

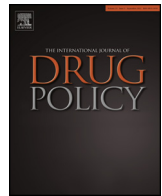


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### Research paper

# Benefits of short educational programmes in preventing drink-driving recidivism: A ten-year follow-up randomised controlled trial

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### ABSTRACT

**Background:** One fifth of drivers convicted of drink-driving for the first time will be convicted again for the same offence in subsequent years. Lecture-based educational programmes are believed to reduce recidivism. Little is known about the modalities of enhancing the benefits of such programs.

**Methods:** This parallel randomised controlled trial measured the effects of the duration of lectures and the presence of a close relative 'in class' on rates of recidivism during the ten years following an initial drink-driving conviction. Of 1588 drivers in the Canton of Geneva convicted of a first-time offence with a blood alcohol concentration (BAC) of between 0.80 and 2.49 g/kg from May 2001 to February 2004, 727 agreed to participate and were randomly assigned to either a seven-hour series of lectures, a four-hour series with a friend or close relative, or a brief two-hour lecture. Time until recidivism was retrieved from a national registry that contains details of recidivism that took place up to ten years after the first offence.

**Results:** Significant effects of briefer lectures over the standard day-long series of lectures were observed only during the most influential time period with regards to recidivism levels—the two years following the intervention. Replacing the usual one-day series of lectures by briefer two-hour lectures would reduce, by 25% (CI95%; 3–44%), the risk of recidivism.

**Conclusion:** This study does not support policymakers' decision to rely on a seven-hour series of lectures to decrease DUI recidivism. The advantages of shorter lectures over no lecture still need to be evaluated.

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### Introduction

Worldwide, harmful use of alcohol leads annually to the deaths of 320,000 young people between 15 and 29 years of age (WHO, 2010). It is the cause of 3.8% of all deaths and is therefore one of the most important avoidable, known risk factors affecting health (Rehm et al., 2009). In Europe, the 12-month prevalence rate of alcohol use disorder is 6.1% for males and 1.1% for females (Rehm,

Room, van den Brink, & Jacobi, 2005). It is particularly influential in contributing to motor vehicle accidents. In Europe, one quarter of automobile accidents are alcohol related (Schulze, Schumacher, Urmeew, & Auerbach, 2012) and alcohol is implicated in at least one fatal accident out of five (Fell, Tippetts, & Voas, 2009). An alcohol-related traffic fatality occurs every 31 min in the United States, representing 39% of total traffic fatalities (Chou et al., 2006). The number of drivers self-reporting having driven after having drunk to excess varies considerably between countries, with a year period prevalence of 2.9% in the US (Chou et al., 2006) and 21.8% in Switzerland (Fink & Ducommun Vaucher, 2006), and a six-month period prevalence of 32.9% in Queensland, Australia (Freeman & Watson, 2009). First-time offenders and multiple recidivists are equally at risk of multiple violations of road traffic regulations (Rauch et al., 2010).

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In Switzerland, driving under the influence of alcohol (DUI) was considered to be an offence for blood alcohol concentrations (BACs) of 0.8 g/kg and upwards until 2005. This threshold was then lowered to 0.5 g/kg. Prior recorded DUI convictions are erased from official records after ten years and are not taken into consideration with regards to administrative sanctions after five years. For those not having committed a DUI offence during the five previous years (i.e. first-time offenders), the duration for which their driving licence is suspended depends on the circumstances of the offence (i.e. prior offences, violation of other traffic regulations, BAC) with a minimum duration of three months for BACs of 0.8 g/kg or higher. Offenders with a BAC of 2.5 g/kg or higher need to prove that they no longer have a drinking problem before they can recuperate their driving licence.

In addition to the fines and prison sentences used to discourage DUI recidivism, educational programmes address the problem of drinking and aim to change attitudes towards drinking and driving (Gache et al., 2006). These types of interventions have been shown to be more efficient for social drinkers than for those who are alcohol dependent (Berjeron, 2003). In a meta-analysis (Wells-Parker, Bangert-Drowns, McMillen, & Williams, 1995) of 215 studies, educational programmes were one of the most frequently studied interventions and their general effect was a relative reduction of approximately 10% in drink-driving recidivism; however, most of these studies were subject to selection bias given the comparison was made with those who refused to participate in the programmes. Furthermore, these education programmes ran over an average of five weeks and generally relied on individual sessions that lasted less than one hour. By comparison, school education programmes that aim to change behaviour are built around short sessions of generally 30 min (Bramlett, Cates, Savina, & Lauinger, 2010). In Switzerland, the Canton of Fribourg has implemented a seven-hour lecture series organised on a single day. The same programme can be delivered in a shorter time, thereby reducing the resources required. A short 30-min intervention given at the hospital following admission due to injury caused by drink-driving has showed promising results, with a 50% reduction in DUI offences (Schermer, Moyers, Miller, & Bloomfield, 2006). Experimental designs—randomized clinical trials—are, however, scarce in this field, making it difficult to identify the influential components of such programmes. It has never been clearly demonstrated that an intensive or protracted intervention was more effective than a short one. We therefore designed a randomized clinical trial to test the effects of different programme durations and the possible influence of having a proxy follow the same programme as the offender.

## Methods

### Objectives

Before implementing the programme run by the Canton of Fribourg to prevent DUI recidivism, the Canton of Geneva ran a full-scale equivalence randomised trial to assess the effectiveness of two briefer alternatives to the programme. This parallel randomised controlled trial with a 1:1:1 ratio of allocation had the primary objective of testing whether alternative educational programmes (i.e. having a proxy also attend a four-hour lecture or giving only a brief two-hour lecture) were as efficient in reducing the risk of DUI recidivism as was the standard seven-hour series of lectures.

Secondary objectives were to estimate the reduction in the risk of DUI recidivism due to having followed each of these education programmes as compared to drivers who did not follow a programme (nested cohort design).

### Population

Participants were first-time DUI offenders with a BAC superior to 0.8 g/kg but inferior to 2.5 g/kg, whose prosecution and sentencing was managed by the canton of Geneva between June 2001 and February 2004. The first-time offender category, however, also included those who may have been convicted of a DUI offence up to five years earlier or in another country. For simplicity, all drivers considered by the authorities as 'first-time offenders' will be referred to as such. First-time offenders were invited, by mail, to participate by the Geneva Cantonal Vehicle Licensing Office. The inclusion criteria were being over 18 years of age, having had one's driving licence suspended, understanding French, and being able to read and write. All participants provided their informed consent to participate in the study.

### Interventions

We adopted a purely teaching approach to the effects of alcohol, DUI individual's conduct, the legal implications of a repeat offence, and the possibility of progressing from social drinking to dependency. Participants were invited to follow an educational programme on drinking and driving in exchange for a reduction, of one month, of the time for which their licence had been suspended. Programme costs were paid by the individual drivers (CHF 250). In the context of the programme, first-time DUI offenders were interviewed by a research psychologist. This hour-long, private interview verified eligibility, collected baseline characteristics, investigated drinking habits, and identified an eventual underlying drinking problem. Drivers were informed of their drinking status and could receive counselling. Each DUI offender was then allocated randomly to one of the following three education programmes: a standard seven-hour series of lectures, a shortened four-hour lecture with a proxy, or a brief two-hour lecture.

#### Standard programme—seven-hour series of lectures

This series of lectures was based on a one-day educational programme running in the Canton of Fribourg since the late 1990s. It was delivered by three lecturers: a jurist, a physician and a psychologist. Participants were informed regarding accident statistics, offence-related legal procedures, the consequences of DUI for insurance cover, the medical consequences of heavy drinking, the psychological aspects of alcohol consumption, and behavioural strategies for avoiding DUI recidivism. Class size was limited to 12 participants. Participants received printed materials summarizing the course content at the end of the series of lectures.

#### Four-hour series of lectures with a proxy

This series of lectures was shortened to four hours. Participants were asked to choose, nominate, and bring with them a close relation (proxy) such as their spouse, a companion, or a friend. A previous study had shown the improved capacity of interventions to reduce alcohol consumption when subjects were accompanied by a friend or close relation (McKay, Longabaugh, Beattie, Maisto, & Noel, 1993). The content of this lecture series was similar to that of the standard seven-hour series of lectures but was delivered by two lecturers instead of three: a jurist and a psychologist, the latter of which also provided summarized information usually delivered by the physician in the standard seven-hour series of lectures. The learning objectives remained the same but the teaching material was summarized as per a consensus reached between all lecturers.

#### Brief two-hour lecture

The content of the programme was shortened to two hours and was delivered by a psychologist with educational experience. The

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