

## **The NSW Sober Driver Program: Recidivism rates and program parameters**

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## **Abstract**

In NSW drink driving is a significant contributing factor to road trauma and is currently a factor in about 20% of fatal crashes. Additionally, in NSW each year about 15 per cent of convicted drink drivers have a previous drink driving conviction in the previous 5 years. The NSW Sober Driver Program (SDP) is a state-wide education and relapse prevention program for drink drivers convicted of two or more offences within five years. Using survival analyses, we report on recidivism over five and a half years among an initial cohort of SDP participants and a newer (2006-2007) cohort. The purpose of examining recidivism among the newer cohort was to establish whether the program impact continues. Examination of the newer cohort also allowed comparison of the nine week program with a recently introduced condensed version, with the same content delivered in three, rather than nine, sessions. The results indicated that, in relation to the comparison group, the program effect was maintained over five and a half years. The new cohort replicated the earlier effect and indicated that the SDP participants were 44 per cent less likely to re-offend than the comparison group. There were no significant differences in recidivism between SDP participants in the full or condensed versions. Given the impact of the program it is estimated that about 50 additional re-offences are prevented per annum from program participation.

## **Introduction**

Drink driving is a major road safety issue. Currently drink driving is a factor in approximately one in five fatal crashes in NSW. Preliminary data from 2010 indicate that in NSW there were 74 deaths and 1,181 injuries from crashes involving drink driving. The costs of alcohol-related crashes are considerable with a preliminary estimated total cost of alcohol-related crashes in NSW in 2010 being around \$570 million.

The Roads and Traffic Authority NSW has a number of initiatives to address drink driving and deter this behaviour. These include severe penalties for drink driving including fines, licence disqualification and gaol, media campaigns, educational materials, random breath testing. However, there remains a significant number of people who are charged with drink driving offences annually. Currently there are about 25,000 drink driving offences per annum.

Many drink drivers continue to offend despite serving the tough penalties in place to deter drink driving. An analysis of recidivism amongst offenders convicted for a Prescribed Concentration of Alcohol (PCA) offence in NSW Local Courts in 2002 determined that 15.5 per cent (3,626 people) reoffended within five years (Trimboli and Smith, 2009).

The New South Wales Sober Driver program (SDP) was developed for repeat drink drive offenders who are convicted of two or more offences within five years. The overall aim of the SDP is to reduce recidivism among drink drivers by assisting repeat offenders to separate drinking from driving. The SDP has been running in NSW since 2003. It does not address alcohol abuse as such but rather alcohol consumption in combination with driving. Delivery through Corrective Services NSW enables participants to be referred to further services if appropriate. Participation can

be set as a condition of a court order or offenders may be referred to the program by a probation and parole officer.

The SDP is an interactive program which is based on key adult education and psychological principles. It is structured to take participants from being anonymous members of a large group where they share responsibility for learning, to smaller group work, and finally to individual work. It is designed to be interactive and draw upon a range of techniques and on the life experiences that participants bring with them (RTA, 2004).

The SDP underwent a formal external evaluation process in 2006. That evaluation was published in 2008 (Mills et al., 2008). In that evaluation surveys of participants were conducted before, immediately after and four months after program participation. Additionally, an analysis was conducted of the recidivism rates for participants compared to a control group. That report found that participants were almost half as likely to reoffend compared to community controls who had received sanctions alone. Additionally, survey respondents showed increased knowledge, attitudes and skills concerning drink driving.

The standard SDP includes nine two hour sessions, typically delivered over a nine week period. Additionally, to address issues related to access in rural and remote areas, and more recently to allow flexibility in program timing, a condensed version of the SDP was developed. It contains the same content, but the material is delivered in three six hour sessions, with minor modifications to adapt to the different timing. It was initially developed for delivery in rural and remote locations where distance and or population density would not support delivery of the nine-week program. Table 1 presents an overview of the program framework and content.

Table 1 Framework and content areas for the NSW Sober Driver Program

<b>Standard Version Session</b>	<b>Session content</b>	<b>Condensed Version Session</b>
1: Program introduction and overview	<ul style="list-style-type: none"> <li>• Program orientation:               <ul style="list-style-type: none"> <li>– Rationale</li> <li>– Rights and responsibilities</li> </ul> </li> </ul>	1: Exploring the consequences of drink driving
2: Consequences of drink driving for self	<ul style="list-style-type: none"> <li>• Excuses and reasons given for drink driving</li> <li>• Immediate and longer term consequences of drink driving for self:               <ul style="list-style-type: none"> <li>– Legal, financial, social, emotional, professional, interpersonal relationships</li> </ul> </li> </ul>	
3: Consequences of drink driving for others	<ul style="list-style-type: none"> <li>• Exploration of who becomes involved when a drink driving offence occurs</li> <li>• Immediate and longer term impact of drink driving on the broader community</li> </ul>	

4: About driving	<ul style="list-style-type: none"> <li>• Demands of safe driving.</li> <li>• Risk recognition and risk management.</li> </ul>	2: About driving and alcohol
5: About alcohol	<ul style="list-style-type: none"> <li>• Standard drinks</li> <li>• Blood alcohol concentration</li> <li>• Returning to a zero BAC</li> <li>• Short and long terms effects of alcohol on the body</li> </ul>	
6: Effects of Alcohol on behaviour	<ul style="list-style-type: none"> <li>• Behavioural effects of alcohol</li> <li>• Personal and social impacts of drinking</li> </ul>	
7: Managing drinking and driving situations	<ul style="list-style-type: none"> <li>• Understanding and applying behaviour change processes.</li> <li>• Recognising drinking patterns.</li> <li>• Identifying high risk situations.</li> </ul>	3: Positively Managing drinking and driving situations
8: Avoiding relapse	<ul style="list-style-type: none"> <li>• Assertive communication strategies.</li> <li>• Managing and reducing stress.</li> </ul>	
9: Making choices about drinking and driving	<ul style="list-style-type: none"> <li>• Skills and strategies for behaviour change.</li> <li>• Building a network of support.</li> </ul>	

The original evaluation published in 2008 was conducted on behalf of Corrective Services NSW by ARTD Management and Research Consultants. In 2010 Corrective Services NSW again contracted ARTD Management and Research Consultants to conduct a follow up analysis of recidivism in relation to the Sober Driver Program. This paper reports on that analysis (ARTD Consultants, 2010).

### **Aims of the Study**

The current study was conducted to determine if the effect on recidivism observed initially was maintained with the initial participants and if a similar effect was replicated with a new cohort of participants. Additionally, this study examined recidivism amongst SDP participants who attended one of two program format types.

### **Method**

The primary aim of the study was to compare recidivism rates amongst drink driving offenders who had participated in the SDP and a comparable group of offenders who had not. Both the cohort of participants that was originally investigated for recidivism as well as a newer cohort were examined. These will be presented separately below. Ethics approval for conducting the research was obtained from the Research and Ethics Committee of Corrective Services, NSW.

### **Study Design**

The research included three components; a longer term follow up of recidivism amongst the original cohort, an analysis of a newer cohort, and a comparison of

recidivism amongst those who participated in the standard or condensed version of the program. The following table illustrates the issues examined.

Table 2. Study design, time period and sample sizes

<b>Research Component</b>	<b>Time frame for follow up</b>	<b>Sample size</b>
Initial Cohort	2,000 days (approx 5 ½ years)	1,691 SDP
2006-2007 Cohort	1,200 days (approx 3 1/3 years)	1,405 SDP
Standard and Condensed version comparison	1,200 days (approx 3 1/3 years)	1,209 full version 196 condensed version

### **Forming the SDP and Comparison groups**

In order to determine if the recidivism rates of SDP participants varied from that of similar offenders who did not have exposure to the program it was necessary to identify an appropriate comparison group. This was done through assistance from The Bureau of Crime Statistics and Research (BOCSAR).

BOCSAR initially identified the drink driving offenders who would have been eligible for the program, and then identified subsequent offences by these people to determine recidivism. In order to form the comparison and SDP groups, BOCSAR matched the participants who had participated in the SDP with their database based on the names and birthdates provided by CS NSW. Matched cases formed the SDP group and non-matched cases formed the comparison group. This process was used for both the original cohort that was analysed as well as the newer cohort.

Not all SDP participants were able to be matched to those in the BOCSAR database. The match rate for the new cohort was 68% and for the original cohort it was 73%. This means that some of the people who participated in the SDP would have remained in the comparison group and thus would have been misclassified. Overall the impact of any misclassification would be minimal as there was a much larger number of offenders in the comparison than intervention group.

#### *The original cohort of offenders*

The original cohort comprised offenders who had committed a drink driving offence between 1 January 2000 and 30 September 2005 and had also had a drink driving offence within the previous six years. The follow-up period examining recidivism after the reference offence was extended from the original 700 days as reported in the Mills et al (2008) study to 2,000 days (almost five and a half years).

The characteristics of the two groups in the original cohort were compared. They were almost identical in terms of gender age and Aboriginality. However, there were some difference in terms of the number of previous PCA offence, PCA range at the reference (first) offence and type of penalty for the principal offence. The groups were different in terms of principal penalty (53% of the comparison group and 5% of the SDP group had received a fine as the principal penalty for the reference offence). Therefore people who had received a fine as the principal penalty were removed

from the analysis. This resulted in 9,667 people in the comparison group and 1,740 in the SDP group.

*The new cohort of offenders*

The methodology to obtain the two samples was similar to that of the original cohort. However, for this cohort the qualifying offence characteristics were with a proven PCA offence between 2003 and 2007, and a proven offence up to six years earlier. The resultant sample was 21,294 with 1,405 matched to SDP participants.

The SDP and comparison groups were compared on the same variables as the original cohort. Again there was a higher prevalence of offenders in the comparison group who had received a fine as the principal penalty for the reference offence. While 47% of the offenders in the comparison group had received a fine, none of the SDP group had. Again these offenders were removed from the sample, leaving 10,269 people in the comparison group. Table 3 shows the demographic variables of the two groups in the new cohort.

Table 3. Demographic characteristics of the SDP and comparison groups

Variable	Category	SDP	Comparison
Gender	Male	88%	89%
Aboriginality	Aboriginal	8%	13%
Number of previous offences	1	4%	74%
	2	61%	20%
	3	28%	4%
	4	6%	1%
	5 or more	1%	<1%
	Average	1.5	1.3

As with the original cohort the SDP group had more previous drink driving offences than the comparison group. Additionally, a higher proportion of the comparison sample was Aboriginal. These variables were factored into the survival analysis regression model. Both the number of previous offences and Aboriginality were found to be related to reoffending and had some impact on the program effect. Overall Aboriginal offenders were 26% more likely to reoffend, and those who had three or more previous drink driving offences were 44% more likely to reoffend. The SDP had a disproportionately low number of Aboriginal persons but a higher proportion of people with three or more previous offences.

**Results**

Survival analysis was used to examine recidivism amongst both the original and newer cohorts. The main advantages of this statistical technique is that it can take into account the follow up times for individuals and the fact that only a small proportion of the people reoffend within the follow up time. Survival was defined as not having re-offended within the follow up period. For the original cohort this period

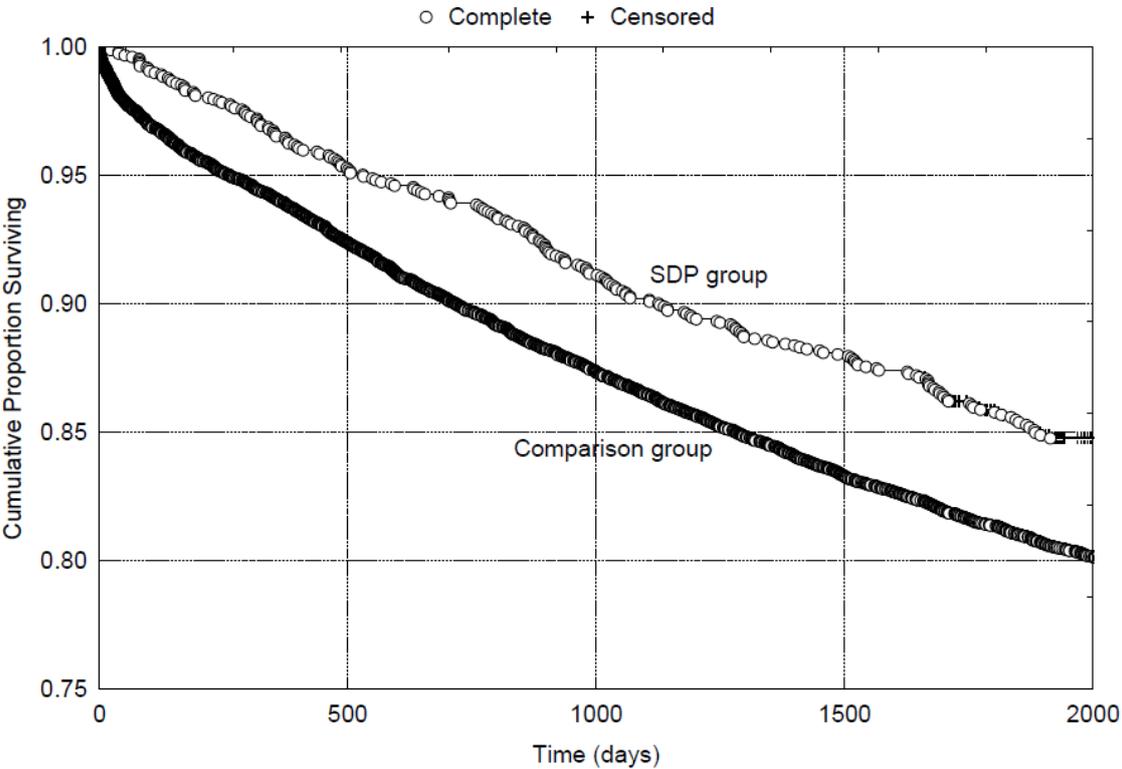
was 2,000 days (about 5 and a half years) and with the newer cohort it was just over three years (1,200 days). The Kaplan-Meier method was used to generate survival curves.

It was important to determine at what point in time the analysis should begin to look for re-offences. The reference offence dates for the original cohort were kept the same as in previous analyses. For the comparison group, the recidivism analysis began after the first offence following 01/01/2000 once the first offence date had been removed. For the SDP group the recidivism analysis began when they finished participating in the SDP. The newer cohort used the same methods for determining start date.

**Recidivism in the original cohort**

Originally the effect of the SDP was established by analysing the survival rates (non-offending) of program participants and the comparison group. The original analysis determined that after the original two year cut-off, 4.9% of the SDP participants had reoffended compared to 10.2% of the comparison group. The analysis was then replicated with the further time period. As shown in Figure 1, the survival curves for the comparison and SDP groups differed.

Figure 1. Survival analysis curves for the original cohort of SDP and comparison groups over the 2,000 day follow up period.

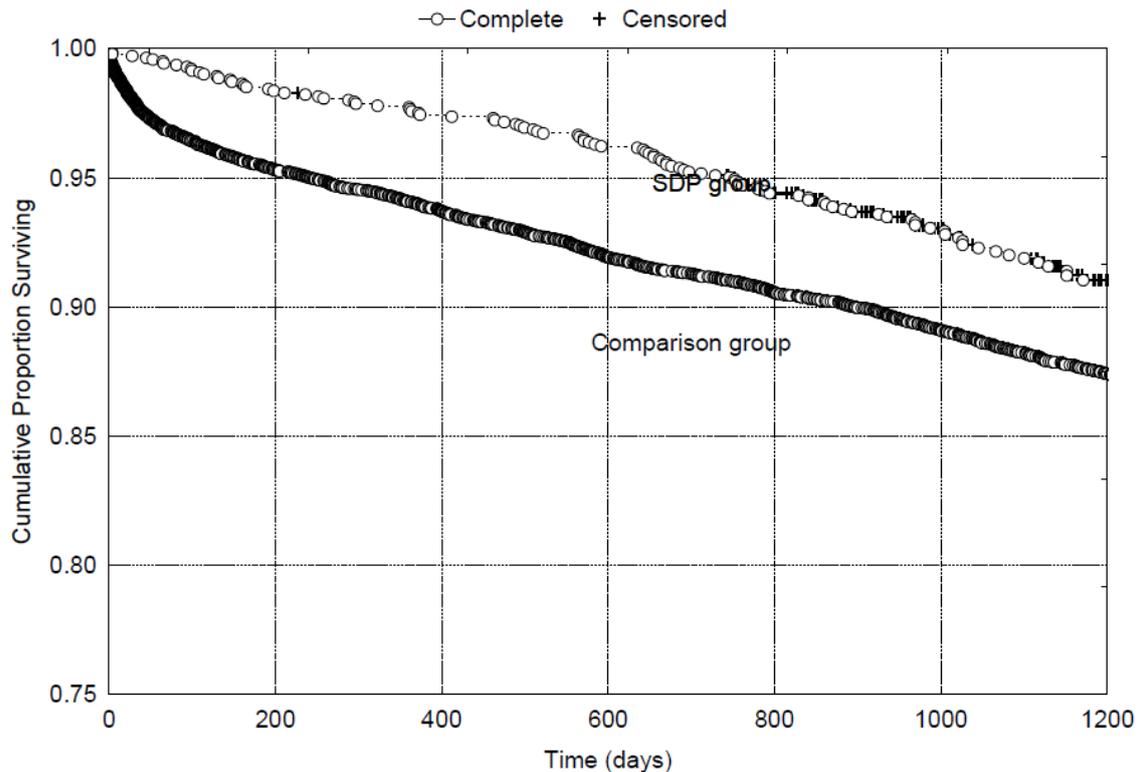


At the initial two year period there was about a 4 percentage point difference between the two groups. By the end of the five and one half year period this difference was at about 5 percentage points. It appears that those who were in the SDP continued to reoffend at a lower rate compared to the comparison group.

### Recidivism in the new cohort

The newer cohort was analysed similarly to determine if there was a difference in reoffending amongst the SDP and comparison groups. Figure 2 shows the survival analysis for the groups up to the end of the follow up period about three and one third years later (1,200 days).

Figure 2. Survival analysis curves for the new cohort of SDP and comparison groups over the 1,200 day follow up period.



As shown in figure 2, the pattern of reoffending was similar in the newer cohort to the first two years of the earlier cohort. At two years after the initial offence there was a 4% difference between the two groups in re-offending. This difference was stable up to the end of the follow up period.

Although the absolute difference between the SDP and the comparison groups was only at about 4 percentage points, the relative difference between them was much larger, as the SDP group was 36% less likely to re-offend. When Aboriginal status and previous offences were accounted for in the analysis, the SDP group was overall 44% (31% - 55%, 95% CI) less likely to reoffend than the comparison group.

### Recidivism in the full and condensed Sober Driver Programs

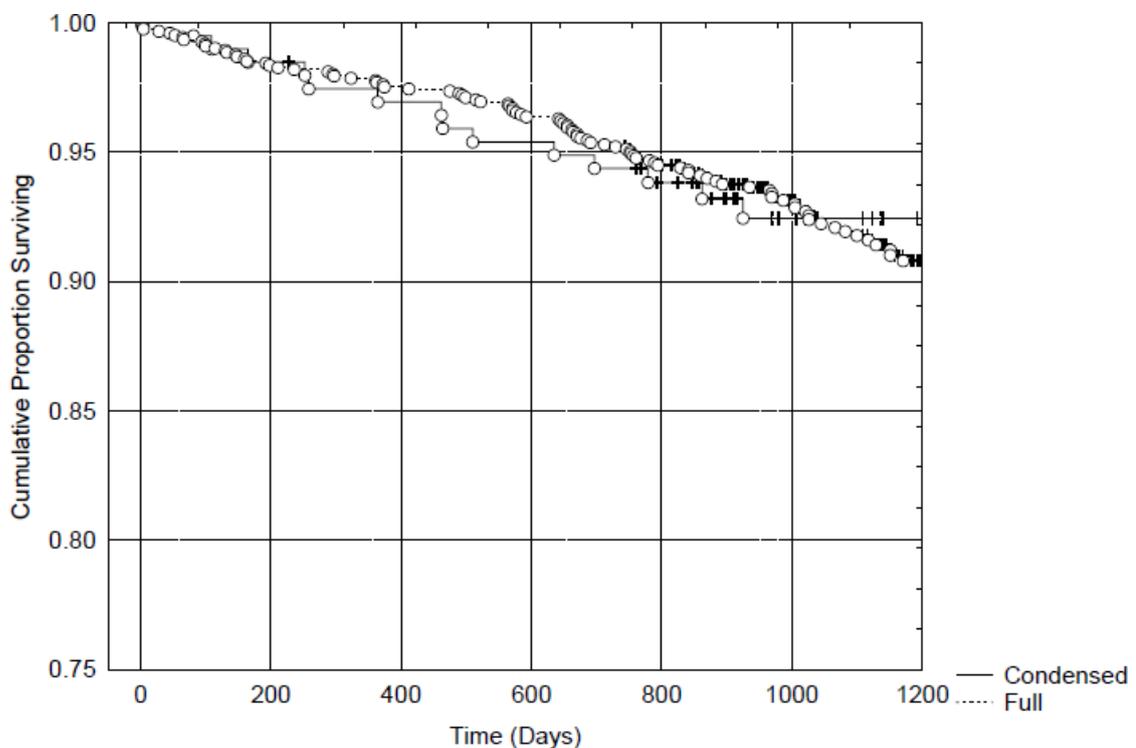
There are two versions of the Sober Driver Program which are currently in use. Although the content is the same, the time spent per session varies. The full program, which is analysed above, includes nine two-hour sessions, typically conducted once per week over a nine week period. This has been the format by which the majority of participants have had for the program. Recently a second format for the program was developed which used three six-hour sessions to

implement the program. The content does not vary, although minor modifications in the timing of activities and homework were necessary to accommodate the condensed version format.

Recidivism for those participants who had participated in the full or condensed program was also analysed. Of the 1,405 SDP participants from the 2006/2007 cohort, 1,209 (86%) had completed the full version and 196 (14%) had completed the condensed version.

A survival analysis was conducted comparing these two groups. There was no significant difference detected between them (see Figure 3).

Figure 3 Survival analysis for the full and condensed versions of the Sober Driver Program



## Discussion

The Sober Driver Program has been shown to reduce the rate of recidivism in those who have participated compared to a comparison group who did not participate in the program. Although some of those who had been in the program did reoffend following participation, the rate at which this occurred was lower. Additionally, this effect was seen to last for up to five and a half years following participation. At the end of five and a half years, about 15% of the SDP participants and about 20% of the comparison group had reoffended.

Based on the finding that the SDP group was 44% less likely to reoffend, 25 people would need to go through the program to prevent one from reoffending. Examination of the reduced likelihood of offending because of participation in the program and program throughout the prevention of re-offences can be calculated. As there were

1,148 people participating in the program in 2006/2007 it means that the program has been able to prevent about 50 re-offences annually.

The analysis of the recidivism amongst the condensed and full programs suggested that there might be little difference between the two. However, as only a relatively small number of people have participated in the condensed version, further comparisons of this factor are warranted when greater numbers are available. The condensed program was initially developed for rural and remote areas where travel times might make it difficult to attend across a nine week period. However, the availability of flexibility in program delivery may also be useful for more urban areas, where it might also be suited to potential participants.

There were some limitations to the study. Perhaps the most significant was that participants were not randomly allocated to the intervention or comparison groups. Thus it is possible that there may have been differences between the groups that may have affected their recidivism rates other than participation in the program. This was addressed by matching the groups to as great a degree as possible. As previously indicated, the groups also differed in Aboriginality and in previous drink driving offences. Although the SDP group had fewer Aboriginal members, a factor which was associated with a lower recidivism rate, it also had a higher proportion of people with multiple previous offences, a factor which was associated with a higher recidivism rate. When these two factors were considered in the analysis the recidivism rate was still lower in the SDP group.

Continued review of the Sober Driver Program, and its effects on recidivism, will help to ensure that it meets the needs of the participants and fulfils its program aims. Given the impact of the program it is estimated that about 50 additional re-offences are prevented per annum from the program in NSW.

### **Acknowledgements**

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