



Health and wellbeing outcomes for defendants entering the Alcohol-MERIT program

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Aim: To assess whether the NSW Alcohol-MERIT program improves the health and wellbeing of defendants.

Method: Before their participation in the Alcohol-MERIT program, the health and wellbeing of 123 defendants was measured using the SF-36, Kessler-10 psychological distress scale and the SADQ for alcohol dependence level. These defendants were then followed-up two and six months after this baseline interview. Changes in the SF-36, Kessler-10 and SADQ responses were examined between: (1) baseline and the two-month interview and; (2) baseline and the six-month interview.

Results: Two months after commencing the Alcohol-MERIT program, there were significant improvements in the SF-36 scores for defendants across four of the eight dimensions, significantly lower levels of psychological distress (Kessler-10) and lower levels of dependence on alcohol (SADQ). Six months after commencing the Alcohol-MERIT program, there were significant improvements in the SF-36 scores for defendants across six of the eight dimensions, significantly less psychological distress and dependence on alcohol.

Conclusion: Defendants reported significant improvements in their health and wellbeing after participating in the Alcohol-MERIT program. However, attributing these improvements to the Alcohol-MERIT program alone is not possible given the absence of a relevant comparison group.

Keywords: MERIT, alcohol, diversion programs, health and wellbeing

INTRODUCTION

Magistrates Early Referral into Treatment (MERIT) is a local court program that coordinates entry into drug treatment as part of the bail process for adult defendants. Drug treatment is individually tailored to the needs of the client and may include counselling sessions, detoxification, residential rehabilitation or referrals to outpatient services. A typical treatment program is three months in duration and magistrates are provided with a comprehensive report detailing the participant's progress in treatment at the time of final sentencing. Magistrates are then able to take the participant's progress into consideration when deciding upon an appropriate sentence. The program was first piloted in 2000 and now operates in 65 local courts across NSW (NSW Attorney General & Justice, 2013).

An early evaluation of the program revealed that people who completed the program were less likely to re-offend than participants who did not complete the program (Passey, Bolitho, Scantleton, & Flaherty, 2007). The obvious difficulty with a comparison of completers and non-completers is

that the two groups may differ in critical ways (e.g. in their motivation to reduce drug use) that cannot be accounted for in statistical analyses of re-offending outcomes. This leaves open the possibility that changes in re-offending are due to these unmeasured differences, rather than being an effect of the program itself.

In a more recent evaluation, Lulham (2009) compared a sample of MERIT participants with a control sample of offenders who had been dealt with in local courts but who had not taken part in the MERIT program. The same selection bias issues were applicable to this study because no information was available about whether those in the control group had an illicit drug problem. This is problematic because illicit drug use is the critical factor that selects defendants into MERIT and it is also known to be strongly related to recidivism. If some of those in the control group did not have illicit drug problems, it could make the MERIT group appear to be at *greater* risk of re-offending than those in the control group. Lulham (2009) used complex statistical methods to try and address this selection bias problem and found evidence that participation

in the MERIT program was associated with a reduction in the percentage of defendants reconvicted of a theft offence.

Whilst the MERIT program has been widely available for people with demonstrable drug problems, it has only recently become more available for people presenting with alcohol use as their primary problem. Alcohol-MERIT first began as the Rural Alcohol Diversion (RAD) Program in 2004 operating at Orange and Bathurst Local Courts. In 2009, Alcohol-MERIT and MERIT (for illicit drugs) combined to provide services to clients presenting with both primary alcohol and illicit drug problems. Since this time, Alcohol-MERIT has been extended to other metropolitan and regional courts such as Wollongong, Manly, Dubbo and Coffs Harbour. For the purposes of this evaluation, the Alcohol-MERIT program was further expanded in early 2012 to incorporate ten additional local courts: Albion Park, Campbelltown, Fairfield, Kiama, Hornsby, Liverpool, Newcastle, North Sydney, Port Kembla and Ryde.

THE CURRENT STUDY

The Bureau of Crime Statistics and Research (BOCSAR) was commissioned by NSW Health to evaluate whether participation in Alcohol-MERIT improves health and wellbeing outcomes for defendants. To address the limitations of earlier studies which examined the effectiveness of the MERIT program, a non-blinded Randomised Control Trial (RCT) was set up in four NSW Local Health Districts (LHD): Hunter/New England, Illawarra/Shoalhaven, Northern Sydney and South Western Sydney.¹ In an RCT, individuals are randomly assigned to different treatments and changes in outcome measures are compared across groups. This methodology is considered the most rigorous approach to evaluation because it controls for both measured and unmeasured bias and, in doing so, allows for more confident conclusions regarding the efficacy of a treatment.

For the current study, defendants who were referred to Alcohol-MERIT in one of the four participating LHDs and who were found to be eligible, suitable and willing to take part in the Alcohol-MERIT program, were randomly assigned to either the program or to a brief intervention. Prior to the delivery of the assigned treatment, the health and wellbeing of all defendants was assessed by a NSW Health Alcohol-MERIT caseworker. All defendants who agreed to participate in the evaluation were then followed up by BOCSAR staff two-months, six-months and 12-months after program entry.

The three primary research questions for this study were:

1. Does participation in the Alcohol-MERIT program improve health and social functioning?
2. Does participation in the Alcohol-MERIT program reduce levels of psychological distress?
3. Does participation in the Alcohol-MERIT program reduce levels of alcohol dependence?

Unfortunately, baseline data for defendants allocated to the brief intervention group were not collected consistently

across all trial sites.² This meant that changes in the outcomes measured in this study could not be accurately assessed for this group. For this reason, only the health and wellbeing results for the Alcohol-MERIT group are presented in this report.

METHOD

PROCEDURE

The Alcohol-MERIT evaluation commenced in April 2012 and data collection was completed in July 2013. Defendants appearing before one of the 12 local courts located within the catchment areas of the four participating LHDs during this period were referred to Alcohol-MERIT in the usual way (i.e. court referral, solicitor referral or self-referral).³

Upon referral to the program, the defendant was assessed by an Alcohol-MERIT caseworker to determine whether they were eligible, suitable and willing to take part in the Alcohol-MERIT program.⁴ Where these criteria were met, the caseworker entered the participant's details into an on-line ballot system which assigned the defendant to either the Alcohol-MERIT or the brief intervention group. Defendants balloted into the Alcohol-MERIT group received the program in the usual way. Defendants balloted into the brief intervention group were given factual information about the health effects associated with their alcohol use and any other drugs assessed as being problematic for the defendant. The caseworker also referred defendants in the brief intervention group to appropriate community-based services and encouraged them to engage with service providers.

Baseline health and wellbeing measures were collected by the Alcohol-MERIT caseworker before the defendant participated in the program. Following the ballot to either the Alcohol-MERIT group or the brief intervention group, participants were asked (by a staff member not involved in the treatment of the participants) whether they would be willing to complete follow-up interviews with a BOCSAR research assistant two-, six- and 12-months later. If they were willing to participate, defendants were asked to sign an informed consent document agreeing to be contacted by BOCSAR and for BOCSAR to access their responses to the baseline questionnaire. Consent forms were then forwarded to BOCSAR together with telephone contact details for the participant and an alternative contact person. Participants received a \$40 gift voucher as compensation for each of the follow-up interviews. This study received ethics approval from the joint University of Wollongong and Illawarra/Shoalhaven LHD Health and Medical Human Research Ethics Committee (HREC).

DATA SOURCES

Baseline data for defendants involved in the Alcohol-MERIT evaluation were provided to BOCSAR by NSW Health. These data included alcohol and illicit drug use, clinical information (including responses to the SF-36, Kessler-10 and SADQ questionnaires) and information relating to socio-demographic variables, current offences and treatment history.

Follow-up data were collected by BOCSAR through telephone interviews with defendants assigned to the Alcohol-MERIT group. These interviews were conducted at three different time points after baseline measurement; two-months, six-months and 12-months. The interview questionnaire included standardised measures of health and social functioning, psychological distress and alcohol dependence. The standardised measures used in the follow-up interviews were the same as those employed by the Alcohol-MERIT clinicians at baseline and are described in more detail in the following section.

SAMPLE

From April 2012 to July 2013, 316 defendants were randomly balloted into either the Alcohol-MERIT or the brief intervention group. Of these, 59 (18.7%) did not provide consent to participate in the evaluation. A further seven defendants were subsequently classified as ineligible for the assigned treatment even though they provided consent to participate in the evaluation. These defendants took no further part in the evaluation. Of the remaining 250 defendants, 123 (49.2%) entered the Alcohol-MERIT program and 127 (50.8%) entered the brief intervention group. The following section reports the response rate for the follow-up interviews. Only the response rate for defendants allocated to the Alcohol-MERIT program is described here because this group is the focus of the analysis.

Response rates for follow-up interviews for Alcohol-MERIT group

Of the 123 defendants who commenced the Alcohol-MERIT program, 108 (87.8%) were eligible to participate in the two-month interview (because two months had passed since their Alcohol-MERIT baseline assessment). In total, 79 (73.1%) defendants in the Alcohol-MERIT group participated in the two-month follow-up interview. Among the 29 (26.9%) who were not interviewed at two-months, seven declined to be interviewed, 19 could not be interviewed within an appropriate timeframe, one was not contactable, one was in prison and one was deceased. Gender and age group were not statistically predictive of whether an offender was more or less likely to participate in the two-month follow-up interview. A higher percentage of offenders with a drink-driving offence participated in the two-month interview (96% versus 67%) and this difference was statistically significant ($\chi^2_1 = 7.5, p = .006$). Offenders with a charge against justice procedures were less likely to be followed up at the two-month interview (54% versus 79%), a statistically significant difference ($\chi^2_1 = 5.7, p = .017$). No other offence categories were predictive of participation in the two-month interview. Baseline levels of psychological distress (Kessler-10) or alcohol dependence (SADQ) were not predictive of whether an Alcohol-MERIT defendant participated in the two-month interview.

Of the 123 defendants in the Alcohol-MERIT group, 73 (59.3%) were eligible to participate in the six-month interview (because six months had passed since their Alcohol-MERIT baseline assessment). In total, 47 (64.4%) defendants participated in

the six-month follow-up interview. Among the 26 (35.6%) who were not interviewed at six-months, seven declined to be interviewed, 17 could not be interviewed within an appropriate timeframe, one was not contactable and one was deceased. Neither gender nor offence category was statistically predictive of whether an offender was more or less likely to participate in the six-month follow-up interview. There was one significant effect where Alcohol-MERIT defendants from older age groups were more likely to participate in the six-month interview. Among 18-24 year old defendants, only 37 per cent participated, however this increased to 68 per cent of 25-34 year old defendants and 77 per cent of those aged 35 years and older. This was statistically significant (Mantel-Haenszel $\chi^2_1 = 8.0, p = .005$). Neither the level of psychological distress (Kessler-10) nor alcohol dependence (SADQ) at baseline was predictive of involvement in the six-month interview.

Of the 123 defendants in the Alcohol-MERIT group, only 23 (18.7%) were eligible to participate in the 12-month interview (because 12 months had passed since their baseline assessment). Of these defendants, 13 (56.5%) participated in the 12-month follow-up interview. Of the 10 (43.5%) defendants who were not interviewed at 12-months, five could not be interviewed within an appropriate timeframe, three declined to be interviewed, one was in prison and one was deceased. Given the very small number of eligible defendants available, any changes in health and wellbeing which may have occurred 12-months after baseline were not examined.

VARIABLES

Outcome measures of health and wellbeing

Three measures of health and wellbeing were included in the baseline, two-month, six-month and 12-month follow-up interviews: (1) the SF-36 health survey; (2) the Kessler-10 psychological distress scale and; (3) the Severity of Alcohol Dependence Questionnaire (SADQ).

The SF-36 health survey contains 36 items which measure eight dimensions of physical and mental health (Ware, Snow, Kosinski, & Gandek, 1993). Higher scores on a particular SF-36 dimension indicate relatively good performance on that dimension while lower scores indicate poorer performance. Each dimension is transformed onto a 100-point scale with a minimum score of zero and a maximum score of 100. The three dimensions dealing with physical health phenomena are *Physical Functioning*, *Role Limits Physical* and *Bodily Pain*. The two dimensions dealing with mental health phenomena are *Role Limits Emotional* and *Mental Health*. A further three dimensions dealing with both physical and mental health phenomena are: *General Health*, *Social Functioning* and *Vitality*. On a particular SF-36 dimension, higher scores obtained at the follow-up interviews compared with baseline would indicate an improvement over time for a particular individual. The questions contained in the SF-36 ask about physical health and emotional problems during the previous four weeks and perceptions of one's own general health over this four-week period. Ware et al. (1993) reported that, across 12 investigations,

nearly all of the eight SF-36 dimensions produced very good internal consistency and reliability estimates. McDowell and Newell (1996) found that the SF-36 had very high reliability and good content validity.

The Kessler-10 psychological distress scale measured changes in psychological distress between the baseline and follow-up interviews. The Kessler-10 contains 10 questions measured on a five-point Likert scale ranging from low distress to high distress (Kessler et al., 2003). An example of one of these questions is: "In the past four weeks, about how often did you feel that everything was an effort?". An overall Kessler-10 score can be obtained by summing across these 10 items. This summed Kessler-10 score has a minimum value of 10 (low distress) and a maximum value of 50 (very high distress). The Australian Bureau of Statistics (2012) has reported categories from the total Kessler-10 score to classify the level of psychological distress based on research conducted by Andrews and Slade (2001). These categories classify psychological distress as *Low* (scores 10-15), *Moderate* (scores 16-21), *High* (scores 22-29) and *Very High* (scores 30-50).

The Severity of Alcohol Dependence Questionnaire (SADQ) developed by Stockwell, Hodgson, Edwards, Taylor, and Rankin (1979) uses 20 questions to measure alcohol dependence. Higher total scores on the SADQ indicate a higher level of dependence on alcohol and lower scores indicate a lower level of alcohol dependence (minimum score of zero, maximum score of 60). The SADQ questions measure physical and mood components of alcohol withdrawal, the consumption of alcohol to lessen withdrawal symptoms, amounts of alcohol usually consumed per day and the likely resumption of withdrawal symptoms after starting to consume alcohol again (Stockwell, 1991). Changes in the SADQ dependence mean levels between baseline and each of the two-month and six-month follow-up interviews were examined to assess if alcohol dependence had changed over time. Lower mean SADQ scores at each follow-up interview would indicate less alcohol dependence compared with the baseline measure. Heather (1989) suggested that the SADQ scores could be classified into three categories to assist clinicians to define the level of dependence (Shand, Gates, Fawcett, & Mattick, 2003). This classification is *Low Dependence* (scores 0-20), *Moderate Dependence* (scores 21-40) and *High Dependence* (scores 41-60).

Offence type

Data relating to the offence for which the defendant was currently before the court were provided to BOCSAR by NSW Health using the MERIT Information Management System (MIMS) database. These data were coded using the Australian Standard Offence Classification (ASOC) 1997 system and allowed for more than one offence to be recorded for each defendant. Since no information was available to identify the most serious offence for which the defendant was referred to Alcohol-MERIT, all offence types were flagged. Offences were classified by NSW Health according to the ASOC 1997 Division level and included: Injury (assault), Dangerous/Negligent acts, Burglary/Theft (combined Divisions), Property Damage

and Against Justice offences. A separate flag was used to measure offenders who had an ASOC 1997 Group level charge of *Exceeding the Prescribed Content of Alcohol* (PCA), while all other offences in the Road Traffic and Motor Vehicle Regulatory Division were separately flagged and called 'Other Traffic'. The Injury offence flag also contained one defendant who had been charged with the *Driving Causing Death* offence which is a Group in the Homicide and Related Offences Division. NSW Health could not provide offence data for 10 of the 250 defendants; each of these defendants had been randomly assigned to the brief intervention group and not to the Alcohol-MERIT program. Among the 240 baseline defendants for whom offence data were available, the mean number of offences was 1.7 (ranging from one offence to eight offences). This was a highly skewed distribution with a median of one offence and an inter-quartile range of one offence (25th percentile) to two offences (75th percentile).

STATISTICAL ANALYSES

Changes in the eight SF-36 dimensions, the Kessler-10 psychological distress scale and the SADQ scale were assessed using matched paired t-tests to compare mean follow-up interview scores on each of these measures with baseline scores. For a particular SF-36 dimension, a higher mean score at follow-up compared with baseline measurement would indicate improvement on that dimension.

Changes in the overall Kessler-10 psychological distress score between baseline and each of the two-month and six-month follow-up interviews were measured to assess if the mean level of psychological distress had improved over time. Lower mean Kessler scores at each follow-up interview would indicate less psychological distress compared with baseline. The matched paired t-test was applied. Changes between baseline and follow-up in the percentage of defendants who fall into each of the four Kessler-10 psychological distress categories is also reported to assist clinical interpretation (Australian Bureau of Statistics, 2012).

Lower mean scores on the SADQ at each follow-up interview compared with baseline would indicate a lower level of dependence on alcohol and would be an improvement over time. The matched paired t-test allows for a statistical comparison of these improvements over time. Changes in the percentage of defendants who fall into each of the three SADQ dependence categories outlined by Heather (1989) are reported between the baseline and each of the two-month and six-month follow-up interviews. This should assist interpretation of the clinical meaning of the SADQ score changes (Shand et al., 2003).

RESULTS

Most defendants in the Alcohol-MERIT group were male (86.2%) with a mean age of 34.9 years (95% CI: 32.9, 36.8). More than half (55%) of the defendants in the Alcohol-MERIT group were currently before the court for only one offence, 29 per cent for two offences and 15 per cent for three or more offences.

Over one-third of the defendants had been charged with an aggravated assault (Injury), 22 per cent had been charged with an Offence Against Justice Procedures (typically breach of domestic violence order), 20 per cent had been charged with a drink-driving offence, just under 10 per cent had been charged with another driving offence and 15 per cent had been charged with Property Damage.⁵

CHANGES IN HEALTH AND WELLBEING AMONG DEFENDANTS IN THE ALCOHOL-MERIT PROGRAM

Changes from baseline to two-month follow-up

Figure 1 shows changes across eight SF-36 dimensions of health among the 66 defendants in the Alcohol-MERIT group from baseline to the two-month interview.⁶ Generally speaking, there were improvements on most SF-36 dimensions from baseline to two-month follow-up. Statistically significant improvements were found in the mean score for four of the eight SF-36 dimensions (indicated by asterisk). *General health* improved from 55.6 to 61.4 ($t_{65} = 2.2, p = .034$), *mental health* improved from 52.0 to 59.9 ($t_{65} = 2.8, p = .006$), *physical functioning* improved from 77.3 to 86.1 ($t_{65} = 3.2, p = .002$) and *vitality* improved from 47.3 to 54.8 ($t_{65} = 3.1, p = .003$). While the mean scores of the *role limits physical* dimension improved from 61.7 to 72.4, this was not a significant change ($t_{65} = 1.9, p = .057$). Similarly, while there was improvement in mean scores on the *social functioning* dimension from 54.4 to 59.9 ($t_{65} = 1.8, p = .078$), this change was not significant. There was no significant improvement in the mean scores for the *role limits emotional* (from 42.9 to 52.0; $t_{65} = 1.5, p = .146$) or *bodily pain* (from 71.3 to 68.6; $t_{65} = -0.8, p = .407$) dimensions.

Between baseline and the two-month interview, the 77 defendants in the Alcohol-MERIT group showed a significant improvement in psychological distress levels.⁷ The mean Kessler-10 score at baseline was 27.2 and this reduced to be 22.5 at two-month follow-up ($t_{76} = -5.5, p < .001$). The improvement in Kessler-10 psychological distress categories is shown in Figure 2. At baseline, 39.0 per cent of the Alcohol-MERIT defendants were classified as having *very high* distress levels. This reduced to 19.5 per cent of defendants at the two-month follow-up. Likewise, at baseline, 35.1 per cent of the Alcohol-MERIT defendants were classified as having *high* distress levels and this reduced to 27.3 per cent of defendants at the two-month follow-up. There was an increase in the percentage of Alcohol-MERIT defendants who were classified as having *moderate* distress levels from 19.5 per cent at baseline to 33.8 per cent at the two-month follow-up and also an increase in those who were classified as having *low* distress levels from 6.5 per cent at baseline to 19.5 per cent at the two-month follow-up.

Between baseline and the two-month interview, the 66 defendants in the Alcohol-MERIT group showed a significant improvement in the level of alcohol dependence.⁸ The mean SADQ score at baseline was 20.3 and this reduced to a mean

Figure 1. Alcohol-MERIT group: Changes in mean SF-36 scores between baseline and two-month follow-up (n=66)

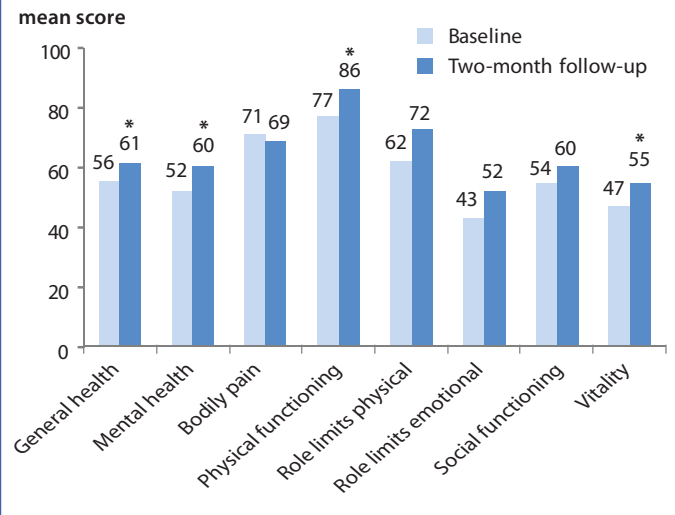


Figure 2. Alcohol-MERIT group: Changes in Kessler-10 levels between baseline and two-month follow-up (n=77)

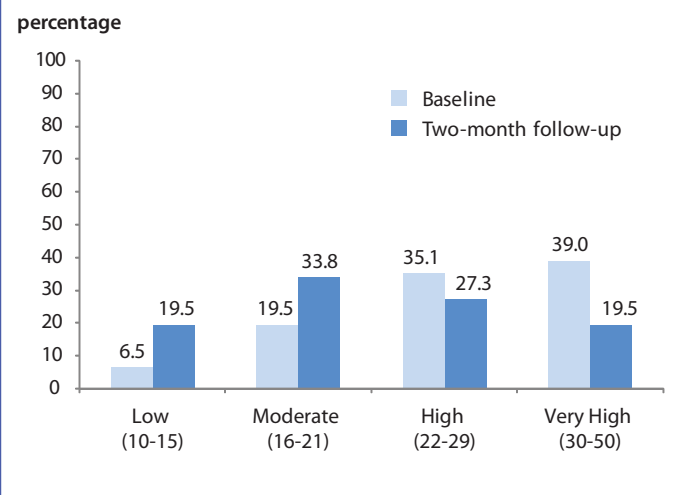
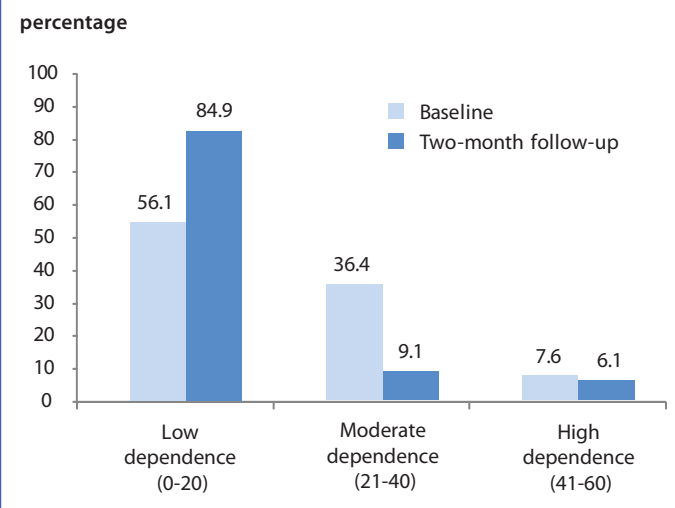


Figure 3. Alcohol-MERIT group: Changes in SADQ categories between baseline and two-month follow-up (n=66)



score of 11.1 at the two-month follow-up interview ($t_{65} = -5.6$, $p < .001$). The improvement in SADQ alcohol dependence categories is shown in Figure 3. At baseline, only 56.1 per cent of Alcohol-MERIT defendants were classified as *low dependence*, while at the two-month follow-up interview this increased to 84.9 per cent. Accordingly, there was a reduction in the number of defendants who were classified as having *moderate dependence* from 36.4 per cent at baseline to 9.1 per cent at the two-month follow-up. There was only a small change in the percentage classified as *high dependence* from 7.6 per cent to 6.1 per cent.

Changes from baseline to six-month follow-up

Figure 4 shows changes across the eight SF-36 health dimensions for the 38 defendants in the Alcohol-MERIT group for whom both baseline and six-month interview data were available.⁹ There were statistically significant improvements in the mean scores for six of the eight SF-36 dimensions: *general health* increased from 60.4 to 67.8 ($t_{37} = 2.4$, $p = .024$), *mental health* increased from 53.9 to 71.5 ($t_{37} = 4.9$, $p < .001$), *role limits physical* increased from 62.5 to 83.6 ($t_{37} = 3.0$, $p = .005$), *role limits emotional* increased from 43.0 to 66.7 ($t_{37} = 3.0$, $p = .005$), *social functioning* increased from 57.2 to 77.0 ($t_{37} = 4.3$, $p < .001$) and *vitality* increased from 49.9 to 67.4 ($t_{37} = 5.5$, $p < .001$). While mean scores on the *physical functioning* dimension increased from 82.5 to 90.5, this improvement was not significant at the 0.05 level ($t_{37} = 2.0$, $p = .055$). There was no significant improvement in the mean score on the *bodily pain* (76.1 versus 78.2; $t_{37} = 0.6$, $p = .577$) dimension.

Between baseline and the six-month follow-up, there was a significant improvement in psychological distress levels reported by the 45 defendants in the Alcohol-MERIT group.¹⁰ The mean Kessler-10 score at baseline was 26.4. This reduced to 17.8 at the six-month follow-up ($t_{44} = -8.5$, $p < .001$). The improvement in Kessler psychological distress categories is shown in Figure 5. At baseline, one-third of the Alcohol-MERIT defendants were classified as having very high distress levels, this reduced to less than five per cent at the six-month follow-up. Also, at baseline, 40.0 per cent of the Alcohol-MERIT defendants were classified as having high distress levels and this reduced to 17.8 per cent of defendants at the six-month follow-up. There was an increase in the percentage of Alcohol-MERIT defendants who were classified as having moderate distress levels, from 20.0 per cent at baseline to 44.4 per cent at the six-month follow-up. There was also an increase in those who were classified as having low distress levels, from less than seven per cent at baseline to one-third at the six-month follow-up.

Between baseline and the six-month follow-up, there was a significant improvement in the level of alcohol dependence reported by the 38 defendants in the Alcohol-MERIT group.¹¹ The mean SADQ score at baseline was 18.9. This reduced to 7.1 at the six-month follow-up interview ($t_{37} = -7.1$, $p < .001$). The improvement in SADQ alcohol dependence categories is shown in Figure 6. At baseline, 63.2 per cent of Alcohol-MERIT defendants were classified as low dependence, while at the

Figure 4. Alcohol-MERIT group: Changes in mean SF-36 scores between baseline and six-month follow-up (n=38)

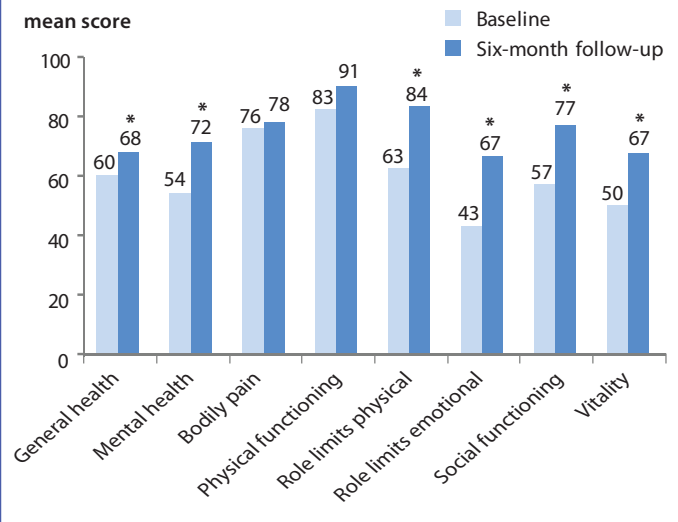


Figure 5. Alcohol-MERIT group: Changes in Kessler-10 levels between baseline and six-month follow-up (n=45)

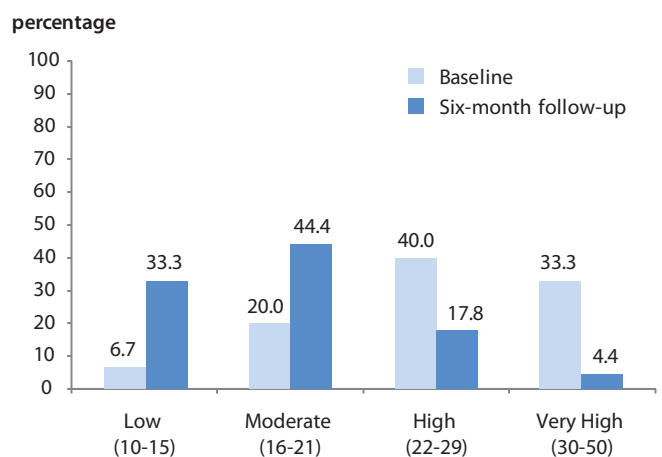
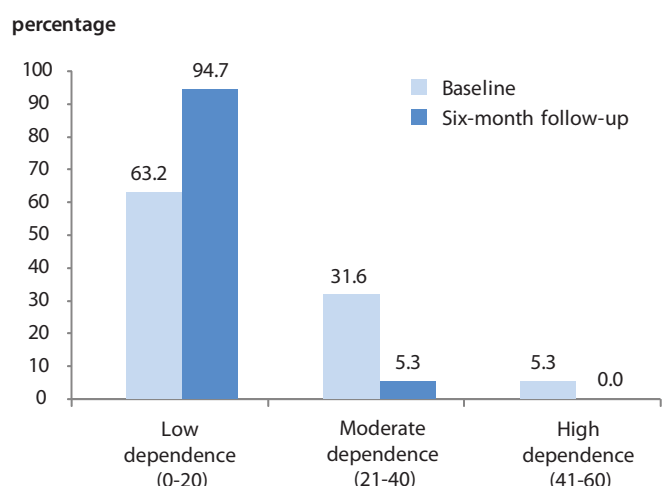


Figure 6. Alcohol-MERIT group: Changes in SADQ categories between baseline and six-month follow-up (n=38)



six-month follow-up interview, this increased to 94.7 per cent. Accordingly, there was reduction in the number of defendants who were classified in the moderate dependence category, from 31.6 per cent at baseline to 5.3 per cent at the six-month follow-up and also in the high dependence category, from 5.3 per cent to zero.

DISCUSSION

This aim of this study was to assess the impact of the Alcohol-MERIT program on the health and wellbeing of defendants. Scores on three standardised health and wellbeing measures, the SF-36, Kessler-10 and SADQ, were compared between baseline and two-months after and between baseline and six-months after, for 123 defendants randomised to the Alcohol-MERIT group in one of four participating LHD trial sites. The results show significant improvements amongst the Alcohol-MERIT group across each of these measures. Improvements were observed in four of the eight SF-36 dimensions between baseline and the two-month follow-up interview and in six of the eight SF-36 dimensions between baseline and the six-month follow-up interview. Furthermore, this study found that Alcohol-MERIT defendants reported much lower levels of psychological distress between baseline and the two-month follow-up interview and between baseline and the six-month follow-up interview, as measured by the Kessler-10 scale. Alcohol-MERIT defendants also reported being less dependent on alcohol at both the two-month and six-month follow-up interviews, as evidenced by significant reductions in their SADQ scores compared with baseline.

While these findings are encouraging, there are a number of reasons for being cautious about attributing these changes to the Alcohol-MERIT program alone. Firstly, there is no control group with which to compare and therefore other potential explanations for the observed effect cannot be discounted. In the four participating LHD trial sites, defendants were randomised to either the Alcohol-MERIT group or to a brief intervention group. It is possible that defendants randomised to the brief intervention group (i.e. those who received a less intensive treatment), also experienced significant improvements in their health and wellbeing after program entry. This could not be assessed, however, because baseline data were not reliably collected for all defendants allocated to this treatment group. It is also possible that improvements in health and wellbeing would have been observed amongst defendants even in the absence of any treatment (i.e. if they had been dealt with by the court in the usual way). The Kessler-10, for example, asks questions about how a person was feeling in the previous four weeks. For the defendants included in the current study, this would refer to the period in which their matter was brought before the court. Given such a stressful event, it is possible that all defendants would report unusually high levels of psychological distress at baseline but once they have been granted bail or had their court matter determined their levels of psychological distress would be significantly reduced.

Secondly, in the current study not all Alcohol-MERIT defendants participated in the two-month and six-month follow-up

interviews. Three-quarters of the eligible defendants in the Alcohol-MERIT group participated in the two-month follow-up interviews and almost two-thirds participated in the six-month follow-up interviews. Although this attrition rate is comparable to the mean level in other longitudinal drug and alcohol studies (Kleschinsky et al., 2009),¹² it is possible that those who were lost to follow-up differed significantly on important factors (e.g. motivation to reduce alcohol use or seriousness of offending) from defendants who were interviewed. If this were true, the improvements in the health and wellbeing measures observed amongst the Alcohol-MERIT group could be the result of selection bias. This problem is underscored by two facts: (1) defendants with PCA offences were more likely to participate in the two-month interview compared with those charged with other offences and; (2) defendants from younger age groups were less likely to participate in the six-month interview than those from older age groups.¹³ Had it been possible to compare changes in the health and wellbeing of the Alcohol-MERIT group with changes in the brief intervention group, the bias resulting from attrition to follow-up would have been minimised.

The results of the current study are consistent with other MERIT research in showing an improvement in the health and wellbeing of defendants participating in the program (NSW Health, 2007). However, these earlier studies also have methodological limitations which prevent definitive conclusions being made about the effectiveness of the Alcohol-MERIT program. An evaluation of the Rural Alcohol Diversion (RAD) program operating in Orange and Bathurst Local Courts between 2004 and 2006 (ARTD Consultants, 2007) reported changes in the SF-36 dimensions for 56 participants who had completed the program. Large improvements were reported for the *general health*, *mental health* and *vitality* dimensions of the SF-36 (although no tests of statistical significance were provided by the authors). ARTD Consultants (2007) also reported that the percentage of these participants who were classified as low risk on the Kessler-10 scale increased from 48 per cent at entry to 80 per cent at exit from the program. However, these changes in health and wellbeing could not be compared with similar defendants who did not participate in the RAD program.

Martire and Larney (2009) examined data from defendants with accepted referrals to the illicit MERIT program (n=6,626) and RAD (n=221) over the period 2004 and 2008. They compared health outcomes pre- and post-program participation for three groups of defendants, those who identified their principal drug as (1) cannabis, (2) other illicit drugs or (3) alcohol. Alcohol was the smallest group (n=297) for exit status referrals in this study. Improvements in the SF-36 *general health* scores and *mental health* scores were reported for each of the three groups. Improvements in the mean Kessler-10 scores were also found across each of the three groups. However, again there was no relevant comparison group. Even though each of the three MERIT groups showed improvements in these outcomes,

this does not rule out the possibility that a less intensive intervention would have produced the same beneficial result. Nor does it adequately address selection bias arising from unmeasured factors that affect selection into treatment, such as, motivation and readiness to change.

Whether or not Alcohol-MERIT improves the health and wellbeing of its participants therefore remains an open question. The results presented here are encouraging but clearly more research is needed to better inform policy-makers about whether or not to invest further in this approach. RCTs remain the best method for dealing with issues of selection bias and provide much stronger evidence regarding program effectiveness than any other research design. There are, however, ethical and practical reasons why this type of methodology is rarely used in the criminal justice field. Even when these initial obstacles are overcome and an RCT is undertaken (as was achieved here for Alcohol-MERIT) the challenges in implementing such a strategy in the field are immense. This should not mean abandoning this approach altogether. However, it does suggest that researchers, policy-makers, program architects and practitioners need to work closely together to not only ensure that relevant research protocols are developed and adhered to, but that all parties involved have a thorough understanding of the RCT approach and that any ethical or practical concerns are identified and addressed early on in the process.

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NOTES

- 1 'Double-blind' randomised trials are considered best-practice in clinical trials. In double-blind trials (e.g. involving pharmaceutical drugs), both the treatment provider and the participant are blinded to the treatment condition to which they have been allocated. This eliminates the possibility that any observed differences between treatment and control groups are due to differential interaction with the treatment provider. It was not possible to blind treatment providers or participants to treatment condition in this trial. The design is therefore an 'open' or non-blinded randomised trial, whereby both the client and the treatment provider were aware of the condition to which they had been allocated.
- 2 There were problems in the collection of health and social functioning questionnaires in Local Health Districts during the baseline period. This was particularly the

case for the defendants in the brief intervention group. Among the Alcohol-MERIT group at baseline, 85 per cent were administered the SF-36 questionnaire, 96 per cent the Kessler-10 questionnaire and 77 per cent the SADQ. Overall, for defendants in the brief intervention group, the use of each of the three health and social functioning questionnaires was generally much poorer: the SF-36 and Kessler-10 instruments were administered to about one quarter of this group and the SADQ was administered to about one half of them. Given the low use of these health and social functioning questionnaires for the brief intervention defendants, it was not possible to directly compare changes in these three measures between the Alcohol-MERIT and brief intervention groups without the potential for serious selection bias.

- 3 The trial involved the following LHDs and local courts: (1) Hunter/New England LHD accepted referrals from Newcastle Local Court; (2) Illawarra/Shoalhaven LHD accepted referrals from Albion Park, Kiama, Port Kembla and Wollongong Local Courts; (3) Northern Sydney LHD accepted referrals from Hornsby, Manly, North Sydney and Ryde Local Courts and; (4) South Western Sydney LHD accepted referrals from Fairfield, Liverpool and Campbelltown Local Courts.
- 4 To be considered *eligible* for MERIT a defendant must: (1) be an adult; (2) be eligible for bail or not require bail consideration; (3) voluntarily agree to participate in MERIT and; (4) be suspected of using drugs or be known to have a history of drug use or alcohol misuse. The defendants must not be charged with a sexual or strictly indictable offence or have any of these offences pending before the court. To be *suitable* for MERIT a defendant must: (1) have a treatable drug/alcohol problem for which there is appropriate treatment available; (2) usually reside within the defined catchment area and; (3) voluntarily consent to undertake the MERIT program. Only people assessed as having a primary alcohol use disorder are referred to Alcohol-MERIT.
- 5 The Injury offence flag also contained one defendant who had been charged with the *Driving Causing Death* offence which is a Group in the Homicide and Related Offences Division (using ASOC 1997 coding).
- 6 Baseline SF-36 data were not available for 13 of the 79 defendants participating in the two-month follow-up interviews, so comparisons were made for the remaining 66 defendants.
- 7 Baseline Kessler-10 data were not available for two of the 79 defendants participating in the two-month follow-up interviews, so comparisons were made for the remaining 77 defendants.
- 8 Baseline SADQ data were not available for 13 of the 79 defendants participating in the two-month follow-up interviews, so comparisons were made for the remaining 66 defendants.

- 9 Baseline SF-36 data were not available for nine of the 47 defendants participating in the six-month follow-up interviews, so comparisons were made for the remaining 38 defendants.
- 10 Baseline Kessler-10 data were not available for two of the 47 defendants participating in the six-month follow-up interviews, so comparisons were made for the remaining 45 defendants.
- 11 Baseline SADQ data were not available for nine of the 47 defendants participating in the six-month follow-up interviews, so comparisons were made for the remaining 38 defendants.
- 12 A review of longitudinal studies of alcohol and illicit drug users found a mean of around three-quarters completion rate in these studies (Kleschinsky et al., 2009). There was also considerable variation in rates from less than half through to complete completion.
- 13 The finding that defendants with against justice offences were less likely to participate at the two-month interview adds to this problem.

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