

He Tirohanga anō ki ngā  
whakataunga Kōti e hāngai ana  
ki ngā ārai hautu tārakaraka mai  
i te 2013 - 2017 | **A Reoffending  
Evaluation of Alcohol Ignition  
Interlock Sentences from 2013 -2017**

Prepared by Gerald Waters of Researching Impaired Driving in New Zealand

February 2022

Transport Evidence Base report

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## Glossary

**AIO.** Alcohol Interlock Order. The group of offenders that received orders from the court to install an alcohol ignition interlock device.

**Alcohol Ignition Interlock Device.** A breathalyser that is wired into your car's ignition, which records every start, stop, test result, violation and distance driven. This information is then available as a report for authorities. Before you start your car, the device requires you to provide a breath sample free of alcohol. During your drive, your interlock device will call for random tests which must be taken. If these are not taken, it is classed as a violation.

**Charge Outcome Date.** The charge outcome date is the date on which charges are finalised in court. In this study, it is the date on which the drink driving charge resulted in a conviction.

**EBA.** Excess Breath Alcohol.

**Future-proved outcomes.** A reoffence.

**Interlock.** See Alcohol Ignition Interlock Device.

**MoJ.** Ministry of Justice.

**Proved outcome.** A proved outcome is a charge that has been proved in court to have been committed. For adults it includes convictions, discharges without conviction and diversions.

**Refusal offence.** Refusing an officer's request for a blood specimen.

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## Summary of main findings

The New Zealand Government identified drink drivers as high risk and high priority area of concern in 2010, and legislation was later passed introducing Alcohol Interlock Orders as a sentencing option in New Zealand in September 2012. An alcohol interlock is a device similar to a breathalyser that is hard wired into the ignition of a vehicle. When Alcohol Interlock Orders (AIO) are given, this gives the driver convicted of a drink driving offence the option of having an alcohol interlock device fitted for a period of time, rather than detention or community service, if that was an outcome at Court.

This study aimed at understanding whether reoffending rates amongst people given an AIO is different than those who do not receive such an order. This study compares data from those given an AIO as a result of a driving offence with those who were eligible but did not receive an AIO. This study examines data from driving offences that were issued between 1 January 2013 and 31 December 2017, which is a period of time just after AIO sentencing was introduced to New Zealand, during which this sentence was presented as an option for the court, but not mandatory.

The Ministry of Justice (MoJ) provided the data, including the reoffending analysis and propensity score, which was used to create the matched comparison group.

Over the four-year period post the index event, the AIO group reoffended significantly less than the matched comparison group, up to:

- 33% less than the matched comparison group for drink driving
- 40% less than the matched comparison group for disqualified driving.

The AIO group reoffended less than the matched comparison group for other types of offending, but this was not statistically significant.

The data does not indicate whether the AIO group had an interlock fitted but there does appear to be a correlation between the number of sentences, alcohol interlock licences issued and the numbers of interlocks installed.

In 2020, alcohol was the second biggest contributing factor to road crashes in New Zealand.<sup>1</sup>

Further research could reveal a much clearer picture of AIO effectiveness and reoffending if direct measures – longitudinal data for those who received the sentence and those who had the interlock installed – was made available.

An evaluation framework needs to be established linking all the relevant data including employment/income data to understand if cost is a barrier for installing an alcohol interlock device.

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<sup>1</sup> <https://nzta.govt.nz/safety/driving-safely/alcohol/>

## Introduction

### 4.1 Background

An alcohol interlock is a device similar to a breathalyser that is hard wired into the ignition of a vehicle. The vehicle will not start until a satisfactory breath sample, free of alcohol, has been given. The driver must also perform random breath tests during their journey ([Silverans et al., 2006](#)).

Overseas research shows that ignition interlocks are associated with substantial reductions in recidivism ranging from 40% to 95% while the interlock is installed on the vehicle. These results come from several peer-reviewed studies and a meta-analysis examining the effectiveness of interlocks while installed in a vehicle (e.g., [Houwing, 2016](#); [Voas et al., 2016](#); [Blais 2013](#); [Elder et al., 2011](#); [Silverans et al., 2006](#); [Voas & Marques, 2003](#); [Willis et al., 2005](#); [Vezina, 2002](#); [Coben & Larkin, 1999](#); [Tippetts & Voas, 1997](#)).

Drivers convicted of drink driving present a serious risk to other road users. [Hedlund](#) and Fell (1995) found that offenders convicted of drink driving are 4.1 times more likely to be involved in a fatal crash while intoxicated by alcohol than average licenced drivers. Further, 35% to 40% of all fatally injured drinking drivers are estimated to have had at least one prior drink driving offence ([Simpson 1995](#); [Vingilis et al., 1994](#)). Licence suspension has provided the best evidence of effectiveness in reducing recidivism ([Peck et al., 1985](#); [Voas 1986](#), [Nichols and Ross 1990](#)). However, both self-reports ([Ross & Gonzales 1987](#)) and covert surveillance of suspended drink drive offenders ([McCartt et al., 2002](#)) show that many of these drivers continue to drive without licences and often do so even after becoming eligible for licence reinstatement ([Tashima & Helander, 1999](#)).

Results from New Mexico ([Roth et al., 2007](#)) show an approximate 32% reduction in alcohol-involved injury crashes for the years 2002–2006, a time period where interlock installation rates approached 35% of all arrested offenders. While a direct correlation cannot be established, the evidence is persuasive.

Research ([Willis, Lybrand, & Bellamy, 2004](#)) suggests that drink drive offenders who have ignition interlocks installed in their vehicles are at substantially lower risk for recidivism than those who have had their licences suspended either after deciding not to have one installed or being deemed ineligible for an interlock. However, this same research also suggested that the experience of being a participant in an ignition interlock programme by itself does not usually lead to long-term changes in drink driving behaviour that last beyond the period of interlock use.

Interlocks require substantial administrative resources to monitor participants. Ignition interlock programmes typically require offenders to bring their ignition interlock equipped vehicle in for regular maintenance and checkup (usually every 30 days). At these checkups, the data stored on the system can be downloaded and examined for signs of failed start attempts, tampering, and circumvention. This type of intensive supervision and monitoring is a key element of ignition interlock programmes and may play an important role in reducing recidivism rates among programme participants, both by helping to ensure compliance with programme requirements and by effectively communicating to offenders the need to change their drinking and driving behaviors.

As a temporary form of incapacitation imposed for a fixed period of time, interlock programmes are able to reduce recidivism dramatically while the interlock is in place. However there is evidence ([Raub, et al., 2003](#)) to suggest that it is unrealistic to expect the

device to have ongoing effects after removal in the absence of additional programme features. Unless interlocks are combined with interventions that seek to address the underlying issues that contribute to recidivism—such as alcohol abuse and the lack of perceived alternatives to driving after drinking—it is likely that many offenders will continue to drive after drinking once the device is removed.

A key element involved in extending the effect of interlock programmes is to combine their use with participation in an alcohol rehabilitation program. This would allow treatment providers to take advantage of the recorded interlock data which contains valuable information about alcohol use to inform on treatment planning. One test of this approach found that the interlock provides useful information for treatment providers in promoting the recovery of drink drive offenders ([Voas et al., 1999](#)). More recent research ([Thomas et al., 2020](#)) suggests that interlock users tend to make changes to where and how they consume alcohol, as well as the quantity they drink.

The New Zealand Government, in its Safer Journeys initiative 2010, identified drink drivers as high risk and high priority area of concern. In 2011, to tackle this problem and based on the evidence of alcohol ignition interlocks effectiveness to do so, Parliament passed legislation allowing for the introduction of an Alcohol Interlock Programme (AIP) in New Zealand for repeat drink drivers and some first time drink drivers.

Alcohol interlock orders have been a sentence option in New Zealand since September 2012. [Waters \(2012\)](#) found that only 2% of those eligible received the sentence in its first year as a sentencing option. From July 2018, alcohol interlock orders (AIOs) became mandatory for alcohol eligible offences - either those with two driving under the influence or refusal offences<sup>2</sup> within five years (based on offence dates) or EBA (excess breath alcohol) of 800 or more micrograms per litre of breath (blood alcohol of 160 or more milligrams per 100 millilitres of blood).

Included in this study is data from the NZ Police on drink driving detections and yearly breath tests, as well as information from Waka Kotahi the New Zealand Transport Agency on alcohol interlock licences (AILs) granted and information from the interlock providers.<sup>3</sup>

The study further attempts to identify any gaps in data or any data that should be included/collected to establish a more robust framework for further evaluations. Data issues with the interlock programme have been reported recently ([Waters, 2019a](#); [Waters, 2019b](#)) one of which is the affordability of the device, and associated low take-up rates, a concern that has also been reported in other recent research ([Romosz, 2021](#)).

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<sup>2</sup> The bulk of these offences are for Refusing Officer's Request For Blood Specimen.

<sup>3</sup> Two companies provide interlocks in New Zealand – Draeger and Smartstart.

## Methodology

The aim of this research is to assess the effect of receiving an Alcohol Interlock Order (AIO) sentence on drink driving reoffending rates. Other offences were also included for completeness. A matched case-comparison method was used to compare the drink driving reoffending rates for those who received an AIO sentence, in comparison to those who were eligible for, but did not receive, an AIO. The comparison group has instead received a detention, community work or something else.<sup>4</sup> The study period was from 1 January 2013 to 31 December 2017.

The matched comparison group has been created to be similar to those receiving an alcohol interlock sentence in terms of their demographics, current and prior offending characteristics. Matching was carried using propensity score matching, which is described in section 5.3 below, at a ratio of on average 4:1.

The study covers the time period when the AIO sentence was an option at Court but not mandatory. It is worth noting at this point that while those in the AIO sentence group received an AIO sentence, it is not known whether they had an interlock fitted. The number of offenders with actual devices fitted is unknown.

### 5.1 AIO and Matched Comparison Group Inclusion Criteria

Eligible offenders are either those with two offences within five years (based on offence dates) or one offence of EBA (excess breath alcohol) of 800 or more micrograms per litre of breath.

Criteria for inclusion in the analysis for both the AIO and matched control groups were as follows:

- (1) had a finalised case with an Alcohol or Other Drug-eligible conviction from 2013 to 2017 AND
- (2) the offender was aged 20 or above AND
- (3) includes only those receiving a home detention sentence through to fine.

Courts data is extracted from Tier 1 datasets as at June 2019.

### 5.2 Defining Reoffending

For the purposes of this analysis, if a person faced multiple charges in court, all of the charges for that person, on that particular charge outcome date, are counted as a single case. The charge outcome date is the date on which charges are finalised in court. In this study it is the date on which the drink driving charge resulted in a conviction. The offence associated with each case is the most serious offence for that case. The offence associated with each individual is the most serious offence for that individual in the year.

Future proved outcomes (i.e. reoffences) are based on the time when the next offence occurred, and are only counted if they were finalised up to:

- 1 year and 183 days<sup>5</sup> after the charge outcome date for the first prosecution for 12 month reoffending rates,

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<sup>4</sup> The most serious sentence AIO and matched offenders is provided in the Appendix.

<sup>5</sup> There needs to be some allowance for crimes to be detected and finalised in court (proven) after the follow-up duration of interest. In this analysis, a 183 day (6 month) period following the end of each reoffending period has been chosen to allow for cases to be finalised. For example; for the 12 month reoffending measure for all AIO and matched offenders, reoffending is only counted if: the new offence occurred within 12 months of the charge outcome date for the first prosecution AND

- 2 years and 183 days after the charge outcome date for the first prosecution for 2 year reoffending rates
- 3 years and 183 days after the charge outcome date for the first prosecution for 3 year reoffending rates
- 4 years and 183 days after the charge outcome date for the first prosecution for 4 year reoffending rates

Offending history only relates to imprisonable offences, and includes all offences going back a maximum of 33 years.

### 5.3 Propensity Score Matching

A propensity score matching method has been used to compare reoffending percentages for those who received an AIO sentence with a matched control group of offenders who were eligible for the AIO sentence but did not receive the sentence. In the absence of a randomized control trial, the matching process is essential to ensure that those who received an AIO sentence and matched offenders were as similar as possible across multiple characteristics.

Those who received an AIO sentence were matched with eligible offenders who did not receive the sentence by year of charge outcome date, and the predicted probability of receiving an AIO interlock sentence. Predicted probabilities for propensity score matching were calculated from a logistic regression model of factors most related to offenders receiving an AIO sentence. All of these factors chosen are known to be related to reoffending and are based upon those used by the United Kingdom Ministry of Justice, with modification for reoffending for drink driving.<sup>6</sup> These factors included a wide range of demographic (e.g. age, gender, ethnicity, region), prior offending (e.g. number of previous drink driving convictions), and current offending (e.g. number of convicted charges in the case) variables.

A matched comparison group has been created based on the same predicted probabilities of receiving an AIO to:

- the nearest 3 decimal places (0.001) if the probability of receiving an AIO is  $\leq 0.05$ ;
- the nearest .005 if the probability of receiving an AIO is  $< 0.2$ ;
- the nearest 2 decimal places (0.01) if the probability of receiving an AIO is  $\geq 0.2$ ;
- and,
- the same year of charge outcome date with up to 5 matches per offender who received an AIO sentence.

This also excludes all offenders where the probability of receiving an AIO is  $\leq 0.01$  OR  $\geq 0.45$ , to exclude AIO offenders who were outliers.

---

the new offence was proven to have been committed in court within 18 months of the charge outcome date for the first prosecution for the 2 year reoffending measure for all AIO and matched offenders, reoffending is only counted if:  
the new offence occurred within 2 years of the charge outcome date for the first prosecution AND  
the new offence was proven to have been committed in court within 2 years and 6 months of the charge outcome date for the first prosecution.

<sup>6</sup> United Kingdom Ministry of Justice (2008). Reoffending of adults: new measures of reoffending 2000-2005.

## 5.4 Expected Percentages and Risk-Adjusted Percentages

The data tables contain actual and expected (predicted) percentages<sup>7</sup> of both AIO and matched comparison offenders. They also show the risk-adjusted percentages of these two groups' reoffending.

Expected (predicted) numbers are the numbers of offenders who are predicted to reoffend. They are based on probabilities calculated using a logistic regression analysis using reoffending data on all offenders who would have been eligible for an AIO sentence from 2013 to 2017 (i.e. the total sample). This analysis involves key predictor variables (age, gender, type of offence, concurrent offences, previous offending history, etc.).

Risk-adjusted percentages were then calculated separately for the AIO group and the matched comparison group. Risk-adjusted percentages use ratios of actual numbers of individuals with proved outcomes (i.e. charges proved in court to have been committed) with predicted numbers. These have been calculated to help account for differences in predicted reoffending rates between the two groups which were not accounted for by propensity score matching.<sup>8</sup> This ensures an accurate comparison of reoffending percentages between the AIO and matched comparison groups.

For the AIO group, the risk-adjusted reoffending percentage is the same as the actual percentage. The reoffending percentages for matched offenders have been risk-adjusted to account for differences in the expected reoffending percentages (risk of reoffending) between those receiving AIO sentences and matched offenders. Specifically, the risk-adjusted reoffending percentage for this group equals the actual percentage for the matched group multiplied by the predicted percentage for the AIO group divided by the predicted percentage for the matched group.<sup>9</sup>

AIO group

Risk Adjusted Percentage = Actual %

Matched comparison group

Risk Adjusted Percentage =  $\frac{\text{Actual \%} \times \text{AIO Predicted \%}}{\text{Matched comp. Predicted \%}}$

The above process was repeated for each of the following outcomes:

- (1) Proved outcomes for a drink driving (DD) offence over the following 1 to 4 years
- (2) Proved outcomes for a disqualified driving offence over the following 1 to 4 years
- (3) Proved outcomes for an 'other' (non-drink/disqualified driving) offence over the following 1 to 4 years

---

<sup>7</sup> Predicted reoffending percentages have been calculated using predicted probabilities of reoffending. These were calculated from logistic regression models of demographic, current and prior offending factors known to influence the likelihood of reoffending for each AIO and matched offender. Logistic regression models were calculated separately for each of drink driving, disqualified driving and other reoffending.

<sup>8</sup> For example, in Table 2 (reoffending for drink driving), the expected reoffending percentage for the alcohol interlock group is 3.1%, lower than the expected percentage for the matched comparison group (3.2%). This means the alcohol interlock offenders were predicted to reoffend for a drink driving offence at a slightly lower rate than matched offenders.

<sup>9</sup> In other words, using the figures from Table 2 above, the rate for the matched offenders' group is being adjusted to account for the alcohol interlock group having a lower expected reoffending rate.

## 5.5 Full Dataset

For AOI-eligible offenders from January 1, 2013 to December 31 2017, Table 15 (Appendix) shows percentages of AIO recipients and non-recipients compiled across multiple variables:

- (1) Year
- (2) Ethnic group
- (3) Gender
- (4) Age group
- (5) Court cluster
- (6) Whether first offence or not
- (7) Number of previous prosecutions
- (8) Number of previous custodial sentences
- (9) Number of previous community sentences
- (10) Number of charges
- (11) Number of previous drink driving charges
- (12) Case outcome
- (13) Blood/breath alcohol level

While this study is a comparison between the AIO and the matched comparison group, the data also includes information on all other interlock eligible offenders<sup>10</sup> (n= 24,517) as well as those AIO offenders who were not able to be matched ([Table 1](#) below). Non-matches met all of the criteria described above, but were outliers in propensity score (as described above in section 3.5). The [Appendix](#) contains demographic and offending data for these four groups:

- Alcohol Interlock offenders (those sentenced to the Alcohol Interlock Order) included in the analysis
- Matched Comparison
- Other eligible offenders (those eligible for the interlock sentence but did not receive the sentence)
- AIO non-matches (AIO offenders who could not be matched to a control)

Table 1: Groups contained in study Appendix by numbers

Offender group				
Alcohol Interlock offenders	Matched Comparison	Other eligible offenders	xAIO non-matches	Total
1,271	5,099	24,517	150	31,037

All the data provided by the MoJ has been peer reviewed at the Ministry of Justice.

<sup>10</sup> This data provides the most up to date demographic and offending information and may be a valuable source of information for further study and has therefore been included in this study.

## Results

The AIO group and the matched comparison group were compared over three reoffending categories:

- **Drink Driving**
- **Disqualified Driving**
- **All other offending**

High-level results are summarized in the graphs below for the three offending categories, with more details presented in subsequent sections. Significant differences between AIO and Matched comparison offenders is indicated as follows:

\*\*\* significant at p=0.01

\*\* significant at p=0.05

\* significant at p=0.1

Figure 1: Risk-adjusted percentage of reoffending for drink driving offences, after 1 to 4 years, by offender group.

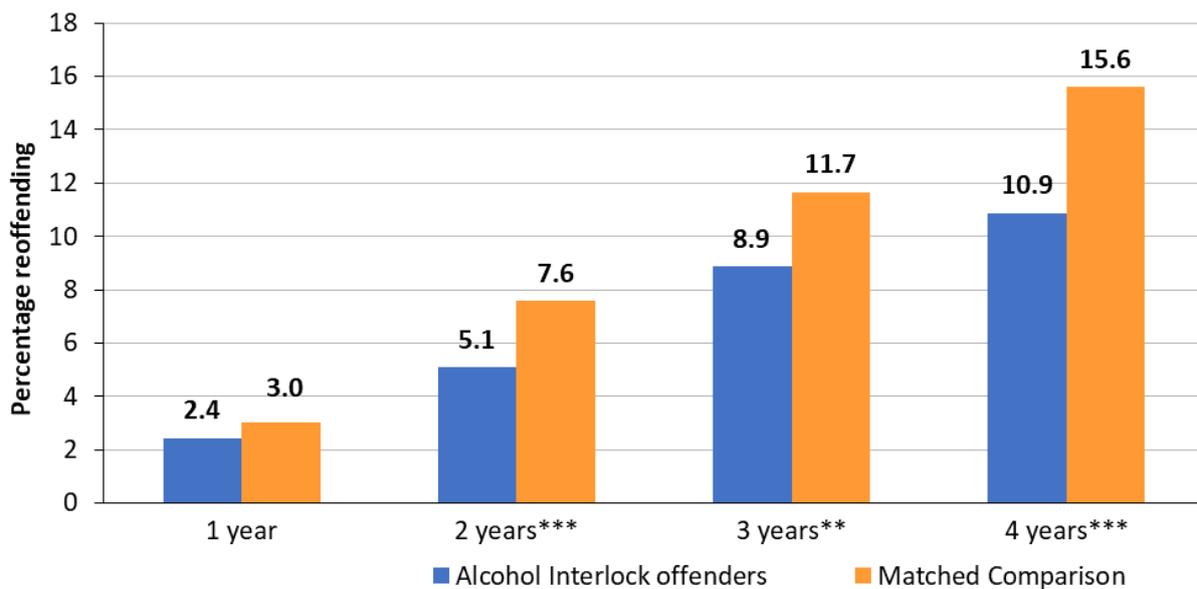


Figure 2: Risk-adjusted percentage of reoffending for disqualified driving offences, after 1 to 4 years, by offender group

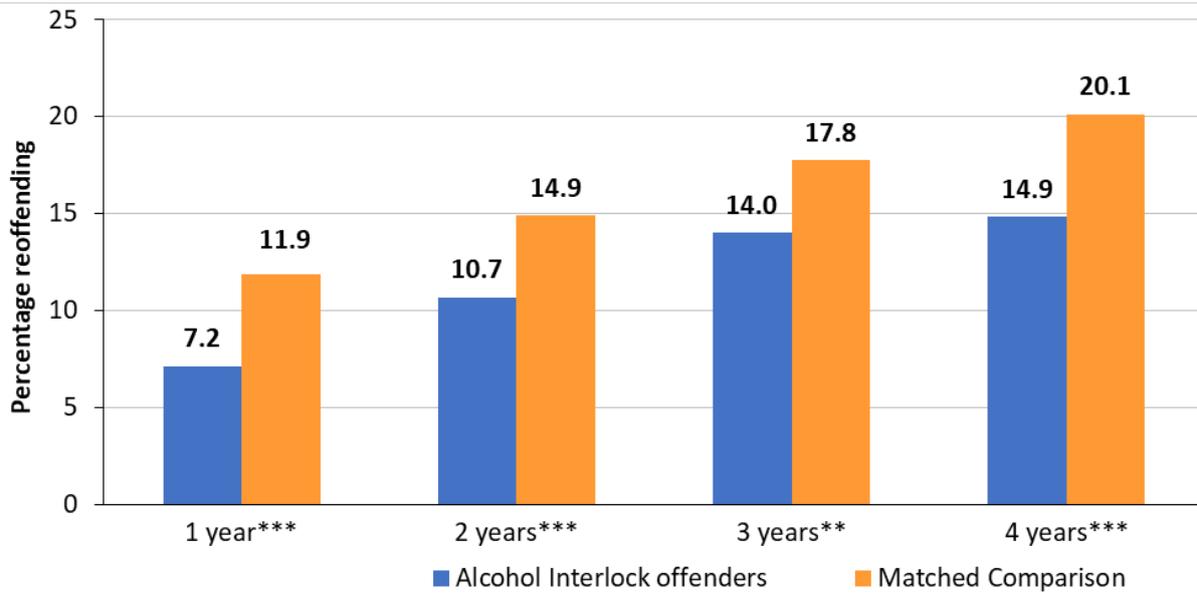
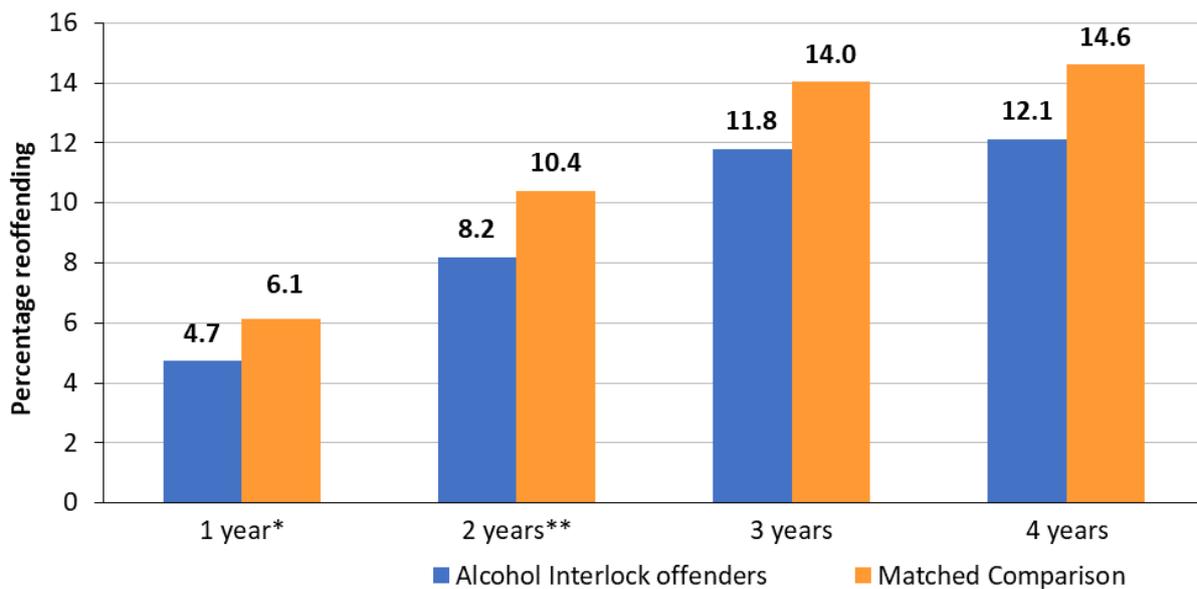


Figure 3: Risk-adjusted percentage of reoffending for other (non-drink/disqualified driving) offences, after 1 to 4 years, by offender group



## 6.1 Drink Driving Reoffending Results

There was no significant difference in the risk-adjusted reoffending rates for drink driving between AIO (2.4%) and matched group (3%) within one year. (Table 2 below). This could potentially be explained if those not receiving an AIO received a ban from driving for six months or more, but this is unknown, and would take further research to confirm. The AIO group reoffended less than the expected percentage (3.1%) of predicted reoffending rates. The matched group reoffending percentage confirmed the predicted percentage exactly (3.2%). The actual percentages before risk adjustment were 2.4% for the AIO group and 3.2% for the matched group. Using the actual percentages results in 24% lower relative rate

of reoffending, for the AIO group, for drink driving offences than the matched group within one year.

*Table 2: Actual and expected percentage of AIO-eligible offenders reoffending for drink driving offences, and risk-adjusted percentages, after 1 year, by offender group*

Offender group	Percent reoffending		
	Actual percentage	Expected percentage	Risk-adjusted percentage
Alcohol Interlock offenders	2.4	3.1	2.4
Matched Comparison	3.2	3.2	3.0
<b>% Difference (Alcohol interlock vs Matched Comparison)</b>	<b>24</b>	<b>5</b>	<b>-20</b>

After risk adjustment, the AIO group had a 33% lower relative rate of reoffending for drink driving offences than the matched group within two years (5.1% versus 7.6%) ([Table 3](#) below). Chi square significance testing showed this result to be significant at the p=0.01 level of significance (p-value 0.0053). Both the AIO group (5.1%) and the matched group (7.6%) reoffended less than the expected percentage of the predicted reoffending rates. The expected percentages were 8% for the AIO group and 8.2% for the matched group. The actual percentages before risk adjustment were 5.1% for the AIO group and 7.8% for the matched group. Using the actual percentages results in 35% lower relative rate of reoffending, for the AIO group, for drink driving offences than the matched group within two years.

*Table 3: Actual and expected percentage of AIO-eligible offenders reoffending for drink driving offences, and risk-adjusted percentages, after 2 years, by offender group*

Offender group	Percent reoffending		
	Actual percentage	Expected percentage	Risk-adjusted percentage
Alcohol Interlock offenders	5.1	8.0	5.1
Matched Comparison	7.8	8.2	7.6
<b>% Difference (Alcohol interlock vs Matched Comparison)</b>	<b>35</b>	<b>-3</b>	<b>-33</b>

After risk adjustment, the AIO offenders had a 24% lower relative rate of reoffending for drink driving offences than the matched group within three years (8.9% versus 11.7%) ([Table 4](#) below). Chi square significance testing showed this result to be significant at the p=0.05 level of significance (p-value 0.0302). Both the AIO group (8.9%) and the matched group (11.7%) reoffended less than the expected percentage of predicted reoffending rates, these were 12% for the AIO group and 12.3% for the matched group. The actual percentages before risk adjustment were 8.9% for the AIO group and 12% for the matched group. Using the actual percentages results in 24% lower relative rate of reoffending, for the AIO group, for drink driving offences than the matched group within three years.

*Table 4: Actual and expected percentage of AIO-eligible offenders reoffending for drink driving offences, and risk-adjusted percentages, after 3 years, by offender group*

Offender group	Percent reoffending		
	Actual percentage	Expected percentage	Risk-adjusted percentage
Alcohol Interlock offenders	8.9	12.0	8.9
Matched Comparison	12.0	12.3	11.7
<b>% Difference (Alcohol interlock vs Matched Comparison)</b>	<b>26</b>	<b>-5</b>	<b>-24</b>

After risk adjustment, the AIO offenders had a 30% lower relative rate of reoffending for drink driving offences than the matched group within four years (10.9% versus 15.6%) ([Table 5](#) below). Chi square significance testing showed this result to be significant at the  $p=0.01$  level of significance ( $p$ -value 0.0084). The AIO group reoffended less than the expected percentage of predicted reoffending rates. The matched group was above the predicted percentage. The expected percentages were 15% for the AIO group and 16% for the matched group. The actual percentages before risk adjustment were 10.9% for the AIO group and 16.6% for the matched group. Using the actual percentages results in 34% lower relative rate of reoffending, for the AIO group, for drink driving offences than the matched group within four years.

*Table 5 : Actual and expected percentage of AIO-eligible offenders reoffending for drink driving offences, and risk-adjusted percentages, after 4 years, by offender group*

Offender group	Percent reoffending		
	Actual percentage	Expected percentage	Risk-adjusted percentage
Alcohol Interlock offenders	10.9	15.0	10.9
Matched Comparison	16.6	16.0	15.6
<b>% Difference (Alcohol interlock vs Matched Comparison)</b>	<b>-34</b>	<b>-6</b>	<b>-30</b>

## 6.2 Disqualified Driving Reoffending Results

Within the first year, after risk adjustment, the AIO offenders had a 40% lower relative rate of reoffending for disqualified driving offences than the matched group (7.2% versus 11.9%) ([Table 6](#) below). Chi square significance testing showed this result to be significant at the  $p=0.001$  level of significance ( $p$ -value 0.0000). The AIO group reoffended less than the expected percentage of predicted reoffending rates. The matched group reoffending percentage was above the predicted percentage. The expected percentages were 11.2% for the AIO group and 11.7% for the matched group. The actual percentages before risk adjustment were 7.2% for the AIO group and 12.4% for the matched group. Using the actual percentages results in 42% lower relative rate of reoffending, for the AIO group, for disqualified driving offences than the matched group within the first year.

*Table 6: Actual and expected percentage of AIO-eligible offenders reoffending for disqualified driving offences, and risk-adjusted percentages, after 1 year, by offender group*

Offender group	Percent reoffending		
	Actual percentage	Expected percentage	Risk-adjusted percentage
Alcohol Interlock offenders	7.2	11.2	7.2
Matched Comparison	12.4	11.7	11.9
<b>% Difference (Alcohol interlock vs Matched Comparison)</b>	<b>-42</b>	<b>-4</b>	<b>-40</b>

After risk adjustment, the AIO offenders had a 28% lower relative rate of reoffending for disqualified driving offences than the matched group within two years (10.7% versus 14.9%)

(Table 7 below). Chi square significance testing showed this result to be significant at the  $p=0.001$  level of significance. (p-value 0.0007) The AIO group reoffended less than the expected percentage of predicted reoffending rates. The matched group reoffending percentage was above the predicted percentage. The expected percentages were 14.4% for the AIO group and 15.3% for the matched group, The actual percentages before risk adjustment were 10.7% for the AIO group and 15.8% for the matched group. Using the actual percentages results in 32% lower relative rate of reoffending, for the AIO group, for disqualified driving offences than the matched group within two years.

*Table 7: Actual and expected percentage of AIO-eligible offenders reoffending for disqualified driving offences, and risk-adjusted percentages, after 2 years, by offender group*

Offender group	Percent reoffending		
	Actual percentage	Expected percentage	Risk-adjusted percentage
Alcohol Interlock offenders	10.7	14.4	10.7
Matched Comparison	15.8	15.3	14.9
<b>% Difference (Alcohol interlock vs Matched Comparison)</b>	<b>-32</b>	<b>-6</b>	<b>-28</b>

After risk adjustment, the AIO offenders had a 21% lower relative rate of reoffending for disqualified driving offences than the matched group within three years (14% versus 17.8%) (Table 8 below). Chi square significance testing showed this result to be significant at the  $p=0.01$  level of significance. (p-value 0.0165). The AIO group reoffended less than the expected percentage of predicted reoffending rates. The matched group reoffending percentage was above the predicted percentage. The expected percentages were 16.9% for the AIO group and 18.1% for the matched group. The actual percentages before risk adjustment were 14% for the AIO group and 19% for the matched group. Using the actual percentages results in 26% lower relative rate of reoffending, for the AIO group, for disqualified driving offences than the matched group within three years.

*Table 8: Actual and expected percentage of AIO-eligible offenders reoffending for disqualified driving offences, and risk-adjusted percentages, after 3 years, by offender group*

Offender group	Percent reoffending		
	Actual percentage	Expected percentage	Risk-adjusted percentage
Alcohol Interlock offenders	14.0	16.9	14.0
Matched Comparison	19.0	18.1	17.8
<b>% Difference (Alcohol interlock vs Matched Comparison)</b>	<b>-26</b>	<b>-6</b>	<b>-21</b>

After risk adjustment, the AIO offenders had a 26% lower relative rate of reoffending for disqualified driving offences than the matched group within four years (14.9% versus 20.1%) (Table 9 below). Chi square significance testing showed this result to be significant at the  $p=0.05$  level of significance. (p-value 0.0091). The AIO group reoffended less than the expected percentage of predicted reoffending rates. The matched group reoffending percentage was above the predicted percentage. The expected percentages were 18.8% for the AIO group and 20.9% for the matched group. The actual percentages before risk adjustment were 14.9% for the AIO group and 22.4% for the matched group. Using the actual percentages results in 34% lower relative rate of reoffending, for the AIO group, for disqualified driving offences than the matched group within four years.

Table 9 : Actual and expected percentage of AIO-eligible offenders reoffending for disqualified driving offences, and risk-adjusted percentages, after 4 years, by offender group

Offender group	Percent reoffending		
	Actual percentage	Expected percentage	Risk-adjusted percentage
Alcohol Interlock offenders	14.9	18.8	14.9
Matched Comparison	22.4	20.9	20.1
<b>% Difference (Alcohol interlock vs Matched Comparison)</b>	<b>-34</b>	<b>-10</b>	<b>-26</b>

### 6.3 Reoffending for Other (non-drink/disqualified driving) Offences<sup>11</sup>

#### Results

Within the first year, after risk adjustment, the AIO offenders had a 23% lower relative rate of reoffending for other offences than the matched group (4.7% versus 6.1%) (Table 10 below). Chi square significance testing showed this result to be significant at the p=0.1 level of significance. (p-value 0.0531) The AIO group reoffended less than the expected percentage of predicted reoffending rates. The matched group reoffending percentage was above the predicted percentage. The expected percentages were 5.7% for the AIO group and 6.1% for the matched group. The percentages before risk adjustment were 5.7% for the AIO group and 6.1% for the matched group. The actual percentages before risk adjustment were 4.7% for the AIO group and 6.6% for the matched group. Using the actual percentages results in 28% lower relative rate of reoffending, for the AIO group, for Other (non-drink/disqualified driving) Offences than the matched group within the first year.

Table 10: Actual and expected percentage of AIO-eligible offenders reoffending for other (non-drink/disqualified driving) offences, and risk-adjusted percentages, after 1 year, by offender group

Offender group	Percent reoffending		
	Actual percentage	Expected percentage	Risk-adjusted percentage
Alcohol Interlock offenders	4.7	5.7	4.7
Matched Comparison	6.6	6.1	6.1
<b>% Difference (Alcohol interlock vs Matched Comparison)</b>	<b>-28</b>	<b>-7</b>	<b>-23</b>

After risk adjustment, the AIO offenders had a 21% lower relative rate of reoffending for other offences than the matched group within two years (8.2% versus 10.4%) (Table 11 below). Chi square significance testing showed this result to be significant at the p=0.05 level of significance (p-value 0.0347). Both the AIO group and the matched group reoffended less than the expected percentage predicted by reoffending rates. The expected percentages were 11% for the AIO group and 11.5% for the matched group. The actual percentages before risk adjustment were 8.2% for the AIO group and 11% for the matched group for Other (non-drink/disqualified driving). Offences than the matched group within two years. Using the actual percentages results in 25% lower relative rate of reoffending, for the AIO group, for Other (non-drink/disqualified driving) Offences than the matched group within two years.

<sup>11 11</sup> In this analysis, breaches are not counted as reoffending. Breaches are defined as all offences under Australian and New Zealand Standard Offence Classification (ANZSOC) subdivisions 151 and 152. For AIO and matched offenders, breaches were principally for breaches of community work and other community sentences.

Table 11: Actual and expected percentage of AIO-eligible offenders reoffending for other (non-drink/disqualified driving) offences, and risk-adjusted percentages, after 2 years, by offender group

Offender group	Percent reoffending		
	Actual percentage	Expected percentage	Risk-adjusted percentage
Alcohol Interlock offenders	8.2	11.0	8.2
Matched Comparison	11.0	11.5	10.4
<b>% Difference (Alcohol interlock vs Matched Comparison)</b>	<b>-25</b>	<b>-5</b>	<b>-21</b>

After risk adjustment, there was no significant difference in reoffending rates for other offences between AIO and matched offenders within three years. (Table 12 below). Both the AIO group (11.8%) and the matched group (14%) reoffended less than the expected percentage of predicted reoffending rates. Predicted percentages were 14.4% for the AIO group and 15% for the matched group. The actual percentages before risk adjustment were 11.8% for the AIO group and 14.6% for the matched group for Other (non-drink/disqualified driving) Offences than the matched group within three years. Using the actual percentages results in 19% lower relative rate of reoffending, for the AIO group, for Other (non-drink/disqualified driving) Offences than the matched group within the three years.

Table 12: Actual and expected percentage of AIO-eligible offenders reoffending for other (non-drink/disqualified driving) offences, and risk-adjusted percentages, after 3 years, by offender group

Offender group	Percent reoffending		
	Actual percentage	Expected percentage	Risk-adjusted percentage
Alcohol Interlock offenders	11.8	14.4	11.8
Matched Comparison	14.6	15.0	14.0
<b>% Difference (Alcohol interlock vs Matched Comparison)</b>	<b>-19</b>	<b>-4</b>	<b>-16</b>

After risk adjustment, there was no significant difference in reoffending rates for other offences between AIO and matched offenders within four years. (Table 13 below). Both the risk adjusted AIO group (12.1%) and the similar matched group (14.6%) reoffended (risk adjusted) less than the expected percentage of predicted reoffending rates. Predicted percentages were 15.5% for the AIO group and 17.2% for the matched group. The actual percentages before risk adjustment were 12.1% for the AIO group and 16.2% for the matched group for Other (non-drink/disqualified driving) Offences than the matched group within four years. Using the actual percentages results in 25% lower relative rate of reoffending for the AIO group, for 'Other' (non-drink/disqualified driving) Offences than the matched group within four years.

Table 13 : Actual and of AIO-eligible offenders reoffending for other (non-drink/disqualified driving) offences, and risk-adjusted percentages, after 4 years, by offender group

Offender group	Percent reoffending		
	Actual percentage	Expected percentage	Risk-adjusted percentage
Alcohol Interlock offenders	12.1	15.5	12.1
Matched Comparison	16.2	17.2	14.6
<b>% Difference (Alcohol interlock vs Matched Comparison)</b>	<b>-25</b>	<b>-10</b>	<b>-17</b>

## Data Limitations

Despite the clear value that data matching presents in improving estimations on the impact of Alcohol Interlock Orders on reoffending, this type of analysis has limitations. The data from the MoJ had no unique identifier and could therefore not be cross-referenced with the information that the interlock providers may hold. There is no set timeframe required within which to install an interlock.<sup>12</sup>

The data in this study refers to the Alcohol Interlock Orders rather than devices themselves; there is no information contained regarding whether or not the sentence resulted in the actual installation of the device. It has been reported that within the period of September 2012 - March 2014, 198 offenders had been issued with an Alcohol Interlock Licence (AIL). (Waters, 2013). Information provided by Waka Kotahi (Table 14 below) shows that from 2013 to 2017 there were 1080 AILs granted and while these combined numbers are close to the AIO numbers in Table 1 this indicator does not equate to interlock installation.

Table 14 Total number of Alcohol Interlock Licences granted between 1 January 2013-31 July 2020<sup>13</sup>

Year granted	Total
2013	138
2014	200
2015	212
2016	287
2017	243
2018	899
2019	2,518
2020 <sup>14</sup>	1,385
<b>Grand Total</b>	<b>5,882</b>

<sup>12</sup> Those not complying with the AIO or the AIL requirements would be disqualified from driving.

<sup>13</sup> It is important to note:

— The information was extracted from the Driver Licence Register (DLR) and is current as at 25 August 2020. — The data is limited to applications for an Alcohol Interlock Device (AID) licence granted or partially granted between 1 January 2013-31 July 2020 (inclusive).

— The data is limited to alcohol interlock licences granted or partially granted as part of a reinstatement or reinstatement with requalification application.

<sup>14</sup> 1 January 2020-31 July 2020 only.

Interlock installation data can only be retrieved from the interlock providers. One provider reported that between 01/01/2013 and 31/12/2017 their service network had performed 226 installations for new participants (reinstallations are not included in these figures). The other provider suggested having done around 250 installations per year. These equate to approximately 1200 installations, which while not definitive, are similar to the AIO numbers in table 1 (n=1421).<sup>15</sup> An offender does not have a set timeframe in which they must have an interlock fitted to any vehicle they drive. To leave the programme there are exit criteria that must be fulfilled and until meeting the exit criteria the interlock stays on the vehicle. One of the interlock providers reports, quote, that:

*'One thing is sure, the average sentence length is more than 12 months. Again unsure of the exact figures, but I'd estimate we see around 30% of clients have their sentence extended due to alcohol or missing a test. This can be anywhere from one month added to the sentence, to six months added to the sentence. Other clients have their sentence extended multiple times'*<sup>16</sup>

One of the interlock providers also reported that:

*'The devices were fitted for an average time of 11 months (lowest fitted time: 1 month, longest fitted time: 36 months).'*<sup>17</sup>

A more in-depth review of the disqualified driving offences for the AIO sentence group and the matched comparison group in year one ([Table 6](#) page 14) shows that the percentages of new offences which are Drove While Disqualified third or Subsequent (two year maximum penalty) are very similar for AIO and matched comparison offenders but over half of new offences for AIO offenders were Drove while disqualified compared with only 19% for Drove Contrary To An Alcohol Interlock Licence. ([Table 15](#) below). These two offences have the same maximum penalty (3 months).

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<sup>15</sup> The total figure for AIO matched and unmatched.

<sup>16</sup> Correspondence with Author (2020).

<sup>17</sup> Ibid.

Table 15 Number of new proved disqualified driving offences within 12 months by offence for AIO-eligible and matched comparison offenders from 2013 to 2017 (18)

Offence	Number		Percent of Total	
	Alcohol Interlock offenders	Matched Comparison	Alcohol Interlock offenders	Matched Comparison
Drive While License Suspended Or Revoked	2	4	2	1
Driving Contrary To Terms Of Limited Licence		9		1
Driving While Disqualified	54	505	52	70
Drove Contrary To A Zero Alcohol License		1		0
Drove Contrary To An Alcohol Interlock License	20		19	
Drove While Disqualified 3Rd Or Subsequent	26	200	25	28
Drove While Suspended/Revoked 3Rd Or Subsequent	2	6	2	1
<b>Total</b>	<b>104</b>	<b>725</b>	<b>100</b>	<b>100</b>
<b>Rate per 100 offenders</b>	<b>8.2</b>	<b>14.2</b>		

There appears to be no data gathered by Waka Kotahi or any Government agency on interlock installations.<sup>19</sup>

The comparison data variables do not include any employment or income data.<sup>20</sup>

Police detections can only ever be used as a proxy for actual offending data but the Police report around twenty five thousand detections a year ([Table 16](#) below). This is a 5% increase in detected offending from 2013 – 2017.

Table 16 Numbers of Police Detections for Drink Driving by Year

2013	24,540
2014	20,969
2015	26,138
2016	25,479
2017	25,544

The Police also provide information ([Table 17](#) below) on reductions in passive/screening breath tests from 2013 to 2017 (44%). These reductions have previously been reported (Waters 2017).

Table 17 Police Passive/Screening Breath Tests by Download Year

2013	2014	2015	2016	2017
3073722	2725304	2264578	1944866	1713913

<sup>18</sup> These numbers vary from the table on page 14 as they refer to offences and not offenders.

<sup>19</sup> See [Discussion](#).

<sup>20</sup> [ibid](#)

## Discussion

The results show not only significant reductions in reoffending for drink driving, but also in reoffending for disqualified driving for those who received an AIO (when compared to the matched control group who were eligible for an AIO but did not receive one). The ability to receive a licence to drive within a short timeframe (28 days) for the AIO group appears to result in significant reductions for unlicensed driving when compared to the matched control group. Across all the years of reoffending for drink driving and unlicensed driving the reductions are significant for the AIO group excluding year one ([Table 2](#) page 12). This may be explained by the suggestion that for those not receiving an AIO they would have received a ban from driving for six months or more. This would however take further research to confirm. The year one drink driving reoffending results might suggest that those receiving a different sentence were complying with any licence restrictions they received. However the disqualified driving data shows significant reductions in all years versus the control group, Reports show that unlicensed drivers are twice as likely to be involved in a serious injury crash than licenced drivers ([Federal](#) Office of Road Safety; FORS, 1997; [Watson](#), 1997). The evidence suggests that the unlicensed recidivist offender is over represented in serious alcohol related crashes and more likely to have a serious drink driving problem ([Sheehan](#) et al., 2005).

There are reductions in all 'Other' types of offending by the AIO group. The AIO group had significant lower re-offending in years one and two, but there were no differences in years three and four.

While the results of this study provide compelling evidence towards the effectiveness of the AIO in reducing both reoffending for drink driving and for unlicensed driving reoffending, as reported previously ([Waters](#), 2019a ), there is no follow up on whether the device is fitted or not after the imposition of the AIO sentence. The AILs 'granted' data provided can only supply information on licences granted and not interlock installation. The data provided by the interlock companies does provide evidence that the interlocks are being installed and although it does somewhat correlate to the sentence and AIL numbers this is ad hoc and provides no definitive connections to the AIO group.

Additionally, no definite link between the sentence and interlock installation can be ascertained for this study. The results show that those who receive the sentence have significant reductions in reoffending. It would be of benefit to find and identify a means of linking the installation data, held only by the interlock companies, back to the MoJ data or Waka Kotahi 'AILs granted' data to provide evidence of reoffending for those who have actually had the device fitted, if possible.

Reasons why some offenders received the sentence while others did not may include a multitude of factors including affordability (no information was available on employment or income) or even perhaps to replace another sentence including a home detention or jail term. It may also be the case that the drink driving offence was a lesser offence in an array of charges. Data to confirm any reason why the interlock group received the sentence and not others who were eligible has not been ascertained or sought after for this study, due to the complexity involved in retrieval of sentencing notes for each individual case from the judiciary<sup>21</sup>.

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<sup>21</sup> The data used in this study has no unique identifiers attached to any individual.

Again, this study was not able to ascertain the effectiveness of the AIO after interlock removal due to lack of installation duration data that could be linked to the AIO group. As a temporary form of incapacitation imposed for a fixed period of time, interlock programmes are able to reduce recidivism dramatically while the interlock is in place. However there is evidence to suggest that it is unrealistic to expect the device to have ongoing effects after removal in the absence of additional programme features. Unless interlocks are combined with interventions that address the underlying issues that contribute to recidivism—such as alcohol abuse and the lack of perceived alternatives to driving after drinking—it is likely that many offenders will continue to drive after drinking once the device is removed. Continued drinking and driving after interlock removal is supported by recent research ([Nieuwkamp et al., 2017](#)).

As reported by [Waters](#) (2012), this type of intensive supervision and monitoring is a key element of ignition interlock programmes and may play an important role in reducing recidivism rates among programme participants, both by helping to ensure compliance with programme requirements and by effectively communicating to offenders the need to change their behaviour.

A key element involved in extending the effect of interlock programmes is to combine their use with participation in an alcohol rehabilitation program. This would allow treatment providers to take advantage of the recorded interlock data which contains valuable information about alcohol use to inform on treatment planning. One test of this approach found that the interlock provides useful information for treatment providers in promoting the recovery of drink drive offenders ([Voas et al., 1999](#)). As reported by the interlock providers there are those who are on the programme for up to three years. Given that the interlock data can be used to identify attempted drink driving it may be of merit to offer those whose data indicate repeated attempts to drink and drive further assistance.,

There appears to be no data gathered by Waka Kotahi or any Government Agency on interlock installations and it may be of merit to investigate data gathering of installations against alcohol interlock licences issued, as well as interlock installation duration data and removal data (whether by exit criteria or other means). An evaluation framework should be constructed to investigate the linking of all data available. This would enable a more exact evaluation to be carried out on those with the interlock fitted as opposed to those who have received the sentence but did not install the interlock. The data in [Table 10](#) shows that around 8% of the AIO group were driving in contravention of their AIL - this could mean that they did not have the interlock installed on their vehicle or were driving a non-interlocked installed vehicle - the data does not indicate which. However the significant reductions in reoffending of the AIO alone indicate that the use of the sentence is powerful and could be more robustly utilised not only for the eligible cohort currently able to receive the sentence but to further include all drink drive offenders.

Another limitation of this study is that it does not include any employment or income data. Research has established that the costs involved can be a factor in whether or not an eligible offender receives, or complies with, such a sentence. It has been reported ([Waters, 2019a](#)) that since August 2018, on average, 30% of the total AIL applications were subsidised<sup>22</sup>. There are also other exclusion criteria that may disallow the user of the AIO. As reported by [Waters](#) (2019b) only 50% of those eligible for the, now mandatory, sentence received the AIO. The Court cluster data suggests that the sentence is more widely used in the Auckland and Canterbury districts (see [Appendix](#)). A review of the use of exemptions at

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<sup>22</sup> Subsidy is available for NZ community service card holders

Court would also be desirable if such data is available. A scoping study to ascertain the availability of records from the Courts should be undertaken.

## Recommendations and Next Steps

- The use of the interlock sentence for all detected drink driving offending
- A study to assess why the interlock sentence is not being fully utilised at Court
- A scoping study to ascertain what types of data can be utilised and from what agencies for:
  - The construction of an inter-agency evaluation framework
  - A longitudinal evaluation study

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# Appendix

Table 18: Study Participants by Multivariate Percentages

Year	Percent of Total			
	Alcohol Interlock offenders	Matched Comparison	Other eligible offenders	xAIO non-matches
2013	20	21	31	12
2014	18	18	24	11
2015	19	19	17	8
2016	22	21	14	39
2017	21	20	13	29
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Ethnic group	Percent of Total			
	Alcohol Interlock offenders	Matched Comparison	Other eligible offenders	xAIO non-matches
Maori	18	20	38	9
Pasifika	8	10	10	4
European/Other	72	68	47	85
Unknown	2	3	5	2
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Gender	Percent of Total			
	Alcohol Interlock offenders	Matched Comparison	Other eligible offenders	xAIO non-matches
Female	17	18	25	19
Male	83	82	75	81
Unknown	0	0	0	1
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Offender type	Percent of Total			
	Alcohol Interlock offenders	Matched Comparison	Other eligible offenders	xAIO non-matches
Drink driving only	45	45	46	54
Multiple offending	55	55	54	46
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Court cluster	Percent of Total			
	Alcohol Interlock offenders	Matched Comparison	Other eligible offenders	xAIO non-matches
Taitokerau	2	2	6	1
Waitemata	22	19	8	29
Auckland	22	19	8	35
South Auckland	10	12	13	5
Waikato	3	4	8	1
Bay of Plenty	5	6	8	2
Wairariki	1	1	5	1
East Coast	2	3	8	3
Taranaki/Whanganui	1	1	5	1
Manawatu/Wairarapa	3	4	4	2
Northern Wellington	1	2	6	1
Wellington	1	1	3	0
Nelson/Marlborough/West Coast	2	2	4	3
Canterbury	20	19	9	12
Otago	2	2	4	3
Southland	3	3	4	0
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Number of previous prosecutions	Percent of Total			
	Alcohol Interlock offenders	Matched Comparison	Other eligible offenders	xAIO non-matches
0	2	2	22	10
1	16	18	16	8
2	16	16	11	21
3	13	12	8	24
4	10	10	6	11
5	8	8	5	8
6	5	6	4	6
7	5	4	3	4
8	4	4	3	3
9	3	3	3	2
10 plus	17	18	18	9
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Age group	Percent of Total			
	Alcohol Interlock offenders	Matched Comparison	Other eligible offenders	xAIO non-matches
20-21	3	4	9	3
22-24	11	12	16	11
25-29	17	17	21	8
30-34	16	15	14	15
35-39	12	12	10	18
40-44	12	12	9	15
45-49	12	11	8	16
50 plus	18	17	14	15
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Number of previous custodial sentences	Percent of Total			
	Alcohol Interlock offenders	Matched Comparison	Other eligible offenders	xAIO non-matches
0	89	89	85	95
1	5	5	6	3
2	2	2	3	1
3	1	1	2	1
4	1	1	1	0
5 plus	2	2	3	1
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Number of previous drink driving charges	Percent of Total			
	Alcohol Interlock offenders	Matched Comparison	Other eligible offenders	xAIO non-matches
0	3	3	34	13
1	30	33	35	13
2	35	34	15	44
3	17	16	7	21
4	8	8	4	7
5	4	4	2	2
6	2	1	1	1
7 plus	2	2	1	0
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Number of charges	Percent of Total			
	Alcohol Interlock offenders	Matched Comparison	Other eligible offenders	xAIO non-matches
1	80	79	79	81
2	15	14	14	11
3	3	4	4	5
4	1	2	1	2
5	0	0	1	1
6	0	0	0	0
7	0	0	0	0
8	0	0	0	0
9	0	0	0	0
10 plus	0	0	0	0
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Sentence	Percent of Total			
	Alcohol Interlock offenders	Matched Comparison	Other eligible offenders	xAIO non-matches
Home Detention	6	6	6	2
Community Detention	27	24	10	42
Intensive Supervision	6	5	2	9
Community work	35	36	30	23
Supervision	8	8	6	4
Monetary	18	20	46	19
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Number of previous community sentences	Percent of Total			
	Alcohol Interlock offenders	Matched Comparison	Other eligible offenders	xAIO non-matches
0	42	42	53	48
1	23	22	14	28
2	11	11	9	18
3	7	7	6	12
4	5	5	5	10
5 plus	12	13	14	14
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Number of previous proved breaches	Percent of Total			
	Alcohol Interlock offenders	Matched Comparison	Other eligible offenders	xAIO non-matches
0	77	75	73	81
1	9	9	8	7
2	4	4	5	2
3	3	3	3	4
4	2	2	3	1
5	1	1	2	2
6	1	1	1	1
7	0	1	1	1
8	1	1	1	0
9	0	1	1	0
10 plus	2	2	3	1
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Number of previous proved other charges (exc breaches)	Percent of Total			
	Alcohol Interlock offenders	Matched Comparison	Other eligible offenders	xAIO non-matches
0	41	40	44	52
1	16	15	12	15
2	9	9	8	8
3	6	7	6	8
4	4	4	4	2
5	4	4	3	3
6	2	3	3	2
7	2	2	2	1
8	1	2	2	2
9	2	2	2	1
10 plus	12	12	15	6
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Number of previous proved disqualified driving charges	Percent of Total			
	Interlock	Comparison	eligible	matches
0	65	64	73	73
1	18	19	13	17
2	7	8	5	4
3	3	4	3	1
4	3	2	2	3
5 plus	3	3	3	2
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Blood/breath alcohol level	Percent of Total			
	Alcohol Interlock offenders	Matched Comparison	Other eligible offenders	xAIO non-matches
Twice the limit	45	46	65	49
Under twice the limit	49	50	32	47
Unknown	5	4	2	3
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>