PACTS
Parliamentary Advisory Council for Transport Safety

LOCKING OUT
THE DRINK DRIVER

Using alcohol interlocks to reduce drink driving in the UK.

Frank Norbury and Evan Webster
Policy and Research Officers, PACTS

March 2021

An independent report by PACTS

This is an independent report by PACTS and its project research partners – the European Transport Safety Council, Road Safety Support, Chris Miller and IAM RoadSmart. The topic was proposed, and the scope defined, by PACTS. The DfT provided the funding to enable the project and DfT staff were kept informed of the findings. For avoidance of doubt, it is a PACTS report and DfT has not influenced or endorsed the report recommendations.

Acknowledgments

This report was funded by a Road Safety Grant from the Department for Transport. PACTS is grateful for the support of the DfT, in particular the road safety statistics, road safety research and police liaison teams. PACTS would also like to thank the DVLA for providing data used in the project.

PACTS consulted widely in the course of researching this report. We are grateful to the many individuals and organisations who contributed their time, information, and advice to this project. PACTS would like to extend thanks to the public health teams and police officers who agreed to be interviewed for this project. PACTS is also grateful to all the members of the project advisory panel for their comments and expertise.

PACTS would also like to thank our project partners, the European Transport Safety Council and Road Safety Support, Chris Miller and IAM RoadSmart for their contributions to this project.

Responsibility for the report's contents and conclusions lies with PACTS. The report does not necessarily reflect the views of the advisory panel or others who contributed to the research.

About PACTS

The Parliamentary Advisory Council for Transport Safety (PACTS) promotes evidence-based solutions to achieve safe transport for all. Formally established in 1982, its founder members were responsible for the legislation which made it compulsory to wear seat belts in the fronts of cars in Britain.

The unique features of PACTS are that it is a multi-modal transport safety body and focuses on working with UK parliamentarians, government, professionals and other key stakeholders. It is independent and has no financial or sectoral interests.

PACTS is a charity with over 100 member organisations – our partners – who are all committed to improving safety for people on our roads, railways and when flying. Members provide PACTS with technical and business insights, advice and support. We assist them through our information, events, networking and more. If you would like information about the benefits of PACTS membership for your organisation, please visit http://www.pacts.org.uk/about/ or contact PACTS.

Foreword

The authors of this report begin by reminding us that in GB deaths attributed to drink driving over the legal limit amount to 13% of all road deaths – enough to lead the DfT in its *Road Safety Statement 2019* to announce funding for the work that has led to the recent wide-ranging PACTS report *Drink Driving – taking stock, moving forward*. In respect of alcohol interlocks, the Statement announced the intention to investigate the feasibility of using these devices as part of drink-drive offender rehabilitation programmes in the UK, [exploring] how they can be used in combination with existing interventions. To help in this, DfT made a Research Grant to fund the study proposed by PACTS which has led to this report.

Work by our colleagues in the European Transport Safety Council (ETSC) shows that this 13% is low by European standards and would remain so even if we attributed to drink driving all deaths here that occur above the lower legal limit that applies most widely elsewhere in Europe. This is widely seen as a tribute to the severity of our penalties for exceeding the limit, notably obligatory disqualification and the rarity with which courts have come to grant exceptions to it.

Yet in his landmark report of 2010, Sir Peter North (who but for a temporary indisposition would have provided this Foreword) found (paras 3.60-61) that: *Research suggests that drinking alcohol and driving cars are both cultural norms that have a powerful grip on some people. … Immoderate drink drivers … do not all reject the social norms on this issue but fail to comply with them. … There are also some normally responsible people who lapse on impulse. If driving and drinking are important to them … they will do both with few compunctions.*

Rehabilitation courses and the High Risk Offender Scheme do help some convicted offenders to resume driving after their penalties with increased compunctions about drinking alcohol and then driving, but the wider PACTS report casts light on a system of enforcement which does too little to address the burden placed upon society and the offenders themselves of returning to remaining lifetimes of risk from harmful drink driving.

On the basis of substantial research, this report recommends ways in which an established technology, the alcohol interlock, could be deployed to reduce this burden and thus help to strengthen the enforcement of our drink driving law. The recommendations are comprehensive and ambitious, and require a range of agencies to work together in quite demanding ways. The effectiveness of adopting them, in whatever form, will depend on both the skill of the legislators and the subsequent judgement of the judiciary.

So it behoves those who will be reviewing the whole system of enforcement, and any who may seek to influence the outcome of their review and its implementation, to give this report the attention it warrants.

Richard Allsop OBE DSc FREng
Emeritus Professor of Transport Studies, UCL
Former Trustee of PACTS and Board Member of ETSC

Contents

Executive Summary

Drink driving remains a major cause of death and injury on UK roads. All road user groups suffer the consequences. Since 2010, there have been around 240 deaths a year in Great Britain involving a driver over the legal drink driving limit – some 13% of all road deaths. In contrast to the previous decade, no progress has been made in reducing these numbers and the harm that they represent.

Reoffending is a major problem. Since 2010, over 100,000 drink driving offences have been committed by someone with a previous drink or drug driving offence on their DVLA record. As these are only the cases that have gone before the courts, it seems inevitable that the true level of drink driving (recidivism) by such people is far higher. This suggests that the regime of media campaigns and relatively stiff penalties, driving bans and police enforcement is not sufficient to deter reoffending or to bring down further the number of deaths from drink driving.

In recent decades, alcohol interlock programmes have been adopted by countries across the world. Alcohol interlocks require the driver to blow into a breath-testing instrument that is connected to the vehicle ignition system. If the device detects alcohol over the limit, the vehicle will not start. Alcohol interlocks therefore provide a physical barrier to drink driving. The technologies for such systems are now well developed and devices and systems are supplied by a number of companies.

Alcohol interlocks are used voluntarily by some companies in the UK, mainly in the freight and passenger transport sectors, to manage work-related road safety in their operations. They are also used by a small number of private individuals. Wider use of alcohol interlocks has been suggested as a measure to reduce reoffending and related casualties in the UK.

In its *Road Safety Statement 2019*, the Department for Transport committed to investigating the feasibility of using alcohol interlocks as part of drink-drive offender rehabilitation programmes in the UK.

This report by PACTS reviews the experience of other countries with interlock programmes in Europe, the US, Canada, Australia and New Zealand. It reviews the research on the effectiveness of alcohol interlocks. It finds that they can reduce recidivism (the likelihood of drink driving again in the future, even if not caught). They also reduce the number of alcohol-related collisions and casualties. Alcohol interlocks are more effective than licence disqualification at reducing recidivism amongst offenders. Furthermore, reductions in recidivism can be sustained beyond the time when the device is installed if interlock programmes incorporate strong rehabilitation elements.

The evidence shows that the greater the use of alcohol interlocks, the greater the road safety benefits. Experience shows that it is more effective if offenders do not serve a lengthy prior licence suspension or disqualification as they may reoffend during this period, before they enter the alcohol interlock programme.

Each country has its own legal and administrative context, road safety challenges and policies. While there is clear evidence of overall benefits of alcohol interlocks, international experience shows that the process of introducing them has not always been easy. The report investigates the feasibility of using alcohol interlocks in the UK, taking account of lessons from abroad and from trials run by the UK Home Office in 2006-2008.

The PACTS report concludes that alcohol interlocks can and should be introduced in the UK as part of the regime available to the courts for drink drive offenders. The more extensively they are applied, the greater the road safety benefits will be. Those programmes in New

Zealand and Australia seem particularly useful as models for the UK. Nova Scotia has used alcohol interlocks extensively, with considerable success.

This report recommends that the UK Government develop and implement an alcohol interlock programme as soon as possible. New legislation will be required to enable this to operate effectively. Standards, roles and responsibilities will need to be defined. Because of the road safety benefits, alcohol interlocks should be available to the courts to offer or mandate for drink drivers as widely as possible. The government should consider mandating participation for at least some offenders (such as those on the High Risk Offender Scheme).

The courts should be able to reduce the period of licence disqualification for those offenders who agree to fitment of an alcohol interlock, as the courts can do for drivers who agree to participate in a drink drive rehabilitation course. This should not apply, however, to drivers who committed a "causing harm" offence, nor should other penalties be reduced. Wherever possible, the programme should include rehabilitation, with additional treatment made available for those with alcohol and mental health issues.

Offenders should be responsible for the costs of the interlock programme which are low relative to the full costs of a drink driving offence. A system of cross-subsidy for those who may be unable to afford it may be possible by charging more to the more affluent offenders. The alcohol concentration setpoint for the alcohol interlock should be as close to zero as is practicable and sanctions applied for programme violations. Participants should have to demonstrate sustained compliance with the programme before being able to exit it.

This programme should be available to the courts to apply to all drink driving offenders. The government should consider mandating participation for all or some offenders (such as those on the High Risk Offender Scheme).

Overall, it is clear that while consultation is required on some of the details of an interlock programme, the potential benefits of implementing one in the UK are substantial. Interlock programmes also offer significant value for money. The cost to society from alcohol-related collisions is substantial, and evidence shows that not only can interlock programmes help to reduce the number of alcohol-related collisions but also they can improve the health and wellbeing of offenders. There appears to be public support with a clear majority of the UK public believing that the installation of an alcohol interlock should be standard for drink-drive offenders.

Alcohol interlocks – key facts and statistics

- Drink driving is one of the biggest causes of UK road deaths (13%)
- In the last decade 240 people were killed each year where a driver was over the limit
- One in six (17%) drink driving offences is committed by a reoffender.
- Since 2010, over 107,913 drink driving offences have been committed by someone with a previous drink or drug driving offence on their record.
- 8,445 people were found guilty of driving while disqualified in 2019.
- Studies have found that alcohol interlocks reduce reoffending by around 60-75% when fitted.
- The average costs of an alcohol interlock in Europe is a little over £1,000 a year.
- The total possible cost for a driver as a result a drink driving conviction is estimated at £70,000.

CHAPTER 1

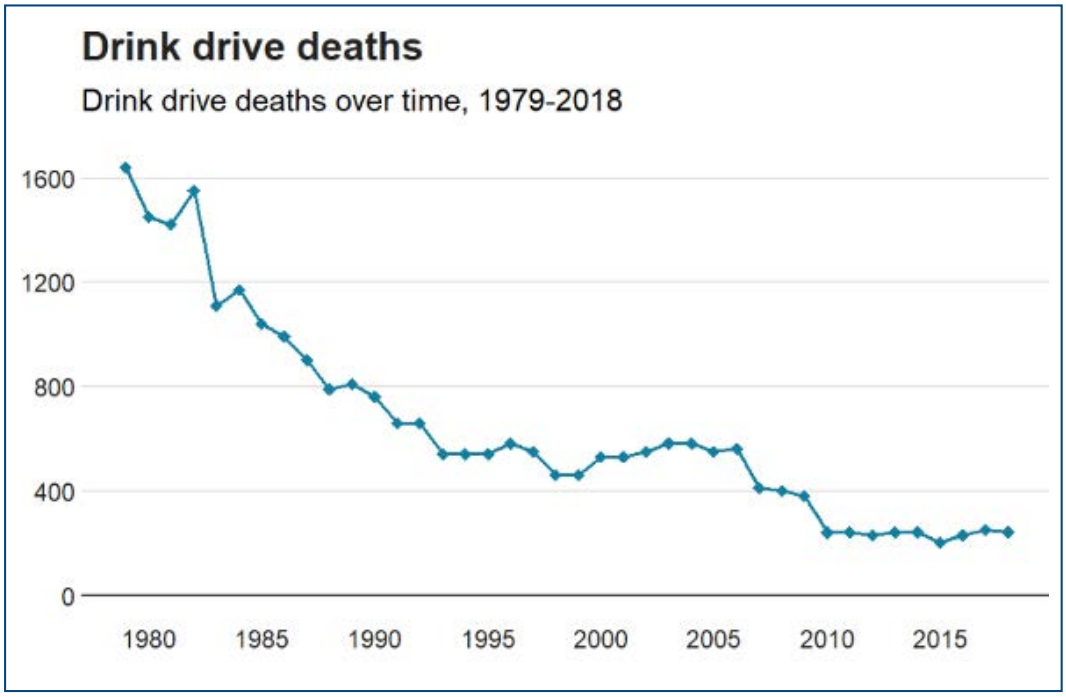
Introduction

1.1 Drink driving – still a major cause of death

Combating drink driving is seen as one of the major successes of road safety, and of campaigns that have significantly changed public attitudes and behaviour. Since 1979, the number of people killed in collisions involving drink drivers has decreased by 85%, from a high of 1,640 deaths to around 240 today.[1] Indeed, many road safety professionals state that drink driving has become socially unacceptable in the UK, and it is cited as a model for changing public attitudes towards other dangerous driving behaviours, such as speeding.

However, drink driving remains a major cause of death on the roads, with 240 people killed and 1300 seriously injured in drink drive collisions in 2018. Furthermore, following decades of progress, the number of drink drive deaths has remained stable at around 240 for the last ten years. These figures exclude an estimated 60 additional deaths involving drivers impaired by alcohol but who were below the legal limit.[2] In 2020, PACTS published *'Drink Driving: Taking Stock, Moving Forward'*[3], which reviewed the drink drive system as a whole and made recommendations on how to improve it.

Data provided to PACTS by the DVLA shows that 17% of drink drive offences were committed by reoffenders – drivers with a previous conviction for a drink or drug drive offence. This data suggests that the current approach to drink driving in the UK (media campaigns, police enforcement, fines and driving bans, rehabilitation courses etc.) is not sufficient to prevent significant reoffending.



All casualty figures are from 'Reported Road Casualties in Great Britain: estimates involving illegal alcohol levels,' unless otherwise noted. Figures in this report are estimates

[1] Comparisons with earlier years are not robust as the recording method changed in 1979.
[2] Allsop, R., (2015). *Saving Lives by Lowering the Legal Drink-Drive Limit.* PACTS/RAC Foundation
[3] Webster, E. (2020). *Drink Driving: Taking Stock, Moving Forward.* PACTS

based on Stats19 forms completed by police, plus toxicology data from coroners and procurators fiscal.[4]

1.2 Convictions and breath testing

Since 2009 the number of people convicted of driving with alcohol in the blood above the prescribed limit has fallen significantly, from 59,761 in 2009 to 34,713 in 2019. [5]

There are a number of other drink driving offences, including:

- failing to provide a specimen for analysis; (section 7 (6) Road Traffic Act)
- being in charge of a motor vehicle with alcohol in the blood above the prescribed limit; (Section 5 (1) (b) Road Traffic Act)
- being in charge of a vehicle whilst unfit to drive through drink or drugs (impairment) (Section 4(2) Road Traffic Act)
- driving or attempting to drive a vehicle whilst unfit to drive through drink or drugs (impairment) - drink. (Section 4 (1) Road Traffic Act)

The number of people convicted of these offences are considerably fewer than for the main offence. These offences increased slightly from 1,676 in 2009 to 2,042 in 2019.[6]

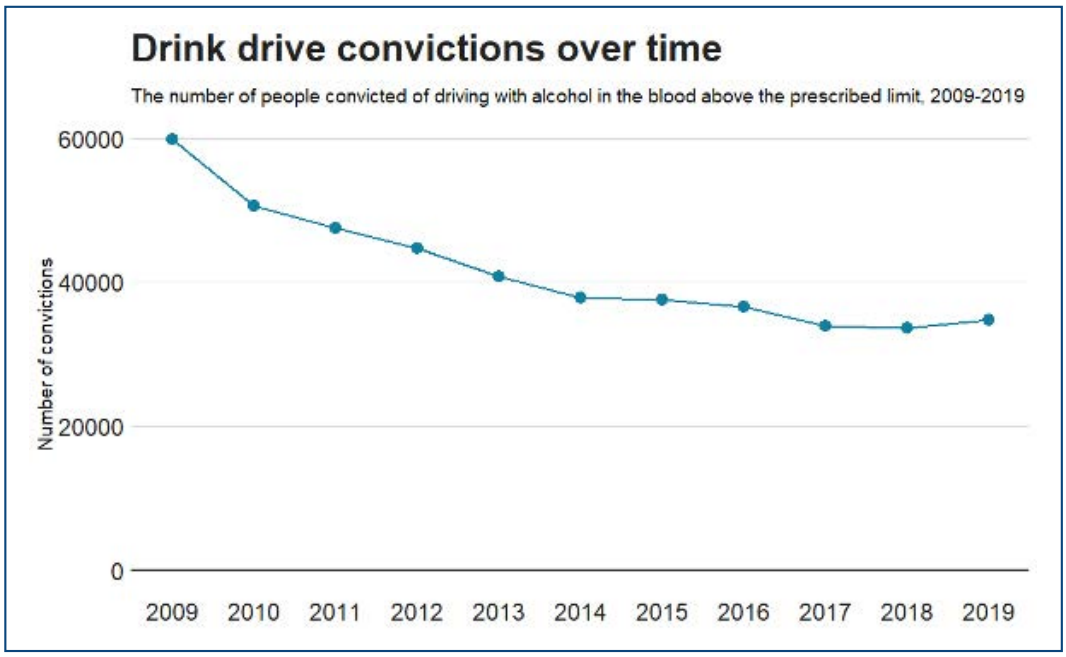


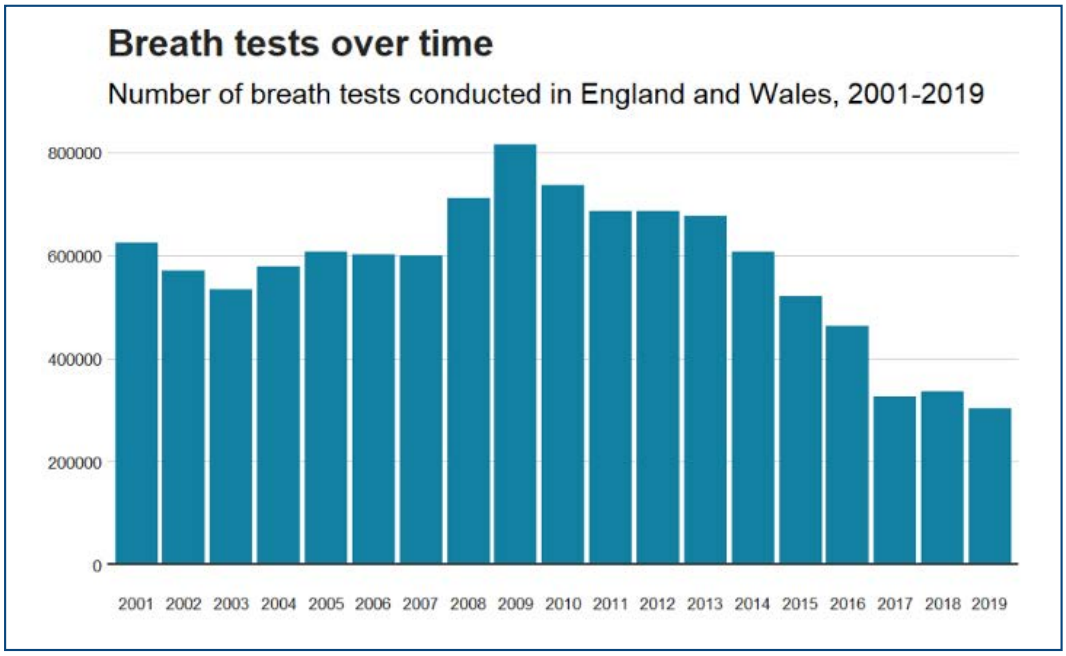
Figure 1: Source Reported Road Casualties Great Britain, Estimates Involving Illegal Alcohol Levels

[4] Figures are rounded to the nearest ten because of uncertainty regarding estimates. The figures are National Statistics: more information on the methodology used to produce them can be found in 'Reported road casualties in Great Britain: final estimates involving illegal alcohol levels: 2018'. Since 2000, the Department for Transport has presented these figures with 95% confidence limits to reflect the uncertainty of the estimate; the width of the confidence interval has changed little from year to year. In 2018 these limits were 220 (lower 95% confidence limit) and 260 (higher 95% confidence limit). This means we can say with 95% degree of confidence that the true figure for the number of drink drive deaths was between 220 and 260 in 2017.

[5] MoJ Criminal Statistics Quarterly 2019. MoJ Motoring Tool. https://www.gov.uk/government/statistics/criminal-justice-system-statistics-quarterly-december-2019

[6] MoJ Criminal Statistics Quarterly 2019. MoJ Motoring Tool. https://www.gov.uk/government/statistics/criminal-justice-system-statistics-quarterly-december-2019

This fall in convictions has coincided with a substantial reduction in the number of breath tests conducted by police in England and Wales. This has fallen from a peak of 815,290 in 2009 to 302,281 in 2019. The figure for 2019 is the lowest since at least 2002 when national recording started. 17.8% of breath tests conducted in 2019 were either positive or refused, the highest figure since 2004. The percentage of breath tests being failed or refused has increased steadily year on year since 2013, as the number of tests conducted has fallen steadily.[7] It is possible that this is the result of improved targeting. It also suggests that many more offenders would be caught if the police conducted more tests.



1.3 Reoffending

Data provided to PACTS by the DVLA shows that since 2010, 32,025 people were found guilty of a drink drive offence and had at least one previous drink/drug drive conviction. This means that 7% of those who committed a drink driving offence were reoffending. 107,913 drink drive offences were committed by someone with a previous drink/drug driving offence on their record. This means that 17% of drink drive offences were committed by someone who was reoffending. Eight people who were convicted of causing death by careless driving when unfit through drink/with alcohol level above the limit had a previous drink/drug driving conviction. One driver was convicted driving or attempting to drive with alcohol level above the limit and had eight previous drink/drug convictions. [8] Another the offence of 'driving or attempting to drive with drug level above the specified limit' when they had 18 previous drink or drug driving convictions.

Those who reoffend are likely to do so soon after their earlier offence. 6,164 people committed a subsequent drink drive offence within a year of their first conviction (note, data on reoffending were not supplied to PACTS in even time periods). 9,733 committed an offence one or two years after their first offence, 8,550 reoffended three or four years after, 5,482 five or six years after, 2,954 seven or eight years after and 904 nine or ten years after.

[7] Home Office (2020). Police Powers and Procedures. https://www.gov.uk/government/collections/police-powers-and-procedures-england-and-wales

[8] Data supplied to PACTS by the DVLA

[9]These data do not include those who drink drove but were not caught: this figure is likely to be substantially higher.

This dataset only shows offences back to 2010 e.g., someone who committed a drink drive offence in 2011 with a previous offence in 2009 would not be counted as reoffending. This is because of the data supplied to PACTS by DVLA from its "Impala" database and because under the Rehabilitation of Offenders Act, the slate is wiped clean for certain offences after a set period of time. It is therefore likely that this data on reoffending are an underestimate.

An unknown piece of data on the effectiveness of the legal system is how many people drive when they are disqualified for drink driving. 8,445 people were found guilty of driving while disqualified in 2019.[10] However, the data do not show why these drivers were disqualified. To be included in this dataset a disqualified driver would also have had to be caught by the police. As such, it is likely to be a substantial underestimate. Police officers, those involved in the legal system and academics interviewed for this report expressed concerns over how many people likely drive while disqualified (for all offences, not just drink driving) and how unlikely they are to be caught doing so, in part because of substantial cuts to roads policing.

1.4 Alcohol interlocks – a way forward?

The Department of Transport recognises this problem of reoffending. It has indicated a willingness to consider the use of alcohol interlocks in combination with existing measures to prevent reoffending.

> *"There is international evidence that alcohol ignition interlocks (devices installed in vehicles that measure the alcohol in a driver's breath and can prohibit the ignition activation if the alcohol level is too high) can reduce drink-driving reoffending when they are used in conjunction with other interventions. We will investigate the feasibility of using these devices as part of drink-drive offender rehabilitation programmes in the UK. This will explore how they can be used in combination with existing interventions (such as the drink-driver rehabilitation course and the high-risk offender scheme) and how we can ensure that the technology is both accessible and reliable."*[11]

This report from PACTS provides this investigation. It focuses specifically on alcohol interlocks. It summarises international experience, evidence of effectiveness, the components and feasibility of a programme for the UK, costs and benefits, public acceptance and other aspects. It draws a number of firm conclusions and makes recommendations to government. Implementation would require primary legislation and concentrated action by several government departments and agencies. PACTS believes that these are warranted.

[9] Data supplied to PACTS by the DVLA
[10] MoJ (2020). Criminal Justice Statistics Quarterly. Motoring Tool. MoJ
[11] Department for Transport (2019). *Road Safety Statement 2019*. DfT.

1.5 Assessing alcolock interlocks

Several metrics have been used to evaluate the effectiveness of alcohol interlock programmes. These include:

- Effects on recidivism
  - Do interlocks reduce the likelihood of programme participants reoffending?
  - Are interlocks more effective than alternatives, such as licence disqualification?
- Drink drive casualties
  - Do interlocks reduce the number of drink drive fatalities or serious injuries?
- Public health
  - Do they reduce harmful alcohol consumption?
  - Do interlock programmes increase the health of participants?
  - Do they improve the social relationships of participants?
- Value for money
  - Do alcohol interlocks provide more benefits than costs to society?
  - What other benefits, such as mobility benefits, do interlocks provide?
- Acceptability
  - What is the public's opinion on alcohol interlocks?
  - What are offenders' opinions on alcohol interlocks?

1.6 Information sources

This report has drawn on the following sources:

- Research literature
- Interviews with experts (academics, police, suppliers of interlocks etc.)
- Casualty, policing and courts data
- DVLA special data request on reoffending statistics
- Project advisory panel
- Inputs and expertise of project partners.

The information obtained is used throughout this report to provide context and inform the assessment regarding the benefits and feasibility of using alcohol interlocks in the UK.

Further details on research method are provided in Appendix 1.

CHAPTER 2

Alcohol interlocks – an overview

Photo courtesy of DRAGER

Photo courtesy of LION LABORATORIES

2.1 Alcohol interlocks

2.1.1 What is an alcohol interlock?

Modern alcohol interlocks require the driver to blow into a breath-testing instrument that is connected to the vehicle's ignition system for the vehicle to start. If the device detects alcohol in excess of the limit, the vehicle will not start.

There are a wide variety of different interlock models available, but broadly, the interlocks have four key elements.[12]

1. A breath alcohol sensor that records the driver's breath alcohol concentration and prevents the vehicle from starting if the BAC is over a certain threshold.
2. A rolling retest system, which requires at least one retest after the vehicle has been driven for a short time. Retests indicate to drivers that they have a certain period of time, normally around 10 minutes to pull over safely and conduct a breath test. In most cases a retest is required every 20 to 30 minutes while driving. Failure to complete a retest is counted as a failed test. The purpose is to prevent a non-driver from starting the vehicle for a person who has been drinking and to prevent drinking once the vehicle is being driven.
3. An anti-tamper/circumvention proof system for mounting to the engine, along with a system to detect hotwiring or other means to bypass the interlock device.
4. A data recording system that logs the breath test results (BAC level), test compliance and engine operation, and creates a data record to ensure that the offender is using the vehicle as expected.

Some interlock devices include additional features, such as cameras to check the identity of the driver and systems which allow data from the device to be monitored live.

2.1.2 How does an interlock affect road safety?

Simply, alcohol interlocks can prevent a vehicle being driven unless the driver can demonstrate he or she is under a defined breath alcohol level.

Many offenders continue to drink drive, even when suspended from driving. Alcohol interlocks can provide an alternative option to disqualification or be used after a disqualification has been completed. The best way to protect other road users against this group of drivers is preventing them from driving while they are intoxicated.

Alcohol interlocks can help to prevent these convicted offenders from driving while intoxicated. Rather than serving the full length of disqualification or suspension from driving, offenders are allowed to drive when their BAC is below a certain threshold.

Alcohol interlocks can be seen not as an additional sanction but also as a way of rewarding an offender for showing positive behaviour, regaining the ability to drive sooner, or in some cases not being banned at all.

2.2 Interlock programmes

Alcohol interlocks are commonly fitted as part of a broader interlock programme. These programmes involve more than a device installed in a vehicle. They can be much more comprehensive, involving a large set of integrated activities, rules and stakeholders. Activities

[12] Marques, P. R., & Voas, R. B. (2010). Key Features For Ignition Interlock Programs. Washington DC

can include courses, meetings with mentors or medical professionals or being provided with feedback based on interlock data,

These additional measures vary considerably, between countries and even within countries.

The main differences and considerations are:

Programme authority – Interlock programmes may be administered in a variety of ways. Some are managed by the government agency responsible for driver licensing (interlocks being made available as a condition of licence reinstatement). Others are judicial, managed by the courts (interlocks ordered by the courts as a condition of probation for a drink-driving conviction).

Programme authorities are responsible for deciding who is eligible to participate in the interlock programme, monitoring participants, imposing sanctions for non-compliance and determining the point at which programmes are completed.

Discretion – Interlock programmes can also be optional or a required if an offender wants to get their licence back. Non-discretionary programmes require involvement as a condition of licence renewal. Discretionary programmes, however, can allow the programme authority and/or participant a level of discretion over involvement. For example, some may allow courts to determine whether offenders should participate. Others allow offenders to decide whether they wish to participate (in these programmes, participation may be incentivised by a reduction in the period of licence disqualification).

Participants – Programmes vary in terms of who is able to participate. In some cases, programmes can include first time offenders, in others, the participants are primarily reoffenders.

BAC Threshold – This can refer to either the BAC threshold which is required for participation in an interlock programme, and/or the threshold set on a specific interlock device. In some schemes, only those with a specific BAC level eligible for interlock programmes. In some cases, only offenders with a high BAC are eligible for interlocks, while in others only first time offenders with relatively low BAC are eligible. What constitutes a high or low BAC varies significantly across the world.

Duration – The length of time in which the interlock device is fitted differs between programmes. In many cases, programme duration is longer for offenders that have had more previous convictions. In some programmes, BAC level recorded at the original offence can determine the duration of the interlock programme e.g. those with a higher BAC when arrested have an interlock fitted for longer.

Monitoring – Interlock devices record data related to vehicle use. This can include BAC readings, GPS location and attempts to circumvent the devices (e.g. getting a passenger to provide a breath sample). This data can be stored and monitored by the relevant authority. Monitoring data enables programme authorities to keep track of offender behaviour and in some cases, issue sanctions for non-compliance.

Monitoring may also refer to participant monitoring. In some schemes, participants are monitored at regular intervals by individuals such as health professionals in face to face appointments.

Rehabilitation – Some interlock programmes include a rehabilitation element. Rehabilitation varies from scheme to scheme and can include courses similar to the UK drink drive rehabilitation course, or programmes with medical professionals. The rehabilitation element is usually designed to prevent and deter participants from drink driving after the alcohol interlock is fitted. The content of these rehabilitation courses varies considerably.

CHAPTER 3

The UK experience

Photo courtesy of ALCOLOCK UK /ACS

3.1 Interlocks in the UK

The UK has taken a cautious approach to the use of alcohol interlocks to date. There has been limited voluntary adoption of the technology over the past two decades by industry, principally in the bus and coach sector. There has also been a small degree of voluntary uptake by private individuals.

In a criminal justice context, there have been two different trials in the UK since 2006, though they are not part of the criminal justice regime for drink driving at present. However, the way the trials were conducted raised questions about the reliability of any conclusions which can be drawn from them. This section summarises the law surrounding the use of alcohol interlocks, reviews the two trials and describes levels of industry and private use of interlocks in the UK.

3.2 Interlock use in the UK – the law

Sections 15 and 16 of the Road Safety Act, passed in 2006, set out how interlocks should be used by magistrates' courts following an appropriate trial in a small number of pilot court areas. Such trials are common when significant changes to legislation are proposed. They are conducted prior to widespread roll out to test the efficacy of the legislation and to address any problems with it. The procedure for such a trial of alcohol interlocks is laid out in section 16 of the Act.

The Act states that pilot areas should be nominated by the Secretary of State. Until the pilot is complete and has been evaluated non-pilot areas are unable to deploy the legislation. Section 16 of the Act allowed trials to be conducted at magistrates' courts until December 2010, at which point unless a prior action had been taken to change the deadline, the legislation effectively expired. This means there is no current legal provision for alcohol interlocks in the UK.

Section 15 of the Act is concerned primarily with rehabilitating recidivist drink drivers. It enables individuals to reduce the length of their driving disqualification period by allowing them to install an alcohol interlock in their vehicle.

The principal provisions of section 15 of the Act are that:

- Those eligible should be repeat drink drive offenders[13] who would otherwise be disqualified from driving for at least 24 months.[14]
- They must not be people who have reduced their ban by taking a drink drive rehabilitation course.[15]
- They should receive a reduction in their disqualification period which must be at least 12 months and if it exceeds 12 months must not amount to more than 50% of the disqualification period that would otherwise have been imposed.[16]
- If they fail to adhere to the interlock programme demands they immediately lose their disqualification discount.[17]
- They agree to bear the costs of the alcohol interlock programme.

[13] Sec 15 (1) (a) & 1(b) the Act
[14] Sec 15 1(d) of the Act
[15] Sec 15 1 (c) of the Act
[16] Sec 15 (4) of the Act
[17] Sec 15 (5) of the Act

3.3 Trials

3.3.1 The Home Office trial

A large government sponsored trial of the use of alcohol interlocks took place between 2006 and 2008. It was fully reported in a 2008 Department for Transport research paper.[18]

The purpose of the trial was:

- To examine the practicalities of installing and maintaining the interlock technology
- To highlight any operational issues derived from this
- To evaluate the impact of having interlocks fitted to the drink-driver's car, in terms of the
  - driver's attitudes towards drink driving and other unsafe driving behaviours,
  - changes to the user's driving style and general lifestyle, and
  - the associated changes this brings to the driver's family.
- To investigate the acceptability of the interlock technology to the driver and their family, and to monitor car usage and any attempts to tamper with the technology.

It is not clear from the research paper whether the trial described above was ever intended to be the trial as described by section 16 of the Act. The research paper makes no reference to the Act, and its title and content implies that its primary focus was on the public health concern of how interlocks effect the lifestyle of those who drink and drive.

The trial lasted for 12 months, and those that took part were split into two groups. There were 183 participants in total. 89 of these participants formed the programme group and had an interlock installed in their car. 94 individuals were placed into the control group. Of the programme group, 43% (39 individuals) failed to complete the trial. 12% (11 individuals) of the control group also failed to complete the trial.

Participants were recruited from those who attended a Drink Drive Rehabilitation (DDR) course. They were all volunteers. Because this trial did not take the form of a trial at courts laid out in the 2006 Road Safety Act, offenders who had attended the course were allowed to participate. According to the research report, they reflected the typical demographic characteristics of drink drive offender populations. 82% were first time offenders, and 18% had been convicted of a prior offence within the previous 20 years. All participants, whilst they were offenders, were eligible for licence reinstatement (i.e. they had served their driving bans).

Over the course of the study, participants were required to attend several interviews and complete questionnaires over an 18-month period. They were also interviewed and completed questionnaires when they brought their vehicle in to the service centre to have it calibrated and serviced. Data was also collected from the device which gave details on breath alcohol readings, trip durations, use of the override, etc.

This was intended to determine the extent to which the experience of having an interlock installed had an impact on the attitudes, behaviours, and overall lifestyle of users. The overall findings of the trial were ultimately mixed.

[18] Beirness et al (2008). An Investigation of the Usefulness, the Acceptability and Impact on Lifestyle of Alcohol Ignition Interlocks in Drink-Driving Offenders. DfT

As noted, the drop-out rate was fairly high. Of the 89 participants that had an interlock installed on their vehicle, 43% failed to complete the full 12 months. 63% of these withdrawals occurred during the first three months of having the interlock installed.

The main reasons given for withdrawal were technical problems with the device, as well as annoyance associated with having to provide a breath test at every start and the frequent re-tests. All of these reasons, along with others, such as embarrassment, failed 'morning after' tests and device warm-up time, were also noted by participants who continued with the study. However, as the study progressed and participants gained more experience with the interlock, there appeared to be greater acceptance of the devices.

Specific 'events', such as failed tests, were recorded and showed that 90% of the recorded key events were stationary fails (this trial did not have a 'rolling retest' requirement. 66% participants had fewer than three stationary fails per month, and a quarter had an average of three to ten stationary fails per month. There were 328 recorded BACs over 80mg/100 ml corresponding to 172 potential trips.

Although this data was reported on in the evaluation, no analysis was conducted which specifically describes whether or to what extent the participants were prevented from committing drink drive offences. The only information that provides any insight into the specific extent of this benefit is commentary in the research report, which states that that participants indicated the major benefit of the interlock was the impossibility of committing another drink drive offence. The device was seen as a safety valve that prevented participants from making a bad decision after drinking.

The report states that attempts to circumvent the interlock devices were common. Several participants admitted that they had others provide breath samples so that they could start the car, some frequently. Some also admitted to improperly using the emergency override simply to enable use of the vehicle.

In the final phase of the project, participants reactions were assessed six months after the interlock devices were removed (at month 18 of the study). This interval allowed participants to reflect on their experience. Follow up interviews were conducted with 50 interlock participants and 83 control group participants. Selected questionnaires were also completed again.

Whilst a larger proportion of interlock participants (54%) reported consuming less alcohol in month 18 than at the beginning of the study than control group participants (40%), the difference between the two groups was not statistically significant. Both interlock participants and the control group scored lower on the AUDIT (Alcohol Use Disorders Identification Test) than they did at month zero, indicating a decrease in the level of problem drinking for both interlock and control group participants.

To summarise, many participants appeared to reduce the extent of their drinking over the course of the study. However, there were not statistically significant differences in this reduction between the control and interlock groups.

3.3.2 Conclusions

It is important to be careful when drawing conclusions from this trial for several reasons.

Contrary to the provisions of section 15 of the Road Safety Act 2006, which laid out that eligible participants should be repeat drink drive offenders who would otherwise be disqualified from driving, the participants of this trial were self-selected volunteers who had responded to a postal invitation and 82% were first-time offenders. All had served a period of disqualification and had completed a drink drive rehabilitation course, and all were fully re-licensed. This also meant there was no long term incentive to comply: failed tests would not result in the

interlock being fitted for longer. They were all also fully compensated for their time, travel and inconvenience, and the installation, maintenance and de-installation of the devices were all provided free of charge. This was also contrary to the provisions set out in the Act.

As the research report notes: "the findings may not be representative of those obtained from other drink-drive offenders who participate in interlock programmes under other circumstances, such as those who are mandated to participate and/or must pay for the interlock themselves."

There is no specific data in the research report describing to what extent the programme group participants were prevented from committing drink drive offences. Some of the commentary suggests the interlocks did provide a physical barrier to drink driving and prevented offending, but no analysis specifically demonstrated how effective the interlocks were in preventing participants from drink driving during the period which the interlock was installed.

Notwithstanding these limitations, there were some useful conclusions to be drawn from the trial. Though there were numerous complaints about issues with using the device, most participants found the device to be an acceptable instrument that had a beneficial impact. Many close family members of the participants reported an improvement in their own peace of mind, knowing that the participant had an interlock installed. Additionally, participants viewed the trial itself as being worthwhile and there were no negative ratings of the operation of the trial.

3.3.3 The Durham Police initiative

Following the expiry of the legislation enactment deadline in 2010, there were no further trials or uses of alcohol interlocks in the UK in a criminal justice context until 2018.

In November 2018, Durham Constabulary began a small-scale initiative using alcohol interlocks with offenders as part of their 'Checkpoint Programme'. The programme is managed by the police and is designed to divert offenders away from the criminal justice system. Participants are individuals who have been arrested for an offence but agree to participate in a rehabilitation programme for a six-month period as a means of avoiding prosecution.

While this is of interest, it is important to note that this scheme does not apply to people who are convicted of drink driving – some are volunteers, others convicted of other offences.

The Checkpoint Programme contains a range of activities and challenges designed to help offenders move away from a criminal lifestyle. Those who successfully complete the programme are informed that the criminal allegation for which they have been arrested will no longer be pursued against them.

Many of these offenders abuse alcohol, and in November 2018, the force began to offer alcohol interlocks to Checkpoint offenders who had a driving licence, an insured vehicle, and who had been arrested for an offence that was linked to alcohol abuse. Offences included in Checkpoint include but are not limited to theft, drug possession and criminal damage It was not offered to drink drivers as they are outside the scope of the Checkpoint Programme.

Having found only a small number of offenders whose circumstances justified the offer of an interlock under this scheme, the force then offered interlocks free to members of the public who considered themselves at risk of drinking and driving, publicising this in press releases. Over a period of 18 months, 12 interlocks were installed. They were supplied free of charge to the users. At present, two remain in use.

3.3.4 Conclusion

Durham Constabulary's Checkpoint Programme is small scale and does not apply to people convicted of drink driving. Furthermore, given that the offer was opened to self-selecting volunteers whose motivation for using an alcohol interlocks was not clear, it is difficult to draw meaningful conclusions from it regarding wider use of alcohol interlocks for drink driving offenders.

Some interesting data did emerge. In particular, during the period of operation (as of July 2019), 4.7% of the 7,644 vehicle starts involved high breath alcohol content events. This suggests that the programme did prevent dangerous journeys from occurring. However, there has been no detailed analysis of data. Additionally, given the small sample size, it is difficult to prescribe a level of relevance to the data gathered.

CHAPTER 4

International experience

This section and the table below describe interlock programmes that have been run across Europe, in Canada, the USA, Australia and in New Zealand. These countries were selected because their road safety and drink driving records are similar to the UK's. Information on the European programmes comes largely from two European Transport Safety Council reports on alcohol interlocks 'Alcohol Interlocks and Drink Driving Rehabilitation in the European Union' and 'Alcohol Interlocks in Europe'.[19] Information also comes from respective government websites, published evaluations and international experts interviewed by PACTS.

The international experience of alcohol interlocks programmes can offer useful insights for the UK. There are many common features of international interlock programmes. For example, most programmes have a length between one and three years, with the initial offence affecting the length of an offender's participation. There are also many differences. Eligibility criteria vary substantially from country to country. In some countries, participation is open to all offenders on a voluntary basis, while in others it is mandatory. Many countries run interlock programmes only for those who had a high blood alcohol content or for repeat offenders. Generally, judges have some power to offer an interlock programme to offenders. Rehabilitation has become a more common part of alcohol interlock programmes in recent years. However, what constitutes rehabilitation varies. It may include regular meetings with medical professionals, or courses run alongside the programme. The costs to participants also vary, but typically they are a little over £1,000 a year. In most countries, offenders who cannot afford to participate will have some (but not all) of the costs subsidised.

While some choices, such as length, cost or evaluation, may reflect local procedures and concerns, others reflect international learning. For example, more recent schemes are more likely to have rehabilitation as part of the programme as evidence has shown that having strong rehabilitation reduces recidivism after the interlock has been removed.[20] In response to emerging evidence, more new programmes are compliance-based, i.e. the offender must demonstrate compliance (for example, six months of no lock outs) before the interlock is removed. Typically, offenders must record no attempted vehicle starts with alcohol in their system for a set amount of time. This is consistent with the research literature that finds that compliance-based removal is more effective at reducing recidivism.[21, 22, 23]

There are also common challenges that many interlock programmes have faced and which, in some cases, (such as Sweden and France) has led to the programme being redesigned. Interlock programmes which are not mandatory and/or are only available for certain categories of offender often have very low participation rates. This can cause financial difficulties for programmes and reduces the overall benefit that interlocks can provide.[24, 25]

The Dutch interlock programme was introduced in 2011 and an evaluation found that it had reduced drink drive related collisions. However, in 2015 the Dutch High Court ended the programme. This happened because the interlock was introduced under administrative law, rather than criminal law. This meant that offenders could receive both a criminal and administrative punishment for the same offence. The court decided that this alongside the lack of rehabilitation and high costs of participation (€5000) meant that the punishment

[19] ETSC. (2016). Alcohol Interlocks and Drink Driving Rehabilitation in the European Union. ETSC and ETSC (2020). Alcohol Interlocks in Europe. ETSC.

[20] Vanlaar et al. (2017). An evaluation of Nova Scotia's alcohol interlock program. *Accident Analysis and Prevention*. 100(1).

[21] Waka Kotahi (No Date). Alcohol Interlock Programme. Waka Kotahi

[22] McGinty et al. (2016). Ignition Interlock Laws: Effects on Fatal Motor Vehicle Crashes, 1982–2013. A*merican Journal of Preventive Medicine*.

[23] Vanlaar et al. (2017). An evaluation of Nova Scotia's alcohol interlock program. *Accident Analysis and Prevention*. 100(1).

[24] McGinty et al. (2016). Ignition Interlock Laws: Effects on Fatal Motor Vehicle Crashes, 1982–2013. American Journal of Preventive Medicine.

[25] Vanlaar et al. (2017). An evaluation of Nova Scotia's alcohol interlock program. Accident Analysis and Prevention. 100(1).

was disproportional in some cases. It should be noted that the Dutch Parliament has since expressed support for a new alcohol interlock programme, under criminal law.[26]

It must be noted that many programmes have not yet been evaluated. In some cases, this may be because insufficient time has passed since the programme was introduced to conduct a proper evaluation.

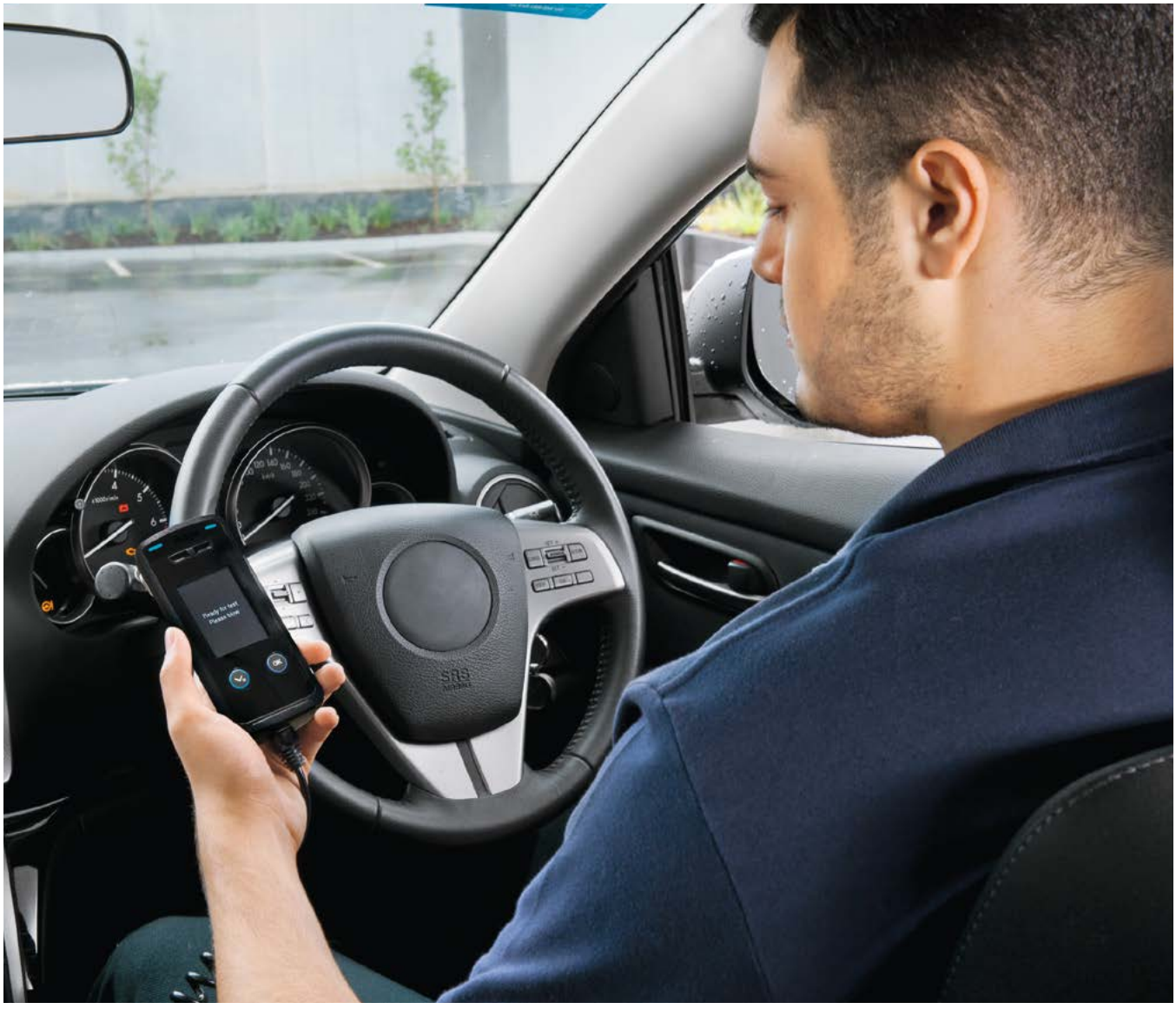
Country	Year Started	Programme Duration	Participants	Rehabilitation?	Cost to user	Effectiveness Evaluated?	Evaluation Findings
Finland	2008 (2005 trial)	12-36 months	Voluntary for all offenders.	No – doctor visits ceased in 2008	€120-200	Yes	5.7% of participants reoffended compared to 30% of non-participants
Austria	2017 (2013 trial)	Programme lasts two times standard ban length	Voluntary for first time offenders with BAC over 0.08.	Yes – regular meeting with mentors	Device cost €200 per months. Mentoring €600, installation €600	No	None-
Belgium	2013	1-3 years or life	Mandatory (judge imposed) for high risk offenders and those with high BAC.	No - Monitoring and information on alcohol harms provided to offender	€1,200 for one year, €1,700 for three years	No – some evidence participation is low	None
Denmark	2012, revised in 2017	Programme replaces length of driving ban, up to 3 years. Can replace entire ban.	Mandatory for first time offenders. Second time offenders can apply.	Yes – consultation before fitting.	Not known	No	None
France	2011, expanded in 2019 following 2018 trial	3 months – 5 years	Voluntary for first time and can be mandated for repeat offenders with a BAC above 0.08.	No	€1,300 per year	No – 2018 trials were viewed as successful	None
Lithuania	2020	TBD	Court decides on whether to offer interlock, offender can refuse or accept	Not known	Not known	No	None

[26] SWOV/ETSC (2017). The Dutch Alcohol Interlock Programme: The rise and fall of a promising road safety measure. ETSC

Country	Year Started	Programme Duration	Participants	Rehabilitation?	Cost to user	Effectiveness Evaluated?	Evaluation Findings
Sweden	1999, revised in 2012	1-2 years	Voluntary for all drink drive offenders	No	€1,800-€3,000 depending on duration	Yes	Participants were found to have improved health and drink less as a result of the programmes
The Netherlands	2011-2015	2 years, with 6-month extensions for failed breath tests	Voluntary for first time with a certain BAC and repeat offenders	Yes – rehabilitation course 3 half day sessions	€5000 in total	Yes	Interlocks were found to be twice as effective at reducing recidivism as other sanctions
Poland	2015	Replaces a driving ban when 50% of the ban has been served	Voluntary for offenders with a BAC above 0.5	No		No	None
USA – varies significantly by state	First example in California in 1986. All states since 2012	Some fixed, others compliance based removal	Varies by state and county	Varies – some have none, other run courses or involve addiction services	Average installation $70-150, monthly price $60-90	Yes	Systematic reviews in 2004 and 2011 found schemes reduce reoffending
Canada – varies province to province		All compliance based removal, different minimum periods	Varies by province	Yes – form varies, includes courses and medical assessments	Cost varies significantly by province	Some provinces yes, some no	Nova Scotia interlock programme found to effectively reduce reoffending
Australia – varies state to state	Queensland first in 2001.	Varies by state– minimum 6 months, generally requires 3-6 months compliance	Varies – generally mandatory for high BAC and repeat offenders, optional for first time offenders	Yes – courses in some states, others include trained alcohol and drug counsellors	Around AU$2,000 a year.	No	None
New Zealand	2012, new scheme in 2018	Minimum 12 months, requires 6 months compliance	Mandatory for repeat offenders, those with high BAC and those who fail to provide a sample	No	NZ$ 2,500-3100. Subsidies available for some offenders	Yes	Did not evaluate recidivism, found that interlocks would have an overall benefit because of reduction in collisions.

CHAPTER 5

What does the evidence show?



5.1 Impact on recidivism

SUMMARY: The evidence shows that alcohol interlocks are extremely effective at reducing recidivism when fitted. Without other measures, such as monitoring or rehabilitation, they are generally not effective when removed.

The effectiveness of interlock schemes has been measured extensively across the world. Primarily, research has focused on the ability of interlock devices to prevent drink driving.

There is extensive evidence that alcohol interlock devices reduce drink-drive recidivism amongst offenders while the device is fitted into their vehicle. Meta-analyses of interlock evaluations conducted in 1999, 2004 and 2011 demonstrated that offenders (both first-time and reoffenders) who have interlock devices fitted in their vehicle (after or instead of a ban) have a lower risk for recidivism than those only who have their licence suspended. The meta-analyses showed that while fitted, interlocks reduce recidivism by around 64%.[27, 28]

The 1999 review used six studies of alcohol interlock programmes, five of which found a significant effect on reoffending. The participants of the studies were 15% to 69% less likely than the controls to be arrested for drink driving, while the device was fitted.[29] In the 2004 review, fourteen trials were identified, all of which showed that while fitted, the interlock reduced recidivism but had no effect once removed. The 2011 study incorporated work from the 2004 review and more recent literature. It also found that recidivism was lower when interlocks were fitted but that interlocks had no effect after they were removed. [30] In 2017, another review was conducted, which combined studies from the 2011 review with four more recent studies. Again, it found that the risk of recidivism is drastically reduced compared to control groups. However, once the device is removed, the risk of recidivism is no longer reduced.[31]

A report for the European Commission on the prevention of drink-driving by use of alcohol interlocks, published in 2014, found that the interlocks replacing part of a driving ban reduce recidivism by 75% more than the suspension of the driving licence alone. The report also found that this effect did not persist when the interlock was removed.[32] More recently, in 2017, a rapid evidence review of the effectiveness of alcohol control policies published in the Lancet reported that alcohol interlocks can reduce reoffending in both first time and repeat offenders, but that offending rates may return to those recorded prior to installation once the device is removed.[33]

Only a limited number of evaluations have reported effects post interlock removal. One of the most significant of these trials was a 2010 study of 1,927 repeat offenders in Maryland, USA. Offenders were randomly assigned to either the interlock licence restriction programme, or a control group. They were monitored throughout the two-year period the interlocks were installed, and for two years postintervention. Compared to the control group, participation in

[27] Willis C, Lybrand S, Bellamy N. Alcohol ignition interlock programmes for reducing drink driving recidivism. Cochrane Database of Systematic Reviews 2004, Issue 3. Art. No.: CD004168

[28] Elder et al. (2011). Effectiveness of Ignition Interlocks for Preventing Alcohol-Impaired Driving and Alcohol-Related Crashes: A Community Guide Systematic Review. American Journal of Preventive Medicine. 40(3).

[29] Coben, J., and Larkin, G. (1999). Effectiveness of ignition interlock devices in reducing drunk driving recidivism. American Journal of Preventive Medicine. 16(1).

[30] Elder et al. (2011). Effectiveness of Ignition Interlocks for Preventing Alcohol-Impaired Driving and Alcohol-Related Crashes: A Community Guide Systematic Review. American Journal of Preventive Medicine. 40(3).

[31] Nieuwkamp, R., Martensen, H., Meesmann, U (2017), Alcohol interlock, European Road Safety Decision Support System, developed by the H2020 project SafetyCube. Retrieved from www.roadsafety-dss.eu

[32] ECORYS (2014). Study on the prevention of drinkdriving by the use of alcohol interlock devices. ECORYS

[33] Burton, R. et al. (2016). A rapid evidence review of the effectiveness and cost-effectiveness of alcohol control policies: an English perspective. The Lancet. 389(10078).

the interlock programme reduced drivers' hazard (or risk) of a subsequent alcohol impaired driving offence by a statistically significant 26% during the two-year post-intervention period. The report suggested that positive reinforcement (vehicle starting when BAC is below a certain level) and negative reinforcement (vehicle not starting when BAC is above a certain level) conditioned driver behaviour over time, and that the repetition of these reinforcers over a two-year period contributed to the continued reduction in recidivism. It is not clear why this effect was seen for this interlock programme but not for other similar programmes.

More information about emerging evidence on how interlocks can be effective after removal is available in 'Effects of monitoring' and 'Effects of rehabilitation.'

5.1.1 Comparison to other interventions

SUMMARY: Alcohol interlocks are more effective at reducing recidivism than traditional alternatives such as disqualifications or fines.

A significant component of previous evaluations of interlock programmes includes evaluations of their effectiveness when compared to traditional alternatives. Several different types of sanctions exist for offenders who are arrested for drink driving. They include fines, imprisonment, and licence disqualification (driving bans) in combination or individually.

The literature suggests that fines in isolation do not provide a sufficient deterrent to drink-driving, but given their cost effectiveness, are a commonly used sanction.[34] There is little evidence within the literature on the impact of imprisonment on drink-drive reoffending, though it imposes significant costs on authorities. [35, 36]

Licence disqualification alone can lead to a reduction in recidivism as well as collisions during the disqualification period.[37] However, there are strong dependencies. The effectiveness of disqualification depends heavily upon the effectiveness of enforcement, the likelihood of detection, and drivers' perceptions of enforcement.[38] The literature suggests that many drivers continue to drive whilst suspended.[39] Some US studies have shown that between 50–75 percent of convicted drink drivers whose licence has been suspended continue to drive.[40, 41] There is no equivalent research in the UK. Furthermore, the literature suggests that the effectiveness of such licencing measures, varies based on the duration of the measure. Some studies have found that substantial reductions in recidivism are seen when licence disqualification last between 3-12 months, but that beyond 12 months, recidivism rates often increase. When withdrawal lasts for over three years, significant increases in 'driving while suspended' offences are generally seen.[42] There is substantial evidence that interlock programmes are more effective at reducing recidivism than licence disqualification amongst offenders.[43, 44]

---

[34] Weatherburn, D. and Moffat, S. (2011). The Specific Deterrent Effect of Higher Fines on Drink-Driving Offenders. The British Journal of Criminology. 51(5).

[35] Sloan. (2020). Drinking and Driving. NBER Working Paper 26779.

[36] Hansen. (2014). Punishment and deterrence: evidence from drunk driving. NBER

[37] Elver et al. (2006). The Handbook of Road Safety Measures. Injury Prevention. 12(1).

[38] ETSC. (2016). Alcohol Interlocks and Drink Driving Rehabilitation in the European Union. ETSC

[39] McCartt AT, Geary LL, Berning A. (2009). Observational study of the extent of driving while suspended for alcohol impaired driving. Injury Prevention; 9 :133-137.

[40] Peck, R.C., Wilson, R.J., Sutton, L., 1995. Driver License Strategies for Controlling the Persistent DUI Offender, Strategies for Dealing with the Intent Drinking Driver. Transportation Research Board, Transportation Research Circular No. 437. National Research Council, Washington, DC, pp. 48–49.

[41] Beck, K.H., et al., 1999. Effects of ignition interlock license restrictions on drivers with multiple alcohol offenses: a randomized trial in Maryland. Am. J. Public Health 89 (11), 1696–1700.

[42] https://www.oisevi.org/a/archivos/estudios-especificos/ong/Union-Europea-Druid-Final-Report.pdf

[43] Coben, J., and Larkin, G. (1999). Effectiveness of ignition interlock devices in reducing drunk driving recidivism. American Journal of Preventive Medicine. 16(1).

[44] https://www.oisevi.org/a/archivos/estudios-especificos/ong/Union-Europea-Druid-Final-Report.pdf

Driving while disqualified in Great Britain

8,445 people were found guilty of driving while disqualified in 2019. The data do not show why these drivers were disqualified. To be included in this dataset a disqualified driver would also have had to be caught by the police. As such, it is likely to be a substantial underestimate. Police officers, those involved in the legal system and academics interviewed for this report expressed concerns over how many people likely drive while disqualified and how unlikely they are to be caught doing so, in part because of substantial cuts to roads policing.

Data provided to PACTS by the DVLA

5.1.2 Effect of monitoring

SUMMARY: Monitoring participants in interlock programmes increases the effectiveness of interlocks at reducing recidivism, including their effectiveness after the device has been removed.

Drivers participating in alcohol interlock schemes are usually required to comply with a set of restrictions and rules, including:

- taking an initial breath test,
- providing rolling retests,
- attending frequent device servicing meetings and
- not tampering or attempting to circumvent the device.

Monitoring participants for compliance with these programme rules is a key component of interlock programmes.

Since interlock programmes have become more popular, literature on participant monitoring has grown. Several studies have shown the importance of more intensive monitoring and the positive impact it can have on participants' behaviour. Evidence shows that in programmes with more intensive monitoring, participants have fewer high BAC test readings compared to those on programmes with low levels of monitoring. [45] One study published in 2011, using interlock logger data, found that the average number of initial breath test failures per 1,000 engine starts was lower for participants that were more closely monitored than those that were not.[46] More intensive or closer monitoring involved more regular reviews of interlock data and more contact between monitors and programme participants.

[45] Voas, R. et al. (2014). How necessary is monitoring to interlock program success? Traffic Injury Prevention. 15(7).

[46] Zador, P. L., Ahlin, E. M., Rauch, W. J., Howard, J. M., & Duncan, G. D. (2011). The effects of closer monitoring on driver compliance with interlock restrictions. Accident; analysis and prevention, 43(6), 1960–1967.

Several studies have shown that that offenders are more compliant with programme rules while on the interlock when programme monitoring is more intensive.[47], [48] Evidence also shows that the frequency of an offender being prevented from starting a vehicle because of an interlock is a strong predictor of recidivism following the removal of the interlock.[49], [50]

The literature also identifies key features of good monitoring. They include frequent but fair collecting and reviewing of interlock log data, graduated responses to instances of non-compliance as well as rewarding instances of good behaviour, regular visual inspection of the device and establishing a face-to-face rapport with interlock clients.[51]

5.1.3 Effects of rehabilitation

SUMMARY: Including rehabilitation in an interlock programme increased the effectiveness of interlocks after they have been removed.

Interlock devices reduce recidivism while they are fitted but they may not influence long term behaviour. Rehabilitation is considered key to designing programmes which will deliver reductions in reoffending post interlock removal. In many cases, these rehabilitation courses have not been specifically designed for those with alcohol interlocks. They are instead generic courses which all types of drink drive offender are required to participate in, regardless as to whether they are suspended or on an interlock programme. Rehabilitation can also include referrals to specialist treatment if necessary, or meetings with mentors or medical professionals. Increasingly, rehabilitation initiatives or programmes are being included within alcohol interlock programmes. There are a number of programmes across the world (as discussed in Section 4) that involve some degree of rehabilitation.

There is already a body of evidence which suggests standalone drink drive rehabilitation programmes or courses can have an impact on levels of reoffending.[52] However, the role and effectiveness of rehabilitation measures within interlock programmes is less well researched.

There is an emerging literature that has found that the most successful alcohol interlock programmes include a combination of therapy, education, sanctions and supervision.[53] There have also been evaluations of specific rehabilitation programmes. In 2016, a Florida study was published which evaluated the effectiveness of mandating specific treatment for offenders participating in interlock programmes. In this case, the treatment was linked to the monitoring. Offenders were only required to participate in the treatment programme if they accumulated three violations (in this case, defined as two lockouts within four hours). The treatment programme involved those specific offenders being individually assessed by certified substance abuse counsellors, who then develop an individualised treatment plan for the offender that can include individual or group therapy. Offenders required counsellors to certify their completion of the treatment. The study's main objective was to determine whether the mandated alcohol use disorder treatment programme imposed on interlock offenders reduced their recidivism following interlock removal. Results showed that the interlock with

[47] Casanova Powell, T., Hedlund, J., Leaf, W., & Tison, J. (2015) Evaluation of state ignition interlock programs: Interlock use analysis from 28 states, 2006-2011. (Report NO. DOT HS 812 145). Washington DC: National Highway Traffic Safety Administration, & Atlanta: Centers for Disease Control and Prevention.

[48] Vanlaar, W., Mainegra Hing, M., Robertson, R. (2015) Nova Scotia Alcohol Ignition Interlock Program: Outcome Evaluation, Technical Report. Ottawa, Ontario: Traffic Injury Research Foundation.

[49] Marques PR, Tippetts AS, Voas RB, Beirness DJ. Predicting repeat DUI offenses with the alcohol interlock recorder. Accident Analysis and Prevention. 2001;33(5):609–619. [PubMed] [Google Scholar]

[50] Marques PR, Voas RB, Tippetts AS. Behavioral measures of drinking: Patterns from the Alcohol Interlock Record. Addiction. 2003b;98(Suppl 2):13–19. [PubMed] [Google Scholar]

[51] European Road Safety Observatory. (2018). Alcohol. ERSO.

[52] Webster, E. (2020). Drink Driving: Taking Stock, Moving Forward. PACTS.

[53] Robertson, M.D., Holmes, E., Vanlaar, W., 2010. Alcohol Interlocks: taking research to practice. In: 10th International Alcohol Interlock Symposium. Melbourne, Australia.

treatment group experienced 32% lower recidivism following the removal of the interlock during the 12 to 48 months in which they were compared with the non-treatment group. [54]

Similarly, the evaluation of Nova Scotia's interlock programme (published in 2015) - which involved over 1000 participants – found that after the devices were removed from the vehicle, the recidivism rates for the interlock groups were still significantly lower than for the participants serving conventional licence disqualification. The Nova Scotia programme required participants to meet with a councillor from addiction services at no more than 10 days after the alcolock was fitted and then every 60 days after the initial meeting. The control group exhibited a recidivism rate of 8.9% during the study period, while the interlock-voluntary and interlock-mandatory had recidivism rates of 0.9% and 3% respectively after the installation of the interlock device. The conviction recidivism rates for the interlock groups increased to 1.9% (voluntary group) and 3.7% (mandatory group) after the devices were removed from the vehicle, but they were still significantly lower than the recidivism rates of the control group. In the evaluation, it was hypothesised that this significant residual effect was the result of the treatment component that is an integral part of Nova Scotia's interlock programme.[55]

5.2 Impact on fatalities

SUMMARY: While there is less evidence than on recidivism, there is evidence that alcohol interlocks reduce drink driving fatalities.

Although the primary focus of literature on interlocks has been on their effect on recidivism, some research has attempted to quantify the subsequent effect of interlock installation on road fatalities.

One study based in the United States, published in 2016, used data from the National Highway Traffic Safety Administration for 1999-2013 and compared alcohol involved crash deaths between 18 states with interlock requirements and 32 states without universal interlock requirements. The authors found that the adjusted rate of alcohol related crash deaths was 4.7 per 100,000 in states with universal (i.e. required for all offenders) interlock requirements, compared with 5.5 per 100,000 in states without, an absolute reduction of 0.8 deaths per 100,000 per year. The study concluded that requiring interlocks for all drunk-driving convictions was associated with 15% fewer alcohol-involved crash deaths.[56]

A further study, published in 2017, used a multilevel modelling approach to assess the effects of state interlock laws on alcohol involved fatal crashes in the U.S. from 1982 to 2013. The results from the study suggested 'all-interlock' laws (i.e. required for all offenders) were associated with an estimated 7% reduction in fatal crashes where a drivers BAC was above 0.08 (BAC 0.08+) and an 8% reduction in the rate of BAC 0.15+ fatal crashes, translating into an estimated 1,250 prevented BAC 0.08+ fatal crashes. There was some evidence that 'partial' interlock laws (required for some or no offenders) reduced alcohol-related collisions 24 months after policy enactment. The authors noted that this finding may be explained by implementation delays, which are more likely to occur when a state first requires interlocks for some offenders. The study concluded that laws mandating interlock use for all offenders

[54] Voas, R. et al. (2014). How necessary is monitoring to interlock program success? Traffic Injury Prevention. 15(7).

[55] Ward G.M. Vanlaar, Marisela Mainegra Hing, Robyn D. Robertson, An evaluation of Nova Scotia's alcohol ignition interlock program, Accident Analysis & Prevention, Volume 100, 2017, Pages 44-52, ISSN 0001-4575, https://doi.org/10.1016/j.aap.2016.12.017.

[56] Kaufman, E. J., & Wiebe, D. J. (2016). Impact of State Ignition Interlock Laws on Alcohol-Involved Crash Deaths in the United States. *American journal of public health*, 106(5), 865–871. https://doi.org/10.2105/AJPH.2016.303058

are more effective at reducing alcohol involved fatal collisions than laws requiring interlocks for segments of high-risk offenders.[57]

A 2018 study evaluated differences in three interlock laws by comparing the number of alcohol-impaired passenger vehicle drivers involved in fatal collisions between 2001–2014. It employed methods which improved upon those employed by the previous study by including a larger comparison groups, which accounted for more variables. The evaluation found that all-offender interlock laws were associated with 16% fewer drivers with 0.08+ BAC involved in fatal collisions. It also found that interlock laws which only applied to repeat offenders were associated with a non-significant 3% reduction in impaired drivers. Finally, interlock laws applying to repeat and high-BAC offenders were associated with an 8% reduction in impaired drivers in fatal collisions.[58]

An evaluation of the Nova Scotia interlock programme, published in 2016, found that interlocks significantly reduced recidivism and decreased the number of people killed or seriously injured in alcohol related collisions.[59] This programme required repeat and 'high risk' first time offenders to participate. It was voluntary for other first-time offenders. Studies have also found that collision rates and alcohol-related collisions are lower while interlocks are fitted in vehicles.[60] In 2015, a study published in the US found that states that adopt interlock laws that require participation of first time offenders, with blood alcohol levels of .08 or higher, see fatal collisions involving a drink driver decrease by 9%.[61]

A study commissioned by the European Commission published in 2014 analysed the potential impact of interlock programmes for high BAC offenders on road casualties in the European Union. To do this, the authors first of all identified findings from another study which stated that that a six year driving licence suspension resulted in a reduction of 25% in the number of alcohol related crashes (Elvik, R., Høye, A., Vaa, T. & Sørenson, M. (2009). Handbook of Road Safety Measures (2nd ed.): Emerald Inc.). Then, using the assumption that alcohol interlock programmes are 75% more effective in reducing recidivism than licence suspension measures, it calculated the net effect of an alcohol interlock as compared to suspension of the driving licence on road fatalities. They concluded that the effect of an interlock compared to licence suspension is a reduction in alcohol-related road fatalities of between 18.75% and 37.5%.

They created several predictions based on a series of scenarios which controlled for different levels of penetration (% of High BAC offenders expected to be caught) and different levels of participation (% of High BAC offenders that participate in an interlock course). The overall conclusion stated that depending on the scenario it is estimated that approximately between 16 and 299 road fatalities per year in the EU could be avoided with an alcohol interlock programme for heavy offenders instead of a driving licence suspension.

[57] McGinty et al. (2016). Ignition Interlock Laws: Effects on Fatal Motor Vehicle Crashes, 1982–2013. *American Journal of Preventive Medicine*.

[58] Teoh. E. (2018). State alcohol ignition interlock laws and fatal crashes IIHS

[59] Ward G.M. Vanlaar, Marisela Mainegra Hing, Robyn D. Robertson. (2017)An evaluation of Nova Scotia's alcohol ignition interlock program, Accident Analysis & Prevention,100.

[60] Elder et al. (2011). Effectiveness of Ignition Interlocks for Preventing Alcohol-Impaired Driving and Alcohol-Related Crashes: A Community Guide Systematic Review. American Journal of Preventive Medicine. 40(3).

[61] Ullman, D. (2016). Locked and not loaded: First time offenders and state ignition interlock programs. International Review of Land Economics. 45(1).

They created several predictions based on a series of scenarios which controlled for different levels of penetration (% of High BAC offenders expected to be caught) and different levels of participation (% of High BAC offenders that participate in an interlock course). The overall conclusion stated that depending on the scenario it is estimated that approximately between 16 and 299 road fatalities per year in the EU could be avoided with an alcohol interlock programme for heavy offenders instead of a driving licence suspension.

https://ec.europa.eu/transport/road_safety/sites/roadsafety/files/pdf/behavior/study_alcohol_interlock.pdf)

5.3 Health and social benefits

5.3.1 Consumption of alcohol

SUMMARY: The evidence of the impact of alcohol interlocks on alcohol consumption are mixed. Some interlock programmes, particularly those with rehabilitation, have been shown to reduce harmful drinking.

There is plenty of evidence that interlock devices prevent those who have drunk too much from driving but, the effect of programmes on overall alcohol consumption is more complex.

Some research has found that interlock programme participants are able to adapt the circumstances of their drinking and/or their driving to accommodate the interlock without necessarily having to reduce the frequency or extent of either their drinking or driving.[62] In essence, they learned to avoid breath tests that would prevent the vehicle from starting by changing when they drank or drove.

Conversely, an evaluation report of the pre-2007 Swedish interlock programme, found that the completion of the programme had favourable effects on alcohol consumption compared to conventional licence revocation (participants had some of their conventional licence revocation replaced with alcohol interlock programme participation). According to the paper, participants in the programme had lower rates of harmful alcohol consumption – measured by AUDIT (a questionnaire which evaluates how harmful drinking patterns are) score - than compared controls both during and after the intervention period.[63]

In the 2006 UK Home Office trial, a reduction in the AUDIT score was also recorded among participants of the programme. There was a decrease of about 10% in the number of participants who scored above the threshold of eight on the AUDIT over the 18-month period of the study. However, there was no difference on this measure between those in the interlock and control conditions.[64]

It is unlikely that having an interlock fitted in a person's vehicle for a set period of time would be sufficient to address someone's alcohol problems. A comprehensive and well-designed interlock programme, however, can help address these issues, provided the programme includes rehabilitation and support for participants. In the early Swedish interlock programme

[62] Marques, P.R., Tippetts, S., & Voas, R.B. (2003). Comparative and joint prediction of DUI recidivism from alcohol ignition interlock and driver records. Journal of Studies on Alcohol, 64(1). 83-92.

[63] Bjerre B, Thorsson U. (2008). Is an alcohol ignition interlock programme a useful tool for changing the alcohol and driving habits of drink-drivers? Accid Anal Prev. 40(1):267-73

[64] Beirness et al (2008). An Investigation of the Usefulness, the Acceptability and Impact on Lifestyle of Alcohol Ignition Interlocks in Drink-Driving Offenders. DfT

regular medical consultations designed to alter alcohol use were used. These sorts of additional components of interlock programmes, as well as specific treatment courses or rehabilitation courses integrated into programmes – discussed more widely in Section 7 – can help to instil sustained behaviour change in participants and are well evidenced within the literature.

5.3.2 Health benefits

SUMMARY: There is evidence that alcohol interlocks lead to improvements in participants' health.

There is evidence, primarily from research on the Swedish alcohol interlock programme, that shows participation in an alcohol interlock programme has favourable effects on individuals' health, with less need for hospital care or sick leave. [65] The research evaluated health outcomes following the interlock programme by assessing hospital care utilisation and sick leave registration data relative to the control group with revoked licences. The control group showed increased hospital care and sick leave after licence revocation following the offence. Among the 1,266 people in the programme, however, significantly fewer needed hospital care, relative to controls, and relative to their own care utilisation before the offence. This occurred whether care reflected all diagnosis or only alcohol-related diagnosis.

Additionally, sick-leave data showed significantly fewer interlock programme participants using sick leave relative to the control group, and relative to their own pre-treatment period. These significant health benefits were found to disappear in the post-treatment period. However, among those who completed the entire programme, sustained positive health effects were observed three and four years after the original offence. It should be noted that at the time of the study, the programme included regular medical check-ups designed to alter alcohol use.

5.3.3 Lower healthcare costs for offenders

SUMMARY: There is some evidence that alcohol interlocks reduce participants' health care costs.

Another study also based on the Swedish interlock programme found that average total healthcare costs were 25% lower among programme participants than among controls during a two-year treatment period. This corresponded to over 1000 euros in annual costs per average participant. For those who completed the two-year programme the cost reduction was more pronounced; 37% during the treatment and 20% during the post-treatment period.[66] According to the research, positive effects were due to reduced alcohol consumption, and the social benefit of being allowed to drive while in the programme may also have contributed.

5.3.4 Improvement in relationships with families

SUMMARY: There is some evidence that family members support the use of alcohol interlocks to help relatives.

As part of the 2006 UK Home Office trial, interviews with spouses of 19 of the programme participants were carried out at the end of the interlock period. The main benefit mentioned by 17 of these individuals was that it gave them peace of mind and a feeling of security that

[65] Bjerre B, Marques P, Selén J, Thorsson U. A (2007). Swedish alcohol ignition interlock programme for drink-drivers: effects on hospital care utilization and sick leave. Addiction. 102(4)

[66] Bjerre B, Kostela J, Selén J. (2007). Positive health-care effects of an alcohol ignition interlock programme among driving while impaired (DWI) offenders. Addiction. 102(11)

their spouse could not drink and drive. Most also reported that the interlock had changed their partner's drinking behaviour (though not substantially, it was not clear if this was a reduction in drinking or a change in drinking patterns). Overall, family members were generally positive about the interlock experience and the impact that it had on their loved ones.

5.4 Mobility and economic benefit

SUMMARY: Alcohol interlocks provide a mobility benefit because they enable people to drive who would otherwise be suspended. This has been valued at around £1000 per annum per driver.

Another economic benefit from interlock programmes is the mobility benefit, or in other words, the benefit of being able to continue to drive to offenders. In most programmes, participants will first serve a driving ban that is shorter than if they had not participated, and then be able to drive with an interlock fitted. Offenders generally view this as preferable to the alternative, such as using taxis, public transport and other means of transport, which can be more expensive. It is difficult to establish the value of this benefit, given it is likely to be different for different offenders, however this benefit has been assessed in cost benefit analyses, taking the average number of kilometres driven by an average holder of a driving licence and the extra cost of an alternative mode of transport. In a 2014 European cost benefit analysis, the total mobility benefit was assessed to be €1,120 (around £1000) per annum per driver in the interlock programme.[67] It should be noted that these evaluations did not consider wider costs to society from driving, such as carbon emissions and the potential benefits of mode shift.

5.5 Value for money

5.5.1 Cost benefit analyses

SUMMARY: Several cost benefit analyses of alcohol interlocks, in different contexts and with different methodologies, have found that they have a positive cost-benefit ratio

2005

In 2005, SWOV (Institute for Road Safety Research) in the Netherlands published a detailed cost-benefit analysis of potential impairment countermeasures, one of which was the installation of an alcohol interlock. They conducted cost benefit analyses for four countries: the Netherlands, Norway, Czech Republic and Spain.[68]

The analysis made two major assumptions. Firstly, it assumed no rehabilitation programme, and therefore no effect on recidivism post interlock removal. Secondly, it assumed that 100% of drink drive offenders caught were suitable for the programme.

Costs were calculated using data on the number of eligible offenders in each country and known implementation and running costs of interlock programmes, from previous research.[69] Traffic safety benefits – i.e., the effect on road fatalities - were calculated by taking estimated risks of recidivism in each country and applying expected reductions in this recidivism from participation in an interlock programme.

Overall, the results showed that the annual benefits of alcohol interlock programmes are

[67] ECORYS (2014). Study on the prevention of drink driving by the use of alcohol interlock devices. ECORYS

[68] Vlakveld, W. et al. (2005). Detailed cost-benefit analysis of potential impairment countermeasures. SWOV

[69] Bax, C. (ed), Kärki, O., Evers, C., Bernhoft, I.M. & Mathijssen, R. (2001). Alcohol interlock implementation in the European Union; Feasibility study. D-2001-20. SWOV Institute for Road Safety Research, Leidschendam.

larger than the annual costs. Out of the four countries, the costs were only higher than the benefits in Spain (0.7 benefit to cost ratio). The reason for this was that the benefits for lives saved were comparatively low for Spain (mainly due to due to lower recorded recidivism and drink drive deaths) and the number of 'caught' drivers was relatively low. For the Netherlands, Norway and Czech Republic, benefit to cost ratios were 4.1, 4.5 and 1.6 respectively. The analysis predicted reductions of road fatalities of 35 (the Netherlands), 5 (Norway), and 8 (Czech Republic) per year.

2014

In 2014, a simplified cost-benefit analysis of an interlock programme was published as part of an EU study into the technical development and deployment of alcohol interlocks in road safety policy. Using data from a review of evidence, the following assumptions were made as part of this analysis:

- alcohol-related road fatalities account for 25% of all road deaths across the EU (taking 2011 as the reference year), with the same proportion being applied to the number of serious injuries;
- the estimated participation rate in a two-year alcohol interlock programme (i.e. the proportion of hard-core drink-drivers affected by the measure) is estimated at 35%;
- the effectiveness of alcohol interlocks in reducing alcohol-related deaths is assumed at 70%
- the cost (on a flat-rate basis) of a two-year alcohol interlock programme is estimated at €5,332 per eligible driver.

In addition to these assumptions, the number of eligible participants in the programme was calculated using the coefficients given for hard-core drink-drivers as a proportion of the total EU-28 driving population (1%), identified drink drivers as a proportion of the hard-core group (15%) and the estimated participation rate (35%). By combining the proportion of eligible participants within the hardcore drink driver group with the proportion of deaths and serious injuries caused by hard-core drink drivers, and a suitable effectiveness coefficient for alcohol interlocks (70%), they obtained the number of lives and injuries that could be saved by implementing such a programme.

Based on this approach, the results showed the overall cost benefit ratio to be 1.9, a positive socioeconomic outcome. The analysis provided a results breakdown for each EU member state at the time. Results for the UK were a cost benefit ratio of 1.4. Results also showed that widespread implementation of alcohol interlock programmes targeting hard-core drink-drivers could bring about a 7.3% reduction in road fatalities across the EU, comparable to 1100 lives saved over a ten-year period.

2017

In 2017, as part of the wider 'SafetyCube' report on the economic evaluation of road user related measures, an existing cost benefit analysis on the effectiveness of an alcohol interlock programme in the Netherlands – originally conducted in 2009 by SWOV – was revisited.[70]

The analysis provided an estimate of the effect of a compulsory alcohol interlock programme for serious offenders on the number of fatalities. The programme that was examined lasted for a minimum of two years, with the possibility of an extension for six months. It was assumed that 4,500 serious offenders would participate each year. It was also assumed that half of the participants would extend the programme for six months, and that an alcohol interlock reduces recidivism by 75% while installed.

[70] Daniels, S., Aigner-Breuss, E., Kaiser, S., Goldenbeld, C., Katrakazas, C., Schoeters, A., Ziakopoulos, Usami, D.S., Bauer, R., Papadimitriou, E., Weijermars, W., Rodriguez Palmeiro, A. & Talbot (2017). Economic evaluation of road user related measures. Deliverable 4.3 of the H2020 project SafetyCube.

It was estimated that alcohol-related collisions in which the driver had a BAC exceeding 1.3 g/l resulted in 150 road fatalities each year, and in total 100,000 serious offenders were responsible for these accidents. To calculate the impact on serious and slight injuries and damage only collisions, it was assumed that that drink-driving with a BAC exceeding 1.3 g/l has the same effect on fatalities, serious injuries, slight injuries and damage only crashes. The number of prevented casualties was established using the ratios per fatality – serious injuries per fatality, for example - in the Netherlands.

Using the cost of collisions as established in a 2015 'SafetyCube' report,[71] effects on fatalities, serious injuries and slight injuries were calculated. The results showed a benefit cost ratio of 10.9, with 5.6 prevented fatalities, 145.3 prevented serious injuries, 2,250 prevented slight injuries and 7976.6 prevented damage only collisions. The sensitivity analyses also showed that even in the 'low measure effect' case and 'worst' case, the cost benefit ratio was still positive (5.8 and 2.9 respectively).[72],

5.5.2 Value for money of a UK interlock programme

The cost benefit analyses discussed in the previous section provided positive results for the individual countries analysed or for the EU as a whole. There is no reason to believe that it would be different for the UK but, once a UK programme is specified, a cost benefit analysis should be undertaken.

5.6 Acceptability

5.6.1 The public perspective

SUMMARY: The public are broadly in favour of alcohol interlocks, both for first time and repeat offenders.

When alcohol interlocks were first introduced across the world, there were media reports that interlocks did not work.[73] The public came to assume that they were expensive and easy for offenders to circumvent. However, over time, research has shown growing support for the use of alcohol interlocks.

Surveys in the US have revealed substantial support for the use of interlocks and the requiring of interlocks for those convicted of driving while intoxicated. Surveys found that between 60% and 85% of people supported the requiring of alcohol interlocks be fitted into the cars of all offenders, including first time offenders. Surveys did not specify if this would be additional to or instead of disqualifications[74], [75], [76]

Results for European-based surveys also imply substantial support for the use of interlocks for recidivist offenders. The 2018 ESRA (E-Survey of Road User's Attitudes) showed high levels

[71] Wijnen, W., Weijermars, W., Vanden Berghe, W., Schoeters, A., Bauer, R., Carnis, L., Elvik, R., Theofilatos, A., Filtness, A., Reed, S., Perez, C., and Martensen, H. (2017), Crash cost estimates for European countries, Deliverable 3.2 of the H2020 project SafetyCube.

[72] Wijnen, W., Weijermars, W., Vanden Berghe, W., Schoeters, A., Bauer, R., Carnis, L., Elvik, R., Theofilatos, A., Filtness, A., Reed, S., Perez, C., and Martensen, H. (2017), Crash cost estimates for European countries, Deliverable 3.2 of the H2020 project SafetyCube.

[73] Clayton, A., and Beirness, D. (2008). A Review of International Evidence on the Use of Alcohol Ignition Interlocks in Drink-Drive Offences. DfT

[74] McCartt, A. et al. (2009). Attitudes Toward In-Vehicle Advanced Alcohol Detection Technology. Traffic Injury Prevention. 11(2)

[75] Downs, J., Shults, R., & West, B. (2017). Attitudes toward mandatory ignition interlocks for all offenders convicted of driving while intoxicated. *Journal of safety research*, 63, 99–103.

[76] Shults, R., and Bergen, G. (2013). Attitudes towards requiring ignition interlocks for all driving while intoxicated offenders: findings from the 2010 HealthStyles Survey. Injury Prevention, 19(1).

of support for use of interlocks by recidivist impaired drivers, including support from 81% of UK respondents. [77]

In 2020, YouGov research, commissioned by alcohol interlock manufacturer Draegar also showed that there is public support for repeat offenders to have interlocks fitted before their driving licence is returned.[78] The research included two specific statements on the use of alcohol interlocks. The first was "The installation of an ignition interlock device should be an alternative to a driving ban (for a drink-driving offence) for first-time offenders". 56% of respondents supported this statement. The second question was "The installation of an ignition interlock device should be standard for drink-drive re-offenders (who have lost their licence) before they can get their licence reissued". 83% of respondents supported this statement.

These results overall appear to suggest that there is substantial support for the introduction of a mandatory alcohol interlock programme for recidivist offenders. There is also public support (though it is less extensive) for the introduction at an alcohol interlock programme for first time offenders as an alternative to a driving ban.

5.6.2 The offender perspective

SUMMARY: While offenders may be less in favour of having alcohol interlocks fitted to all drink drivers than the general public, they recognise the value and positive impact interlocks can have.

Recent US surveys that have found that support for interlocks is lowest amongst those who have reported driving while impaired. One survey found that 35% of those who have reported driving while impaired supported interlocks for all offenders.[79] Another found similar results, at 38%.[80] However, a US study from 2009 that found that interlocks are favoured by the majority of respondents who have admitted they may have driven when they were above the legal limit for alcohol. This was not in response to questions about an alcohol interlock programme for offenders but rather the fitting of alcohol interlocks as standard to vehicles.[81]

Research also suggests that drink drivers acknowledge the benefit and effectiveness of the devices. A survey published in 2017 from Australia found that 74% of high-risk drinkers stated an alcohol interlock would be of use to them. Similarly, focus groups with convicted drink drivers, which took place as part of the 2006 UK Home Office trial, showed strong support for the use of interlocks. The majority of respondents saw the device as highly beneficial because it would result in a shorter period of disqualification, check if they are under the limit, and help them re-earn trust that has been lost.[82] Additionally, research conducted in Germany found that 80% of offenders that had participated in a drink drive rehabilitation programme (607 subjects) stated that they would want to participate in an alcohol interlock programme which involved also participation in a rehabilitation course.[83]

Some research has also focused more specifically on users' experience of interlocks. For example, in the 2006 UK trial of interlocks, experience with the interlock was recorded

[77] Pires, C. et al. (2020). Car drivers' road safety performance: A benchmark across 32 countries. IATTS

[78] No Author (2020). Public supports mandatory 'alcolock' technology. Health and Safety Matters.

[79] Downs, J., Shults, R., & West, B. (2017). Attitudes toward mandatory ignition interlocks for all offenders convicted of driving while intoxicated. *Journal of safety research*, 63, 99–103

[80] Shults, R., and Bergen, G. (2013). Attitudes towards requiring ignition interlocks for all driving while intoxicated offenders: findings from the 2010 HealthStyles Survey. Injury Prevention, 19(1).

[81] McCartt, A. et al. (2009). Attitudes Toward In-Vehicle Advanced Alcohol Detection Technology. Traffic Injury Prevention. 11(2)

[82] Beirness et al (2008). An Investigation of the Usefulness, the Acceptability and Impact on Lifestyle of Alcohol Ignition Interlocks in Drink-Driving Offenders. DfT

[83] Seidl, J. and Seidel-Feustel, P. Acceptance of rehabilitation with alcohol interlock support for DUI offenders in Germany. ICADTS

at servicing intervals. This revealed a range of issues. The most significant involved the technology itself – the associated 'warm up' time (i.e. the time it takes for the device to start which can delay the start of a general) – as well as the requirement for rolling re-tests and the embarrassment of having to wait a period of time before being able to start their cars in a public place. However, in follow-up interviews, the participants unanimously rated the programme as positive, and one which helped them to reduce their drink driving.[84]

A study conducted in Finland in 2013 which collected the views of interlock participants found similar results. The findings stated that although the interlock device helped offenders avoid drink driving, drivers often felt awkward using the device and regularly concealed the device from other passengers, including family members.[85]

Research published in 2016 and 2017 has also provided insight into the experience of offenders in Sweden. The 2016 research reported that two-thirds of drink drivers in Sweden refused the option of a voluntary alcohol interlock programme. The reasons for this were cost, the associated stigma and concerns that participants would be perceived as having a drinking problem.[86] In the 2017 evaluation of Sweden's interlock programme, results revealed that while there were improved health benefits for participants, cost was a major barrier to participation, and some offenders reported challenges in obtaining information about the application process.[87]

Other research in countries with interlocks report similar offender perspectives. Cost, motivation and lack of clear information on the programme – including application, rules and the law surrounding interlock use - are all cited as key issues. [88, 89]

Overall, this shows that there is support for the use of alcohol interlocks, and a general acknowledgement that they would be useful devices for preventing offenders from drink driving. Offenders and participants in alcohol interlocks programmes have concerns with certain aspects of the programmes, including the cost, inconvenience and potential embarrassment.

[84] Beirness et al (2008). An Investigation of the Usefulness, the Acceptability and Impact on Lifestyle of Alcohol Ignition Interlocks in Drink-Driving Offenders. DfT

[85] Vehmas, A. and Löytty. M. (2013). Effectiveness and impact of alcohol inter-lock-controlled driving rights. Trafi Publications 6/2013. Finnish Transport Safety Agency (Trafi). Helsingfors, Finland.

[86] VTI (2016) Money and shame lead drunk drivers to refuse alcohol interlock system. Swedish National Road and Transport Research Institute. News Release. Retrieved at https://www.vti.se/en/news/money-andshame-lead-drunk-drivers-to-refuse-alcohol-interlock-system/

[87] Gustafsson, S. and Nyberg, J. (2017) Evaluation of the Swedish alcohol interlock program for drink driving offenders – Interview Study (In Swedish with English summary). VTI notat 16-2017. Statens väg- och transportforskningsinstitut. Linköping, Sverige.

[88] Waters, Gerald. (2019). The New Zealand Alcohol Interlock Programme - A Process Review.

[89] ETSC. (2016). Alcohol Interlocks and Drink Driving Rehabilitation in the European Union. ETSC.

CHAPTER 6

Core elements of interlock programmes

In this section, the core elements and options for designing alcohol interlock programmes are discussed. For some, the consensus of evidence and experience is clear. For others, the government will need to make decisions.

6.1 Legislation and regulations

To be effective, interlock programmes require the support of strong and clear legislation and regulations. It is also important that the regulations concerning their deployment are unambiguous. These should cover

- participant eligibility,
- programme duration,
- Conditions for licence reinstatement and
- sanctions for non-compliance with programme rules which should include rules on circumvention, driving vehicles not fitted with a device and conspiring with others to defeat the interlock's proper working.

UK programme or trial

Any use of alcohol interlocks in a criminal justice context – including a pilot – would need to be supported by a regime of sanction and reward, to encourage proper use by the drivers and to discourage reoffending and device circumvention.

These regimes are common in interlock programmes across the world. Many interlock programme participants are subject to conditions which state that if they commit certain violations of the programme (device tampering, repeat failed breath tests, etc), they will be subject to sanctions. These sanctions can include extension of the interlock programme period and fines.

RECOMMENDATION: ***The government should consult on proposals to introduce a UK alcohol interlock programme as soon as possible. Further trials are not recommended.***

There is already substantial international evidence to demonstrate the effectiveness of alcohol interlock programmes on reducing recidivism and alcohol-related collisions. Every country has unique circumstances and there is considerable expertise available to the UK government to assist with designing and running an effective alcohol interlock programme for the UK. Consultation should be followed by legislation. Existing legislation is not adequate.

Further trials are not recommended. They would require legislation, and take three five years to design, operate and evaluate. Without full legislative force, they might also fail to serve their purpose. They would only delay the implementation of an interlock programme and its road safety benefits.

6.2 Programme authority

Generally, alcohol interlock programmes have been run using either:

- the judicial model, in which the courts are responsible for compliance monitoring and administrative oversight; or
- the administrative model, in which the responsibility for compliance monitoring and administrative oversight is placed in the hands of a government agency, typically the driver licensing authority.

The earlier interlock programmes tended to be court administered while the more recently developed programmes tend to be administrative. Programmes under the judicial model have the advantage of being able to impose strong sanctions for non-compliance, such as custody or continuous alcohol monitoring. These tools can encourage participation in programmes. However, judicial programmes generally do not have the capacity to deal with interlock participants in a timely manner.[90] Furthermore, reliance on different courts can work against programme uniformity because decisions on participation etc. are made by individual judges/magistrates.

If there were a court based system it could act like the electronic monitoring / alcohol abstinence order system, where an approved contractor acting on behalf of the court fits the interlock, monitors compliance and pursues minor breaches through its own law department- more serious ones being passed back to the justice agencies

Programmes under the administrative model tend to be able to operate more quickly and with greater flexibility. They often have the advantage of being able to extend the required term of interlock use until participants can demonstrate compliance with the monitoring authority (compliance-based removal). Compliance-based removal can help to ensure that controls over drink driving behaviour remain in place for those who need it.

Other benefits of administrative interlock programmes include: the centralisation of authority; dedicated staff making decisions based on road safety as opposed to criminal justice; and the ability to respond and act quickly in response to incidents of non-compliance.

RECOMMENDATION: *The courts should be responsible for determining the application of alcohol interlock use in individual cases and an appropriate agency, with the necessary regulatory power to enforce programme rules, should administer it.*

Historically, alcohol interlock programmes for drink driving offenders have adopted one of two models: the judicial model, in which courts are responsible for monitoring and administrative oversight; and the administrative model, in which the responsibility for compliance monitoring and administrative oversight is placed in the hands of a government agency—typically the driver licensing authority. The judicial model has the benefit of being able to enforce compliance (enrolment on an interlock programme). However, the more recent trend has been towards alcohol interlock programmes administered by driver licensing authorities. This has the benefit of:

- *Dedicated staff dealing with similar issues on a recurring basis, resulting in a higher level of professionalism and expertise in decision making.*
- *Decisions based on traffic safety as opposed to criminal justice considerations.*
- *Ability to respond quickly and to incidents of non-compliance.*
- *Ability to extend the required term of interlock use.*
- *Access to driver records to assist in decision making.*

[90] CCMTA. (2018). Canadian Guidelines for Interlock Programs – 2018. CCMTA.

6.3 Responsibility for costs

Being convicted of drink driving is expensive. The sentencing guidelines state that first-time offenders who do not have a very high blood alcohol content should receive a fine of between 75% and 175% of their weekly income.[91] The CPS also require the defendant to pay prosecution costs. In a guilty plea case in a magistrates' court the fee is £135 on average.[92]

Furthermore, insurance costs are generally substantially higher following an offender's ban (typically 78% in the first year, which then tends to fall over the following years and can be reduced by taking part in a drink drive rehabilitation course).[93]

Based on costs of existing programmes across the United States and Europe, an alcohol interlock programme for the UK would likely cost around £1,000-1,500 per year.

Generally, participants are responsible for the cost of the interlock programme. This includes paying for the installation, maintenance, lease, and removal of the interlock device, as well as any additional costs, such as participation in a required rehabilitation course. Some argue that getting offenders to pay for alcohol interlocks, is unfair and that the state should fund penalties and sanctions, not the offender. However, in the case of interlock programmes, the offender is not paying for punishment. They are paying for rehabilitation and the ability to continue to drive with an interlock fitted. Offenders do not have to drive if they choose not to, and therefore do not need to pay if they do not wish to.

Furthermore, paying for rehabilitation is well established in the UK. Since 1998, drink drivers have been able to fund their own rehabilitation and reduce their driving ban by paying for, and completing, a rehabilitation course.[94] Similarly, people on the high-risk offender scheme pay for their own medical examination which is required to certify their fitness to drive.

[91] This is income from which tax and national insurance has been deducted
[92] CPS Legal Guidance. (No Date). Cost-Annex 1. CPS
[93] https://www.insure24-7.co.uk/drink-driving-insurance/
[94] S.34A of The Road Traffic Offenders Act 1988

6.4 Technical standards

Were the UK to introduce an alcohol interlock programme, an interlock standard would need to be set, and devices would need to be certified that meet it. In the UK, these standards would need tp set by the Home Office under the Type Approval process.

These standards usually specify that devices should have certain circumvention prevention features and should, for example, be able to operate within a particular temperature range. In Europe, EN 50436 applies: this is a series of European Standards for interlock devices. It specifies the test procedures and basic performance requirements for alcohol interlocks and gives guidance to authorities, decision makers, purchasers, and users. It also outlines requirements for vehicles for the installation alcohol interlocks.[95]

Certification ensures that interlock devices will operate as expected. This assurance is important not only to government, but also to the public and users in ensuring that the system is fair to all no matter where they live in the UK. Standards also assist in reducing legal challenges to the system.

6.5 Alcohol concentration setpoint

Alcohol interlock programmes need to set the alcohol concentration at which the vehicle will not start. This level varies globally, but most of the literature on interlocks suggests that the level should be as low as possible. Generally, 20mg/100 ml blood is viewed as the ideal level. A low setpoint reinforces the separation of driving from drinking, while minimizing the potential for small amounts of alcohol from foods or mouthwashes to cause lockouts.[96]

6.6 Circumvention and bypass protection

An alcohol interlock schemes needs to prevent device circumvention. A UK interlock programme or trial should ensure all certified interlock devices incorporate features which prevent circumvention and bypass.

This may include:

- Temperature and pressure sensors to prevent the use of air samples which are not provided there and then by the intended driver.
- Protections which help prevent samples from being provided by third parties, such as cameras which are able to photograph the driver when they are providing the sample.
- Requirements for the driver to provide an additional breath sample at random intervals after the vehicle has been started – known as running retests – to help prevent circumvention and prevent users drinking while driving.
- Capacity to record and log all engine starts, stops, breath samples (and the concentration of those samples), start violations, retests and missed retests.
- The ability to transmit information on violations, elevated BACs on retests, missed retests and use of the emergency override to the relevant programme operator.

RECOMMENDATION: ***The government should set standards for alcohol interlock devices. The alcohol concentration setpoint at which the vehicle will not start should***

[95] https://landingpage.bsigroup.com/LandingPage/Series?UPI=BS%20EN%2050436

[96] CCMTA. (2018). Canadian Guidelines for Interlock Programs – 2018. CCMTA.

be set as close to zero as possible. These standards should also ensure that devices incorporate features that reduce the possibility of circumvention, tampering or bypass.

Interlock devices require a blood alcohol concentration setpoint at which the vehicle will not start to be defined. The evidence shows that it should be set as close to zero as possible, within reasonable limits of measurement accuracy. Generally, this point is considered to be 20mg alcohol per 100 mL blood. This is intended to reinforce the complete separation of drinking from driving while simultaneously minimizing the risk that small amounts of alcohol from either food or other products – such as mouthwash – causing unintended lockouts. A wide variety of features exist to reduce the possibility of circumvention, tampering or bypass, including temperature and pressure sensors, cameras, and requirements for 'rolling-retests' at random intervals.

6.7 Subsidies for indigent offenders

Research has shown that the cost of programmes is a significant barrier to entry for some participants.[97] As interlock programmes have been developed, additional features have been added to increase participation. One of those features is support for indigent offenders.

Indigent offenders are offenders who struggle financially and are unlikely to be able to bear the full cost of participation in an interlock programme. The inability to pay should not prevent these offenders from participating in programmes or relieve them of their obligation to participate if it is required as a condition of licence reinstatement.

In most countries with interlock programmes, indigent offenders can apply for a subsidy which partially covers the cost of the interlock. Subsidies vary between countries. In some cases, it will cover certain costs entirely (such as installation) but not others (such as monitoring), while elsewhere it will partially discount all costs.

Subsidies do not completely remove the cost of the interlock programme for indigent participants, they simply make the programme more accessible and affordable. The question of subsidies does raise philosophical questions about driving being a right and not a responsibility. The government would not subsidise someone who cannot afford insurance, and if they drove without insurance they would be banned and have their car seized. This should be considered by the government, however it is clear that from a road safety perspective, subsidies increase participation and participation in an alcohol interlock programme is safer for society than disqualification. An alternative system is the Belgian model, where the cost of the programme is based on an offenders income, not the cost of the programme. This is a similar system to most fines issued in UK courts. For more details on this issue see section 6.14.

6.8 Programme duration

The length of the interlock period in programmes across the world varies substantially. Broadly, the duration of interlock programmes is based upon the period of time during which an offender would normally be prohibited or suspended from driving had they not entered the programme.

First time offenders, for example - on programmes in which they are included - usually serve the shortest interlock period. Offenders that were caught with high BAC readings and repeat offenders usually serve longer interlock periods. This is the case when interlock programmes replace disqualification in its entirety or when they follow disqualifications.

[97] ETSC. (2016). Alcohol Interlocks and Drink Driving Rehabilitation in the European Union. ETSC

There are other features of interlock programmes which can affect the duration of programmes. In some programmes, if offenders repeatedly violate programme conditions, the duration of the programme is extended. Some programmes have no fixed duration. Offenders have their interlock removed once they have not violated conditions of the programme for a fixed period of time – six months, for example.

There is, as yet, no definitive evidence on the ideal length of an interlock programme. However, some research does suggest that compliance with interlock programmes changes over time. Most research finds that in the first weeks or months following device installation, non-compliance – lockouts and other violations - can be common. However, compliance tends to increase as time goes on.

Broadly, the longer duration of the scheme, or the longer the alcohol interlock device is fitted, the fewer failed tests (non-compliance events) appear to be recorded, indicating habituation to the device amongst offenders.[98] This may suggest the longer programmes are more beneficial than shorter ones, but the ideal duration may vary according to characteristics and performance of the individual.

Research has demonstrated that the number of failed breath tests during the interlock period is predictive of the likelihood of recidivism.[99, 100] This suggests that the duration of the interlock period should be tailored to match the behaviour of the participant. Those who have repeated lockouts when attempting to start the vehicle should be kept on the programme longer, until they are able to demonstrate compliance. Those who have few, if any lockouts during the initial months of their participation should be considered for early release from the programme, after a minimum period of participation. Many existing interlock programmes have adopted this flexible approach to programme duration.

Whilst this variable and flexible approach is likely to be most efficient, it should not be the only consideration. For example, if an interlock programme is to be offered to both repeat and first-time offenders, for example, it may be appropriate to apply a longer minimum duration to the more serious offenders. [101]

RECOMMENDATION: ***The minimum duration a participant must spend on the interlock programme should be based on the details of their conviction and individual circumstances. Participants should have to demonstrate sustained compliance with the programme before being able to complete or exit it.***

The number of failed breath tests during the interlock period is predictive of the likelihood of recidivism. Participants who have repeated lockouts when attempting to start the vehicle should be kept on the programme longer, until they are able to demonstrate compliance. Equally, those who have few, if any lockouts during the initial months of their participation should be considered for early release from the programme, after a minimum period of participation. Many existing interlock programmes have already adopted this flexible approach to programme duration. Whilst this variable and flexible approach is likely to be most efficient, fairness should be considered. If an interlock programme is to be offered to both repeat and first-time offenders, for example, it may be fairer to apply a longer minimum duration to the more serious offenders.

[98] Zador, P. L., Ahlin, E. M., Rauch, W. J., Howard, J. M., & Duncan, G. D. (2011). The effects of closer monitoring on driver compliance with interlock restrictions. Accident; analysis and prevention, 43(6), 1960–1967.

[99] Marques, P.R., Tippetts, S., Voas, R.B. & Beirness, D.J. (2001). Prediction repeat DUI offenses with the alcohol interlock recorder. Accident Analysis and Prevention, 33(5), 609-619.

[100] Voas, R.B., Taylor, E. & Kelley-Baker, T. (2014). How necessary is monitoring to interlock program success? Traffic Injury Prevention, 15, 666-672.

[101] Marques, P., and Voas, R. (2010). Key Features for Ignition Interlock Programs. NHTSA.

6.9 Installation, monitoring and management

Alcohol interlocks often combine a breath testing kit and camera. Both have to be fitted, maintained and at the end of a programme, removed. Whilst in use, they generate a considerable amount of data that has to be monitored.

There are two main aspects involved in the monitoring of programme participants. The first concerns the maintenance of the equipment itself, and the second concerns the behaviour of participants.

Participants must report to interlock service centres regularly to have the interlock device checked. Key components, such as the breath alcohol sensor are checked for functionality, and data from the recorder is downloaded for review by the relevant authority.

At each service centre visit, once the data from the device is downloaded, the relevant authority will then review the individuals' record and provide feedback, based on their performance. In some programmes, congratulatory letters are sent to participants when there are no 'fails' or violations on the record. In most programmes, detection of failed tests will usually result in the participant being specifically contacted to discuss the event. In some programmes, repeated failed tests or violations will result in the specific participant being referred to an additional treatment or rehabilitation programme.

In modern devices, data is collected by the interlock and transmitted to a monitoring hub. This data includes breath sample readings, photographs, attempts to tamper with or circumvent the device, and other important information such as records of overrides.

There is variation in monitoring between interlock programmes, with some simply ensuring that the interlock is on the participant's vehicle and functioning while other regularly review interlock data and identify participants who need further support. However, the evidence shows that that more intensive monitoring leads to improved performance – as indicated by fewer high BAC tests when attempting to drive.[102] Additionally, recent studies, show evidence of longer-term, persisting effects of interlock programmes that have been achieved through enhanced monitoring of offenders.[103] This may include regular review of data from the interlock data logger, providing feedback from the review of data, meetings with programme monitors, and participation in educational, motivational, and/or rehabilitation programmes.

A UK interlock programme would require cooperation between the following range of state agencies, and possibly others:

- **The Home Office**
- The National Police Chiefs' Council
- Police and Crime Commissioners
- **The Ministry of Justice**
- The Crown Prosecution Service
- HM Courts and Tribunals Service
- **The Department for Transport and**
- The Driver Vehicle Licensing Agency

[102] Robert B. Voas, Eileen Taylor & Tara Kelley-Baker (2014) How Necessary Is Monitoring to Interlock Program Success?, Traffic Injury Prevention, 15:7, 666-672, DOI: 10.1080/15389588.2013.876019

[103] Voas, R.B., Tippetts, S., Bergen, G., Grosz, M. & Marques, P. (2016). Mandating treatment based on interlock performance: Evidence for effectiveness. Alcoholism: Clinical and Experimental Research, 40(9), 1953-1960.

These departments and agencies would be required to commission and manage interlock programmes in a way that ensures their effectiveness. However, private providers could also play a significant role in the programme process, undertaking much of the functional work such as the fitting and removal of devices, their ongoing maintenance and the monitoring of data.

In other countries, private providers have been responsible for:

1. The installation and removal of alcohol interlocks
2. Regular (monthly) servicing of devices
3. Interlock service centres across the country
4. Interlock programme advice
5. Full details and guidance of costs of participation
6. 24-hour remote support for participants (after hours support for urgent cases)

Additionally, if participation in a rehabilitation programme was also made part of the wider interlock programme, the organisation delivering that rehabilitation would also be actively involved in the overall process. This has been discussed in more detail in section 7.

RECOMMENDATION: *Programme participants should be comprehensively monitored. There should be sanctions for interlock programme violations.*

Research has concluded that offenders will be more compliant with programme rules while on the interlock when monitoring is stronger. Evidence also shows that the frequency of an offender being prevented from starting a vehicle because of an interlock is a strong predictor of recidivism following the removal of the interlock. Effective monitoring includes frequent collecting and reviewing of interlock log data, graduated responses to instances of non-compliance, rewarding instances of good behaviour, regular visual inspection of the device and establishing a face-to-face rapport with interlock clients. Additionally, monitoring can help to identify offenders who are most in need of additional support, possibly in the form of a health intervention or additional treatment.

RECOMMENDATION: *The government should set out and consult on the roles and responsibilities of interlock service providers.*

Interlock service providers are usually private companies. They are responsible for much of the functional work on interlock programmes. Standards for providers may include the minimum number of times the participant must report to the service provider, the location of service centres and what information must be reported to the programme authority. Standards will also need to be set for any separate providers of treatment services, such as those delivering drink drive rehabilitation courses as a part of an interlock programme.

6.10 Sanctions for violations

Violations of interlock programme conditions can include:

- attempts to circumvent or tamper with the interlock;
- starting the vehicle without providing a breath sample;
- failed or missed retests;
- instances of continuous lockouts; and
- failure to attend the regular service centre visits which are required as part of interlock programmes.[104]

[104] Marques, P., and Voas, R. (2010). Key Features for Ignition Interlock Programs. NHTSA.

Introducing sanctions for violations such as these can be difficult. However, many interlock programmes have introduced different measures to attempt to discourage and sanction violations. In some interlock programmes, participants are fined for violating programme rules. In others, repeated violations result in programme extension, as discussed in section 6.3.2.

Evidence shows that interlock programmes which monitor participants closely and incorporate sanctions for violations achieve substantially higher compliance with programme rules.[105] It is therefore recommended within the literature that programmes include sanctions for violations and these sanctions are made clear.[106]

Use of positive reinforcement alongside sanctions should also be considered. Research has also found that using positive reinforcements for good behaviour alongside negative reinforcements for bad behaviour may also be beneficial to achieving high levels of compliance.[107]

RECOMMENDATION: *Programme participants should be comprehensively monitored. There should be sanctions for interlock programme violations.*

There will need to be very clear standards regarding what constitutes a programme violation and the consequences of programme violations should be set out. These violations may include attempts to circumvent or tamper with the interlock device, failing breath tests or missing rolling re-tests or required service centre visits. In many programmes, extension of the programme duration is popular deemed a proportional sanction. The literature shows that removal from the programme is not an effective measure in terms of preventing further drink driving.

6.11 Emergency override

The emergency override feature enables the vehicle in which the interlock is fitted to be started without a breath sample being required. This feature is considered necessary for safety reasons.

In existing interlock programmes, use of the emergency override will instantly trigger a warning to be sent the relevant monitoring authority, notifying them of its use. Participants are then required to take the vehicle to a service facility to have the interlock checked. They are also required to explain the circumstances surrounding the use of the override function, and the monitoring authority judges whether the use was appropriate. The government should consider what circumstances are considered to constitute an emergency and clearly describe these circumstances in the alcohol interlock regulations.

6.12 Participation

Participation is one of the most important considerations when establishing an alcohol interlock programme, and it is regarded as one of the major challenges to delivering a successful programme.

Historically, offenders have been reluctant to enrol in interlock programmes. This was a common finding in early interlock studies, which reported that there were very few offenders in interlock programmes compared to the large numbers of impaired drivers convicted each year.[108]

[105] Zador, P. L., Ahlin, E. M., Rauch, W. J., Howard, J. M., & Duncan, G. D. (2011). The effects of closer monitoring on driver compliance with interlock restrictions. Accident; analysis and prevention, 43(6), 1960–1967.

[106] CCMTA. (2018). Canadian Guidelines for Interlock Programs – 2018. CCMTA.

[107] TIRF. (2015). ALCOHOL INTERLOCKS: MANAGING RISK AND BEHAVIOUR CHANGE. TIRF

[108] Voas, R.B. & Marques, P.R. (2003). Barriers to interlock implementation. Traffic Injury Prevention, 4(Suppl 1), 12-16.

For example, in the 2011 meta-analyses of 17 studies, which mainly considered US programmes, participation varied between 1-64%, with a median participation of only 13%.[109] Early European trials were similarly affected by relatively low participation rates.[110]

6.12.2 Who should be eligible?

There are broadly three categories of drivers who may participate in a programme.

1. First time low-level offenders,
2. Repeat offenders, and
3. Certain other high-risk offenders, including those who have committed two offences in ten years, or have driven with a BAC level of 2.5 times above the legal limit, or have without reasonable cause failed to supply a sample of breath, blood or urine for analysis.

6.12.2 First time offenders

First time offenders could be offered an alcohol interlock as an alternative to prosecution as part of a conditional caution (see Appendix 2 for details). It should be noted that this would be a significant departure from current government policy and would likely only be pursued if an interlock programme was introduced without legislative change. The alternative would be that a first-time offender would be prosecuted and then offered or mandated to participated in an interlock programme as an alternative to full disqualification.

6.12.3 High-Risk offenders

Some drink drivers are placed on the High Risk Offender (HRO) Scheme. High risk offenders are people who have been convicted of:

- Refusing (without lawful excuse) to provide a sample of breath, blood or urine when required to do so under section 7 Road Traffic Act 1988
- Driving or attempting to drive or being in charge of a motor vehicle when 2.5 times over the legal limit

- Drinking and driving for a second time within a ten-year period and
- Have been disqualified from driving for 12 or more months.

They are described in Regulation 74 Motor Vehicles (Driving Licence) Regulations 1999 as suffering from a disability. Offenders on the High Risk Offender scheme need to reapply for their licence and have to pass a medical examination, which is conducted at their own expense. The DVLA currently administers the HRO scheme.

Participation in an alcohol interlock programme for an appropriate period could become a mandatory requirement for High Risk Offenders following their initial ban and before they can get their full driving licence back. The DVLA can set other limitations on High Risk Offenders licences, such as having to attend medical examinations.

The current HRO medical examination consists of a physical examination, a self-completion questionnaire and the supply of a blood and/or urine sample. The samples are used to establish the subject's current alcohol levels and are also used to assess for the presence of a biomarker carbohydrate deficient transferrin (CDT). This provides information about the long-term drinking habits of the subject. These three measures provide a snapshot of the subject's

[109] Zador, P. L., Ahlin, E. M., Rauch, W. J., Howard, J. M., & Duncan, G. D. (2011). The effects of closer monitoring on driver compliance with interlock restrictions. Accident; analysis and prevention, 43(6), 1960–1967.

[110] Martino, A. et al. (2014). TECHNICAL DEVELOPMENT AND DEPLOYMENT OF ALCOHOL INTERLOCKS IN ROAD SAFETY POLICY. European Parliament.

dependency on alcohol. A driving licence is denied to the offender if there is evidence of alcohol misuse or dependency. However, CDT levels are only accurate for around 14 days. Due to the length of notice that HROs are given of their medical assessment, it is possible for them to "game" the system by moderating their drinking prior beforehand. If an interlock programme were to be a part of the HRO scheme, a significant period of driving with an alcohol interlock – and being actively monitored - could be a way of establishing whether a driver with a history of problematic drinking has shown evidence they have changed their drinking and driving habits.

Alcohol interlocks could significantly enhance the HRO scheme. The scheme attempts to prevent those at high risk of reoffending from drink driving again, and the level of monitoring that would be provided through participation in an alcohol interlock programme would undoubtedly assist in that.

RECOMMENDATION: *High risk offenders should be required to participate in an alcohol interlock programme for some period as a prerequisite to reacquiring a driving licence.*

High risk offenders are more likely to reoffend than other drink drive offenders. An alcohol interlock scheme provides a physical barrier which prevents drivers from driving when impaired. Data collected by an interlock programme would also be a useful tool in the assessment of whether high risk offenders are fit enough to be granted a full driving licence.

6.12.4 Causing harm offences

Those convicted of 'causing harm' offences, such as causing death by careless driving when under the influence of drink are a further distinct category. Currently, these offenders have a compulsory retest following their minimum disqualification. While an alcohol interlock may be useful for preventing these offenders from drink driving in the future, it would not be appropriate for them to have their sentence reduced through participation in an interlock programme.

RECOMMENDATION: *High risk offenders should be required to participate in an alcohol interlock programme for some period as a prerequisite to reacquiring a driving licence.*

High risk offenders are more likely to reoffend than other drink drive offenders. An alcohol interlock scheme provides a physical barrier which prevents drivers from driving when impaired. Data collected by an interlock programme would also be a useful tool in the assessment of whether high risk offenders are fit enough to be granted a full driving licence.

6.13 Mandatory interlock programmes

In some cases, mandatory interlock programmes have been introduced for some categories of offenders. These programmes are mandatory in that participation in the programme at some point is required as a condition of relicensing, and offenders cannot necessarily simply opt for disqualification and 'wait out' a disqualification period. Unsurprisingly, evidence shows that participation in these mandatory programmes is higher than in voluntary programmes.[111]

It should also be noted that while these programmes are named as mandatory, the phrase should be interpreted with caution. offenders are able to choose not to participate in mandatory programmes, however, the consequence – which differs between programmes

[111] http://mail.icadtsinternational.com/files/documents/2013_111.pdf

– is that they will not be able to reapply for a driving licence for a substantial period of time – usually a much longer period than a traditional disqualification, and in some cases for an indefinite period of time.

RECOMMENDATION: *The government should consider mandating participation in an alcohol interlock programme for all offenders as a pre-requisite to being fully re-licensed.*

The evidence shows that mandatory all offender programmes have a more significant impact on road safety than programmes where participation is mandatory only for certain offenders. This is because participation in mandatory all offender programmes is much higher than those where participation is only mandatory for certain offenders. 'Partial' programmes – where only certain levels of offenders are required to participate – have a more limited effect on collisions. These programmes are usually mandatory for repeat and 'high risk' offenders but remain voluntary for first time offenders. There is no research that shows fully voluntary programmes (voluntary for all levels of offenders) have any significant impact on collisions or casualties.

6.14 Other factors affecting participation

Costs

The costs borne by eligible offenders for participation in alcohol interlock programmes are the most commonly cited reason for low participation.[112, 113, 114]

As has been discussed, the cost of participation in interlock programme can be significant, and offenders are usually required to pay for participation. This is a significant disincentive for many offenders, not least because they are already facing financial penalties for their offence. Furthermore, the alternative to an alcolock programmes is usually a licence disqualification, which itself does not have direct financial costs.

One solution to this that has been widely embraced is the introduction of subsidies for indigent offenders. As discussed in Section 5.3.1, subsidies encourage and provide the opportunity for less well-off offenders to participate in programmes.

RECOMMENDATION: *Offenders should be responsible for the cost of the interlock programme. Costs for offenders who may be incapable of financing participation, may be reduced through a cross-subsidy scheme where affluent offenders pay more.*

One of the most fundamental principles of interlock programmes is that offenders pay for participation to cover the cost of running the programme, and for the privilege to drive when the offender would otherwise be disqualified. This also acts an incentive to comply with the rules of the interlock programme. Should an interlock programme be introduced into the UK, offenders should be required to cover the cost of participating in the programme. However, it is preferable that offenders are not excluded from participating in programmes because of their financial circumstances. Subsidies are increasingly popular in interlock programmes across the world. A subsidy programme makes schemes more equitable and may improve participation in the interlock programme.

[112] Martino, A. et al. (2014). TECHNICAL DEVELOPMENT AND DEPLOYMENT OF ALCOHOL INTERLOCKS IN ROAD SAFETY POLICY. European Parliament.

[113] Beirness, D.J. (2001). Best Practices for Alcohol Interlock Programs. Ottawa: Traffic Injury Research Foundation.

[114] Forsman, A., and Wallhagen, S. (2019). Drink drivers' views of a voluntary alcohol interlock programme for drink driving offenders in Sweden. Accident Analysis and Prevention. 124(1).

The risk of detection for driving while suspended

Another key factor in low participation is the likelihood of being caught driving while suspended. Some offenders will choose not to participate in an alcohol interlock programme if they believe they will be able to simply opt for a disqualification, but still continue to drive on that disqualification without repercussions.[115]

Evidence shows that some offenders choose to avoid the expense and inconvenience of using an interlock device and continue to drive, even while suspended.[116] Furthermore, the ease with which offenders can forgo interlock programmes and drive while suspended significantly undermines interlock programmes and more broadly, drink driving laws.[117] It is suggested that laws against driving while suspended could be strengthened and more effectively enforced, since if offenders perceive a greater risk of arrest for driving while suspended, they may be more willing to participate in an interlock programme.[118]

RECOMMENDATION: *Enforcement of drink-driving laws should be enhanced*

Strong and effective enforcement is key to the success of an alcohol interlock programme. Firstly, the number of participants depends entirely on the number of offenders caught by the police for drink driving. The higher the level of participation, the greater the impact of the interlock programme on road safety at a societal level.[119] *Furthermore, research shows that if the perceived chance of offenders being stopped is low, they may decide to opt out of an interlock programme because they believe they can get away with driving while suspended.*[120] *The 2020 PACTS report proposed a comprehensive strategy.*

Social factors

Some research has found that social factors play a part in an offender's decision to participate in an interlock programme. A Swedish study published in 2019 found that being afraid of being considered an alcoholic was the second most common reasons for not participating in an alcohol interlock programme (around one-third of non-participants gave this reason).[121] An earlier Swedish study also found that the potential embarrassment of having to provide repeated breath samples appears to be a disincentive to potential participants.[122]

Preceding disqualification

There is not an extensive literature on how long disqualification before bans should be. However, the literature that exists is clear that offenders should be given the opportunity to enter an interlock programme at the earliest possible opportunity, rather than having to serve lengthy disqualifications first. Research suggests that early entry into programmes reduces the likelihood that the offender will drink-drive while suspended prior to having the interlock installed. It also suggests that early entry provides an incentive to participate, and

---

[115] Voas, R.B., Tippetts, S.S., Fisher, D., & Grosz, M. (2010) Requiring suspended drunk drivers to install alcohol interlocks to reinstate their licenses: Effective? Addiction, 105, 1422-1428.

[116] National Highway Traffic Safety Administration. (2010a). Evaluation of the New Mexico Ignition Interlock Program. Washington: Marques, P., Voas, R., Roth, R., & Tippetts, S.

[117] Voas, R., Tippetts, S., Fisher, D., & Grosz, M. (2010). Requiring suspended drunk drivers to install alcohol interlocks to reinstate their licenses: effective? Addiction, 105(8), 1422-28.

[118] http://mail.icadtsinternational.com/files/documents/2013_111.pdf

[119] Ullman, D. (2016). Locked and not loaded: First time offenders and state ignition interlock programs. International Review of Land Economics. 45(1).

[120] Schonfeld, C., and Sheehan, M. (2004). Critical Overview of Alcohol Ignition Interlock Programs in Australia. ICADTS

[121] Forsman, A., and Wallhagen, S. (2019). Drink drivers' views of a voluntary alcohol interlock programme for drink driving offenders in Sweden. Accident Analysis and Prevention. 124(1).

[122] Silverans, P., Alvarez, J., Assum, A., Drevet, M., Evers, C., Hagman, R., Mathijssen, R. (2006), 'Alcolock implementation in the European Union', Deliverable D-2.

that offenders are less likely to participate in an interlock programme if it is preceded by a lengthy hard licence disqualification.[123, 124]

Currently, the disqualification period can be reduced by 3-months with participation in a drink driving rehabilitation course. If interlock programmes were to be introduced, discounts to disqualification periods would likely need to be offered to offenders. Of course, this would vary with each level of offender. For first time offenders, typically banned for twelve months, the ban could be reduced to six months if the offender participates in an interlock programme. In the Nova Scotia interlock programme, first time offenders (who may be suspended for 12 months) may only be required to serve 3 months of disqualification, provided they participate in an interlock programme for at least the following 9 months. Repeat offenders may have their licence disqualification period reduced to a minimum of 9 months, followed by a minimum 18-month interlock installation period.[125]

The government will need to balance the justice implications of reducing drink driving bans with the road safety benefits of short bans.

RECOMMENDATION: ***The government should consider whether offenders who participate in an alcohol interlock programme should be eligible for a reduced period of licence disqualification prior to being given an interlock. This should not apply to those found guilty of causing death or harm by drink driving.***

There is overwhelming evidence that interlock programmes are more effective at reducing recidivism than licence disqualification amongst offenders. Interlocks provide a physical barrier that prevents operation of the vehicle if the user is over the limit, whereas the effectiveness of disqualification on recidivism is directly related to perceptions of drink drive enforcement and many drivers continue to drive while suspended. The evidence also shows that a long period of disqualification – over 2-3 years – increases the chances for offenders to return to drink driving, which may go undetected. Reductions or removal of disqualification periods offer an incentive for offenders to participate positively in an alcohol interlock programme, especially if the programme is voluntary.

Reluctance from courts

Some research has also found the willingness of courts to order or offer offenders participation in a programme to be a factor which has limited participation.[126] Specifically, it suggests judges do not consistently impose alcohol interlock sentences. An evaluation of a US interlock programme found that the main reasons judges gave for not ordering participation in an interlock scheme were that many offenders seemed unable to pay for the programme, and that they did not believe the interlock would be an effective measure.[127]

The interlock programme introduced in New Zealand initially suffered from a lack of participation, whereby only 2% of eligible offenders were actually imposed or offered participation in the programme. Lack of knowledge of the programme and its benefits from judges was cited as one of the potential reasons for this.[128]

[123] CCMTA. (2018). Canadian Guidelines for Interlock Programs – 2018. CCMTA.

[124] National Highway Traffic Safety Administration. (2010a). Evaluation of the New Mexico Ignition Interlock Program. Washington: Marques, P., Voas, R., Roth, R., & Tippetts, S

[125] Ontario Ministry of Transport (No Date). Reduced Suspension with Ignition Interlock Conduct Review Program. OMOT

[126] Beirness, D.J. (2001). Best Practices for Alcohol Interlock Programs. Ottawa: Traffic Injury Research Foundation.

[127] DeYoung, D.J. (2002) An Evaluation of the Implementation of Ignition Interlock in California. Journal of Safety Research, 33(4), 473-482.

[128] Waters, Gerald. (2019). The New Zealand Alcohol Interlock Programme - A Process Review.

Convenience

Research has also found that participation may be affected by the availability of interlock service providers and centres, and the required inspection schedule. For example, if participants are required to drive long distances frequently to get their interlock serviced, they may be less likely to complete or enter into a programme.[129]

[129] DeYoung, D.J. (2002). An evaluation of the implementation of ignition interlock in California. Journal of Safety Research, 33, p. 473-82.

CHAPTER 7

Integration with drink-drive rehabilitation courses

7.1 Drink drive rehabilitation and interlocks

Whilst most of the discussion above refers to specific features of alcohol interlock programmes, an alcohol interlock programme should not be limited to simply the installation and monitoring of the interlock device itself. Rather, it should be designed as a coordinated set of interventions intended to reduce the possibility that participants continue to drink drive. Rehabilitation has a fundamental role to play in this package.

7.1.1 Drink drive rehabilitation courses

Drink drive rehabilitation courses were initiated in 1991, when section 30 of the Road Traffic Act (1991) introduced a provision for sentencing courts to refer those who were suspended for drink driving offences to approved drink drive rehabilitation course providers. Completing the drink drive rehabilitation course can reduce any disqualification by up to 25%. It can also help reduce future car insurance premiums for convicted drivers.

The amendments made by the Road Traffic Act 1991 to the Road Traffic Offenders Act of 1988 allowed courts to offer drink drive offenders the opportunity to attend specially designed drink drive rehabilitation courses. These courses were run by a number of different organisations and were introduced in 1993 as pilot courses in a few areas. Today, over 30,000 individuals participate in DDR courses every year.[130]

The course aims to support participants to take responsibility for their actions, recognise where they have acted inappropriately, and recognise that they can, and should, behave differently in compliance with driving standards, road traffic law and for general health benefits'.

A drink drive rehabilitation course is currently offered to many offenders who plead guilty to a drink drive offence and are banned from driving for 12 months or more. The course can cost up to £250. Having taken a course, the offender's driving ban is usually reduced by a quarter and their car insurance will often be cheaper. A similar scheme is run in Northern Ireland, though at lower cost (up to £160). The course is taken in person and in groups, though some have been completed virtually during the coronavirus pandemic. It takes places over 16 hours, typically on three days spread over three weeks. The course has two units, one on *understanding* the impact of alcohol use in relation to driving and one on *changing* alcohol use in relation to driving.

7.1.2 Who are drink drive rehabilitation courses are aimed at?

Courses are open to offenders whom the courts deem suitable. This includes offenders who are found guilty of any of the drink drive offences listed below and have been banned from driving for 12-months or longer.

- Driving with alcohol in the blood above the prescribed limit
- Driving and failing to provide specimen for analysis (breath, blood or urine)
- In charge of motor vehicle with alcohol in the blood above the prescribed limit In charge of motor vehicle while unfit through drink or drugs (impairment)
- In charge of motor vehicle and failing to provide specimen for analysis (breath, blood or urine)
- In charge of a vehicle whilst unfit to drive through drink or drugs (impairment) – Drink
- Driving or attempting to drive a vehicle whilst unfit to drive through drink or drugs (impairment) – Drink

[130] DVSA (No 2017). Drink-drive rehabilitation scheme data. DVSA.

- Driving or attempting to drive a motor vehicle whilst unfit through drink or drugs (impairment)
- Failing to provide specimen for initial breath test
- Failing to allow specimens of blood to be subjected to laboratory test

7.1.3 The effectiveness of drink drive rehabilitation courses

The first assessment of the effectiveness of drink drive rehabilitation courses was carried out by TRL following their introduction in 1993 as pilot courses. The evaluation of the effectiveness of these pilot courses investigated the reconviction rates of those attending a course between 1993 and 1996 compared to those who had not attended a course.

TRL found that the course successfully reduced reoffending, with the reoffending rate of those who did not attend the course being almost three times higher than the reoffending rate of those who did 36 months after taking the course.[131] TRL continued to monitor the drink driving rehabilitation course and evaluations were carried out in 2003 and 2007, which both reaffirmed the effectiveness of drink driving rehabilitation courses. Those that did not attend the course were found to be 2.15 times more likely to reoffend within three years of conviction than those that did.

7.2 Integrating DDR courses into interlock programmes

The drink drive rehabilitation course could serve as a pre-requisite to taking part in an alcohol interlock programme. In this situation the course would act as a way to help support participants recognise how they should behave in compliance with the drink drive law before an interlock is fitted. The course could also provide an introduction to the alcohol interlock programme. This would require some change to the legislation regarding alcohol interlocks as under the 2006 Road Safety Act, the two were meant to be separate.

RECOMMENDATION: ***Alcohol interlock programmes should contain a requirement to attend a rehabilitation course.***

Whilst interlock devices are very effective at reducing recidivism during the interlock period, offenders tend to revert to recidivism levels similar to those who are serving licence disqualification once the device is uninstalled. However, offenders on interlock programmes with strong rehabilitation elements are less likely to reoffend post interlock device removal.

7.3 Limitations of DDR courses

7.3.1 Alcohol and mental health problems

A concern raised with the UK rehabilitation course is its ability to accurately identify and offer appropriate help to those with alcohol and mental health problems. Some of the literature and interviews with experts on mental health suggest that drink drive courses should treat those with and without alcohol problems in separate programmes, as they require separate interventions and treatments, or at least offer separate treatments for those with alcohol and mental health problems.[132] Interviews with drink drivers conducted in the PACTS report 'Drink Driving: Taking stock, moving forward' also suggested that the alcohol and mental health problems which underlaid their decisions to drink drive were not considered in the drink drive rehabilitation course.

[131] Davies, G., Harland, G., and Broughton, J. (1999). Drink/driver rehabilitation courses in England and Wales. TRL Report 426.

[132] Schulze, H., Schumacher, M., Urmeew, R., Auerbach, K. (2012). Final Report: *Work performed, main results and recommendations*. DRUID.

It should be noted that the current drink drive rehabilitation course is not designed to treat people with alcohol problems. Specifically, the course recognises that many attending the course do not have a drink problem and 'it is not intended to be a therapeutic or clinical intervention.'[133] However, some studies of recidivist drink drivers suggest that because of the strong associations with alcohol consumption and recidivism, interventions such as alcohol treatment programmes are required to reduce future drink driving amongst this population.[134] Better provision for those with alcohol problems is likely to reduce drink driving along with its other benefits. The course in its current form is also effective at reducing reoffending amongst attendees.

The current course may not be appropriate for those with mental health issues. Some providers use video of collisions or police responding to collisions on the course. Evidence shows that shock or 'blood and guts' videos are not effective road safety interventions.[135] Interviews with mental health experts suggest that this strategy is particularly ineffective and inappropriate for those with mental health issues. Interventions which aim to reduce drink driving should be psychologically informed. This means creating an environment for vulnerable people where staff are aware of their needs and create a sense of safety, rather than traumatic experiences. Many courses and course trainers meet this standard now, but it is challenging, and no specific training on this is required for course instructors or planners.

The fact that the current drink drive course may be less effective for those with alcohol or mental health issues is not an argument for discontinuing it. The course is not aimed at this group of offenders and it is effective at reducing reoffending. It reiterates the need to have alternative programmes and sentences for those with alcohol and mental health issues. However, as those with these issues do attend the course, and because it would not impact course effectiveness, course providers should routinely evaluate course content to ensure it is more psychologically aware and should remove content such as 'shock' videos.

The need for an effective rehabilitation scheme for people with alcohol or mental health issues has been further emphasised by the increase in the number of people with alcohol or mental health issues during the coronavirus pandemic.[136] These trends, combined with more people choosing to drive rather than use public transport and reports of increased drink driving in some other countries,[137] shows the need for the Government to monitor this situation and be able to provide effective rehabilitation for people with alcohol and mental health issues.

RECOMMENDATION: *Additional treatment or remedial programmes should be made available to programme participants who exhibit patterns of non-compliance or signs of alcohol dependency.*

Although rehabilitation programmes, such as the UK drink drive rehabilitation course are shown to have positive effects on the reoffending rates of participants many do not accurately identify and offer appropriate help to those with alcohol and mental health problems. Rehabilitation courses should treat those with and without alcohol and mental problems in separate programmes as they require separate interventions and treatments or at least offer separate treatments for those with alcohol and mental health problems. Given the monitoring capabilities of alcohol interlock programmes, it would also be possible to mandate additional treatment for offenders that demonstrate patterns of non-compliance, such as frequent failed breath tests.

[133] DVSA. (Undated). *Drink-drive rehabilitation scheme course syllabus.* DVSA.

[134] Freeman, J. et al. (2006). The self-reported impact of legal and non-legal sanctions on a group of recidivist drink drivers. *Transportation Research Part F: Traffic Psychology and Behaviour*, 9(1), 53-64.

[135] Webster, E., and Norbury, F. (2019). Seat Belts: The forgotten road safety priority. PACTS.

[136] Mental Health Foundation. (2020). Coronavirus: Mental Health in the Pandemic. Mental Health Foundation. Sallie, S. et al. (2020). Assessing international alcohol consumption patterns during isolation from the COVID-19 pandemic using an online survey: highlighting negative emotionality mechanisms. BMJ Open, 10(1).

[137] NHTSA (2020). Road Traffic Deaths. NHTSA

CHAPTER 8

Conclusions and recommendations

Photo courtesy of ALCOLOCK UK /ACS

8.1 Conclusions

Drink driving remains a significant road safety issue. Since 2010, there have been around 240 deaths a year in Great Britain involving a driver over the legal drink driving limit. This amounts to some 13% of total road deaths. The lack of progress in reducing this figure over the last ten years demonstrates that the current approach to tackling drink driving needs to be strengthened.

A major component of the drink driving problem is reoffending. Since 2010, over 100,000 drink driving offences have been committed by someone with a previous drink or drug driving offence on their DVLA record. As these are only the cases that have gone before the courts, it seems inevitable that the true level of drink driving (recidivism) by such people is far higher.

In recent decades, alcohol interlock programmes have become increasingly popular across the world. They are used voluntarily by some companies in the UK, mainly in the freight and passenger transport sectors, to manage work-related road safety in their operations and by a small number of private individuals. Wider use of alcohol interlocks has been suggested as a measure to reduce reoffending and related casualties in the UK.

Alcohol interlocks provide a physical barrier which prevents operation of the vehicle if the user is over a specified alcohol threshold. (This may be lower than the legal drink driving limit.) The technologies for such systems are now well developed and supplied by a number of companies. By contrast, the effectiveness of disqualification relies considerably on perceptions of drink driving enforcement by the police.

This report reviews international evidence on the use of alcohol interlocks. It shows that they are an effective measure not only to reduce recidivism, but also to reduce the number of alcohol-related collisions and casualties. The greater the use of alcohol interlocks, the greater the road safety benefits. There is overwhelmingly evidence that, when compared to licence suspension or disqualification, alcohol interlock programmes are more effective at reducing recidivism amongst offenders. If alcohol interlock programmes incorporate strong rehabilitation elements, reductions in recidivism can be sustained beyond the time during which the device is installed. Experience shows that it is more effective if offenders do not serve lengthy prior licence suspension or disqualification as they may reoffend, despite the ban, before they enter the alcohol interlock programme.

The report investigates the feasibility of using alcohol interlocks in the UK. It considers the previous UK trials, as well as the experience of introducing alcohol interlock programmes in Europe, the US, Canada, Australia and New Zealand. There is clear evidence of overall benefits, although the process has not always been easy, and the legal and administrative context is important. Those programmes in New Zealand and Australia seem particularly useful as models for the UK. Nova Scotia has used alcohol interlock extensively with considerable success. The key features of alcohol interlock programmes are outlined and discussed.

This report recommends that the UK Government develop and implement an alcohol interlock programme as soon as possible. New legislation will be required to enable this to operate effectively. Standards, roles and responsibilities will need to be defined. Because of the road safety benefits, alcohol interlocks should be available to the courts to offer or mandate for drink drivers as widely as possible. The government should consider mandating participation for at least some offenders.

The courts should be able to reduce the period of licence disqualification for those offenders who agree to fitment of an alcohol interlock, as the courts can do for drivers who agree

to participate in a drink driving rehabilitation course. This should not apply, however, to drivers who committed a "causing harm" offence. Wherever possible, the programme should include rehabilitation, with additional treatment made available for those with alcohol and mental health issues. Offenders should be responsible for the costs of the interlock programme which are low relative to the full costs of drink driving offence. The UK justice system does not subsidise offenders for the costs of their rehabilitation. However, a system of cross-subsidy for those who may be unable to afford it may be possible by charging more to the more affluent offenders. The alcohol concentration setpoint for the alcohol interlock should be as close to zero as is practicable and sanctions applied for programme violations. Participants should have to demonstrate sustained compliance with the programme before being able to exit it.

Overall, it is clear that while consultation is required on some of the details of an interlock programme, the potential benefits of implementing one in the UK are substantial. Interlock programmes also offer significant value for money. The cost to society from alcohol-related collisions is substantial, and evidence shows that not only can interlock programmes help to reduce the number of alcohol-related collisions but also they can improve the health and wellbeing of offenders. There appears to be public support with a clear majority of the UK public believing that the installation of an alcohol interlock should be standard for drink-drive offenders.

8.2 Recommendations

Alcohol interlock programme legislation, implementation and enforcement

1 **The government should consult on proposals to introduce a UK alcohol interlock programme as soon as possible. Further trials are not recommended.**

There is already substantial international evidence to demonstrate the effectiveness of alcohol interlock programmes on reducing recidivism and alcohol-related collisions. Every country has unique circumstances and there is considerable expertise available to the UK government to assist with designing and running an effective alcohol interlock programme for the UK. Consultation should be followed by legislation. Existing legislation is not adequate.

Further trials are not recommended. They would require legislation, and take three five years to design, operate and evaluate. Without full legislative force, they might also fail to serve their purpose. They would only delay the implementation of an interlock programme and its road safety benefits.

2 **Enforcement of drink-driving laws should be enhanced.**

Strong and effective enforcement is also important to the success of an alcohol interlock programme. Firstly, the number of participants depends entirely on the number of offenders caught by the police for drink driving. The higher the level of participation, the greater the impact of the interlock programme on road safety. Furthermore, if the perceived chance of offenders being stopped is low, they may decide to opt out of an interlock programme because they believe they can get away with driving while disqualified. The 2020 PACTS on drink driving report proposed a comprehensive strategy.

Technical and procedural

3 **The government should set standards for alcohol interlock devices. The alcohol concentration setpoint at which the vehicle will not start should be set as close**

to zero as possible. These standards should also ensure that devices incorporate features that reduce the possibility of circumvention, tampering or bypass.

Interlock devices require a blood alcohol concentration setpoint at which the vehicle will not start to be defined. The evidence shows that it should be set as close to zero as possible, within reasonable limits of measurement accuracy. Generally, this point is considered to be 20mg alcohol per 100 mL blood. This is intended to reinforce the complete separation of drinking from driving while simultaneously minimizing the risk that small amounts of alcohol from either food or other products – such as mouthwash – causing unintended lockouts. A wide variety of features exist to reduce the possibility of circumvention, tampering or bypass, including temperature and pressure sensors, cameras, and requirements for 'rolling-retests' at random intervals.

4 **The government should set out and consult on the roles and responsibilities of interlock service providers.**

Interlock service providers are usually private companies. They are responsible for much of the functional work on interlock programmes. Standards for providers may include the minimum number of times the participant must report to the service provider, the location of service centres and what information must be reported to the programme authority. Standards will also need to be set for any separate providers of treatment services, such as those delivering drink driving rehabilitation courses as a part of an interlock programme.

5 **The courts should be responsible for determining the application of alcohol interlock use in individual cases and an appropriate agency, with the necessary regulatory power to enforce programme rules, should administer it.**

Historically, alcohol interlock programmes for drink driving offenders have adopted one of two models: the judicial model, in which courts are responsible for monitoring and administrative oversight; and the administrative model, in which the responsibility for compliance monitoring and administrative oversight is placed in the hands of a government agency—typically the driver licensing authority. The judicial model has the benefit of being able to enforce compliance (enrolment on an interlock programme). However, the more recent trend has been towards alcohol interlock programmes administered by driver licensing authorities. This has the benefit of:

- Dedicated staff dealing with similar issues on a recurring basis, resulting in a higher level of professionalism and expertise in decision making.
- Decisions based on traffic safety as opposed to criminal justice considerations.
- Ability to respond quickly and to incidents of non-compliance.
- Ability to extend the required term of interlock use.
- Access to driver records to assist in decision making.

Participation and eligibility

6 **The courts should have the powers to offer or require alcohol interlocks for all offenders, including first-time offenders. Those who have committed causing harm offences, however, should not receive a reduction in their disqualification period.**

Interlock programmes have the greatest effect when they are applied to a broader cross-section of offenders and a higher proportion of offenders have the interlock device installed. Laws mandating interlock use for all offenders are more effective at reducing alcohol-involved fatal crashes than laws requiring interlocks for segments of high-risk

offenders. Furthermore, many 'first-time offenders' may in fact be repeat offenders that have just been caught for the first time. To maximise the impact of interlock programmes, the Government should ensure that offenders of all levels are able to participate in an alcohol interlock programme, though those who have committed causing harm offences should not receive a reduction in their ban.

7 High risk offenders should be required to participate in an alcohol interlock programme for some period as a prerequisite to reacquiring a driving licence.

High risk offenders are more likely to reoffend than other drink driving offenders. An alcohol interlock scheme provides a physical barrier which prevents drivers from driving when impaired. Data collected by an interlock programme would also be a useful tool in the assessment of whether high risk offenders are fit enough to be granted a full driving licence.

8 The government should consider mandating participation in an alcohol interlock programme for all offenders as a pre-requisite to being fully re-licensed.

The evidence shows that mandatory all offender programmes have a more significant impact on road safety than programmes where participation is mandatory only for certain offenders. This is because participation in mandatory all offender programmes is much higher than those where participation is only mandatory for certain offenders. 'Partial' programmes – where only certain levels of offenders are required to participate – have a more limited effect on collisions. These programmes are usually mandatory for repeat and 'high risk' offenders but remain voluntary for first time offenders. There is no research that shows fully voluntary programmes (voluntary for all levels of offenders) have any significant impact on collisions or casualties.

9 The government should consider whether offenders who participate in an alcohol interlock programme should be eligible for a reduced period of licence disqualification prior to being given an interlock. This should not apply to those found guilty of causing death or harm by drink driving.

There is overwhelming evidence that interlock programmes are more effective at reducing recidivism than licence disqualification amongst offenders. Interlocks provide a physical barrier that prevents operation of the vehicle if the user is over the limit, whereas the effectiveness of disqualification on recidivism is directly related to perceptions of drink driving enforcement and many drivers continue to drive while suspended. The evidence also shows that a long period of disqualification – over 2-3 years – increases the chances for offenders to return to drink driving, which may go undetected. Reductions or removal of disqualification periods offer an incentive for offenders to participate positively in an alcohol interlock programme, especially if the programme is voluntary.

Rehabilitation and monitoring

10 Alcohol interlock programmes should contain a requirement to attend a rehabilitation course.

Whilst interlock devices are very effective at reducing recidivism during the interlock period, offenders tend to revert to recidivism levels similar to those who are serving licence disqualification once the device is uninstalled. However, offenders on interlock programmes with strong rehabilitation elements are less likely to reoffend post interlock device removal.

11 Additional treatment or remedial programmes should be made available to programme participants who exhibit patterns of non-compliance or signs of alcohol dependency.

Although rehabilitation programmes, such as the UK drink driving rehabilitation course are shown to have positive effects on the reoffending rates of participants many do not accurately identify and offer appropriate help to those with alcohol and mental health problems. Rehabilitation courses should treat those with and without alcohol and mental problems in separate programmes as they require separate interventions and treatments or at least offer separate treatments for those with alcohol and mental health problems. Given the monitoring capabilities of alcohol interlock programmes, it would also be possible to mandate additional treatment for offenders that demonstrate patterns of non-compliance, such as frequent failed breath tests.

12 Programme participants should be comprehensively monitored. There should be sanctions for interlock programme violations.

Research has concluded that offenders will be more compliant with programme rules when monitoring is stronger. Evidence also shows that the frequency of an offender being prevented from starting a vehicle because of an interlock is a strong predictor of recidivism following the removal of the interlock. Effective monitoring includes frequent collecting and reviewing of interlock log data, graduated responses to instances of non-compliance, rewarding instances of good behaviour, regular visual inspection of the device and establishing a face-to-face rapport with interlock clients. Additionally, monitoring can help to identify offenders who are most in need of additional support, possibly in the form of a health intervention or additional treatment.

There will need to be clear standards regarding what constitutes a programme violation and the consequences of programme violations should be set out. These violations may include attempts to circumvent or tamper with the interlock device, failing breath tests or missing rolling re-tests or required service centre visits. In many programmes, extension of the programme duration is popular deemed a proportional sanction. The literature shows that removal from the programme is not an effective measure in terms of preventing further drink driving.

13 The minimum duration a participant must spend on the interlock programme should be based on the details of their conviction and individual circumstances. Participants should have to demonstrate sustained compliance with the programme before being able to complete or exit it.

The number of failed breath tests during the interlock period is predictive of the likelihood of recidivism. Participants who have repeated lockouts when attempting to start the vehicle should be kept on the programme longer, until they are able to demonstrate compliance. Equally, those who have few, if any lockouts during the initial months of their participation should be considered for early release from the programme, after a minimum period of participation. Many existing interlock programmes have already adopted this flexible approach to programme duration. Whilst this variable and flexible approach is likely to be most efficient, fairness should be considered. If an interlock programme is to be offered to both repeat and first-time offenders, for example, it may be fairer to apply a longer minimum duration to the more serious offenders.

Costs

14 Offenders should be responsible for the cost of the interlock programme. Costs for offenders who may be incapable of financing participation, may be reduced through a cross-subsidy scheme where affluent offenders pay more.

One of the most fundamental principles of interlock programmes is that offenders pay for participation to cover the cost of running the programme, and for the privilege to drive when the offender would otherwise be disqualified. This also acts an incentive to comply with the rules of the interlock programme. Should an interlock programme be introduced into the UK, offenders should be required to cover the cost of participating in the programme. However, it is preferable that offenders are not excluded from participating in programmes because of their financial circumstances. Subsidies are increasingly popular in interlock programmes across the world. A subsidy programme makes schemes more equitable and may improve participation in the interlock programme.

APPENDIX 1:

Research methods

Searches were conducted of the academic literature on alcohol interlocks. This involved using Google Scholar, ProQuest and Web of Science searches and the citations and bibliographies of relevant documents. Searches of key government and parliamentary documents on drug driving at a UK, European and global level were also conducted. These included reviews of alcohol interlocks and assessments of policy options. Studies were found from the EU, Denmark, France, the Netherlands, Norway, Switzerland, Canada, the USA, Australia, and New Zealand. Only studies published in English or that provided abstracts in English were selected. Finally, members of PACTS' network and the projects advisory panel were asked to provide relevant articles and documents. Studies were screened at title, abstract and at full text.

Evidence was prioritised based on relevance to the current situation regarding drink driving in the UK. More recent research has been prioritised as has research from other countries with similar road safety records.

In-depth semi-structured interviews were conducted with experts on alcohol interlocks as well as with roads police officers and those who work directly in alcohol treatment. Interviewees included people with expertise on drink driving in the UK, USA, Canada, Australia, New Zealand and Europe. These interviews were conducted in person or over the phone by at least one member of PACTS' staff and lasted between 30 and 90 minutes. Notes were made on the interviews. They were followed up with email requests for further information when necessary. Interviews provided information on best practice on alcohol interlocks across the world.

Data were obtained from a number of sources. Stats19 road casualty data were used as the primary source of casualty data, both from the *Reported Road Casualties Great Britain* annual reports, published by the DfT, and from further analysis of underlying data. Stats19 data are recorded by police forces, either from having visited the scene or from reports from the public.

PACTS also obtained data on drink driving offences from the *Ministry of Justice Motoring Tool; Recorded Crime in Scotland*; and *Police Service of Northern Ireland Recorded Crime Statistics. Survey data from the Crime Survey for England and Wales, National Travel Attitudes Survey and RAC Report on Motoring* were collated. PACTS also requested and received data from the Driver and Vehicle Licensing Agency (DVLA) on drink/drug driving and reoffending and the number of people who have their licence revoked as a result of drug issues. Data were used to provide insight on the profile of dink drivers in the UK, the effectiveness of current drink driving policy, and the scope for improvement offered by alcohol interlocks.

admin@pacts.org.uk
0207 222 7732
www.pacts.org.uk
@PACTS

Parliamentary Advisory Council for Transport Safety (PACTS)
Buckingham Court
78 Buckingham Gate
Westminster
London
SW1E 6PE

Designed by Trevor Mason, Glyme Creative Ltd.