Summary

Background
The Netherlands has several behavioural measures that can be issued for road traffic offences. The aim of these is to improve road safety and reduce the number of road traffic accident victims. In 2008, a light version of the Educational Measure Alcohol and traffic (in Dutch Lichte Educatieve Maatregel Alcohol en verkeer [LEMA]) and the Educational Educational Measure Behaviour and traffic (in Dutch Educatieve Maatregel Gedrag en Verkeer [EMG]) were introduced. The goal of these measures is to teach traffic offenders about the dangers of certain driving behaviour, in order to prevent them from reoffending. Besides these measures, between December 2011 and September 2014 the Alcohol Interlock programme (in Dutch Alcoholslotprogramma [ASP]) was issued for more serious or repeat drink-driving offenders. On behalf of the Ministry of Infrastructure and Water Management, Rijkswaterstaat (an executive agency of the Ministry of Infrastructure and Water Management) asked the WODC to monitor recidivism by participants of these behavioural measures. This report presents research on the recidivism rates of those who participated in at least one of the LEMA, ASP or EMG measures between 2009 and 2013.

This study answers the following research questions:

LEMA
1 What are the background characteristics of :
   a Novice drivers who were assigned to the LEMA as a result of committing a drink-driving offence in the period 2009-2013?
   b Experienced drivers who were assigned to the LEMA as a result of committing a drink-driving offence in the period 2012-2013?
2 What is the pattern of recidivism for:
   a Novice drivers who were assigned to the LEMA as a result of committing a drink-driving offence in the period 2009-2013?
   b Experienced drivers who were assigned to the LEMA as a result of committing a drink-driving offence in the period 2012-2013?
3 How do the recidivism rates of LEMA participants compare to those of the control group?

ASP
4 What are the background characteristics of drivers who were assigned to the ASP as a result of committing a drink-driving offence in the period 2012-2013?
5 What are the recidivism rates for the drivers who were assigned to the ASP as a result of committing a drink-driving offence in the period 2012-2013?

EMG
6 What are the background characteristics of drivers who were assigned to the EMG as a result of committing an EMG related offence in the period 2009-2013?
7 What are the recidivism rates for the drivers who were issued the EMG as a result of committing an EMG related offence in the period 2009-2013?

Method
Data for the measurement of recidivism originates from the Research and Policy Database for Judicial Information (OBJD). The OBJD is a pseudonymous version of the Justice Documentation System (JDS), the legal registration system for criminal

cases. The official OBJD data on participants of the traffic offender behavioural measures were supplemented with details of the enforcement and implementation of each specific measure. These data originated from the information system MOVE from the Central Driving License Issuing Authority (in Dutch Centraal Bureau Rijvaardigheidsbewijzen [CBR]). The data were made anonymous before being used in this study.

This study was carried out following the WODC Recidivism Monitor procedure. According to the Recidivism Monitor, recidivism is defined as the registration of a punishable offence (by an ex-offender) in the Judicial Documentation. There are a number of set criteria for the measurement of recidivism. In this study three criteria are applied: general recidivism, special recidivism, and specific recidivism. General recidivism refers to when a person is convicted of any new offence. This can be a traffic offence, such as drink-driving, but can also refer to another kind of offence, for example theft or assault. In this study, special recidivism refers to when a person comes back into contact with the justice system due to committing a traffic offence. In the study, we refer to this type of recidivism as traffic recidivism. Specific recidivism refers to when a person comes back into contact with the justice system due to committing the same kind of offence as the original offence. For participants in an alcohol related behavioural measure, specific recidivism refers to drink-driving. In these cases, we refer to specific recidivism as drink-driving recidivism. For participants of the EMG, specific recidivism refers to committing a serious speeding offence (driving more than 30km/h over the speed limit or 40km/h over the speed limit on the motorway), or one of the offences identified in the Traffic Behavioural Measures Regulations (in Dutch Maatregelen rijvaardigheid en rijgeschiktheid) from 2011 as risky, for which an administrative measure has not been applied. We refer to this as EMG related recidivism.

In this study we examine recidivism by novice (n=969) and experienced (n=2,030) drivers who were stopped in 2013 for a drink-driving offence and as a consequence were assigned to and participated in the LEMA. Recidivism is also examined for drivers who in 2013 were stopped for committing a EMG related offence and as a consequence participated in the EMG (n=1,051).

For drivers who were stopped for drink-driving in 2013 and consequently were assigned to the ASP (n=1,797), we examine recidivism during the period of the Alcohol Interlock programme. This is the first time that recidivism during this programme has been examined. In order to do this, we use 'competing risks' survival analysis. Using this method we are able to include recidivism by people who can no longer reoffend during the programme because for them the programme has been prematurely terminated.

For novice drivers who participated in the LEMA and for EMG participants, besides presenting details of raw reoffending rates in the two years following the original offence, we also present recidivism corrected for the net development of recidivism in the period 2009 to 2013. Using a statistical model the raw recidivism rates are adjusted. The reason for this correction is that changes in the make-up of the research groups over the years can lead to fluctuations in the recidivism rate. The risk profile of offenders can also change, along with the background characteristics of the offenders.

For LEMA participants stopped in 2013 (n=2,999) recidivism rates are compared to those of a control group for the same period (n=1,109). This is the first Dutch study to use this method to examine the effectiveness of LEMA. The term control group is used in this study to refer to a group of people who were also stopped for drink-driving in 2013, but who were not referred to the CBR by the police and therefore were not assigned to LEMA. By examining drink-driving recidivism amongst LEMA participants, whilst controlling for possible differences between the groups in terms

of background characteristics, we can determine whether LEMA is effective in reducing drink-driving rates within the target group for this measure. Using a statistical model we can separate out the effect of the research group characteristics on drink-driving recidivism from the effect of participation in the measure. In this way we can determine whether participation in LEMA is related to lower recidivism, regardless of differences in the background characteristics between the LEMA group and the control group.

Main findings

LEMA

- *Participant background.* The majority of novice and experienced drivers who participated the LEMA in 2013 were males born in the Netherlands. The average age of experienced drivers who participated in LEMA was 42 years. On average their criminal records began at the age of 32 years. As expected, novice drivers stopped in 2013 for a drink-driving offence were on average younger (average age 23 years) than the experienced drivers. On average novice drivers' criminal records began aged 20 years. Only 6% of novice drivers had previously been sentenced for a drink-driving offence.
- *Recidivism.* One in four of the novice drivers who participated in LEMA in 2013 reoffended within two years, 16% committed a traffic offence in these two years and 10% were stopped for another drink-driving offence in these two years. The recidivism rates for experienced drivers who participated in LEMA in 2013 were lower: 15% reoffended within two years, 10% with a traffic offence, and 5% with another drink-driving offence within the two year period.
- *Recidivism trend.* When controlling for changes in background characteristics of the population, recidivism among novice drivers who participated in LEMA shows a downward trend. Recidivism rates dropped from 15% in 2009 to 10% in 2013. The research period for experienced drivers was too short to provide a picture of recidivism development over time.
- *Effectiveness.* The percentage of LEMA participants in 2013 who committed another drink-driving offence within two years did not significantly differ from the percentage of drink-driving reoffenders in the control group. We found no significant difference between the groups for general recidivism rates or for traffic recidivism rates. These results hold when controlling for differences in the demographic make-up and criminal history of the research groups. The comparison between LEMA participants and the control group measured over the same period, consisting of drink-driving offenders who have only received a criminal settlement, does not provide any indication for the effectiveness of the LEMA.

Alcohol Interlock Programme

- *Participant background.* The majority of ASP participants were males (83%) born in the Netherlands (86%). On average, they were 36 years old when stopped in 2013 for drink-driving and assigned to the ASP. On average, their criminal records began aged 28 years and nearly two thirds of the group had a criminal record. Half of the group had a previous conviction for a traffic offence and a third had a previous conviction for a drink-driving offence.
- *Recidivism during the ASP.* Of ASP participants in 2013, 11% came back into contact with the criminal justice system for committing a punishable offence within two years of the programme beginning. If we focus solely on traffic offences, 6% of participants were registered for committing a traffic offence during the programme. A little over one in 100 ASP participants were stopped

for another drink-driving offence, with the result that those participants were removed from the programme.

EMG

- *Participant background.* EMG participants were nearly all male, 83% were born in the Netherlands, and on average they were 30 years old at the time of participating in the measure. Nearly three quarters of the EMG participants had a criminal record, two thirds had a previous traffic offence conviction, and a third had a previous EMG related conviction. On average participants' criminal records began aged 22 years.
- *Recidivism.* Of participants who completed a EMG in 2013, 30% came into contact with the criminal justice system for another offence within two years, 20% reoffended within two years with a traffic offence, and 12% were stopped within two years for a EMG related offence.
- *Revidivism trend.* When controlling for changes in the background characteristics of the population, EMG related recidivism shows a downward trend. Recidivism dropped from 15% in 2009 to roughly 12% in 2013.

Limitations

Caution is required in interpreting these results: The study has several limitations. First, the study uses police and justice system registrations as a measure of reoffending. Using this kind of data means that only a small and relatively serious proportion of traffic offending is captured. The number of traffic offences that are registered is heavily dependent on the capacity of the police, which is, by definition, limited. In addition, the police need to prioritize their resources. As a result not all the traffic offences that the police detect are registered in the OBJD: minor traffic offences, which fall under the Mulder Law, are not registered.

A second limitation relates to whether the control group for the LEMA participants was suitably similar to the LEMA group. The control group consisted of drivers who had committed a LEMA related offence and who should have been, but were not, registered with the CBR by the police. We cannot know whether this selection was random or whether there were specific reasons for certain drivers not being registered with the CBR. We are not able to test whether this lack of registration was due to the police detecting an obvious reason not to refer the driver to LEMA (for example, insufficient knowledge of the Dutch language or a psychiatric or physical disorder). It is also possible that drivers in the control group were not registered because police officers were unfamiliar with the procedure or the administrative steps necessary for making such a registration. In addition, there are indications that police officers sometimes make the decision to register a driver or not, independently of whether the situation or the offender should be registered. If drivers who are more or, in this case, less likely to reoffend are registered with the CBR then selection bias becomes an issue.

Third, recidivism is influenced by many different factors. In this study we presented the recidivism trend between 2009 and 2013 for novice drivers who participated in the LEMA and for EMG participants. The existence of enforcement and registration effects, the effect of other measures, such as general prevention campaigns, and changes in the make-up of the participant groups are all likely to have played a role, and this complicates the picture in terms of net recidivism by participants. It is important to also note that the educational measures also developed over time. For example, in 2013, the length and the teaching method used for the EMG changed. We cannot know what effect this had on recidivism.

Another limitation relates to traffic recidivism and EMG related recidivism. A proportion of these types of recidivism are speeding offences, which are detected using

number-plates. As a consequence, some of the reoffending by participants may actually have been carried out by other drivers using a participant's vehicle. On the other hand, it is also possible that reoffending by participants was registered under another driver's name if it occurred when driving another's vehicle. Future research is needed to determine how often this situation occurs.

Conclusion

This study, as well as presenting an update of recidivism rates for participants of LEMA and EMG, is the first to report on recidivism during the ASP. We can conclude that rates of drink-driving recidivism whilst participants are taking part in this programme is very low. In 2019, we will be able to provide the first report of recidivism after completion of the programme and thus determine whether reoffending levels remain low once the alcohol lock has been removed.

In addition, we compared the recidivism of LEMA participants with that of a control group who had committed a comparable drink-driving offence, but who consequently only received a criminal sanction (mostly a fine). The results of this comparison indicate that LEMA does not result in a decrease in drink-driving reoffending in its target group. Additional research is needed to establish the effectiveness of the LEMA in specific subpopulations of participants. The research into the effectiveness of the different traffic behavior measures will be continued. For example, in order to examine the effectiveness of the EMG, an adequate control group needs to be found. This future research should also determine whether EMG related offences that are registered according to the Mulder Law should also be included as EMG related recidivism. This is currently the topic of a feasibility study by the WODC. In addition, in 2019, we will be able for the first time to report on recidivism by participants of the EMA and people whose fitness to drive has been investigated as a result of a drink-driving offence.