Differentiële effectiviteit maatregelen alcohol en verkeer

Summary

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M. Blom
S.E. Boschman
G. Weijters

Cahier

De reeks Cahier omvat de rapporten van onderzoek dat door en in opdracht van het Wetenschappelijk Onderzoek- en documentatie Centrum is verricht. Opname in de reeks betekent niet dat de inhoud van de rapporten het standpunt van de Minister van Justitie en Veiligheid weergeeft.

Summary

Differential effectiveness of alcohol and traffic measures

In order to improve road traffic safety, various administrative measures relating to motorists' driving fitness can be imposed on drivers for driving under the influence of alcohol. Such penalties may relate to the Educational Measure for Alcohol and Traffic (*Educatieve Maatregel Alcohol en verkeer*, EMA), a light version of the EMA (*Lichte Educatieve Maatregel Alcohol en verkeer*, LEMA) or – for the most serious group of offenders – a fitness-to-drive test (*onderzoek naar de geschiktheid*). From December 2011 until September 2014, drivers could also be required to participate in the Alcohol Ignition Interlock Programme (*Alcoholslotprogramma*, ASP). These administrative measures are imposed in addition to the criminal sanction.

A previous study carried out by the Research and Documentation Centre (WODC) shows that participation in these administrative measures, with the exception of the LEMA, is associated with a lower rate of recidivism for driving under the influence. In the previous study, the effectiveness of each measure was determined for the overall group of participants in the relevant measure, making no distinction between any subgroups of participants from whom the measure may potentially be more or less successful.

In this study, we will be examining each measure to determine whether there are sub-categories with specific backgrounds for whom referral is more or less effective in terms of reducing recidivism. In addition, we will be investigating how the persons on whom the individual measures are imposed differ from one another and which characteristics are associated with a greater risk of reoffending for drink-driving and therefore justify a more severe measure. Based on the insights gleaned from this study, the measures may potentially be better calibrated to the traits of participants.

The study answers the following research questions:

1 What are the background characteristics of the intervention groups of the various measures aimed at motorists' driving fitness (LEMA, EMA, ASP and the fitness-to-drive test) and to what extent do the intervention groups of the various measures differ from one another?
2 What is the relationship between the background characteristics of the intervention groups of fitness-to-drive measures and drink-driving recidivism?
3 What (differential) effects of referral to the various fitness-to-drive measures can be found on drink-driving recidivism?

Previous studies

Risk factors for drink-driving recidivism

The results of previous international studies show that repeat drink-driving offenders differ from drivers who were charged for a first-time drink-driving offence, or from drink-drivers who do not reoffend, on a number of *demographic and socio-economic*

characteristics. Characteristics such as sex, age, marital status, level of education, income and work are related to recidivism. Repeat offenders likewise differ from first-time drink-drive offenders and non-repeat offenders in terms of a number of *characteristics relating to alcohol and drug use*. The blood alcohol content (BAC) at the original offence, the use of alcohol in combination with other drugs, medication or tobacco (combined use), the drinking pattern, substance abuse disorders, alcohol counselling received and alcohol or drug problems in a social context are all related to recidivism. Certain *biomarkers and neurocognitive characteristics* that indicate alcohol abuse have likewise been found to be associated with an increased risk of recidivism.

Furthermore, scientific studies show a clear link between the characteristics of a person's *criminal history* and drink-driving recidivism: the more previous offences and the earlier the age of onset, the greater the probability of reoffending. In addition, various studies have shown that drink-driving recidivists and drivers who have previously driven under the influence of alcohol are more likely than non-repeat offenders to have *personality and/or behavioural problems* and that *beliefs and attitudes* in respect of the use of alcohol in traffic help determine the behaviour exhibited by a person.

Finally, research into the impact of *criminal sanctions* on repeat offences for drink-driving shows that the certainty of punishment is the most important predictor of recidivism, followed by the speed with which a sentence is imposed. The severity of the punishment imposed is less crucial.

Effectiveness of fitness-to-drive measures

A great deal of international studies have been carried out into the effectiveness of rehabilitation measures for drink-drivers. In summary, these studies show that participation in such measures can contribute to reducing repeat drink-driving offending, particularly when it comes to combined measures, for example, which involve both education and treatment or incapacitation (alcohol ignition interlock).

Based on the primary studies from several systematic reviews focusing on recidivism during the Alcohol Ignition Interlock Programme, driving with an alcohol lock was associated with significant reductions in the number of new arrests or convictions for driving under the influence of alcohol. However, in the long term – after the alcohol lock is removed – this positive effect often seems to dissipate and the level of reoffending returns to the level it was prior to participation in the programme. There are only a few studies in which evidence was also found with regard to long-term effects – after the alcohol lock is removed – of the programme.

Differential effectiveness of fitness-to-drive measures

The *Risk-Need-Responsivity* (RNR) model is a general criminological rehabilitation theory on how to work effectively on recidivism reduction. According to the so-called risk principle, the intensity and duration of an intervention must be geared towards the offender's risk of recidivism, and any effective interventions will have more impact on high-risk groups, because there is more scope among these groups for improvement than among groups with a lower risk. According to the RNR model, any interventions to reduce recidivism will therefore be more effective for participants at a higher risk of recidivism.

Similarly, according to the RNR model, more severe measures will be particularly effective for people at a higher risk of reoffending, because the intensity of the intervention is more in line with their risk of recidivism.

Data and methods

Date sources

The data for the recidivism study come from the Research and Policy Database for Judicial Documentation (*Onderzoeks- en Beleidsdatabase Justitiële Documentatie*, OBJD), a pseudonymised version of the Judicial Documentation System (JDS), the official registration system for the settlement of criminal cases. This means the data only cover and identify offences that come to the attention of the Public Prosecution Service. The judicial data has been supplemented with information about the imposition and implementation of the measures for the intervention groups – this information was provided by the Central Driving License Issuing Authority (*Centraal Bureau Rijvaardigheidsbewijzen,* CBR).

Research groups

The intervention groups used in this study are drivers of motor vehicles who have committed a drink-driving offence that was reported to the CBR and who were issued with an administrative measure for that offence by the CBR.

The level recidivism of persons in the intervention groups is compared to the level of recidivism of persons in control groups. The control groups relate to drivers of motor vehicles who committed a drink-driving offence on the basis of which they would have received an administrative measure if the offence had been reported to the CBR, but it was not reported to the CBR by the police, so they were not issued with an administrative measure.

Drink-driving recidivism

The outcome measure used in this study is the risk (hazard) of drink-driving recidivism. The sooner a person relapses after the start of the recidivism measure-ment, the greater the risk of a repeat offence. Drink-driving recidivism refers to instances where a driver commits a new drink-driving offence that leads to criminal proceedings after completing the measure (intervention groups) or after the criminal proceedings (control groups). Drink-driving offences are offences as described in Section 8, Section 162(1) or Section 163 of the Road Traffic Act (*Wegenverkeerswet 1994*, WVW 1994). Criminal proceedings that have ended in a so-called invalid settlement (technical dismissal, acquittal, dismissal from prosecution or a technical decision by the court) do not count. For persons who do not reoffend, the observation period ends on 1 July 2021 – until which date judicial documentation is available – or upon their death.

By means of Cox regression analysis, a form of survival analysis with which the effect of background characteristics on the duration until the occurrence of the event can be estimated, we will be examining the relationship between demographic characteristics, characteristics of the criminal history and the characteristics of the criminal case and the risk of drink-driving recidivism.

In addition, we will examine whether referral to a fitness-to-drive measure is associated with less drink-driving recidivism across the overall intervention groups and whether there are subgroups that benefit from referral to a measure to a greater or lesser extent.

Limitations and recommendations

The study has a number of limitations that are relevant to the interpretation of the results.

The level of recidivism is a lower limit due to the low probability of apprehension

Measuring recidivism on the basis of judicial and underlying police registrations means that only part of any new drink-driving offences are identified, given that not all drink-driving offences are detected and registered by the police. The probability of apprehension for driving under the influence is low and depends on the enforcement capacity and priorities of the police. The enforcement capacity of the police is by definition limited and is mainly allocated to locations and times when the most violations are expected. This means that the *level* of recidivism as reported in this study is a lower limit of the actual level of recidivism. Due to the fact that registered drink-driving recidivism is rare, it is more difficult to demonstrate significant differences between groups.

Selection bias in who are referred to CBR and issued an administrative measure

The control groups relate to people who committed a drink-driving offence 'worthy' of participation in an administrative fitness-to-drive measure, but whom the police did not report to the CBR and on whom a measure was therefore not imposed. However, the question is whether there are specific reasons why not everyone is reported to the CBR. A comparison of the background characteristics of the intervention and control groups reveals that the persons in the intervention groups on average have a lower risk of reoffending than the persons in the control groups. This points to a *bias* in the referral of drivers under the influence of alcohol, with the police reporting drivers less prone to repeat offending to the CBR more frequently during the research period. In this study, we controlled for differences between the intervention and control groups in the analyses.

Control group composition

The CBR has other information at its disposal than we had during this study to determine whether there are contraindications to the imposition of a measure. To the CBR, a previously successfully completed measure (in the past five years) constitutes a reason for imposing a more severe measure then would be indicated on the basis of the BAC. When selecting the control groups, having previous convictions involving a drink-driving offence (in the last five years) was a reason for a person to be assigned to the control group for a more severe measure than indicated on the basis of the BAC. We do not have information about any past participation in fitness-to-drive measures.

This alternate way of determining whether there are contraindications may have resulted in people being assigned to the control group of a more severe measure more

readily by us than the CBR would have done if that person had been reported. This may partly account for the difference in severity between the intervention and the control groups.

By controlling for differences in demographic risk factors, criminal history risk factors and characteristics of the criminal sanction as risk factors for drink-driving recidivism, we have ensured that measured differences between the intervention and control groups are as little a hindrance as possible and allow for an accurate comparison of the levels of recidivism.

Research period

In this study, we examined the differential effectiveness of fitness-to-drive measures such as were imposed on drivers under the influence of alcohol in 2013 (LEMA and ASP) or 2015 (EMA and fitness-to-drive test). The design of the measures is subject to continuous change. The effect of changes in the implementation of the measures since the research period could not be taken into account in the results of the study. This means that the result of this study cannot be translated to the current situation on a one-to-one basis.

Key findings

Differences in characteristics of intervention groups

The study shows that there are clear differences between the backgrounds of the four intervention groups.

Relatively large number of women in LEMA and ASP intervention group
Although the overall target group for fitness-to-drive measures mainly consists of men, the LEMA and ASP intervention group is characterised by a relatively large proportion of women.

Highest proportion of people born outside of the Netherlands in the fitness-to-drive test intervention group
Most people who have been issued within a fitness-to-drive measure were born in the Netherlands. People in the ASP intervention group were born abroad more often than those in the LEMA or EMA group. The proportion of persons not born in the Netherlands is by far the highest in the fitness-to-drive test intervention group.

Proportion of novice drivers highest in the LEMA and ASP intervention groups
Both the LEMA and the ASP intervention groups are characterised by a relatively large proportion of novice drivers. For the LEMA intervention group, this is associated with the relatively young age at which drink-driving offences are committed; the ASP intervention group is significantly older than the other intervention groups.

Criminal history least extensive in LEMA intervention group and most extensive for the fitness-to-drive test intervention group
Regardless of the type of offence, the LEMA intervention group first comes into contact with the criminal justice system at a relatively more advanced age, and participants have a less extensive criminal history compared to the other intervention groups. Persons on whom a fitness-to-drive test has been imposed have the most extensive

criminal history. The ASP intervention group is the oldest upon first contact with the criminal justice system.

More severe fitness measure accompanied by higher BAC and more severe criminal sanction
In accordance with the criteria for imposing an administrative measure, the higher the BAC, the more severe the administrative measure. Persons on whom a more severe administrative measure has been imposed have also received a more severe criminal sanction: the average amount of the financial penalty (the most common sanction in the case of drink-driving), the percentage of community service or custodial sentences and the average duration of driving disqualification is lowest in the LEMA intervention group, somewhat higher in the EMA and the ASP intervention group and the highest in the fitness-to-drive test intervention group. The criminal cases of persons in the ASP intervention group are most often dismissed for technical reasons.

LEMA course completed successfully most often, larger dropout percentage after imposition of ASP
Not everyone on whom a measure is imposed successfully completes the measure. Some people may start to participate with the measure but will drop out prematurely, whereas others will decide not to participate even before the measure has come into force. In both cases, this leads to their driving licence being suspended.
Of the people who were ordered to participate in a LEMA, 95% fully cooperated and completed the measure successfully, followed by those who were ordered to participate in an EMA (92%) or a fitness-to-drive test (84%). The ASP had the highest percentage of dropouts: only 57% of the persons who were ordered to participate in an ASP successfully completed the programme (this includes people for whom the ASP was terminated by operation of law).

Correlation between background characteristics and drink-driving recidivism

Higher risk of recidivism for men, people born abroad, young people, novice drivers, people with an early age of onset and people who had previous convictions
After they have been ordered to participate in a fitness-to-drive measure, the risk of drink-driving recidivism is greater for men than for women, greater for people born outside of the Netherlands than for those born in the Netherlands, greater the younger people are and higher for novice drivers than for experienced drivers. Taking into account age, the difference between novice and experienced drivers is smaller, though nevertheless significant. The risk of drink-driving recidivism after participating in a fitness-to-drive measure is likewise greater the earlier their age of onset and the more previous offences they have committed (regardless of the type of offence). This is in line with expectations based on theory and previous research.

No correlation between BAC and risk of recidivism
The expectations based on theory and previous research on the effect of BAC were not conclusive. This study shows that the BAC – taking into account background characteristics and the measure imposed – has no correlation with the risk of drink-driving recidivism. Our study therefore does not support imposing a more severe measure on persons with a higher BAC based on the notion that people with a higher BAC have a higher risk of reoffending, which would justify imposing a more severe measure. Neither do people who refused to take a blood test or a breathalyser differ in their risk of recidivism from the reference group with the lowest BAC.

Criminal sanction associated with risk of recidivism
People who have been fined by the court have a 20% higher risk of reoffending for drink-driving than people who have received a penalty order in the form of a fine. People who were issued with an unconditional financial penalty (penalty order or fine) have a lower risk of recidivism than people on whom no unconditional financial penalty was imposed, regardless of the severity of the sanction. People who received a disqualification from driving of 6 to 8 months are at a greater risk of reoffending than people who have not been disqualified or who received a shorter or longer disqualification. Finally, unlike in previous studies, the duration of a criminal case (measured as the period between the arrest date and the date on which the criminal case was settled) is not related to the risk of recidivism in our study.

(Differential) effectiveness of fitness-to-drive measures

Light Educational Measure for Alcohol and Traffic (LEMA)
Referral to the LEMA is not associated with a lower risk of drink-driving recidivism. Taking into account background characteristics such as criminal history and demo-graphic characteristics, people who were ordered to participate in a LEMA are not at a lower risk of reoffending than people who committed an drink-driving offence worthy of a LEMA but were not reported to the CBR.

Referral to LEMA counterproductive for novice drivers
Novice drivers have a 53% higher risk of drink-driving recidivism if they are referred for participation in the LEMA than if they commit an offence worthy of participation in a LEMA but are not referred to the LEMA. Referral to the LEMA therefore appears to be counterproductive for novice drivers. For experienced drivers, referral to the LEMA has no impact on the risk of recidivism.

Referral to LEMA more effective as number of previous drink-driving offence increases; counterproductive for people with no previous offences
Although the effect of referral to the LEMA is not significant in the overall LEMA target group, we do see that the LEMA has more effect for people with (more) previous criminal cases for drink-driving. Referral for participation in the LEMA is counter-productive for people without any previous drink-driving offences. People who have no previous drink-driving offences have a 41% greater risk of reoffending if they are ordered to participate in the LEMA than if they commit a drink-driving offence worthy of a LEMA and are not referred.

Educational Measure for Alcohol and Traffic (EMA)
Referral to the EMA is not associated with a lower risk of drink-driving recidivism. Taking into account background characteristics such as criminal history and demo-graphic characteristics, people who were ordered to participate in an EMA are not at a lower risk of reoffending than people who committed a drink-driving offence worthy of an EMA but were not reported to the CBR. In addition, we were unable to find any subgroups for whom the EMA has a greater or lesser effect.

Alcohol Ignition Interlock Programme (ASP)
Referral to the ASP is associated with a lower risk of drink-driving recidivism. Taking into account background characteristics, people who have been ordered to participate in an ASP are at a 29% lower risk of reoffending for drink-driving than people who have committed a drink-driving offence worthy of an ASP but have not been referred to the CBR.

Referral for participation in ASP not effective for people with an early age of onset
For people who commit their first criminal offence below the age of 16 (regardless of the type of offence), referral to the ASP is not effective in reducing drink-driving recidivism. The ASP has a greater impact on people whose age of onset was older than 16.

Fitness-to-drive test
Referral to the fitness-to-drive test is associated with a lower risk of recidivism for drink-driving. People who have been ordered to participate in a fitness-to-drive test are at a 33% lower risk of reoffending for drink-driving compared to people who have committed a drink-driving offence worthy of a fitness-to-drive test but have been not referred to the CBR.

Referral to fitness-to-drive test more effective for experienced drivers
Referral for participation in the fitness-to-drive test has a greater effect in the subgroup of experienced drivers. Experienced drivers have a 41% lower risk of reoffending for drink-driving if they are referred than if they are not referred. For novice drivers, referral for participation in the fitness-to-drive test has no effect on the risk of recidivism.

In conclusion

Both referral to the ASP and the fitness-to-drive test were found to be effective in reducing criminal drink-driving recidivism in 2013 and 2015 respectively. This argues in favour of reintroducing the ASP as an effective way of combating recidivism in its target group.

The effectiveness of referral to educational measures in the form of a LEMA or EMA could not be demonstrated in this study – at least for the target group in 2013 and 2015. However, it does appear that a referral to the LEMA is particularly effective for people who, according to their criminal records, have committed previous drink-driving offences. For people with no previous drink-driving offences, referral to the LEMA appears to be counterproductive. The question is whether or not imposing an administrative measure – in addition to criminal prosecution of the drink-driving offence – is appropriate for this lightest group. An even lighter intervention, for example in the form of (a partial) e-learning, may be more in line with the risk of recidivism and the needs of this group.

The study also shows that referral to the fitness-to-drive test in 2015 was not effective for novice drivers. In 2013, referral to the LEMA was counterproductive for novice drivers, whereas, for the other measures, referral for participation in the measure does not reduce the risk of recidivism for novice drivers. It may be that the measures did not align with the needs, motivation, possibilities and learning styles of novice drivers. It would be beneficial to determine whether these measures could be designed differently in order to ultimately reduce recidivism in this difficult group.
Finally, in 2013, the ASP appeared to have no effect on people with an age of onset before the age of 16. More than half of this group already dropped out before the start of the programme. This may have been an instance of a problematic group that is unable to afford the costs of the ASP and/or is not motivated for other reasons; the people in this group continued to drive without a valid driving licence and without the support of the programme. Any follow-up studies may wish to determine the

characteristics of these non-enrollers and examine their reasons for not participating. Finally, a form of supervision or monitoring for non-enrollers as well as for dropouts for the duration of a measure may provide added value.

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