionnaire and especially the Kessler-10, SF-36 and SDS should be adhered to as these are standard tests. The 'Guidelines for Administrators' section of the SF-36 users' manual should be followed, which give instructions on how to administer the SF-36.
- To ensure consistency, the same procedure for administering the questionnaire should be followed at entry and exit. That is, if the questionnaire is interviewer administered at entry it should be interviewer administered at exit.
- The entry interview questions should preferably be administered at assessment or within two days of the MERIT team's assessment being completed; otherwise in the first week, but no later than this. However if this is not possible, the interview should still be completed. In all cases the date of the interview should be recorded on the front page.
- Make every attempt to administer the 'program entry' questionnaire to all people entering the program. If this is not possible for an individual client there is little point, in terms of measuring health outcomes, in asking that client to complete the 'program exit' version. In these cases an explanatory note should be entered on the database in the 'comments' box, on the entry/exit screen. A benchmark has been set of 80% completion of all new participants.
- All sections of the questionnaire should be completed on the same occasion. If this is not possible the date recorded should be the date on which the questionnaire is completed.
- The data from the program entry interview should be entered in the database as soon as possible and the initial Health Outcomes report given to the caseworker immediately. This will facilitate use of the scores for assessment and case management.
- For participants completing the MERIT program, the exit interview should be done at or as soon as possible before the program exit date (not at the cessation of treatment date, if this is later).
- For participants completing the MERIT program, the exit interview will normally be administered about three months after the entry interview. However, many participants who did not complete the program may nevertheless have gained substantial health-related benefits as a result of their participation and it is highly desirable to measure this. Attempts should be made to administer the exit interview to as many of these participants as possible.

- Be watchful for people who may be lying, stoned or otherwise giving invalid responses. In such cases terminate the interview and if appropriate, make an appointment to do another interview. Be alert for inconsistencies in responses. If there is any doubt about the veracity of the information, note this on the front page of the questionnaire. (The person entering the responses into the database should type this into the 'comments' box on the database entry/exit interview screen).
- Be alert for, and attempt to resolve, any inconsistencies between the outcome information and information collected in the course of the assessment.
- Scan the client's responses to avoid missing data. In particular, scoring issues with the SF-36 make it at present unable to cope with missing responses.
- The Severity of Dependence score may be 0 if a client is on prescribed methadone or buprenorphene. Similarly a client may have a score of 0 for occasions of heroin use even though it is rated as their principal drug.
- 'Other substances' (eg, inhalants) are not included in the 'occasions of use' questions. This may result in a drug use score of 0, though the SDS may show dependence. Similarly the drug score may be zero if a client enters MERIT after a month of incarceration.
- A client's individual scores should not be quoted in any court report.
- Please note that though there is a facility on the database to enter Drinkcheck (AUDIT) and Readiness To Change scores, these are not required as part of the outcome measures.
- The database has the facility to produce a de-identified dataset and each Area Health Service contributes to a State-wide dataset every three months. The outcome data is screened for errors and preliminary analyses are carried out at this time.
- The program exit version of the outcome measures includes a brief client satisfaction questionnaire. It is suggested that this be administered by someone other than the client's caseworker to avoid bias. Alternatively it can be given to the client at program exit with an addressed and stamped envelope to post back to the program; or completed by the client and put into a box at reception.
- Transferred MERIT paricipants: the entry questionnaire is to be administered by the MERIT team who complete the assessment (usually but not always the 'transferred to' team).

Appendix 6: A guide to scoring the MERIT outcome measures

Section 2: SDS (Severity of Dependence Scale)

The SDS scale was developed to measure the degree of dependence experienced by users of a variety of drugs. It focuses on the psychological aspects of dependence such as impaired control, anxiety about use and difficulty stopping.

Scoring and diagnostic cut-off

Each of the five items is scored on a four point scale from 0–3. Addition of the five items produces a total score with higher scores indicating a higher level of dependence. Typically, a score of at least 5 is considered indicative of dependence. A score of at least 4 is suggested for amphetamine users and between 3 and 5 for cannabis.

This scale gives an indication of the client's reported level of dependence on their primary drug of concern.

Higher scores indicate higher levels of dependency.

The client receives a score out of 15.

To calculate:

The database will calculate the score automatically as the data is entered. It is not necessary to calculate the score manually, unless this is desired.

For each question, the client receives the number of points indicated by the number next to the box ticked to show the client's response.

Add together the person's points for each question to get the SDS score.

Section 3: Risk behaviour (blood borne virus risk scale)

This gives an indication of to what extent the client puts themself at risk of contracting or transmitting blood borne viruses.

Please note that this Section has been modified for Version 3 and consists only of 2 questions. An overall risk score is not calculated.

Section 4: Extent of recent drug use

(a) Occasions of drug use scale (ODUS) (drug use scale, questions 1–7).

This gives 7 separate totals for the client's reported *occasions of use of each class of drug in the last month.*

If the client has not used a class of drugs in the last month, their total for that class is 0.

The database will calculate the score automatically as the data is entered. It is not necessary to calculate the score manually, unless this is desired.

To calculate:

Multiply together the response to questions 1a and1b to get the ODUS score for tobacco.

Multiply together the response to questions 2a and 2b to get the ODUS score for alcohol.

Multiply together the response to questions 3a and 3b to get the ODUS score for heroin.

Multiply together the response to questions 4a and 4b to get the ODUS score for opioids.

Multiply together the response to questions 5a and 5b to get the ODUS score for cannabis.

Multiply together the response to questions 6a and 6b to get the ODUS score for cocaine.

Multiply together the response to questions 7a and 7b to get the ODUS score for amphetamines.

Multiply together the response to questions 8a and 8b to get the ODUS score for tranquilisers.

Multiply together the response to questions 9a and 9b to get the ODUS score for other drugs.

(b) Poly drug use scale (questions 1a, 2a, 3a, 4a, 5a, 6a, 7a, 8a, 9a of the drug use scale)

This gives an indication of the extent of poly-drug use. It calculates

(1) how many classes of drug the client has used in the last month overall (maximum score: 9)

(2) how many classes of drug the client has used, excluding alcohol and tobacco (maximum score: 7).

To calculate:

The database will calculate the scores automatically as the data is entered. It is not necessary to calculate them manually, unless this is desired.

The clients can score one point per question.

If the client has taken the drug the question refers to on one or more days in the last month, they score 1 point for that question.

If the client has not taken the drug the question refers to in the last month, they score 0 points for that question.

The client's points for questions 1a, 2a, 3a, 4a, 5a, 6a, 7a, 8a and 9a are summed to get the polydrug score.

Section 5: Kessler-10 psychological adjustment:

The Kessler-10 (K-10) is a measure of current (last 4 weeks) psychological distress that should be taken at face value. It is acknowledged that the cause may be situational; the measure is usually used to monitor distress rather than identify the presence of a disorder. However a higher score is associated with a higher risk of having anxiety or a depressive disorder.

Scoring:

The database will calculate a score automatically as the data is entered. It is not necessary to calculate the score manually, unless this is desired.

The raw score can be obtained by adding together each individual score (between 1 and 5) on questions 1 - 10. A standard score, taking into account any missing information, will be calculated automatically when the information is entered into the database.

An interpretation of the K–10 score is:

10–19: The score indicate that the client or patient may currently not be experiencing significant feelings of distress

20–24: The client or patient experience mild levels of distress consistent with a diagnosis of a mild depression and/or anxiety disorder.

25–29: The client or patient experience moderate levels of distress consistent with a diagnosis of a moderate depression and/or anxiety disorder.

30–50: The client or patient experience severe levels of distress consistent with a diagnosis of a severe depression and/or anxiety disorder.

People who scored 16–30 on the K10 in the National Survey of Mental Health and Well-being had three times the population risk of ever having made a suicide attempt. People who score 30–50 had 20 times the population risk of ever having made a suicide attempt.

Section 6: SF-36 (physical/social/emotional functioning)

The SF-36 measures eight dimensions of health and well-being: physical functioning; role limitations due to physical functioning; pain; general health; vitality; social functioning; role limitations due to emotional functioning; and mental health.

Scoring:

The database will calculate the score automatically as the data is entered. It is not necessary to calculate the score manually, unless this is desired.

All items pertaining to each dimension are summed and transformed to form a scale from 1 to 100, where a higher score indicates a better state of health or well-being. However, individual scores must be interpreted relative to population norms (eg, from the National Health Survey or a comparable population, eg, participants of the Parramatta Drug Court).

Section 7: Client satisfaction questionnaire

This is of course administered only on exit from the program.

Three month chart

Chart 1. Estimated drug/alcohol use in the past 3 months (number of occasions)

Every day	90	3 times a month	9
6 times a week	77	Twice a month	6
5 times a week	64	Five days	5
4 times a week	51	Four days	4
3 times a week	39	Three days	3
Twice a week	26	Two days	2
Once a week	13	One day only	1
4 times a month	12		

One month chart

Chart 2. Estimated drug/alcohol use in the past 1 month (number of occasions)

Every day	30	Twice a week	9
6 times a week	26	Once a week	4
5 times a week	22	Three days	3
4 times a week	17	Two days	2
3 times a week	13	One day only	1

Appendix 7: Validation of drug use

The health outcomes study measures changes in drug use by administering a questionnaire to participants at program entry and exit. The validity of self report for sensitive self-disclosure topics such as drug use and crime is generally accepted as high: eg, a review of the accuracy of self-reports of drug users compared to biomarkers, criminal records and collateral interviews (Darke 1998) concludes that 'the self-reports of drug users are sufficiently reliable and valid to provide descriptions of drug use, drug-related problems and the natural history of drug use'. Similarly, a review of self report for measuring delinquency and crime concluded that 'self-report data appear acceptably valid and reliable for most research purposes' (Thornberry and Krohn 2000).

The fact that the MERIT participants did report continuing drug use and that a small proportion of those interviewed actually reported increased use, gives some credence to the validity of their self-report. However, self-report results will always potentially be open to challenge as a 'soft' (ie, unreliable) measure and a concern that a participant may 'fake good' in order to appear in the best light eg, before a court finding. It would be desirable to validate the questionnaire information using an objective measure of current drug use.

Some MERIT teams administer urine screening tests to participants for case monitoring purposes, although the extent to which this occurs in individual teams varies depending on a number of factors. One MERIT team which administers supervised urinalysis at program entry and exit as an integral part of the program was used to test the validity of self-reported drug use at program exit for participants of this service.

Of 67 participants with this team who had both an exit interview and a urine screen at program exit, 55 (82%) of the results were concordant in terms of the presence or absence of an illegal drug. Almost all the discrepancies were due to the non-reporting of continued minor cannabis use, as assessed by the caseworker. These results enable a degree of confidence to be placed on data obtained by the health outcomes questionnaire, albeit with the proviso that some continuing cannabis use may be under-reported.

Appendix 8: Sample comparisons

Table 8.1: Demographic and health data comparing participants interviewed and not interviewed at program entry

	Accepted participants interviewed at entry		Accepted participants not interviewed at entry		
	n		*n*		*P* value
Average age	2833	29.9 years	617	29.8 years	NS
Percentages of:					
Male	2833	79.6%	617	72.6%	<0.001
Aboriginal or Torres Strait Islander	2833	16.7%	608	19.3%	<0.002
Married or de facto	2773	22.3%	570	22.3%	NS
Education: Year 10 or less	2630	70.6%	524	73.9%	NS
Full or part time employment	2809	17.0%	599	12.0%	<0.01
Privately owned house/flat	2810	27.4%	608	20.7%	<0.001
Heroin principal drug	2833	26.7%	617	30.1%	NS
Cannabis principal drug	2833	41.7%	617	29.7%	<0.001
Amphetamines principal drug	2833	23.4%	617	30.8%	<0.001

NS = not significant.

Table 8.2: Demographic and health data comparing participants completing the program and interviewed at program exit with those completing the program but not interviewed

	Completed program and interviewed		Completed program, not interviewed		
	n		*n*		*P* value
Average age	1470	30.8 years	730	30.1 years	NS
Percentages of:					
Male	1470	80.0%	730	77.5%	NS
Aboriginal or Torres Strait Islander	1439	10.7%	717	15.2%	<0.01
Married or de facto	1425	22.1%	689	23.8%	NS
Education: Year 10 or less	1366	69.8%	660	68.6%	NS
Full or part time employment	1456	20.0%	647	17.9%	NS
Privately owned house/flat	1459	30.5%	721	26.2%	<0.05
Heroin principal drug	1470	25.4%	730	29.3%	NS
Cannabis principal drug	1470	46.8%	730	34.1%	<0.001
Amphetamines principal drug	1470	19.7%	730	24.8%	<0.01

NS = not significant.

Appendix 9: Health status and drug use at program entry

Table 9.1: Proportion using each drug at program entry

Substance	Number	Percentage
Tobacco	2588	91.3%
Cannabis	2110	74.5%
Alcohol	1854	65.4%
Amphetamines	1012	35.7%
Tranquillisers	604	21.3%
Heroin	563	19.9%
Opiates	415	14.6%
Cocaine	193	6.8%

Table 9.2: Frequency of use

Substance	Average frequency of use (days per month)
Tobacco	29
Cannabis	20
Heroin	15
Heroin/Opiates	14
Tranquillisers	12
Other Drug	11
Alcohol	9
Amphetamines	9
Opiates	9
Cocaine	5

Note: in accordance with the BTOM, the original version of the questionnaire collected data as 'heroin/opiates'; in later versions, information on heroin and other opiates was collected separately.

Table 9.3: Percentage of all program entrants who use each drug type daily

Substance	Daily use on entry	Percentage
Tobacco	2452	87.1%
Cannabis	981	34.9%
Alcohol	184	6.5%
Heroin	150	6.4%
Tranquillisers	129	4.6%
Amphetamines	86	3.1%
Other Drug	48	2.6%
Opiates	28	1.2%
Cocaine	10	0.4%

Table 9.4: Percentage of users of each drug type who were daily users at program entry

Substance	Users	Daily users	Percentage
Tobacco	2588	2445	94.5%
Cannabis	2110	977	46.3%
Heroin	563	149	26.5%
Other Drug	196	45	23.0%
Heroin/Opiates	147	33	22.4%
Tranquillisers	604	129	21.4%
Opiates	268	27	10.1%
Alcohol	1854	180	9.7%
Amphetamines	1012	85	8.4%
Cocaine	193	9	4.7%

Table 9.5: Average doses per month and per day at program entry

Substance	Users	Doses per month	Doses per day
Tobacco	2588	515.45	17.2
Cannabis	2110	339.21	11.3
Alcohol	1854	97.10	3.2
Tranquillisers	604	72.73	2.4
Heroin	563	63.91	2.1
Amphetamines	1012	46.00	1.5
Opiates	415	39.37	1.3
Cocaine	193	19.24	0.6

Table 9.6: Principal drug of concern at program entry

Principal drug	Users	Percentage
Cannabis	1175	41.6
Heroin/Opiates	798	28.3
Amphetamines	660	23.4
Benzodiazepines	103	3.6
MDMA (Ecstasy)	33	1.2
Other	28	1.0
Cocaine	26	0.9
Total	2823	100

Table 9.7: Average SDS score by principal drug of concern

Substance	Average SDS Score	SD	Count
Heroin	9.44	3.2	754
Benzodiazepines	8.94	3.0	103
Cocaine	8.52	3.6	26
Amphetamines	8.28	3.3	630
Cannabis	7.66	3.3	1175
MDMA (Ecstasy)	6.70	3.0	33
SD = standard deviation			

Table 9.8a: Kessler-10 score ranges

Score range	MERIT: program entry	NSW Adult Health Survey 2003
Low (10–15)	12.3%	66.9%
Medium (16–21)	23.4%	21.5%
High (22–29)	31.6%	8.3%
Very high (30–50)	32.7%	2.8%

Table 9.8b: Kessler-10 score ranges by sex

	MERIT: program entry		NSW Adult Health Survey 2003	
Score range	Males	Females	Males	Females
Low (10–15)	13.2%	8.7%	69.7%	64.2%
Medium (16–21)	24.0%	21.1%	20.5%	22.5%
High (22–29)	32.2%	29.4%	7.1%	9.5%
Very high (30–50)	30.6%	40.8%	2.2%	3.3%

Table 9.8c: Kessler-10 score ranges by heroin use

Score range	MERIT: program entry Heroin use in last month	2004 National Drug Strategy Household Survey Heroin use in last month
Low (10–15)	8.8%	9.9%
Medium (16–21)	20.0%	25.2%
High (22–29)	33.8%	32.2%
Very high (30–50)	37.5%	32.7%

Table 9.8d: Kessler-10 score ranges by amphetamine use

Score range	MERIT: program entry Meth/amphetamines use in last month	2004 National Drug Strategy Household Survey Meth/amphetamines use in last month
Low (10–19)	6.9%	36.1%
Medium (16–21)	20.3%	32.8%
High (22–29)	34.4%	21.0%
Very high (30–50)	38.4%	10.1%

Table 9.8e: Kessler-10 score ranges by cannabis use

Score range	MERIT: program entry Cannabis use in last month	2004 National Drug Strategy Household Survey Cannabis use in last month
Low (10–19)	11.2%	49.8%
Medium (16–21)	23.0%	31.0%
High (22–29)	32.8%	13.4%
Very high (30–50)	33.1%	5.8%

Table 9.9: Mean scores on eight SF-36 health dimensions at program entry

Average score of:	MERIT mean score	SD	National Health Survey
General Health	58.0	22.4	75.3
Mental Health	55.7	21.9	73.1
Bodily Pain	68.3	27.7	83.7
Physical Functioning	87.0	19.6	91.8
Role Limits Physical	63.6	41.0	88.8
Role Limits Emotional	50.1	43.8	82.1
Social Functioning	59.7	29.7	88.5
Vitality	49.2	22.7	61.7

SD = standard deviation.

Table 9.10: Mean SF-36 dimension scores by SDS score

SDS Score	0 – 4	5 – 7	8 – 10	11 – 15
General Health	63.8	64.7	55.0	56.0
Mental Health	68.0	64.2	52.9	45.0
Bodily Pain	77.6	74.4	67.2	66.6
Physical Functioning	91.7	90.8	85.2	88.2
Role Limits Physical	74.4	79.8	60.1	62.8
Role Limits Emotional	66.7	65.5	41.5	40.3
Social Functioning	74.1	71.7	52.9	50.5
Vitality	59.4	56.5	44.1	36.5

Appendix 10: Health outcomes: changes in health status and drug use at program exit

Table 10.1: Proportion using each drug type at program entry and program exit (*n*=1402 matched pairs[1])

	Entry		Exit	
Drug type	*n*	%	*n*	%
Alcohol	951	67.8	856	61.1
Heroin	247	17.6	120	8.6
Opiates	194	13.8	73	5.2
Cannabis	1046	74.6	702	50.1
Cocaine	97	6.9	38	2.7
Amphetamines	437	31.2	192	13.7
Tranquillisers	281	20.0	138	9.8
Tobacco	1262	90.0	1236	88.2

Table 10.2: Frequency of drug use at program entry and program exit

Substance	Days use per month at entry	Days use per month at exit
Tobacco	29.0	27.2
Cannabis	19.7	8.2
Heroin	14.5	2.2
Tranquillisers	12.5	4.0
Opiates	10.5	1.3
Alcohol	9.8	5.9
Other drug	9.1	3.3
Amphetamines	8.5	1.7
Cocaine	4.8	0.7

[1] The base number used throughout the report varies slightly for individual tables as not all participants completed all sections of the questionnaire.

Table 10.3: Reduced frequency of use of drugs used at program exit compared with program entry

	51%–100% reduction in days of drug use		0–50% reduction in days of drug use		Increase in days of drug use		
Substance	*n*	%	*n*	%	*n*	%	Total
Alcohol	393	41.3	312	32.8	246	25.9	951
Amphetamines	371	85.3	43	9.9	21	4.8	435
Cannabis	647	62.0	269	25.8	127	12.2	1043
Cocaine	88	91.7	4	4.2	4	4.2	96
Heroin	204	84.3	24	9.9	14	5.8	242
Heroin/opiates[2]	31	86.1	4	11.1	1	2.8	36
Opiates	141	91.0	6	3.9	8	5.2	155
Other drug	72	84.7	10	11.8	3	3.5	85
Tobacco	105	8.3	1046	82.9	111	8.8	1262
Tranquillisers	221	78.9	40	14.3	19	6.8	280

Table 10.4: Daily use at program entry and program exit

		Daily use on entry		Daily use on exit	
Substance	Count	*n*	%	*n*	%
Tobacco	1262	1186	94.0	1099	87.1
Cannabis	1044	468	44.8	118	11.3
Alcohol	951	106	11.1	24	2.5
Tranquillisers	280	68	24.3	22	7.9
Heroin	242	59	24.4	3	1.2
Amphetamines	435	31	7.1	5	1.1
Opiates	155	23	14.8	4	2.6
Other drug	85	15	17.6	8	9.4
Heroin/opiates[2]	36	6	16.7	0	0.0
Cocaine	96	3	3.1	0	0.0

[2] In accordance with the BTOM, the original earlier version of the questionnaire collected data as 'heroin/opiates'; in later versions, information on heroin and other opiates was collected separately. Hence some Tables give information in all three categories.

Table 10.5: Reductions in intensity (occasions) of use at program exit compared with program entry

	51%–100% reduction in occasions of drug use		0–50% reduction in occasions of drug use		Increase in occasions of drug use		
Substance	*n*	%	*n*	%	*n*	%	Total
Alcohol	494	52.0	201	21.2	254	26.8	949
Amphetamines	383	88.0	32	7.4	20	4.6	435
Cannabis	805	77.4	112	10.8	123	11.8	1040
Cocaine	89	92.7	1	1.0	6	6.2	96
Heroin	209	86.4	13	5.4	20	8.3	242
Heroin/opiates	33	91.7	2	5.6	1	2.8	36
Opiates	143	92.3	4	2.6	8	5.2	155
Other drug	75	88.3	8	9.4	2	2.3	85
Tobacco	217	17.2	721	57.2	322	25.6	1260
Tranquillisers	230	82.1	24	8.6	26	9.3	280

Table 10.6: Reduced frequency of use of principal drug of concern at program exit compared with program entry

	51%–100% reduction in days of drug use		0–50% reduction in days of drug use		Increase in days of drug use		
Substance	n	%	n	%	n	%	Total
Alcohol	4	50.0	4	50.00	0	0.0	8
Amphetamines	174	63.7	86	31.50	13	4.8	273
Cannabis	406	62.1	202	30.89	46	7.0	654
Cocaine	9	75.0	3	25.00	0	0.0	12
Heroin	163	61.3	90	33.83	13	4.9	266
Heroin/opiates[2]	29	67.4	13	30.23	1	2.3	43
Opiates	10	55.6	8	44.44	0	0.0	18
Tranquillisers	27	57.4	16	34.04	4	8.5	47

Table 10.7: Reduced intensity (occasions) of use of principal drug of concern at program exit compared with program entry

	51%–100% reduction in occasions of drug use		0–50% reduction in occasions of drug use		Increase in occasions of drug use		
Substance	n	%	n	%	n	%	Total
Alcohol	5	62.5	3	37.5	0	0.0	8
Amphetamines	175	64.1	89	32.6	9	3.3	273
Cannabis	497	76.1	117	17.9	39	6.0	653
Cocaine	8	66.7	4	33.3	0	0.0	12
Heroin	166	62.4	80	30.1	20	7.5	266
Heroin/opiates	28	65.1	14	32.6	1	2.3	43
Opiates	9	50.0	9	50.0	0	0.0	18
Tranquillisers	30	63.8	9	19.1	8	17.0	47

Table 10.8: Abstinence from specified drugs at program exit

	Abstinent		Not abstinent		
Substance	*n*	%	*n*	%	Total
Alcohol	216	22.9	727	77.1	943
Amphetamines	301	69.5	132	30.5	433
Cannabis	386	37.4	647	62.6	1033
Cocaine	80	84.2	15	15.8	95
Heroin	150	61.7	93	38.3	243
Heroin/opiates	24	66.7	12	33.3	36
Other drug	128	84.2	24	15.8	152
Tobacco	67	80.7	16	19.3	83
Opiates	68	5.4	1186	94.6	1254
Tranquillisers	193	69.2	86	30.8	279

Table 10.9: Abstinence from principal drug of concern at program exit
(includes those not using their principal drug at entry)

	Abstinent		Not abstinent		
Substance	*n*	%	*n*	%	Total
Alcohol	182	66.9	90	33.1	272
Amphetamines	297	46.0	349	54.0	646
Cannabis	10	83.3	2	16.7	12
Cocaine	180	67.2	88	32.8	268
Heroin	28	66.7	14	33.3	42
Heroin/opiates	13	81.2	3	18.7	16
Opiates	182	66.9	90	33.1	272

Table 10.10: SDS scores for principal drug of concern at program entry and program exit

	Entry			Exit		
Substance	Mean SDS score	SD	*n*	Mean SDS score	SD	*n*
Methadone	9.8	2.4	12	6.2	3.0	12
Cocaine	9.6	3.7	12	5.2	3.8	12
Heroin	9.3	3.3	350	5.9	3.8	350
Benzodiazepines	9.2	2.9	51	6.1	3.4	51
Amphetamines	8.3	3.3	265	5.7	3.5	265
Cannabis	7.5	3.4	661	5.3	3.3	661
MDMA (Ecstasy)	6.1	2.5	25	4.00	2.4	25

SD = standard deviation.

Table 10.11: Kessler-10 scores at program entry and exit

	Kessler-10 score			
Participants	Low	Moderate	High	Very high
Entry *n*	179	329	441	424
Entry %	13.0	24.0	32.1	30.9
Exit *n*	591	392	258	132
Exit %	43.0	28.5	18.8	9.6

Table 10.12: SF-36 sub-scores at program entry and exit

	Entry score	Exit score
General Health	58.0	69.2
Mental Health	55.8	71.9
Bodily Pain	68.8	79.3
Physical Functioning	86.8	91.5
Role Limits Physical	63.8	81.7
Role Limits Emotional	50.4	76.1
Social Functioning	60.1	79.0
Vitality	49.0	65.9
Note: all differences are significant ($P > 0.001$, paired t-test).		

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