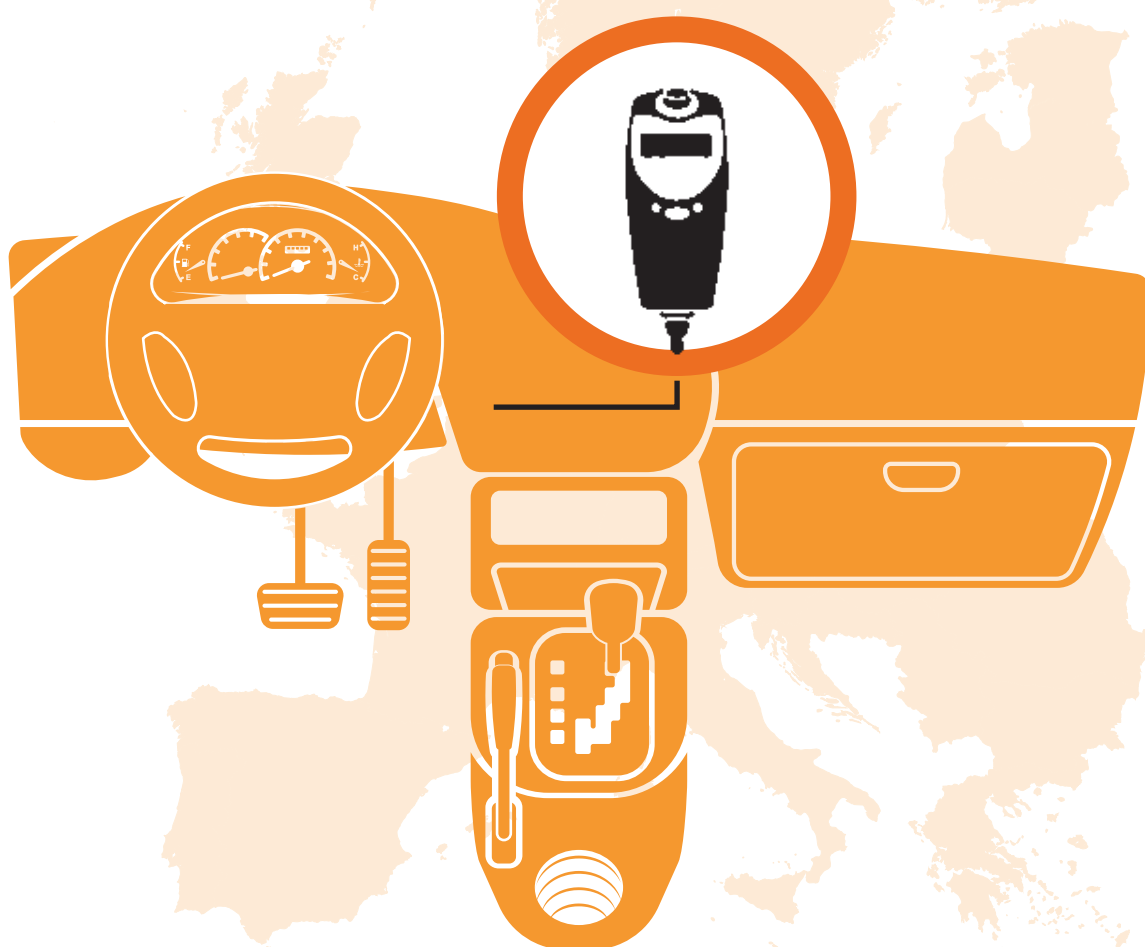


ALCOHOL INTERLOCKS AND DRINK DRIVING REHABILITATION IN THE EUROPEAN UNION

Best practice and guidelines for Member States



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ALCOHOL INTERLOCKS AND DRINK DRIVING REHABILITATION IN THE EUROPEAN UNION

Best practice and guidelines for Member States

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December 2016

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INTRODUCTION

Across Europe there is still a group of hard core drink driving offenders that seem unwilling or unable to change their behaviour despite the use of traditional countermeasures such as awareness campaigns, fines and driving bans.

For this group, the introduction of an alcohol interlock programme seems to be an effective measure.

Studies have repeatedly shown that alcohol interlock programmes, combined with rehabilitation programmes, cut reoffending rates both during and after the driver has been required to install the device in their vehicle.

This document offers practical guidelines to national authorities that want to implement an alcohol interlock programme for alcohol offenders in their country. The guidelines are based on our analysis of existing alcohol

interlock programmes in use across the region. We have combined the most successful elements of the systems implemented to highlight an effective set of principles that can be applied, while avoiding some of the pitfalls experienced by early-adopter countries.

The report consists of three parts. The first provides an overview of the background to the drink driving problem and some traditional countermeasures. The second part profiles alcohol interlock offender programmes from five European countries. The third and final part presents some main practical guidelines for national authorities that are considering an alcohol interlock programme.



Studies have repeatedly shown that alcohol interlock programmes, combined with rehabilitation programmes, cut reoffending rates both during and after the driver has been required to install the device in their vehicle.

EXECUTIVE SUMMARY

In many European countries there is still a small group of hard core drink driving offenders that do not seem to be influenced by traditional countermeasures. This group accounts for 10% of all drink driving offenders, but are involved in two thirds of all alcohol-involved crashes. The introduction of an alcohol interlock programme seems to be an effective measure, as an alternative to 'traditional' measures such as fines and driving licence suspension.

Belgium, Denmark, Finland, France, The Netherlands, Poland and Sweden have already introduced alcohol interlock programmes for drink driving offenders. Furthermore, Austria has announced that it will introduce mandatory alcohol interlocks in 2017 after two successful trials in 2012 and 2013.

Based on the good experiences in these countries, as well as some of the pitfalls that have emerged, this report offers a set of practical guidelines to support authorities that want to introduce an alcohol interlock programme. The guidelines concern seven key areas, including good, proactive communication between all stakeholders which is seen as crucial to success. The guidelines are summarised as follows.

LEGISLATION

- I. Alcohol interlock legislation needs to be well-grounded and clearly described in the legal system so that it can't be disputed on legal grounds. As part of the legal foundation, special emphasis should be given to the relative position of the alcohol interlock programme when compared to other sanctions and measures.
- II. Before introduction of the legislation, information should be provided to all stakeholders concerning the contents and the purpose of the legislation and a public awareness plan should be created that sufficiently informs all drivers of the content of the new legislation and the implications for offenders.
- III. To maximise the effect on road safety, alcohol interlock programmes for drink driving offenders should be compulsory and placed under administrative law. In case major practical or legal issues are foreseen, alcohol interlock programmes should be placed under criminal law.

TECHNICAL AND PROCEDURAL ASPECTS

- I. Countries that want to introduce alcohol interlock programs should, as a minimum, ensure that

the interlock devices selected meet the CENELEC standards. Additional performance and data protection specifications are also necessary since the CENELEC specifications are only applicable for the interlock device and the service application, communicating with the alcohol interlock and sending out the event data recordings to a register.

- II. Involvement in the CENELEC working groups is recommended to keep track of the latest technical issues and solutions. For example, issues concerning the connection between the alcohol interlock device and the electronic systems of new vehicles, including electric vehicles.
- III. The role of a service provider depends on the design of the programme and the requirements posed by the national authorities that are responsible for the programme. In many programmes the service provider will be interacting with participants, press, national authorities, and other stakeholders. Therefore, when writing requirements for alcohol interlock programmes, authorities should not only focus on the technical details of the devices, but also on the total package of services that alcohol interlock suppliers can provide.
- IV. Many countries have a driver licence administration that is responsible for issuing driver licences and that has experience with the organisation of large-scale administrative procedures. These organisations should therefore be involved in the early stages of discussions on introducing an alcohol interlock programme.

REHABILITATION

- I. An alcohol interlock programme should not be limited to just the installation of the interlock device itself but rather designed as a coordinated set of activities designed to minimise the possibility that programme participants drive after drinking.
- II. Rehabilitation measures should be tailored to the situation and background of the offender. A medical / psychological assessment before the start of the programme is recommended, as well as continuous monitoring during the programme. The frequency of registered attempts to start the car after drinking serves as an indication that the desired behavioural intentions are not yet present and of the risk of recidivism.
- III. The requirements of the programme should be flexible, e.g. by including a reduction of suspension

periods based on the compliance of the participants (e.g. no fail tests during a certain period or continued participation in educational measures). On the other hand, if there are too many fail tests or the driver is caught for driving under the influence while driving in another vehicle, the duration of the programme should be increased.

- IV. Removing offenders from the alcohol interlock programme should only be done under severe circumstances, since recidivism rates of the alcohol interlock programme are lower than alternatives such as permanent or temporary driving bans.
- V. Not only the length of the programme, but also the types of rehabilitation measures should be targeted to the needs of individual users. There are a variety of measures that address the underlying causes of drink driving. For an optimal approach we recommend to get health care and behavioural professionals involved, since the alcohol interlock device itself only changes its user's behaviour while it is installed in the vehicle. A structural change of behaviour can only be achieved with a more comprehensive treatment intervention. Evidence suggests, that psychological and therapeutic approaches with educative elements are the most promising ones (for an overview see: Boets, Meesmann, Klipp et al., 2008).

ENFORCEMENT

- I. Strong enforcement is a key requirement of successful alcohol interlock programmes for drink driving offenders. Firstly, the number of participants strongly depends on the number of offenders caught by the police. The participation rate also depends on the level of enforcement and the perceived chance of offenders being checked for alcohol or for their driving licence. If the chance of a driving licence check is low, offenders may be persuaded to choose driving without a driving licence instead of participating in an alcohol interlock programme.
- II. The enforcement of compliance can be done by regularly, e.g. every two months, checking the alcohol interlock device system for fraud and/or attempts of fraud, and simultaneously downloading and analysing the data from the alcohol interlock device's data recorder.
- III. A clear code on the driving licence for participants of the alcohol interlock programme makes it easier for police officers to detect misuse while checking the driving licence. The harmonised code in Europe is now represented by the number 69, making it easier for police to enforce the requirements across EU borders.

COSTS

- I. The costs to the offender of participating in an alcohol interlock programme should be kept at a reasonable level so as not to exclude BAC offenders from the lower income groups from participating in the programme.
- II. Decreasing the costs by changing or dropping content from the programme can have a negative influence on the road safety benefits and should therefore be done with care.
- III. In the United States of America and in Australia many alcohol interlock programmes offer discounts for people in financial hardship.
- IV. An alcohol interlock programme with good rehabilitation measures will also decrease public health costs and judicial costs generated by participants. Interdisciplinary working groups can provide expert knowledge and experience, and could increase engagement among stakeholders.
- V. It would be beneficial for the participation rates if the additional costs of a rehabilitation measure as part of the alcohol interlock programme are shared by those authorities that benefit from the measures, such as the Ministry of Transport, the Ministry of Justice and the Ministry of Health.

PILOTING AND EVALUATION

- I. By conducting a pilot prior to the programme and an evaluation during the programme a lot of practical information can be gathered on practical, technical and procedural issues. Shortcomings of the programme regarding content and procedures can be discussed among the stakeholders and improved.
- II. The evaluation period should not only look at short term effects, but also the long term impact. Therefore, we would recommend using an evaluation period of at least five years with at least two evaluation moments, e.g. after 2 and 5 years.

COMMUNICATION

- I. Good communication lines should be established and then maintained between stakeholders from the design phase of the programme onwards.
- II. All stakeholders and participants should get easy access to information on the background, content and procedures of the programme.

PART I

DRINK DRIVING: WHAT'S THE PROBLEM AND WHAT ARE THE MAIN COUNTERMEASURES?

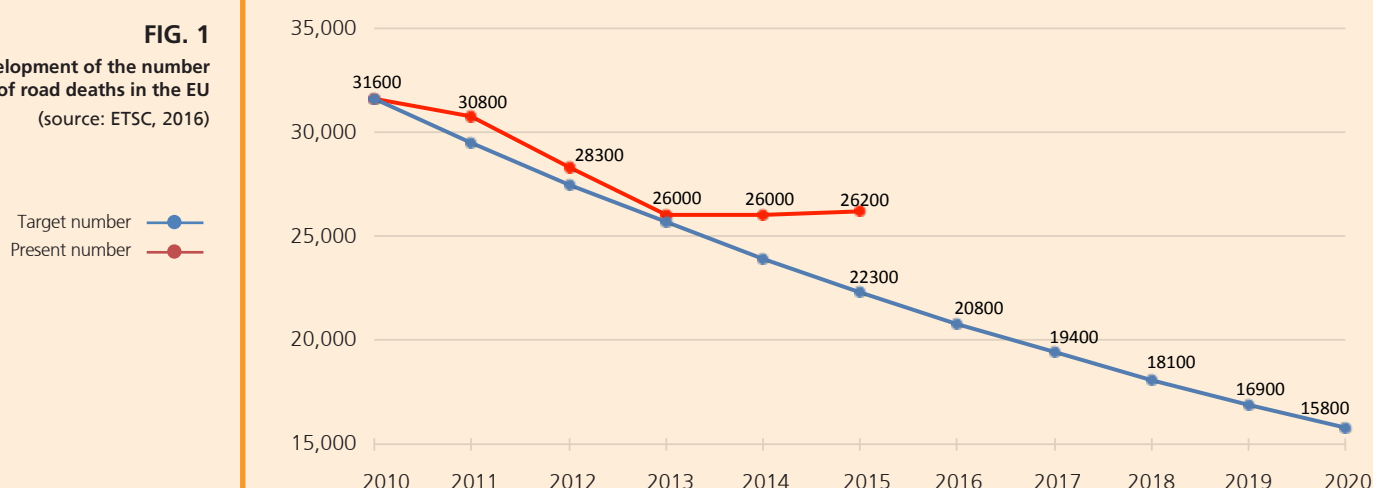
ROAD SAFETY IN EUROPE

In 2010, the European Union renewed its commitment to improving road safety by setting a target of reducing road deaths by 50% by 2020, compared to 2010 levels.

ALCOHOL USE IN EUROPEAN TRAFFIC

Alcohol consumption is strongly embedded in European society. Europe is by far the heaviest drinking region of the world. In 2009, 76% of EU citizens had consumed alcoholic beverages in the previous 12 months (WHO, 2010).

FIG. 1
Development of the number
of road deaths in the EU
(source: ETSC, 2016)



After a few years of significant reductions, the past two years have been poor for road safety: 26,200 people lost their lives on EU roads in 2015 compared to 25,970 in 2014, representing an increase of 1%. Only 9 out of 32 countries tracked by ETSC's road safety performance index (PIN) registered a drop. The best reductions were achieved in Norway, where the number of road deaths decreased by 20% between 2014 and 2015, followed by Estonia and Ireland with 14% cuts. The increase in 2015 means that the number of road deaths now has to be reduced at an average pace of about 9.7% a year between 2016 and 2020 for the EU to be on track for the target (ETSC, 2016).

The drinking patterns and preferred types of drink may vary from country to country, but in all European countries alcohol consumption is substantial. In the period 1990-2010 alcohol consumption per capita decreased overall in Europe by 12.4%. This decrease took place in all four European regions between 1990 and 2000. However, between 2000-2010 the consumption of alcohol increased again in the Northern and Middle-Eastern part of Europe (WHO, 2013).

The negative effect of alcohol use on road safety is undisputed. Driving under the influence of alcohol is responsible for approximately a quarter of all road fatalities in the European Union (COWI et al., 2014). According to the results of the European DRUID project, approximately 4% of European vehicle kilometres are

driven under the influence of alcohol (0.1 g/L or higher). In Southern Europe alcohol use in traffic was the highest with almost double the percentage of drivers found positive for alcohol (7.5%). In Western Europe the level was more or less the European average, while in Northern and Eastern Europe just over 1% of drivers were found to be driving after having drunk alcohol (Houwing et al., 2011).

WHY DO DRINK DRIVERS HAVE A HIGHER RISK OF INJURY AND CRASHES?

The driving task can be divided into three levels: the control level, the tactical level, and the strategic level. Alcohol has a negative effect on all three (Michon, 1985).

The lowest, the control level, consists of tasks dealing with keeping a proper speed and keeping the car on course. Most of the skills related to this level, such as tracking performance, reaction times, and visual detection, already begin to deteriorate at a BAC below 0.5 g/l (NHTSA, 2000). Alcohol impaired drivers have more difficulties with maintaining the proper course of the vehicle and therefore they focus more on the driving task and less on the environment.

At the tactical level, decisions are made dealing with concrete traffic situations. Skills related to this level are dividing attention, scanning capabilities, and, more in general, information processing. These skills also begin to deteriorate at very low BAC levels (NHTSA, 2000). Eye movement studies show that alcohol impaired drivers are more likely to use their central sight and less their peripheral sight (Stapleton et al., 1986). As a consequence, they may overlook information on upcoming events such as sharp bends and oncoming traffic.

At the strategic level, decisions are made about whether one should drive or not. It is well known that after having consumed alcohol, self-control is weakened and people are more inclined to think that they are still able to drive (Steyvers and Brookhuis, 1996).

Apart from the negative effects of alcohol on the performance of the driving task, alcohol users also show risky behaviour while driving. Among injured and killed drivers alcohol use is associated with not wearing seat belts and driving at higher speeds (Andersen et al., 1990; Bogstrand et al., 2015; Desapriya et al., 2006; Isalberti et al., 2011; Li et al., 1999). Furthermore, it is assumed that the physical health of alcohol-dependent persons may be lower than that of persons who are not drinking much on a regular basis, resulting in higher chances of getting injured in traffic crashes (Shepherd and Brickley, 1996).

HIGH RISK GROUPS

Some driver groups have a much higher risk of crash or injury under the influence than others. Based on the results of literature and research four major risk groups can be highlighted:

High BAC offenders

Drivers with a BAC of at least 1.2 g/L have a 20-200 times higher risk of injury in a crash (Hels et al., 2011). Although these high BAC offenders accounted for only 10% of all alcohol positive drivers in traffic, they represented two thirds of all alcohol positive seriously and fatally injured drivers.

Drivers combining alcohol with other psychoactive substances

Drivers who combine alcohol use with the use of drugs have a 20-200 times higher risk of injury in a road crash (Hels et al., 2011). Approximately 10% of all alcohol positive drivers was also positive for one or more other psychoactive substances.

Young male drivers

Young male drivers not only have higher crash risks when they are sober, but the crash rate after consuming alcohol also increases faster than that of older, more experienced drivers (Keall et al., 2004; Ministry of Transport New Zealand, 2014; Peck et al., 2008).

Furthermore, the dangerous combination of alcohol with other psychoactive substances was also found to be relatively frequent among males aged 18-35 in comparison with other drivers (Houwing et al., 2011).

Repeat offenders

Repeat offenders have shown that they persist in drink driving, even when they have been caught and penalised. Drink driving recidivism correlates with more frequent crash involvement (Nochajski and Stasiewicz, 2006). Furthermore, recidivism rates are higher among drivers with high BAC's than among drivers with low BAC's (ADV, 2013; Deyle, 2010).

PROFILES OF HEAVY AND REPEAT DRINK DRIVING OFFENDERS

Both first-time heavy-drinking offenders and repeat offenders differ from the general population on demographic and social economic factors: They are relatively often male and aged between 30 and 50. They are less likely to have studied in higher education, hold a permanent job, have a good income, and a committed relationship than the general population (Streff et al., 2001; Nochajski en Stasiewicz, 2006; Leal et al., 2006; Møller et al., 2015; Hubicka et al., 2010; Mekking-Pompen et al., 2009).

A lot of recidivists and heavy drinking alcohol offenders have a clinical diagnosis of alcohol misuse or alcohol dependence. Often the alcohol problem is combined with personality or behavioural problems. The ancillary psychiatric issues are not necessarily of direct (or large) influence on the alcohol use in traffic or the risk to become a recidivist. However, they can be (as well as specific personality characteristics) a barrier for interventions and behavioural change (Streff et al., 2001; Nochajski en Stasiewicz, 2006; Wanberg et al., 2005; White en Galperin., 2007; Hubicka et al., 2010; Shaffer et al., 2007; LaPlante et al., 2008; Cavaola et al., 2007; Nelson et al. 2015).

The mentality of heavy drinking alcohol offenders and recidivists concerning drink driving differs from the general population. This mentality is characterised by overestimation of their abilities, underestimation of the risks of drinking, inability and unwillingness to plan alternative transport, refusal to take responsibility, and resistance against social rules. This mentality is often supported by the social culture of the offender. Furthermore, ancillary psychiatric issues can lead to denial, playing down or explaining away alcohol use in traffic. (White en Galperin., 2007; Cavaola et al., 2007; Wilson, 2015).

Profiles of drink drivers can be used to create or impose effective and cost-efficient countermeasures to prevent recidivism. Together with demographic and social-economic background information the following three features can be used to distinguish different types of alcohol offenders:

- The drinking behaviour itself;
- Additional psychiatric and health issues;
- The mentality of the offender.

COUNTERMEASURES AGAINST DRINK DRIVING

Over the past decades there have been continuous efforts in all European countries to combat drink driving. However, in recent years there are no signs that the share of alcohol-related deaths in Europe has decreased. This, together with the recent rise in road deaths in the EU, suggests that there is an urgent need for additional cost-efficient measures against drink driving in addition to the set of traditional measures that are already implemented.

There is a large variety of measures for combatting drink driving. They approach the issue from different perspectives. Some of the most common types of measures mentioned in literature are:

- Publicity campaigns;
- Legal limits;
- Enforcement;
- Sanctions, including fines, imprisonment, licence withdrawal and suspension;
- Rehabilitation measures.

Publicity campaigns

Publicity campaigns using mass media are intended to change attitudes and behaviour. This can be done either by raising awareness of the dangers of drink-driving, by raising the subjective chance of being caught, by informing drivers about the social norm, or by promoting strategies to avoid drink driving (e.g. the Bob-campaign in Belgium and the Netherlands, where people going out with others are encouraged to designate a driver who will not drink).

Overall, publicity campaigns seem to be effective (Delhomme 1999). However, the effects can differ quite substantially. The effect of publicity campaigns can be increased when a social marketing study is conducted on how to address the target group, and when the public campaign is supported by other measures such as enforcement and education.

Enforcement

Police enforcement is probably the most important method of reducing drink driving, since a lot of other measures depend on changing behaviour of the drivers being caught. Some European countries allow for random roadside breath testing (breath testing of passing drivers in such a way that every passing driver has the same probability of being selected for testing) and in others there must be some kind of suspicion (i.e. the smell of alcohol) before a policeman can test a driver.

Research and experience suggest that highly visible random breath testing (for general deterrence) combined with targeted random breath testing that is not clearly visible (for specific deterrence) is the most effective (ETSC, 1999).

The use of social media and mobile phones makes it easier for people to inform their social network about the location of police checks. As a result, large-scale police checks for alcohol have probably become less effective for targeting drink drivers. Therefore, the police should increase the use of small flexible police units for random breath testing, since they are able to change locations fast and efficiently. Furthermore, the effectiveness of random breath testing can be enhanced when it is targeted in the vicinity of places where alcohol is consumed and at times when the prevalence of drink driving is high, i.e. weekend nights, and when publicity accompanies enforcement campaigns.

Sanctions

Many different types of sanctions exist for offenders that are arrested for driving under the influence of alcohol. In this section we discuss some of the most commonly used types.

The most common type of sanction for driving under the influence of alcohol is fines. Fines have a potential general deterrent effect (Sloan, Reilly & Schenzler, 1995) if the level of the fine is a substantial financial burden for the offender, for example one fourth or one third of an average monthly income. Most EU member states have fixed fines for DUI (driving under the influence) offences that are not income related (Finland is the exception). A benefit of fines is that they have a higher benefit-to-cost ratio than jail sentences and that the earned money can be used to support further measures against drink-driving (Krismann, Schoech et al. 2011).

The effectiveness of suspension or withdrawal of the driving licence depends on the ability of the police to enforce this measure. If enforcement is rather weak, drivers who have lost their driving licence may start to drive illegally. Research shows that this is the case if the duration is longer than 12 months (Bukasa, Salamon et al. 2011). Furthermore, effects can be increased when driving licence sanctions are combined with treatment or rehabilitation measures.

Imprisonment is a sanction that is most commonly imposed in the case of aggravating circumstances, such as causing a road crash with fatal injury while being under the influence of alcohol. The empirical evidence for the special deterrent impact of jail sanctions in the case of DUI is rather weak though (Voas & Fischer, 2001; Nichols & Ross, 1990).

Rehabilitation measures

Rehabilitation programmes can be defined as systematic measures for traffic offenders (in particular drink drivers and speed offenders) aiming at a change of their behaviour in order to prevent further offences and to allow them to keep or to regain their driving licence (Bartl et al., 2002).

These mandatory courses are not intended for drivers that have a diagnosed alcohol dependence problem. For these drivers, therapy would be more suitable. According to Bartl, Assailly et al. (2002) various evaluations of driver rehabilitation courses for drink drivers (not being problem drinkers) indicate that the recidivism rate can be reduced by 50% compared to control-groups without course participation.

In the DRUID project a standard was produced based on good practice in rehabilitation course design. The standard includes the presence of a national quality management body, a definition of the operative tasks of the quality management body, a multidisciplinary approach in case of prior driver assessment, objective, valid and reliable tools in driver assessment and evaluation of driver rehabilitation programmes. Based on the evaluation of driver rehabilitation programmes in 2008, only 5 out of the 90 programmes were compatible with the proposed standard for good practice (Bukasa, Braun et al. 2009).



ALCOHOL INTERLOCK PROGRAMMES

Alcohol interlock programmes are regarded as one of the most promising rehabilitation measures, especially for repeat offenders and offenders caught with high BAC levels. The programmes offer offenders who would normally lose their driving licence a possibility to continue driving, as long as they are sober. The ignition interlock device makes sure that drivers can only start the engine after having completed a breath test that has indicated that they are sober. At the same time the device can collect information that can be used to monitor drink driving behaviour.

Alcohol interlock programmes can be broadly classified as either offender programmes or voluntary programmes. Mandatory programmes are in general imposed by courts for heavy (i.e. high BAC) offenders, whereas voluntary programmes are mainly followed by commercial drivers and drivers with an alcohol problem. In mandatory alcohol interlock programmes drivers are supervised, guided, monitored and evaluated. In some countries medical tests are included in the programme as well.

Belgium, Denmark, Finland, France, The Netherlands, Poland and Sweden have already introduced alcohol interlock programmes for drink driving offenders. Furthermore, Austria has announced that it will introduce a mandatory alcohol interlock programme in 2017 after two successful trials in 2012 and 2013.

The findings of a recent systematic review (Elder, Voas et al. 2011) indicate that drink driving offenders (both first time and repeat offenders) who have alcohol ignition interlock devices installed in the vehicle have a substantially lower risk for recidivism than those who have their licences suspended.

Although there is strong evidence of the effect of alcohol interlock devices on recidivism, the effect on the total number of crashes is generally limited due to the low participation rate. The participation rate of an alcohol interlock programmes depends on different factors (Beirness, 2001), such as:

- the possibility of a drink-driving offender to keep his/her driver licence;
- the costs and the inconvenience of the programme for the participant;
- the risk of detection for driving while suspended;
- the willingness of judges ordering alcohol interlocks.

An evaluation of the Californian alcohol interlock programme (DeYoung 2002) found that one of the main reasons for judges not to order installation of the alcohol ignition interlock was that many offenders seemed unable to pay for the system. Other reasons given by judges for not ordering alcohol interlocks were that they didn't believe that it would be an effective measure, as many offenders owned no vehicle, and that the monitoring of offenders was time consuming.

PART II

COUNTRY CASE STUDIES

In this section, case studies will be presented of five countries with alcohol interlock programmes for offenders: The Netherlands, Finland, Poland, Austria and Sweden.

THE NETHERLANDS

Introduction

In the Netherlands, the contribution of traditional measures to reducing drink-driving seems to have decreased. Since 2000, the number of random police checks of drink-driving has doubled, and the 'Bob' designated driver campaign has been successful. However, between 2002 and 2010 the share of alcohol related road crash casualties (road deaths and serious road injuries) decreased only a little or not at all. The most important explanation for the disappointing decrease seemed to be that a hard core remained who are heavy drinkers and are not susceptible to police supervision and public information. In spite of their relatively small numbers, these heavy drinkers are responsible for about two thirds of the serious alcohol crashes (Houwing et al., 2011). Only policy that can tackle this group effectively was expected to drastically reduce the alcohol threat in the Netherlands. In addition to maintaining or increasing the risk of being caught, this required measures that considerably reduce recidivism. Several international assessment studies showed that an alcohol interlock programme could be such a measure. Therefore, in December 2011, the Dutch government introduced such a programme.



Duration



The standard length of participation in the programme is 24 months. In the first weeks of the programme the driver is allowed to have fail tests. During this period the offender can get used to the alcohol interlock. If the driver has a fail test in the last 6 months of the programme, the programme will be extended by an additional 6 months. This extension can be repeated unlimited times, until the drivers learn to separate drinking and driving.

Position in the legal system



The Dutch alcohol interlock programme is placed under administrative law. This means that the measure is not sentenced by court, but that it is applicable for the whole target group of offenders. Additionally, a licence withdrawal for 5 years was introduced as an alternative for drivers who did not participate in the alcohol interlock programme.

Offenders were sanctioned by the courts as well. The sentence of the court could sometimes interfere with the alcohol interlock measure. For example, if a driving ban for a few months was sentenced and the offender had already started in the alcohol interlock programme, the alcohol interlock device had to be removed again until the temporary driving ban was finished.

Design of the programme

Target group



The Dutch alcohol interlock programme is a mandatory programme for first offenders with a blood alcohol concentration of 1.3-1.8 g/l. Above 1.8 g/l, a medical psychological assessment is conducted on alcohol dependency. If the driver is assessed not to be alcohol dependent, he/she is obliged to participate in the alcohol interlock programme. For novice drivers and for repeat offenders the BAC limit for inclusion has been set lower at 1.0 g/l.

Motivational course



Participants need to follow a motivational programme of three half-day sessions. The main goal of this course is to support the driver's participation in the alcohol interlock programme. The emphasis is on the explanation of the rules, the effects of alcohol use, and strategies to deal with personal circumstances with increased risk for alcohol use in traffic.

Technical requirements and data protection



The alcohol interlock device is installed in the vehicle by installers that are accredited by the National

Vehicle Authority in the Netherlands (RDW). The alcohol interlock devices

meet the norms of the European CENELEC working group on alcohol interlocks. Furthermore, additional requirements were put in place such as on data security. These additional requirements are now also included in the CENELEC standards. Only interlock devices that meet these criteria are type-approved by the National Vehicle Authority.

The readout of the data from the alcohol interlock devices takes place at the workshop. From here the data is distributed through a secure link to the central data register administered by the National Vehicle Authority.

Costs of the programme



The costs are approximately €200 per month which includes costs for the installation and removal, administrative costs, and costs for monitoring & support.

Evaluation of the programme

The Dutch alcohol interlock programme was evaluated in July 2014, two and a half years after its introduction. The evaluation concentrated on four elements:

- participation rates;
- the experience of the stakeholders;
- the relationship of the alcohol interlock programme to criminal law;
- the effects on road safety.

Of the 10.500 offenders eligible for the programme, 48% participated. 8% of the participants quit the programme before it ended. Of the participants who started before July 2012, 86% finished the programme. 14% of the participants had their participation extended by 6 months. Most participants were satisfied with the motivational course and the use of the alcohol interlock device. In around 0.1% of cases, attempts of fraud or sabotage were detected.

The cooperation, communication and data exchange between the authorities involved was good, but the introduction of the alcohol interlock programme had a severe impact on the workload of the National Vehicle Authority, the Central Office of Driving Certification and the department of the Public Prosecutor. However, it did not result in a higher workload for the Police.

Some participants stated that the costs were too high and they would have preferred more providers of the alcohol interlock devices to choose from (in The Netherlands there is only one provider). They expected that with more than one provider the costs would be lower.

Furthermore, they stated that the minimum length of two years was too long.

The awareness of the alcohol interlock programme was not high. Approximately 55% of the participants were not familiar with the existence nor the consequences of the alcohol interlock programme, before they were required to enrol. Thus, the publicity carried out by the Dutch government seemed to be insufficient for informing the target population.

The Public Prosecutor department and 71% of the judges interviewed took into account the participation of an offender in the alcohol interlock programme in their sentence. Sometimes the Public Prosecutor had cases declared 'not admissible' because otherwise the offender was punished two times for the same offence.

At the time of the evaluation, no information was available on recidivism rates before and after the programme. Only a small number of participants had too many fail tests and this number decreased in line with the time spent as a participant in the programme.

Recent developments

The Dutch AIP was temporarily suspended for new cases in October 2014, and in March 2015 the Council of State ruled that the CBR (the administrative department responsible for driver testing and licences) could no longer impose an AIP, the main argument being that the AIP may have disproportional effects in a considerable number of cases.

In a plenary debate in the House of Representatives of the Dutch Parliament in October 2016 it became evident that the political parties still regard the alcohol interlock programme as the best countermeasure against heavy drinking alcohol offenders. Therefore, it will be investigated in which form and under which conditions the AIP could return in Dutch legislation.

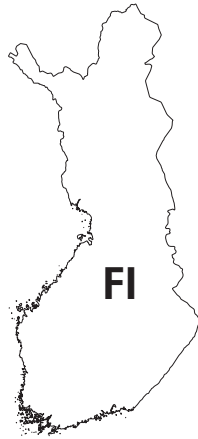
FINLAND

Introduction

In Finland, by the 1990s, at least 25% of motor vehicle collisions were alcohol related, despite a slight decrease of overall cases of driving while under the influence of alcohol. The group of drivers with a high BAC of 1.2 g/L or more was involved in over 80 % of fatal drink driving collisions. Traditional measures such as driving licence suspension and the continuation of enforcement campaigns was not expected to be sufficient to decrease the number of alcohol-related traffic fatalities in the future.

Alcohol consumption also increased steadily, partly linked to changes in alcohol-pricing policy that were expected to come into effect in 2003 and 2004 under the terms of European Union regulations.

The advisory board of traffic safety matters in Finland had already recommended the implementation of an ignition interlock programme in Finland in the late 1990s. The Finnish government conducted a trial between July 2005 and June 2008. After the trial, it was decided that the Finnish alcohol interlock programme should be introduced permanently from July 2008.



Position in the legal system



The Finnish alcohol interlock programme is part of the Driving Licence Act. The measure is sentenced by a court. Additionally, a licence withdrawal for maximum of 5 years was introduced as an alternative for drivers who did not participate in the alcohol interlock programme. However, a typical ban is sentenced for a few months only.

Rehabilitation course



A driver being monitored by an alcohol interlock must visit a doctor or other health care professional to discuss his/her intoxicant use, its health impacts and the treatment possibilities for substance use before being issued with an alcohol interlock driving licence. The trial period also included several visits to a doctor, but these were removed due to high costs when the programme was made permanent in 2008.

Technical requirements and data protection



The alcohol interlock device is installed in the vehicle by installers that are accredited by the Finnish Transport Safety Agency (Trafli). The alcohol interlock devices meet the norms of the European CENELEC working group on alcohol interlocks. Only interlock devices that meet these criteria are type-approved by the National Authority.

The requirement to use an alcohol interlock is indicated by the number 111 marked on the driving licence. The registration number of the vehicle to which the driver's driving rights are limited is also entered in the Driving Licence Register.

Log data and any violations of the terms of alcohol interlock use are automatically registered in the central processing unit's database. Monitored drivers must have their alcohol interlock log data decoded every 60 days by an authorised representative of the manufacturer registered with the Finnish Transport Safety Agency. In practice, these representatives are the installers of alcohol interlocks. Authorised installers of alcohol interlocks are listed by device on the website of the Finnish Transport Safety Agency. The alcohol interlock importer's representative delivers certain events (e.g. misuse or manipulation attempts) of the log data to the police in the customer's place of residence, who can then revoke the monitored driver's driving rights if required.

Design of the programme

Target group



The Finnish alcohol interlock programme is a voluntary programme for all DUI offenders regardless of the blood alcohol concentration at their arrest (legal BAC limit being 0.5 ‰). Offenders can choose to participate in the alcohol interlock programme instead of getting a driving licence ban.

Duration



The length of the Finnish interlock programme is 12-36 months, depending on the decision of the court. The average length is between 1 and 2 years. After the mandatory period, the participants can choose to either have the interlock removed from the vehicle, or to leave the device in the vehicle with voluntary use settings applied. The voluntary use settings eliminate rolling re-tests and data read-out.

Costs of the programme



The costs for the participant are estimated to be between €110 and €160 per month, including the following:

- Alcohol interlock device + installation and removal;
- One visit to a doctor or another health care professional;
- Inspection of the vehicle after the installation and removal of the interlock;
- New driving licence;
- Data read-out (every 60 days);
- Calibration (usually once a year).

Evaluation of the programme

The Finnish alcohol interlock programme was evaluated in 2013 and included:

- a survey (questionnaire) sent to all the drivers that participated since the start in 2008;
- an analysis of the drink-driving offences before, during and after the interlock period;
- an analysis of the interlock log data;
- interviews with the relevant authorities within the process (Vehmas & Löytty 2013).

It was found that, despite the low participation rate, alcohol interlocks used by the offenders had prevented at least 12 000 instances of driving while under the influence of alcohol (≥ 0.5 ‰; the legal limit) in Finland.

Furthermore, the answers from the interlock users showed that most respondents drank less or less often, or switched from stronger drinks to milder ones. One-tenth of the respondents said they had stopped drinking altogether, and that the alcohol interlock had motivated them in this decision. The alcohol interlock process also had a therapeutic, helping effect on some drivers, as they received professional and peer support.

Almost all participants reported that the biggest benefit of the programme was that they could continue driving. The negative aspects that were mentioned most were related to inconvenience, safety, and concerns over the negative perceptions of other people.

The report resulted in various recommendations, including:

- improved communication to the participants and to other stakeholders;
- the introduction of a central log data register to store decoded log data from all service providers;
- increased duration of driving bans to equal the length of the period of the alcohol interlock programme;
- an evaluation of the participant's need for discussion sessions with a health care professional;
- increase in the number of log data decoding stations, or a reliable method for remote decoding should be developed.

Furthermore, the alcohol interlock working group of the Ministry of Transport and Communications (2012) recommended that the possibility of ordering conditional driving bans without control by alcohol interlock should be eliminated.

The report also recommends that the position of alcohol interlock-controlled driving rights as an alternative to a driving ban should be reinforced by making it mandatory for courts to order such driving rights if the prerequisites are met and the convicted person agrees. A minimum duration of two years is also suggested for the controlled driving rights of persons repeatedly found guilty of driving while seriously intoxicated.

A person who is addicted to alcohol or cannot refrain from driving while under the influence of alcohol cannot be considered to meet the health requirements for driving. This requirement is based on the Driving Licence Directive. However, under the new Driving Licence Act (2011), a physician can consider the health requirements to be met if such a person's vehicle has been fitted with an alcohol interlock that prevents driving while intoxicated.

This provision is based on the regulations of the Driving Licence Act (Section 17(1), Paragraph 3 and Section 18(1), Paragraph 4) that entered into force at the beginning of June 2011. By virtue of these provisions, persons suffering from illness that affects their ability to drive could fulfil the health requirements of driving by using a vehicle fitted with an alcohol interlock that prevents driving while intoxicated. From 19 January 2013, Sections 12 and 16 of the Driving Licence Act have provided for the use of alcohol interlocks. Such alcohol interlocks are termed 'health-related alcohol interlocks', and are marked on driving licences by national special condition 113.

Recent developments

On 30 December 2016 a new Act on Alcohol Interlocks will come into force. A major change compared to the previous Act (2008) is the fact that offenders in the alcohol interlock programme are no longer required to have log-data exported. The four main reasons for this change are:

- 1) There are no resources to build up an authority-run register for the log data. The current manual process of private interlock representatives informing the police about the violations is not appropriate;
- 2) The costs of the interlock programme should be lower to persuade more offenders to apply. Due to no log data read-out the costs will be lower;
- 3) In the current programme, the log data is not utilised by the health care sector; nor do the “red breath samples” affect the length of the interlock period (only programme violations, e.g. manipulation attempts, are looked at);
- 4) The current key project of the Finnish government is deregulation (within the road transport sector it affects about 30 Acts). The changes to the alcohol interlock programme are part of this deregulation agenda.

A major concern with this change is that monitoring of interlock users is nearly impossible without log data. Police enforcement will now be the only option to catch those who abuse the interlock programme (e.g. try to manipulate the device).

POLAND

Introduction

In May 2015, following several dramatic drink driving collisions that made headlines, Poland toughened its penalties for driving under the influence of alcohol (BAC above 0.5 g/l). Offenders now face a driving ban (for all types of vehicles) from 3 to 15 years (previously from 1 year to 10 years), with re-offenders facing a lifetime driving ban. In addition, under the new regulations, rehabilitation courses tackling alcohol and drugs are now compulsory. The new law also allows the installation of alcohol interlocks in vehicles.



Design of the programme

Rather than introducing a typical alcohol interlock programme as seen in other countries, Poland uses alcohol interlocks to ease the inconvenience of absolute driving bans imposed by the courts.

Target group



The alcohol interlock is a voluntary solution for all offenders with a blood alcohol concentration above 0.5 g/l. In Poland this involves around 60,000 people a year. Under the new regulation offenders may ask for their disqualification to be replaced with an alcohol interlock driving licence. This is available to offenders after at least half the disqualification period, and if they had a lifetime disqualification, they can apply for lifting the ban after at least 10 years. The decision is taken by the court, if the offender's behaviour during the driving ban suggests that they are no longer a threat to road safety.

Duration



The duration of the required alcohol interlock installation period depends on the driving ban a person was given. As an example, someone with a three year driving ban may apply to the court after a year and a half for an alcohol interlock for the remainder of the sanction period (1.5 years). If someone has been given a lifetime driving ban, they are only allowed to drive a car fitted with an alcohol interlock. Polish regulations do not have an option to extend the use of alcohol interlocks and the court may withdraw its permission if the driver has committed another driving offence.

Position in the legal system



The Polish alcohol interlock programme is placed under criminal law. This means that it can only be imposed by the courts.

Rehabilitation course



Since the 1st of January 2015 a new law took effect under which all DUI drivers will have to take a rehabilitation course on alcohol problems. They must complete the course to be able to claim their driving licence back. Under Polish regulations alcohol interlocks (introduced in May 2015) are not part of a rehabilitation programme, and there are no additional educational programmes for drivers using alcohol interlocks.

Technical requirements and data protection



The interlocks installed in Poland must meet the requirements set out in a regulation of the Minister of Infrastructure and Construction of August 2016. Poland has adopted two standards developed by CENELEC:

- EN 50436-1: Instruments for drink-driving-offender programs
- EN 50436-2 : Instruments having a mouthpiece and measuring breath alcohol for general preventive use

Under the regulations of May 2015 each alcohol interlock installed in a vehicle must be calibrated once a year. The device is calibrated by its manufacturer or an authorised representative. The calibration document is then presented to an authorised vehicle check inspector who issues the final clearance document which means the vehicle is fit for driving.

The Polish regulations do not cover alcohol interlock data collection and protection. No institution has been given responsibility for monitoring drivers who have been allowed by the courts to drive cars fitted with alcohol interlocks.

Costs of the programme



Due to the recent implementation, there is no information available yet on the costs of alcohol interlocks in Poland. It is generally assumed that the costs to buy the device, calibrate it and have it certified will be paid by the driver.

Evaluation of the programme

Information about planned evaluation programmes is not yet available.

AUSTRIA



Introduction

In 2013 and 2014 a pilot alcohol interlock offender programme was conducted in Austria including a mentoring programme. The results were very positive and as a result the Minister of Transport in Austria announced that an alcohol interlock programme will be introduced in 2017. A legal draft was published in the beginning of October 2016 and is currently under review based on comments from experts and stakeholders. The information in this section is based on the draft.

The three main reasons given for the introduction of the alcohol interlock programme were:

1. to prevent drink driving, since driving bans were not able to do this - a quarter of drink driving offenders still drove after revocation of the license;
2. to enhance the sustainability of the strategies to separate driving and drinking;
3. to avoid unexpected social problems among drink drivers e.g. loss of job and mobility.

Design of the programme

Target group



The participants of the programme are offenders with a driving licence B caught with a BAC level of 1,2 or above.

Duration



After a mandatory period of licence withdrawal (at least half of the full withdrawal period) the driver can choose between further withdrawal or participation in the alcohol interlock programme. The period of the alcohol interlock programme is twice as long as the remaining period of licence withdrawal with a minimum programme duration of six months.

Position in the legal system



The programme is placed under administrative law and permits the installation of alcohol interlocks as an alternative to licence withdrawal.

Rehabilitation



The programme starts with the installation of the device in the participant's car(s) and a conversation with a mentor. In this conversation information will be provided about the process of the programme and the operation of the device. Furthermore, the participants will be educated in their rights and responsibilities during the programme. After this conversation the device will be activated and the driver will get a special permit to drive the vehicle.

Appointments with the mentor will take place on a regular basis (every two months). The mentor will read out the data from the device, check the data for possible infringements, calibrate the device and discuss the data as well as the participant's experience. Certain infringements will lead to exclusion from the programme (manipulation, repeated BAC levels above the limit recorded).

After completion of the programme the participant can either choose to have the device removed or can keep it. The participant will get a certificate of completion of the programme by the alcohol interlock service agency and can then reclaim their unrestricted driving license at the driving license authority.

Technical requirements and data protection



Alcohol interlock devices have to comply with EN 50436-1. The alcohol interlock service agency as well as involved authorities will have to comply with the Austrian Data Protection Law.

Costs of the programme



The costs are estimated to be approximately €7 per day, or €2500 per year, in addition to installation and removal of the device (€300) and the cost of the new licences (€100).

Evaluation of the programme

The measure will initially be limited to five years and in the meantime will be evaluated. It will be extended only when the programme is shown to be successful.

SWEDEN

Introduction

In 1999, Sweden was the first European country to introduce an offender alcohol interlock programme. The programme started as a trial. The trial was successful in reducing recidivism rates but participation rates were low. Only 11% of the target group applied for participation. This was mainly due to the high costs. Furthermore, the strict programme requirements led to a high drop-out rate.

After the trial period it was decided that the programme should become permanent to help reach the national target set in the Swedish Vision-Zero Strategy of 99.9% sober drivers by 2020.

To increase participation rates and to decrease the share of drop outs, several changes were made including the reduction of costs of the programme by the following measures:

- participants no longer had to pass a new driving test to get their licence back;
- the administration fee was removed;
- the number of servicing intervals was reduced;
- the number of medical checks during the programme was reduced.

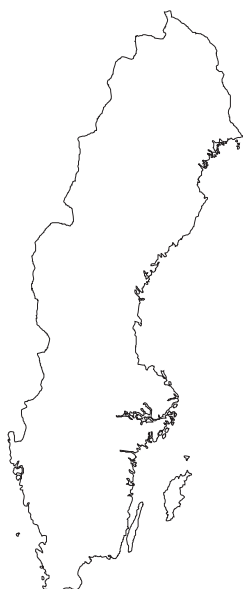
Furthermore, it was decided that breath test failures would not lead automatically to exclusion from the programme and that those who choose not to participate would face stricter rules with longer suspension periods (one or two years depending on the BAC level and other circumstances).

Design of the programme

Target group



All drink driving offenders can participate in the Swedish alcohol interlock programme. However, an offender cannot participate if he/she was drink driving at the same time as using an illicit drug. The legal limit of alcohol is 0.2 g/l and there is a zero tolerance for narcotics.



Duration



The duration of the Swedish alcohol interlock programme is either 1 or 2 years depending on the blood alcohol concentration of the offender and the diagnosis of dependency:

- one year for drivers convicted of drink-driving with a BAC level between 0.2 and 0.9 g/l;
- two years for convicted repeat drink-driving offenders (within a five-year period), persons convicted for drink driving with a BAC level higher than 1.0 g/l, and persons convicted for drink driving who have an alcohol abuse or dependency diagnosis.

An additional year can be added to the one-year programme period for anyone who is diagnosed as being alcohol-dependent while being in the programme.

Position in the legal system



The alcohol interlock programme for offenders is placed under administrative law and permits the installation of alcohol interlocks as an alternative to revocation of the driving licence.

Rehabilitation course



The purpose of the rehabilitation programme is twofold: firstly to encourage drivers to abstain from alcohol during the programme and secondly to adopt a sober way of life which is necessary in order to obtain normal BAC values in the medical examinations and blood tests conducted during the programme.

Technical requirements and data protection



The alcohol interlock devices meet the standards of the European CENELEC working group on alcohol interlocks. Only interlock devices that meet these criteria are type-approved.

Furthermore, vendors are responsible for secure data transmission from the alcohol interlock in order to protect the privacy of the participants. They have to ensure by means of a quality assurance system and a

privacy notice agreement that only the supplier and the Swedish Transport Agency are able to see the information.

Vendors must also put in place privacy notice agreements with their service centres, and receive approval based upon tests of the data transmission to the Agency.

Finally, vendors must have a technology agreement with the Transport Agency for the systems of data transmission. This data transmission also includes specific data log formats that are sent to the Swedish Transport Agency using a secure connection.

Costs of the programme



The cost of the Swedish programme is between €2150 and €2700 for one year and approximately €2850-€4150 for two years. The total costs vary mainly because of differences in tariffs of medical doctors that perform the medical checks during the programme period.

Evaluation of the programme

The present Swedish alcohol interlock programme will be evaluated over the period 2014 to 2017. One of the main questions of the evaluation is to get more insight into whether all the improvements to the programme have indeed led to higher participation rates.

Apart from the evaluation of the whole programme, the alcohol interlock device itself is being evaluated on a technical basis. Furthermore, the evaluation will look at the consequences of participation in the programme on a broader scale, such as on personal health, family and social life.

Finally, 'integrity issues' of the programme are included in the evaluation as well.

PART III

GUIDELINES

INTRODUCTION

Authorities that want to introduce an offender programme already have to make important choices with regard to the design of the programme at an early stage of the process. Experience from earlier examples suggests that these choices could account for a large part of the success of the measure – so it is important to get them right.

To support authorities in their choices on how to design and implement an alcohol interlock programme we will provide a set of practical guidelines based on experiences in countries that have already introduced these programmes and on existing guidelines by Beirness (2001), and Beirness and Robertson (2002) who formulated criteria for alcohol interlock programmes on legislation, technical and procedural aspects, enforcement, rehabilitation, costs and communication.

LEGISLATION

Alcohol interlock legislation needs to be well-founded in the legal system.

Alcohol interlock legislation needs to be well-founded in the legal system and clearly described so that it can't be disputed on legal grounds. As part of the legal foundation, special emphasis should be given to the relative position of the alcohol interlock programme when compared to other sanctions and measures.

This relative position may be very important for the effectiveness of the programme.

In the Netherlands, the standard driving ban for alcohol offenders with a BAC of 1.3 g/l -1.8 g/l was less than a year. After the introduction of the two-year alcohol interlock programme, an alternative sentence was necessary that was less desirable than the alcohol interlock programme. Therefore, a driving ban of five years was introduced as an alternative to the alcohol interlock programme. If there had not been any change in the length of the alternative sentence, most drivers would probably have chosen for a shorter driving ban.

In Finland the driving ban is relatively short which partly explains the rather low participation rates of the Finnish alcohol interlock programme (Löytty, 2013). In Poland, the alcohol interlock programme is used as an

alternative for long term driving bans. The duration of the programme is always half the period of the driving ban. In order to increase the number of participants in the Swedish Alcohol Interlock programme it was decided to prolong the length of the driving ban for drink driving from a minimum of two months to a minimum of one year. The duration of the programme is always the same as the driving ban would have been.

One has to be aware that introducing a long term alcohol interlock programme and increasing the duration of a driving ban may be regarded as disproportionate if other penalties for drink driving and penalties for other traffic offences are not increased at the same time.

To make sure that the proposed legislation is well-founded in the current legal system, it is very important that representatives of legal stakeholders discuss the design of the proposed alcohol interlock legislation. This is especially important when the programme is placed under administrative law.

All stakeholders should be properly informed about the content, the rules and the background of an alcohol interlock programme.

Before introduction of the legislation, information should be provided to all stakeholders concerning the content and the purpose of the legislation and a public awareness plan should be created that sufficiently informs all drivers of the content of the new legislation and the implication for offenders. A lack of knowledge regarding the legal consequences decreases the deterrence effect for both the general population and drink driving offenders. Furthermore, lack of information towards stakeholders could result in less engagement with the programme. In the Netherlands only sparse information regarding the Dutch alcohol interlock programme was disseminated resulting in a very low knowledge of the design of the legal consequences in the first years after introduction.

To maximise the effect on road safety, alcohol interlock programmes should be compulsory and placed under administrative law. In case major practical or legal issues are foreseen, alcohol interlock programmes should be placed under criminal law.

Participation rates are higher when alcohol interlock programmes are placed as a compulsory rehabilitation measure under administrative law, than when they are placed under criminal law. The Dutch alcohol interlock programme was placed under administrative law and, as expected, it led to relatively high participation rates.

But placing the programme under administrative law can also have a downside. Best practice shows that the motivation to start will decline when the participant has to wait longer to start the programme.

Therefore, in The Netherlands the alcohol interlock programme was mandated as soon as possible after the drink driver was caught. This mixture of both administrative and criminal law could sometimes lead to a situation that a driver already had an alcohol interlock device installed in the vehicle when they received a driving ban from the court as well. Consequently, these drivers had to remove the alcohol interlock device at their own expense and install it again after the period of their driving ban.

The high costs of the programme, in combination with the mandatory nature and the inability of the programme to take into account the offenders' personal circumstances and background problems led to the statement by the Council of State in March 2015 that the Dutch alcohol interlock programme could no longer be active under administrative law in its present form.

The legislation leaves not enough space to judge the consequences of participation in the programme on the level of individual drivers. Because of this, the consequences are more severe for some drivers than for others.

In addition, the High Court decided that a participant in the alcohol interlock programme could not be punished under criminal law at the same time, following their interpretation of the 'ne bis in idem' principle i.e. that you must not be punished twice for the same crime.

In Sweden, a drink driving offence is dealt with in parallel between the criminal law system and the administrative law system. Within the criminal system, the offender is sentenced to a fine or imprisonment. But in the meantime, the offender can apply to enter the Alcohol Interlock programme, conducted by the administrative system (The Swedish Transport Agency). The application can be made and processed shortly after the drink driver was caught; when the motivation is higher. The programme is not compulsory and one of the reasons for this is that the offender has to pay for all the costs in connection to the programme. Therefore, it has been seen as more reasonable to offer to take part in the programme merely as an alternative to a withdrawal of the driving licence. Also, the participant is probably more motivated to take part in the programme if it is his or her own choice.

TECHNICAL AND PROCEDURAL ASPECTS

The interlock device should be certified to meet or exceed established performance specifications.

Alcohol interlock devices should be accurate and reliable, and the opportunity for circumvention and tampering should be limited by technical improvements.

The European technical and performance standards for alcohol interlock devices are prepared by the CENELEC working group on alcohol interlocks. CENELEC members are the national electro-technical committees of a broad range of European countries. The purpose of the European standard is to give practical guidance for selection, installation, use and maintenance of alcohol interlocks. It is directed to all those who have an interest in alcohol interlocks as well as companies selling and installing alcohol interlocks, purchasers and users for commercial, professional or private use. The European Standard gives information about test methods and performance requirements of alcohol interlock devices and how they should be to be used.

Countries that want to introduce alcohol interlock programs should at least follow the CENELEC standards. Additional performance and data protection specifications are necessary though since the CENELEC norms are only applicable for the interlock device and the service application (which communicates with the alcohol interlock and sends out the event data recording to a register). This means that for instance specifications and guidelines regarding data security of the register and the storage of the data are not included. These items should therefore be included following national norms and standards.

Involvement in the CENELEC working groups is recommended to keep track of the latest issues and solutions for technical aspects, such as on the connection between the alcohol interlock device and the electronic systems in newer and electric vehicles.

A reliable service provider is recommended that understands, and is committed to dealing with, the DUI offender population.

The role of a service provider depends on the design of the programme and the requirements set by the national authorities that are responsible for the programme. In many programmes the service provider will be interacting with participants, press, national authorities, and other stakeholders. This is an important position and therefore the service providers should have enough resources and experience to fulfil their tasks. As stated by Beirness in 2001, providers:

- must be knowledgeable, competent and reliable;
- must maintain quality control, be able to provide service and support when required, and resolve problems efficiently and effectively;
- must have an appreciation for, and understanding of, their clientele and their needs;
- must be sensitive to the concerns of this population and be able to deal with clients of all kinds.

Furthermore, service stations for installing, maintaining and uninstalling alcohol interlock devices should be located throughout the whole country to make it feasible for all participants to commute to these working stations within a reasonable time. An authority could prevent additional burden for participants by requiring a maximum number of kilometres for a participant to reach a service centre and making special arrangements for participants in remote areas.

Therefore, authorities that are working on requirements for alcohol interlock devices should not only focus on the technical details of the devices, but also on the total package of services that alcohol interlock suppliers can offer.

Alcohol interlock programmes should be carried out by the organisation responsible for issuing driving licences.

This criterion results from the fact that judicial bodies are not always capable of carrying out a consistent requisition and sentencing policy as well as enforcing the compliance with sentences. Many countries have a driver licence administration that is responsible for issuing driver licences and that has experience with the organisation of large administrative procedures. These organisations should therefore be involved in the early stages of discussions on introducing an alcohol interlock programme.

REHABILITATION

An alcohol interlock programme should be, rather than only the device itself, a coordinated set of activities designed to minimise the scope for programme participants to drive after drinking.

An evaluation of alcohol interlock programmes in 28 states in the USA by The National Highway Traffic Safety Administration (NHTSA) (Casanova-Powell et al., 2015) concluded that the requirements of the alcohol interlock programme are a strong determinant of the participation rates. It is believed that the best approach includes a combination of therapy, education, sanctions and supervision (Robertson et al., 2010).

Marques and Voas (2012) noted that an interlock programme is not a “therapeutic behavioural change programme” (Marques & Voas, 2012, p. 658). It is rather obvious that as long as a pathological drinking pattern remains untreated, drink driving behaviour is likely to continue. Combining an alcohol interlock with rehabilitation measures should lead to lower recidivism rates once the alcohol interlock has been removed again from the vehicle. Based on good practices in countries with low alcohol prevalence in traffic, Belgian researchers concluded that the Belgian alcohol interlock programme should be expanded with counselling and close monitoring (e.g. mandatory programmes for recidivists) (Meesmann and Rossi, 2015).

Log data should be used for monitoring.

Rehabilitation measures should be tailored to the situation and background of the offender, which means that a medical psychological assessment before the start of the programme is recommended, as well as continuous monitoring during the programme.

The frequency of registered attempts to start the car after drinking serves as an indication that the desired behavioural intentions are not yet present and of the risk of recidivism (Marques et al., 2001).

The use of alcohol interlock devices without a log function for the data (as will be the case in Finland’s revised programme) would limit the possibility to monitor and enforce the behaviour of the offender and may therefore be less suitable for sustainable rehabilitation purposes than programmes that do monitor behaviour.

Voas and colleagues (2016) presented strong support for the inclusion of alcohol use disorder (AUD) treatment for offenders in interlock programmes based on the number of “log-outs”. Offenders required to participate in treatment had a one-third lowered drink driving recidivism risk compared to untreated drivers.

Research indicating that offenders learn to adjust their drinking and driving to the interlock (Marques, Voas and Tippetts, 2003; Marques, Tippetts, Allen et al., 2010) has to be taken into account. It reveals even more clearly that offenders need treatment as well as the interlock device itself.

The alcohol interlock programme should be tailored to the demands of the different user groups.

The requirements of the programme should be flexible, e.g. by including a reduction of suspension periods based on compliance (e.g. no fail tests during a certain period or participation in educational or therapeutic measures). On the other hand, if there are too many fail tests or the driver is caught driving under the influence while driving

in another vehicle, the duration of the programme should be increased.

In the Dutch alcohol interlock programme, the duration was extended by six months when the driver had fail tests in the final term (last six months) of the programme.

Removing offenders from the alcohol interlock programme should only be done under severe circumstances, since recidivism rates of the alcohol interlock programme are lower than alternatives such as permanent or temporary driving bans (Elder et al., 2011).

The length of the programme should also be flexible in order to provide extended interventions for heavy or repeat offenders and shorter interventions for first time offenders who were caught while driving with low BACs.

Not only the length, but also the contents of the rehabilitation measures should be targeted to the users.

There are a variety of measures that address the underlying causes of drink driving. For an optimal approach we recommend to get health care and behavioural professionals involved, since the alcohol interlock device itself only changes behaviour while installed in the vehicle.

A structural change of behaviour can only be achieved with a more comprehensive treatment intervention. Evidence suggests that traffic psychological and therapeutic approaches with educative elements are the most promising ones (for an overview see: Boets, Meesmann, Klipp et al., 2008).

ENFORCEMENT

Compliance with the programme's preconditions must be properly enforced.

The enforcement of compliance can be done by regularly, e.g. monthly, checking of the alcohol interlock device system for fraud and/or attempts at fraud, and simultaneously downloading and analysing the data from the alcohol interlock device's data recorder. Regular checking of the data and the device system increases the costs though, which could lead to lower participation rates.

An evaluation of alcohol interlock programmes in the USA (Casanova-Powell et al., 2015) stated that time intervals of these checks can vary between 30 and 60 days, but that longer time periods may lead to more violations.

The evaluation of the Dutch alcohol interlock programme showed that some drivers attempted to circumvent the device. This was done by e.g. disengaging the handset of the device, manipulating the wiring, keeping the

electricity connected to the device so that no initial breath test was asked, and some people installed or uninstalled their own alcohol interlock device. These drivers were removed from the programme and, in addition, the software was adjusted to make it more difficult to manipulate the test procedure.

The lack of consequences of alcohol interlock violations can be seen as an obstacle. Therefore, it is recommended to extend the programme duration in case of violation.

The driving licence should facilitate enforcement by specifying clearly that the driver can only drive a car with an alcohol interlock device.

Strong enforcement is a key element for alcohol interlock programmes for drink driving offenders. First, the number of participants strongly depends on the number of offenders that are caught by the police. But the participation rate also depends on the level of enforcement and the perceived chance of offenders being checked for alcohol or for their driving licence. If the chance of a driving licence check is low, offenders may be persuaded to choose for driving without a driving licence instead of participating in an alcohol interlock programme.

A clear code on the driving licence for participants of the alcohol interlock programme makes it easier for police officers to detect misuse while checking the driving licence. On May 15 2016 a new harmonised code came into force in Europe. The new harmonised code, should now be used by those Member States that have alcohol interlock-based drink driver rehabilitation programmes. This code, represented by the number 69, also makes it easier for the police to enforce the requirements across EU borders.

COSTS

The costs of an alcohol interlock programme should be kept at a reasonable level, so as to prevent BAC offenders from the lower income groups not being able to afford the programme.

One of the main reasons for the low participation rate of the Finnish alcohol interlock programme is the high costs of the programme. The costs were on average around €150 per month. In the Netherlands the costs were even higher at around €200 per month, but the programme was mandatory and the alternative driving ban had a duration of five years. Therefore, the participation rate was still relatively high. However, the high cost in the Netherlands was one of the reasons why having both an alcohol interlock programme and a sanction as part of criminal law was regarded as a double punishment.

In the previous sections it was mentioned that it would be good to combine the alcohol interlock device with rehabilitation measures and that regular checking of the data and the device system would improve enforcement. However, these interventions also increase the costs of the programme, and consequently decrease the participation rate. In Finland it was proposed to lower the costs by decreasing the frequency of data transfer and the possibility to use alcohol interlock devices that do not store data.

Another option to decrease the costs of the alcohol interlock programme is allowing online transfer of data, as long as data transfer and storage meet the requirements of the national and CENELEC norms and standards. In the US state of Colorado online data transfer is possible which allows regularly monitoring at relatively low costs (Casanova-Powell et al., 2015). Decreasing the costs by changing or dropping content of the programme can have a negative influence on the road safety effects of the programme though, and should therefore be applied with care.

In the US and in Australia many alcohol interlock programmes offer people in financial hardship the possibility to participate in the alcohol interlock programme at a reduced cost. In New South Wales (Australia) for example, the interlock service providers offer a discount of 35% off the cost of installing, leasing, scheduled servicing and device removal for specific groups including pensioners, people with low income, and disabled war veterans or war widows and widowers (Robertson et al., 2010).

Additionally, short-term financial assistance by the government may be available for participants in severe financial hardship. This assistance can range from partial assistance to the full amount owing to an interlock service provider for three months at a time after assessment of the financial situation.

The costs of the programme should be discussed by several national authorities.

An alcohol interlock programme with good rehabilitation measures will also decrease public health costs and judicial costs arising from participants. Interdisciplinary working groups can provide expert knowledge and experience, and they could increase engagement among stakeholders. It would be beneficial for the participation rates of the programme if several authorities support the rehabilitation programme, such as the Ministry of Transport, the Ministry of Justice and the Ministry of Health. This way, it may be easier to reduce the costs of a comprehensive alcohol interlock programme with rehabilitation measures to a reasonable level for participants.

The costs of the programme should also include the availability of resources to raise public awareness.

PILOTING AND EVALUATION

Start with a pilot programme and schedule regular evaluation periods after introduction.

By conducting a pilot prior to the programme a lot of information can be gathered on practical, technical, and procedural issues. Shortcomings of the programme regarding content and procedures can be discussed among the stakeholders and improved during the trial phase.

To get a good impression of the possible issues of the programme the participants should be members of the foreseen target group and all relevant stakeholders should participate in the role that they would face in the planned programme. Items that cannot be piloted may be covered in a questionnaire among the participants and/or the stakeholders.

Evaluation is important and should be built in from the very beginning of the process because it will provide feedback on possible shortcomings of the programme. These can be adjusted where possible. The evaluation could also be used to stress the importance of the alcohol interlock programme by providing information on its effectiveness.

It is very important to list the data that are necessary for the evaluation in advance and start collecting them during the evaluation period. In the Netherlands one of the included evaluation questions was aimed at the effect of the alcohol interlock programme on road crashes. But since no structural information was collected on alcohol use among crashed drivers this question could not be answered.

The evaluation period should not only include short term effects, but also effects over the longer term. Therefore, we would recommend an evaluation period of at least five years with at least two evaluation moments, e.g. after two and five years.

COMMUNICATION

Ensure good two-way communication lines are established between stakeholders from the design phase of the programme onwards

In many evaluations of alcohol interlock programmes communication is mentioned as an aspect that should be improved. Communication is a key factor for success, but at the same time communication efforts are often reduced to the minimum. The difficulty is that communication plays a role on different levels and in different phases of

the project. First, there is the communication between the different stakeholders within the programme. This communication is often two-way: stakeholders respond to each other. This already starts in the design phase of the alcohol interlock programme where stakeholders can provide input for the design of the programme. Excluding important stakeholders will result in a loss of input and perhaps in a loss of support.

During the alcohol interlock programme, communication lines between different stakeholders should be as direct and clear as possible. It should be kept in mind that the communication process should be two-way to ensure that issues are discussed and solutions are supported by all partners involved.

All stakeholders and participants should get easy access to information on the background, the content and the procedures of the programme.

During the programme there will be a lot of questions from participants and stakeholders that need to be answered. Therefore, we advise to prepare a communication plan including brochures or information leaflets to all stakeholders including participants, policy makers, courts and judges.

Furthermore, participants should be able to call or email the authority that is responsible for all the administrative procedures of the programme. A good example of information regarding the alcohol interlock offender programme can be found on the website of New South Wales, Australia. It includes a participant guide, a guide for magistrates, legal practitioners and police prosecutors, and a factsheet with more general information.

ANNEX 1

ROADMAP BY ROBERTSON ET AL., 2010

STEP 1

Establish a team to explore options regarding the purpose, goals, and objectives of improvements to the alcohol interlock initiative (or to the implementation of an initiative if one does not already exist).

- Select team members that have a stake in any interlock initiative.
- Identify a leader to manage this team.
- Scope out potential goals and objectives of an interlock initiative.
- Calculate the estimated number of offenders that could potentially participate in the alcohol interlock initiative.
- Consider the development of the two most critical features of any interlock strategy – offender monitoring and offender accountability.
- Investigate the need for an indigent fund or unaffordability provisions to support the use of alcohol interlocks.
- Gauge the number of staff that each agency may require to perform tasks related to the interlock implementation and maintenance of the strategy.
- Examine the scope of work required and estimated cost to develop an interlock database that is coordinated with driver records.
- Consider the magnitude of effort associated with implementation tasks in relation to the timeline for planning and implementation.
- Consider the inclusion of a rigorous evaluation as part of the implementation strategy.

STEP 2

Invite relevant agencies to provide input into the drafting of proposed alcohol interlock legislation prior to its introduction.

- Invite representatives of stakeholder agencies to participate in a discussion to inform the drafting of alcohol interlock legislation.

- Include one or more bill sponsors in the group who will take the lead in introducing the legislation and building support for its passage.
- Allow all key stakeholders in the group to share their perspectives and feedback on the drafting of interlock legislation.
- Discuss proposed suggestions or strategies in relation to cost estimates to avoid the pursuit of initiatives that are not feasible or sustainable.
- Examine existing impaired driving legislation for potential conflicts with draft interlock legislation.
- Draft legislation that allows maximum flexibility for practitioners to make adjustments as required.
- Designate a lead agency that has the authority to establish rules and standards for the alcohol interlock initiative in the legislation.

STEP 3

Form an implementation team and select a team leader.

- Determine the organisational structure of the team.
- Be sure to include the necessary expertise on the team.

STEP 4

Determine the number of personnel required and the extent to which different types of agency personnel will be involved in implementation.

- Estimate the number of personnel that will be required to manage the number of new offenders that have the potential to be involved in the alcohol interlock initiative.
- Gauge the level of resources that is required to support staff.

STEP 5

Develop an implementation plan.

- Create a workflow that illustrates each step within the alcohol interlock initiative.
- Develop a prioritised list of tasks that form the work plan for the team.
- Establish mechanisms to facilitate communication and cooperation among participating agencies.

STEP 6

Select and develop a strategy to manage indigent or unaffordability funding according to the alternative that is most suitable and feasible (optional task).

- Estimate the potential number of offenders who may be deemed indigent or who may meet unaffordability requirements for the purposes of the interlock initiative.
- Select an agency to administer the fund or provisions.
- Select appropriate eligibility criteria.

STEP 7

Modify and update technical standards (including test protocols) to include specific elements of the new strategy and consequences (i.e., device configurations) for new classes of offenders.

- Update device technical standards and test protocols for the use of interlock devices with new classes of offenders.
- Review technical standards from other jurisdictions to identify relevant sections or components that could be adopted or modified as opposed to starting from scratch.
- Involve vendors in the development of standards.
- Ensure that devices undergo field testing by a knowledgeable authority.
- Invite the team to review the final technical standard and test protocol.

STEP 8

Translate new alcohol interlock legislation into administrative rules.

- Review administrative rules from jurisdictions with a comparable interlock strategy.

- Identify errors or inconsistencies in the legislation and propose revisions.
- Invite feedback on the draft.
- Request review by legal counsel.

STEP 9

Pinpoint needed revisions (if any) to existing request for certification, certification protocols, or vendor contracts.

- Estimate the potential number of new offenders that may be eligible.
- Review rFCs (or contracts) from other jurisdictions.
- Gather feedback on the draft.
- Designate a team or agency that will be responsible for reviewing vendor submissions and approving applications/establishing contracts.

STEP 10

Review (or develop) a vendor oversight plan/protocol to ensure quality delivery of devices and services.

- Review similar oversight plans from other jurisdictions.
- Designate an agency that is responsible for vendor oversight.
- Develop a field test for the configuration of devices and guidelines for device installation.
- Specify qualifications for device installers.
- Consider the use of surety bonds.
- Develop site auditing procedures.
- Review fees for service.

STEP 11

Inform relevant agencies about the implementation of alcohol interlock legislation and any changes to an existing strategy.

- Develop a one-page informational piece.
- Identify key contacts in relevant agencies for training purposes.
- Develop training protocols.

STEP 12

Create new forms, letters, applications, waivers, notices and other data sharing or exchange documents.

- Revise existing forms/letters/notices and create new ones where needed.
- Determine what forms/letters/notices can be automated.
- Consult relevant agencies and practitioners.
- Distribute hard copies.
- Provide training.

STEP 13

Develop and/or manage an interlock data management system (e.g., an interlock database in conjunction with the driver record system).

- Identify information that will be collected and how this will be accomplished.
- Determine whether sufficient funds are available.
- Select a dmV staff person knowledgeable in database design and management to be actively involved.
- Discuss governance policies related to data ownership, access and sharing.
- Investigate the structure and accessibility of court and correctional data systems.
- Update the existing driver records system to accommodate new classes of offenders.
- Meet with interlock vendors early on and request that they be involved in concept development.
- Modify and/or update any existing interlock data system.
- Review linkages.
- Agree upon the information that will be included in the system and shared.
- Develop standardised reporting procedures.

STEP 14

Create a training and education plan for practitioners affected by the alcohol interlock initiative.

- Identify all agencies that may require training and education.
- Identify persons in each agency who can deliver training.

- Develop informational materials to distribute.
- Develop and deliver state-wide training materials.
- Determine whether interlock training will fit into introductory courses.
- Create a training programme for service providers.

STEP 15

Create a public awareness plan.

- Develop informational materials about the interlock initiative.
- Identify diverse mechanisms to deliver information about the initiative.
- Engage community groups, victim advocacy groups, and others.
- Create a website.
- Include forms/applications online.
- Partner with other agencies.

STEP 16

Create an evaluation plan.

- Identify possible research issues or questions.
- Determine who (which agency) in the jurisdiction may be positioned to undertake an evaluation.
- Determine what funding is available.
- Develop an evaluation plan.
- Determine how measurements will be collected.
- Establish an ongoing review.
- Disseminate results.

STEP 17

Monitor progress during the implementation of the initiative and track outcomes in the short-term and the long-term.

- Retain documentation.
- Draft yearly agency reports.

STEP 18

Provide a report to the legislature.

- Schedule an annual review.

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