

Aboriginal Participation in MERIT

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Executive Summary

Between 2004 and 2008, almost 4,000 participants successfully completed the drug treatment intervention offered by the MERIT program. Over this period, Aboriginal defendants were referred in proportion to their rate of appearance in NSW Courts, however, they were significantly less likely to be accepted onto, or to successfully complete the program. This has been a consistent finding since the programs inception. Despite this, both Aboriginal and non-Aboriginal participants who completed the program showed substantial gains over time. This includes significant improvements in drug dependence and psychological distress as well as general and mental health. A continued emphasis on resolving existing inequalities is important given the high levels of distress and dependence observed among MERIT participants at program entry and the potential for significant improvements for all participants who complete the program.

Background

The Magistrates Early Referral Into Treatment (MERIT) program is a court-based pre-sentence diversion scheme which aims to intervene in the cycle of drug use and crime amongst defendants in New South Wales. Unlike some other diversion schemes, participation in MERIT is voluntary and does not require an admission of guilt [1-4]. Instead, clients appearing before participating Local Courts can be referred to the program and, if they are willing to participate and meet eligibility criteria, are provided with drug treatment (including detoxification, pharmacotherapy, residential rehabilitation, community outpatient services, case management and counselling) and may be referred to other health and welfare services as required (e.g., accommodation and housing support, employment and vocation training, specialist and primary health care). Commencing with a pilot in the year 2000 as a part of the Council of Australian Governments' (COAG) Illicit Drug Diversion Initiative, MERIT has since expanded to 61 courts across the State and, to date, has received over 17,900 referrals, with 11,071 defendants being accepted onto the program and 6,810 going on to complete it¹[5]. Analysis reveals that Aboriginality, age, previous gaol time, accommodation arrangements, principal income type, education level and principal drug of concern are all significantly associated with MERIT program completion²[6].

¹ Current at December 31st 2008

² Please note that the number of MERIT episodes, Aboriginality, and having served time in gaol are negative predictors of program completion, while age, cannabis as principal drug, full- or part-time employment and education are positive predictors of program completion.

Acceptance into the MERIT program is guided by a deliberately inclusive set of eligibility criteria designed to target a large proportion of those defendants appearing in Local Courts with a demonstrable history of drug problems [7]. Even so, continued assessment of the equity of access to, and participation within the MERIT program, remains an essential component of rigorous program evaluation and iterative improvement. Specifically, longstanding Aboriginal over-representation in police cells, courts and prisons across Australia poses a significant challenge for the MERIT program and the Australian justice system as a whole [8-11]. Moreover, those Aboriginal persons coming into contact with the criminal justice system also represent a substantial test for reintegration and rehabilitation efforts as they are significantly more likely to have lower levels of education, to be unemployed, to have a history of illicit substance and high-risk alcohol use, and to have more limited social support networks than those Aboriginal persons who have not had contact with the criminal justice system [12]. In response to these issues the Crime Prevention Division of the NSW Attorney General's Department released a report in 2006 focusing on the participation of Aboriginal people in the MERIT program [13]. That report³ identified several key findings in relation to Aboriginal clients, most significant of these was that although the rates of referral to MERIT for Aboriginal persons was proportionate to the

³ Participation of Aboriginal people in the MERIT program describes a cohort of MERIT participants referred between July 2000 and October 2004.

number of Aboriginal defendants in Local Courts, the likelihood that Aboriginal clients would be accepted into MERIT was lower than that of non-Aboriginal defendants. Moreover, as previously indicated, when accepted, Aboriginal defendants were significantly less likely to complete the program than non-Aboriginal participants. This report re-examines these issues using data obtained since the previous analysis, and extends upon it through the inclusion of newly available health outcomes and recidivism data.

Data Used

Sources

Program and health outcomes data from a cohort of MERIT participants with referral dates between August 2004 and June 2008 have been analysed for the purposes of this report. The data were extracted from NSW Health's MERIT Information Management System (MIMS), a database designed specifically to facilitate the monitoring and evaluation of the MERIT program. Program data includes client demographic information, as well as court dates, program entry and exit dates, and treatments received. Participants' health status was also assessed at program entry and again at program exit using the Severity of Dependence Scale (SDS) as a measure of drug dependence and the SF-36 Health Survey (SF-36) and Kessler-10 Psychological Distress Scale (K-10) as indicators of physical and psychological well-being.

To assist in determining MERIT participants' rate of re-offending after leaving the program, data pertaining to offences and criminal justice outcomes were provided by the NSW Bureau of Crime Statistics and Research from its Reoffending Database (ROD). MERIT clients participating between January 1st 2004 and December 31st 2005 were included in this cohort to allow for a standard two year follow-up period.

For the purposes of this report all participants indicating that they are of either: a) Aboriginal but not Torres Strait Islander origin; b) Torres Strait Islander but not Aboriginal origin; or c) Aboriginal and Torres Strait Islander origin, have been termed "Aboriginal". All those participants indicating that they are of neither Aboriginal nor Torres Strait Islander origin have been coded as "non-Aboriginal".

Analysis

Where the sample size was large, i.e., more than 1,500 participants, categorical data were analysed using the chi-square (χ^2) statistic and a significance level of .01 (rather than the conventional .05 level) in order to minimize the reporting of statistically significant

effects with limited clinical significance. In instances where there were fewer than 1,500 participants in the analysis, the .05 criterion was adopted to increase the statistical power. For multidimensional chi-squares, adjusted standardised residuals (ASR) were analysed to identify factors contributing significantly to observed differences, with ASR of greater than ± 2 taken as significant. Continuous, normally distributed data were analysed using *t*-tests (*t*) and mixed ANOVA (*F*). Mann-Whitney *U* was used to analyse non-normally distributed data. χ^2 was used to assess categorical data and logistic regression was used to identify predictors of drug convictions post-MERIT.

Given the varied cohorts used, participant flow diagrams documenting the sample source and size have been included for each set of analyses to assist with interpretation of results.

Limitations

Program attrition, the necessity to leave a two-year follow-up for the reoffending analysis, and the focus on a minority group, serves to substantially reduce the size of the sample for analysis. It should also be noted that when conducting the reoffending analysis the MIMS and BoCSAR cohorts differ considerably in size (6,626 and 1,315 cases respectively). Moreover, it is also likely that a strong selection bias is in place with regard to the health outcomes information, as only clients who completed the MERIT program provided health information post-participation. Thus, it is likely that changes observed between pre- and post-participation measures for program completers may be significantly larger than those likely to be observed for all MERIT clients. This limits the extent to which inferences made from these analyses generalise across contexts.

It should be noted that any changes associated with program completion may reflect an effect of time, treatment in general, or the MERIT program specifically. This study does not contain the "no-treatment" control group necessary to disentangle these possible interpretations.

Program Activity

Data regarding Aboriginal status were available for 9,356 cases from a cohort of 10,682 referrals (87%; see Figure 1). Persons who identified as Aboriginal comprised 16% ($n=1,516$) of the sample of participants with known status. The number of Aboriginal persons referred to MERIT is proportionately similar to the number of Aboriginal and Torres Strait Islander persons appearing before NSW Local Courts in 2006 and 2007⁴.

⁴ According to the NSW Criminal Court Statistics 2007 reported by the NSW Bureau of Crime Statistics and Research in 2008, Aboriginal and Torres Strait Islander defendants represented 13.5% of all persons charged in NSW in 2006 and 2007.

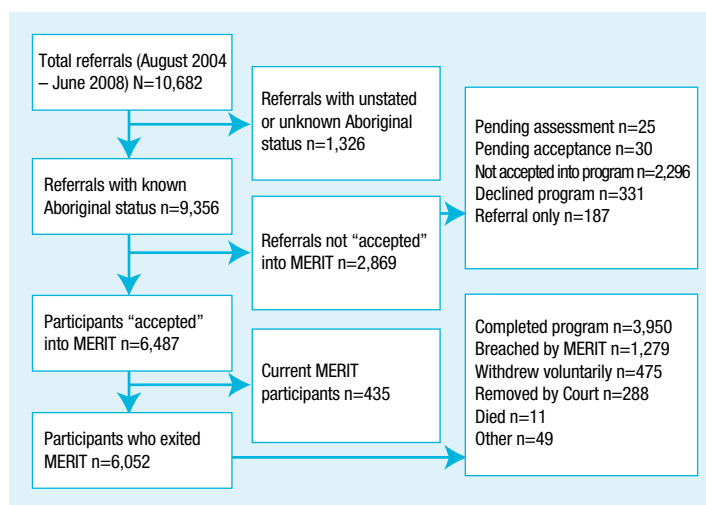


Figure 1: Participant flow diagram for program activity

There were differences in acceptance rates for Aboriginal and non-Aboriginal participants, with Aboriginal persons less likely than non-Aboriginals to be accepted to the program (66% vs. 70%)^a.

Reasons for non-acceptance into the program also varied by Aboriginal status, with Aboriginal participants being less willing to participate, and non-Aboriginal participants more likely to be found ineligible for MERIT (Figure 2)^b.

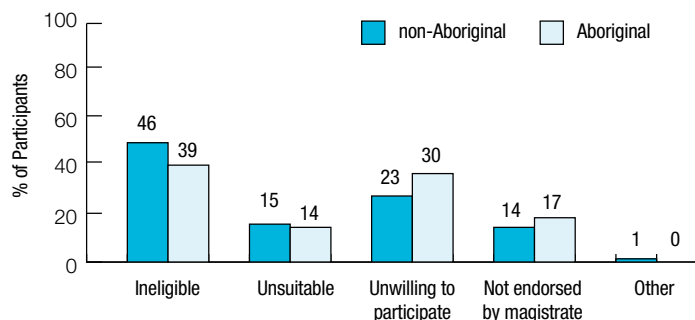


Figure 2: Reasons for non-acceptance to MERIT program, by Aboriginal status (n=2,296)^b

Once accepted into MERIT, Aboriginal participants were less likely to complete the program (56% vs. 67%). Aboriginal participants were significantly more likely to exit the program because they had breached program rules or to be removed from the program by the Court than non-Aboriginal participants (Figure 3)^c.

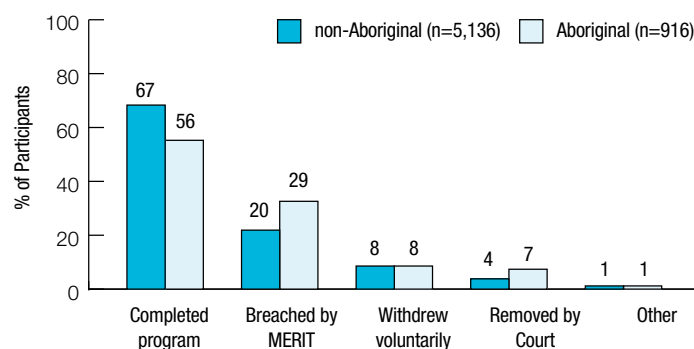


Figure 3: Program exit status, by Aboriginal status (n=6,052)

Demographic Characteristics

Complete case-files were available for 4,920 "accepted" MERIT participants (Figure 4)^d.

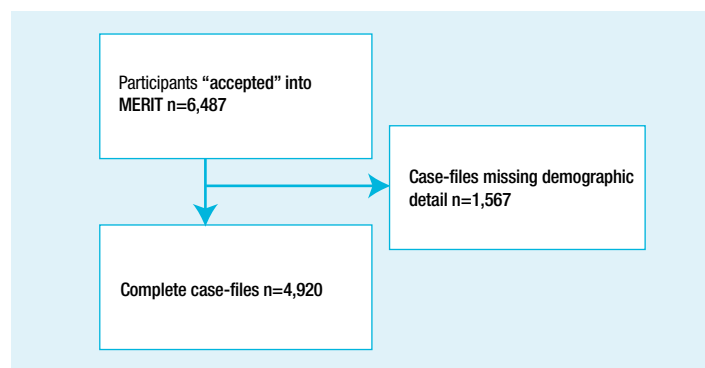


Figure 4: Participant flow diagram for demographic characteristics

One-third of Aboriginal participants were female, compared to 19% of non-Aboriginal participants^d. Aboriginal participants were significantly younger than non-Aboriginal participants (median 27 years vs. 28 years)^e. This difference was more pronounced among men, with Aboriginal men a median of two years younger than non-Aboriginal men (median 26 years vs. 28 years)^f.

Aboriginal participants were significantly less likely than non-Aboriginal participants to have finished high school and were significantly more likely to have been incarcerated (46% vs. 35%)^h. Main income source varied significantly by Aboriginal status (see Figure 5). Aboriginal persons were more likely to be in receipt of a temporary benefit or pension, while non-Aboriginal participants were more likely to be in full-time employment or to report no incomeⁱ.

^a Category 'ineligible' includes those not eligible for bail, those with no demonstrable drug problem, juveniles and those charged with strictly indictable offences.

^d 1,567 case-files did not include data regarding participant age or the number of dependent children.

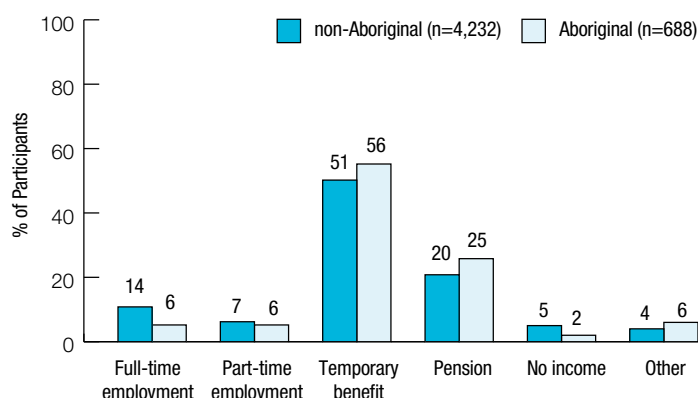


Figure 5: Main income source, by Aboriginal status (n=4,920)

Aboriginal participants had significantly more dependent children than non-Aboriginal participants (1.3 vs. 0.8)^j. There were marked differences between Aboriginal and non-Aboriginal participants in relation to accommodation and living arrangements. Aboriginal participants were significantly more likely than non-Aboriginal participants to be living in rental, as opposed to privately owned, accommodation (either their own or someone else's)^k. Figure 6 below provides detail regarding the living arrangements of participants by Aboriginal status^l. Differences between Aboriginal and non-Aboriginal participants were significant for all categories except spouse/partner and relatives and friends.

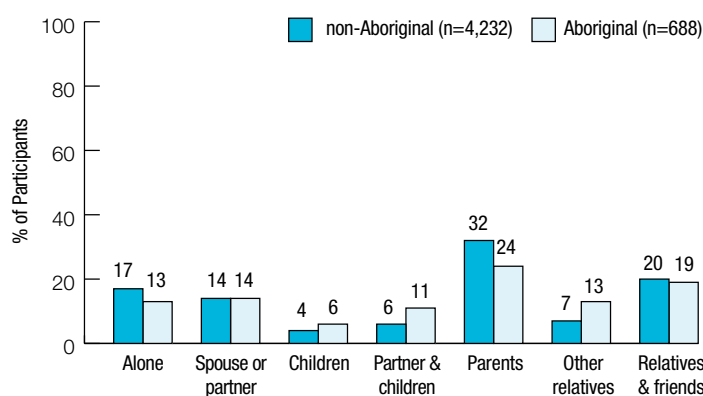


Figure 6: Living arrangements, by Aboriginal status (n=4,920)

Service Provision

Of the 6,052 participants exiting MERIT in the study period (Figure 7), Aboriginal and non-Aboriginal participants spent a statistically equivalent number of days in the MERIT program (77 vs. 80 days)^m.

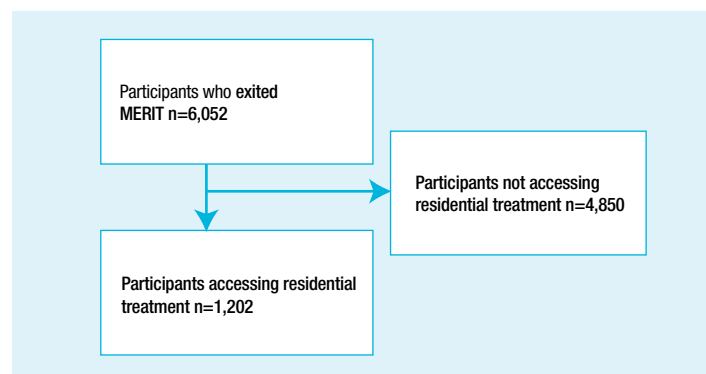


Figure 7: Participant flow diagram for service provision

While in MERIT, participants receive support and case management from MERIT caseworkers. In addition, participants may be referred to external treatment providers. Data on external treatment access were available only for residential treatments (e.g. inpatient detoxification and residential rehabilitation). Aboriginal participants were significantly more likely to access residential treatment than non-Aboriginal participants (22% vs. 18%)ⁿ. Differences in the types of residential treatment accessed during MERIT are shown in Figure 8. Aboriginal participants spent a mean of 40 days in residential treatment, compared to 34 days among non-Aboriginal participants^o.

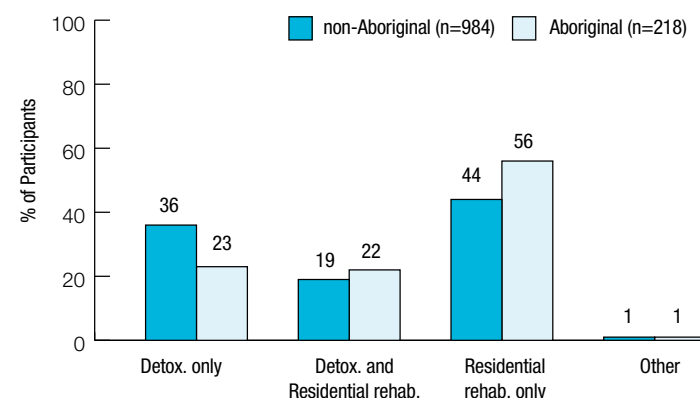


Figure 8: Residential treatment accessed, by Aboriginal status (n=1,202)

Health Outcomes

Drug use

Data on principal drug of concern were available for 6,478 participants (99.9%) in the cohort⁷ (see Figure 9).

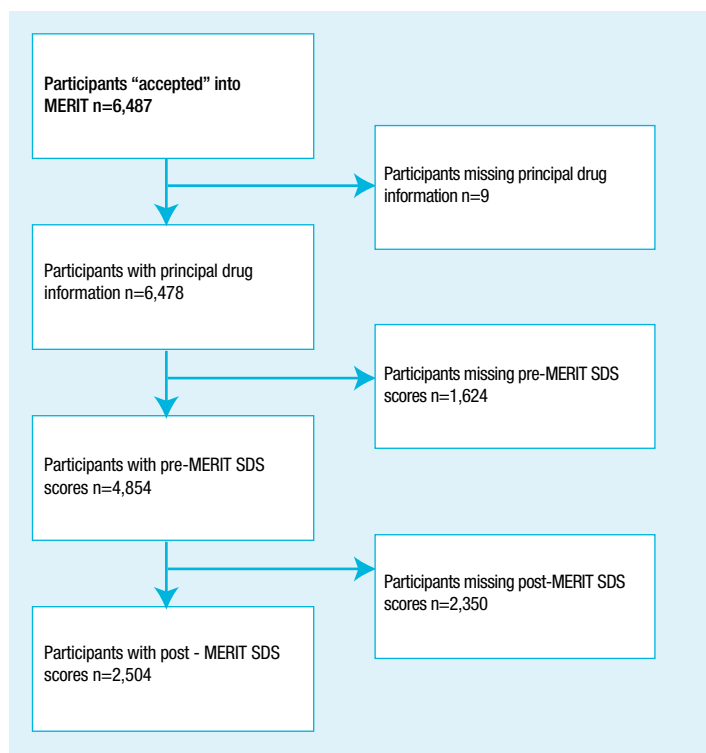


Figure 9: Participant flow diagram for drug use

Cannabis was the most commonly cited principal drug for both Aboriginal and non-Aboriginal participants. Principal drug varied by Aboriginal status, with Aboriginal participants significantly more likely to report meth/amphetamine, and less likely to report heroin, as their principal drug (Figure 10)^p. Aboriginal and non-Aboriginal participants were equally likely to have injected drugs^q. Among both Aboriginal and non-Aboriginal participants, the mean number of days of use of the principal drug per month decreased significantly from pre-MERIT to post-MERIT for most drug classes measured^r for example cannabis use decreased from 20 days of use pre-MERIT to 7 days use post-MERIT participation. The only exceptions were other opiates, benzodiazepines and cocaine among Aboriginal participants. However, it should be emphasised that there were few Aboriginal people who reported these as their principal drug and for whom post-MERIT data were available.

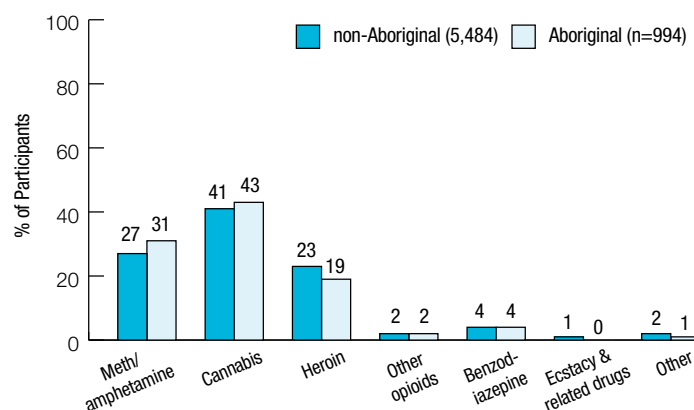


Figure 10: Principal drug, by Aboriginal status (6,478)

Program participants completed the Severity of Dependence Scale (SDS), with higher scores indicating more severe dependence [14]. There were no differences in SDS scores by Aboriginal status either pre- or post-MERIT (Figure 11). Of those participants who completed *both* pre- and post-measures, scores decreased significantly over time, but remained high compared to established dependence thresholds^s [15-18]. The mean number of drug classes used by participants decreased significantly from 3.3 to 2.4 post-MERIT participation^t, with no differences by Aboriginal status.

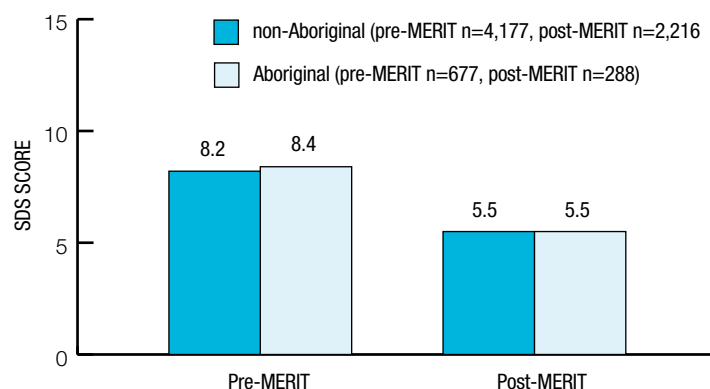


Figure 11: SDS scores pre- and post-MERIT, by Aboriginal status (pre-MERIT n=4,854, post-MERIT n=2,504)

Health status

Health status of participants was assessed using the Kessler-10 Psychological Distress Scale (K-10) [19] and the SF-36 Health Survey [20] (see Figure 12).

⁷ For the purposes of analyzing principal drug use, methamphetamine and amphetamine were coded as "meth/amphetamine". Non-heroin opioids such as methadone, codeine and morphine were coded as "other opioids". Ecstasy, GHB and Ketamine are included in the category "ecstasy and related drugs".

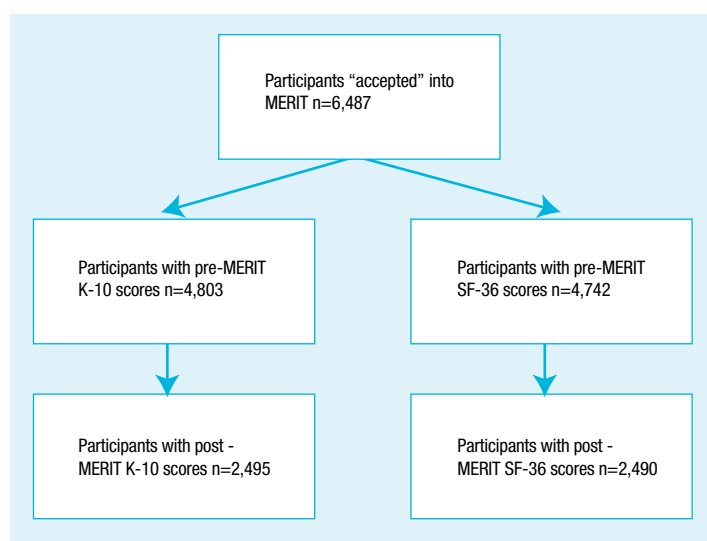


Figure 12: Participant flow diagram for health status.

As shown in Figure 13, there were no significant differences in psychological distress by Aboriginal status, either pre- or post-MERIT^u. Although K-10 scores decreased significantly over time for both non-Aboriginal and Aboriginal participants completing the pre- and post-measures^v, there remained a minority of participants experiencing mild to severe psychological distress after MERIT participation.

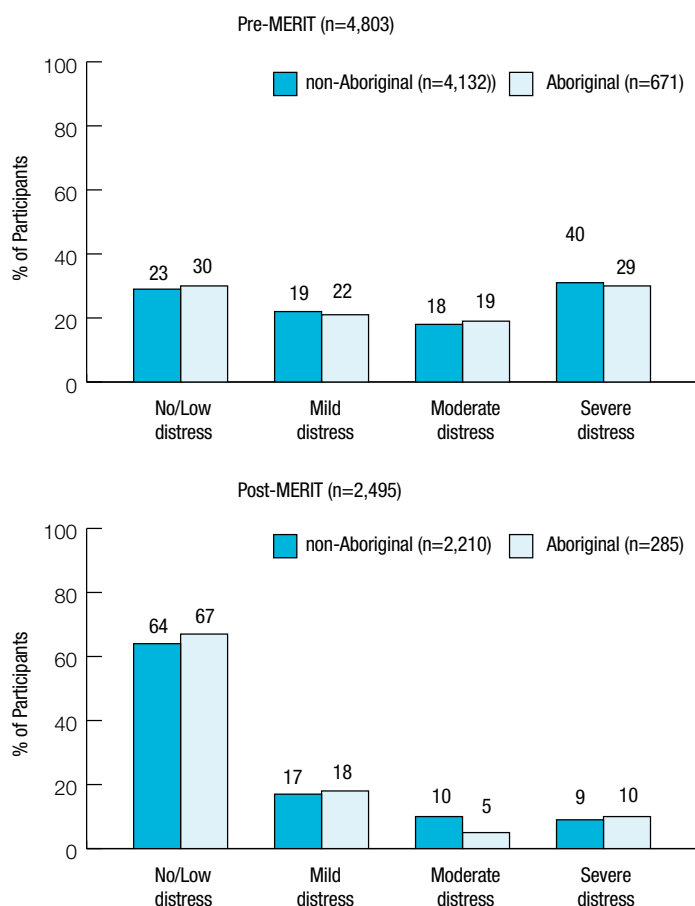


Figure 13: Distribution of K10 scores, by Aboriginal status

The SF-36 assesses a range of health status measures, including general health, mental health, bodily pain and physical functioning, with lower scores indicating poorer health. As shown in Figure 14, at program entry, Aboriginal participants reported significantly better general and mental health than non-Aboriginal participants (see *Discussion*)^w. After completing the MERIT program, Aboriginal and non-Aboriginal participants recorded equivalent general and mental health subscale scores^x. For those participants with both pre- and post-MERIT SF-36 scores, general health and mental health scores improved significantly over time, with no differences by Aboriginal status^y. At program exit, both non-Aboriginal and Aboriginal participants were approaching the same level of mental health as reported in the broader Australian population, but remained somewhat below Australian norms for general health [21].

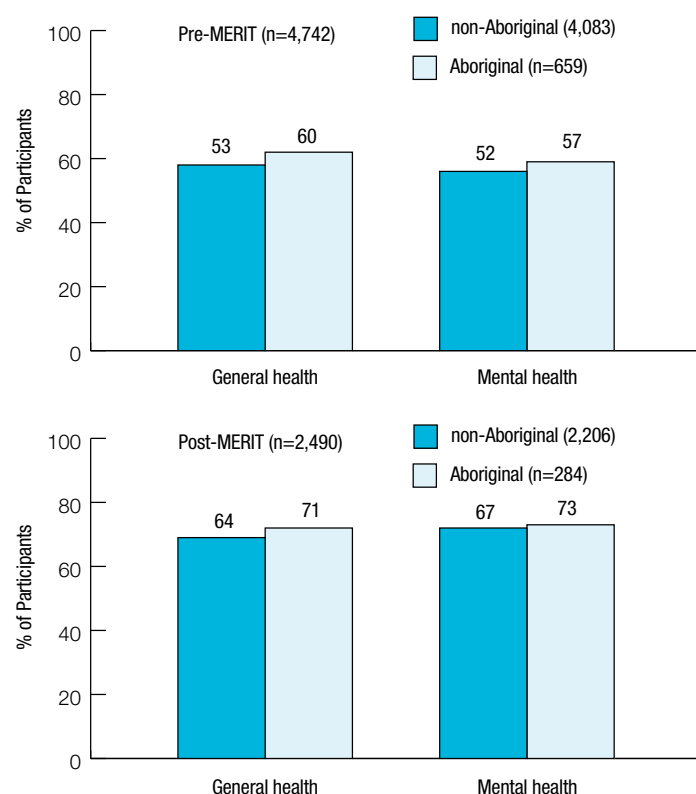


Figure 14: Mean SF-36 General Health and Mental Health subscale scores, by Aboriginal status

Criminal Justice Outcomes

Criminal justice outcomes data were sought for all MERIT participants exiting the program from August 2004 until December 2005⁸ (see Figure 15).

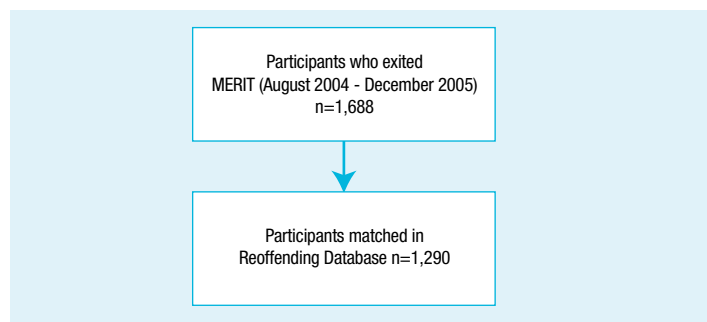


Figure 15: Participant flow diagram for criminal justice outcomes

Among the criminal justice subsample, data were available on the number of conviction episodes⁹ a participant had recorded in the nine years prior to entering the MERIT program. Aboriginal participants had significantly more prior conviction episodes compared to non-Aboriginal participants (median 6 vs. 4 conviction episodes)⁷. Both Aboriginal and non-Aboriginal participants had a median of 2 prior custodial sentences.

There were differences by Aboriginal status relating to the index offence for which participants had been referred to MERIT^{aa}. Aboriginal participants were significantly more likely to have been referred to MERIT following a violent offence¹⁰ or the breach of an apprehended violence order (AVO). Non-Aboriginal participants were significantly more likely to have been referred to MERIT following a drug-related offence (Figure 16).

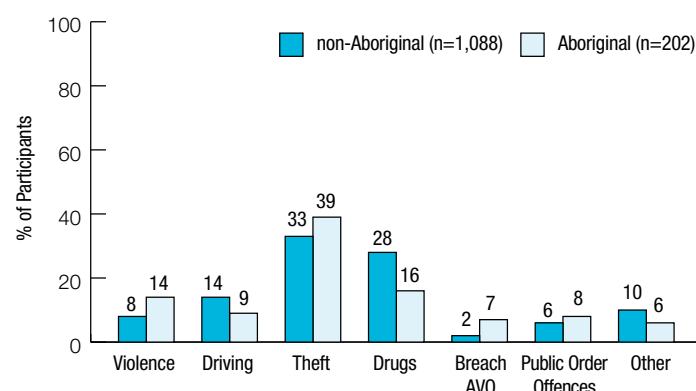


Figure 16: Index offence, by Aboriginal status (n=1,290)

After exiting the MERIT program (i.e. after either completing or terminating the program), participants who are found guilty of the index offence are sentenced. There were no differences in sentence type for index offence by Aboriginal status^{bb}.

In terms of recidivism, of the 1,290 participants for whom criminal justice data were available, 60% (n=771) were convicted of a new offence between the index offence finalisation date and the 31st December 2007. Statistically, Aboriginal and non-Aboriginal participants were equally likely to be convicted of any new offence (62% v 59%) but Aboriginal participants were significantly more likely than non-Aboriginal participants to be convicted of a new violent offence (Figure 17)^{cc}.

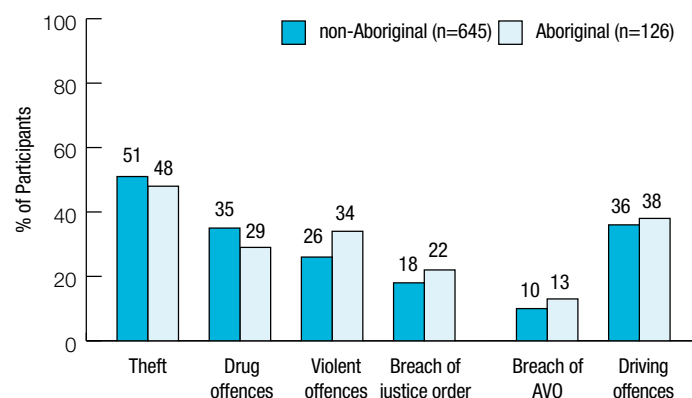


Figure 17: Convictions between index offence finalisation and 31st December 2007, by Aboriginal status (n=771)¹¹

⁸ See Sources under the Data subheading for more information on this subsample.

⁹ "Conviction episode" refers to the number of Court appearances at which a conviction on one or more charges was recorded.

¹⁰ Offences classified as violent offences were assault and sexual assault. Defendants charged with offences involving significant violence are ineligible for the MERIT program [7].

¹¹ It is important to note that Figures 16 and 17 are not directly comparable; Figure 16 reports one index offence per participant, while Figure 17 reports all subsequent types of offences participants were convicted of following their index offence finalisation date.

Particular attention was given to assessing a limited set of predictors of conviction for a new drug offence using regression analysis¹². Whilst the focus of this analysis was to investigate the role of Aboriginality in recidivism, a select number of other predictors were also included to increase the validity of the inferences made. Associations between convictions for new drug offences and demographic, prior conviction and program variables were assessed using logistic regression. Univariate analyses revealed that both completion of the MERIT program and a lower number of previous conviction episodes were significantly associated ($p < .05$) with a reduced odds of conviction for a new drug offence. These variables were entered into a multivariate logistic regression model. Only the number of prior conviction episodes remained a significant predictor of new drug offence convictions, with a greater number of prior convictions associated with increased odds of being convicted for a drug offence post-MERIT (Table 1).

Table 1: Predictors of post-MERIT convictions for drug offences

Predictors Analysed	Univariate logistic regression		Multivariate logistic regression	
	p	OR (95%CI)	p	AOR (95%CI)
Aboriginal status (non-Aboriginal =0, Aboriginal =1)	.5	0.9 (0.6-1.3)		
Age	.8	1.0 (0.9-1.01)		
Number of conviction episodes	<.0001	1.08 (1.04 -1.1)	<.0001	1.08 (1.05 -1.1)
Program completion (completers = 0, non-completers =1)	.02	1.4 (1.0-1.8)	.1	1.3 (0.9-1.7)

Discussion

Key findings of the 2006 *Participation of Aboriginal people in the MERIT program* report were replicated in this analysis. Firstly, although Aboriginal defendants were referred to MERIT in proportion to their rate of appearance before NSW courts, Aboriginal clients were significantly less likely to accept a place in MERIT. Secondly, Aboriginal clients were significantly less likely to complete the program than their non-Aboriginal counterparts; however it is worth noting that more than 50% of Aboriginal participants did successfully complete the program. Although the failure to observe improvements over time in the equity of access to the MERIT program for Aboriginal offenders is somewhat disappointing, it is important to note that the latter of these findings has been the focus of research by the Aboriginal Health and Medical Research Council (AHMRC) over the past two years. The aim of that project was to develop a 'best practice' model to improve Aboriginal access to, and retention in, the MERIT program through extensive consultation with identified Aboriginal communities, MERIT teams and the broader community. The report arising from that research, due to be released in mid 2009, proposes to address retention differences by providing a detailed analysis of the factors associated with higher rates of Aboriginal retention as well as practical guidance to facilitate the transfer of these elements across MERIT sites. Thus, the analyses presented in this and the 2006 reports will together provide a robust baseline measure against which future intervention strategies, like those of the AHMRC, can be evaluated.

In addition to extending the baseline measures reported in 2006 [13], the analysis presented here compares health and justice outcomes for Aboriginal and non-Aboriginal MERIT clients. These analyses suggest that both pre- and post-MERIT, Aboriginal participants 'general' and 'mental health' scores on the SF-36 were significantly higher than non-Aboriginal participants. While this pattern is somewhat inconsistent with the generally poorer health observed for Aboriginal persons on a national level [22-25], it is consistent with the results from the 2001 Inmate Health Survey where Aboriginal men were observed to score significantly higher than non-Aboriginal men for 'general health', 'vitality' and 'mental health' as measured by the SF-36 [26]. Moreover, other observed results were also consistent with analyses of the NSW inmate population which found few significant differences between Aboriginal and non-Aboriginal detainees on a range of objective [27] and self-report measures [26]. Specifically, no significant differences were identified between Aboriginal and non-Aboriginal MERIT participants in terms of severity of dependence

¹² Offences classified as drug offences were drug dealing, cultivation of controlled substances, drug possession and use and possession of drug use implements.

as measured by the SDS, or psychological distress as measured by the K-10. Indeed, for those participants completing both pre- and post-participation measures, no significant difference was observed for general or mental health on the basis of Aboriginal status, with both Aboriginal and non-Aboriginal participants improving significantly on the SDS, the K-10 and the SF-36 over time. Similarly, when considering recidivism, Aboriginal status was found to be unrelated to the likelihood that a MERIT client would be convicted of a new drug offence, rather MERIT completion and the number of previous conviction episodes were significant univariate predictors of new offences. Together the observed results suggest that, irrespective of Aboriginal status, the MERIT program accepts and treats participants with entrenched extensive drug use and criminal histories, who present with significant levels of general and psychological health impairment. This makes it even more important to resolve existing inequalities in acceptance and retention for Aboriginal offenders, as the health improvements observed over time are likely to be of significant value for this highly distressed population and for the community as a whole.

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Notes

^a $\chi^2=24.3$, $df=5$, $p<.0001$

^b $\chi^2=17.4$, $df=4$, $p=.002$

^c $\chi^2=56.7$, $df=5$, $p<.0001$

^d $\chi^2=95.8$, $df=1$, $p<.0001$

^e Mann-Whitney U , $Z=-3.5$, $p<.0001$

^f Mann-Whitney U , $Z=-4.1$, $p<.0001$

^g $\chi^2=67.9$, $df=4$, $p<.0001$

^h $\chi^2=31.6$, $df=2$, $p<.0001$

ⁱ $\chi^2=57.8$, $df=8$, $p<.0001$

^j $t=-11.4$, $df=6,485$, $p<.0001$.

^k $\chi^2=110.8$, $df=3$, $p<.0001$

^l $\chi^2=68.6$, $df=6$, $p<.0001$

^m $t=2.4$, $df=1,130$, $p=.02$

ⁿ $\chi^2=9.0$, $df=1$, $p=.003$

^o $t=-2.0$, $df=1110$, $p=.04$

^p $\chi^2=24.7$, $df=7$, $p=.001$

^q $\chi^2=8.8$, $df=4$, $p=.07$

^r

Non-Aboriginal			
	Pre-MERIT days of use per month	Post-MERIT days of use per month	t , df , p
Meth/amphetamine	9	2	16.8, 496, <.001
Cannabis	20	7	34.5, 1057, <.001
Heroin	12	2	18.6, 446, <.001
Other opiates	10	2	4.4, 34, <.001
Benzodiazepine	14	5	5.8, 80, <.001
Cocaine	5	0.7	3.0, 29, .006

Aboriginal			
	Pre-MERIT days of use per month	Post-MERIT days of use per month	t , df , p
Meth/amphetamine	6	1	4.9, 64, <.001
Cannabis	19	8	11.0, 160, <.001
Heroin	10	2	3.8, 35, .001
Other opiates	2	3	-6.6, 2, 0.6
Benzodiazepine	15	13	.5, 12, 0.6
Cocaine	10	0.3	1.9, 3, 0.2

^s $F=410.4$, $df=1$, $p<.0001$

^t $F=362.8$, $df=1$, $p<.0001$

^u Pre-MERIT $\chi^2=.7$, $df=3$, $p=.9$. Post-MERIT $\chi^2=7.6$, $df=3$, $p=.05$

^v Aboriginal pre-MERIT mean \pm SD=24.7, post-MERIT mean \pm SD=18.1, paired samples $t=12.8$, $df=280$, $p<.0001$.
Non-Aboriginal pre-MERIT mean \pm SD=24.9 \pm 8.5, post-MERIT mean \pm SD=18.3 \pm 7.1, paired samples $t=36.7$, $df=2178$, $p<.0001$

^w General health $t=-3.9$, $df=4,740$, $p<.0001$, Mental health $t=-2.9$, $df=4,740$, $p=.004$

^x General health $t=-2.3$, $df=2,488$, $p=.02$, Mental health $t=-1.0$, $df=2,488$, $p=.3$

^y General health $F=278.7$, $df=1$, $p<.0001$, Mental health $F=453.6$, $df=1$, $p<.0001$

^z Mann-Whitney U , $Z=-3.8$, $p<.0001$

^{aa} $\chi^2=36$, $df=6$, $p<.0001$

^{bb} $\chi^2=12.2$, $df=6$, $p=.06$

^{cc} $\chi^2=3.8$, $df=1$, $p=.05$

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