1 Drugs and Driving

1.1 Summary

1.2 Policy

The number of road accidents and deaths has noticeably decreased over the last decades. Accidents per 1 million driven kilometres continually sank from 1.5 in 1970 to 0.49 in 2004. The number of deaths decreased from 76.5 per 1 billion driven kilometres to 8.4 during the same period of time (www.bast.de, 31.7.2006). Drunk driving has been an important topic in Germany for many years. Gradually, drugged driving has also been given more attention as a subject of discussion. The Drug Commissioner of the Federal Government points out in her previous report (2005) that the number of accidents with casualties in which drugs ("other intoxicating substances") played a role, increased from 612 cases in 1997 to 1,409 cases in 2003. However it needs to be taken into account that the technical equipment to measure intoxication by drugs and training of police officers have improved in this area. So, public and political interest in this problem area has developed in parallel to the empirical basis.

Young, especially male drivers remain a central risk group. They have a higher prevalence of drug use, a relatively high consumption of alcohol and they go out frequently. The combination of these factors makes them increase the risk of accidents. Especially in the rural setting, "going out" is equal to nightly car races to the discotheque. These so-called "disco accidents" account for a large number of the accident statistics and are therefore an important focus of prevention measures.

1.3 Prevalence and epidemiological methodology

Methodology

The data situation on this is as follows:

- There are no systematic surveys carried out in Germany to measure prevalence of drunk or drugged driving on a regular basis. However, there are a few data sources which can be used for monitoring.
- In the past, blood samples of conspicuous operators of motor vehicles, which were analysed for alcohol, were occasionally also reanalyzed for cannabis at a later point of time. However, this led to methodological problems in backdating the THC-concentration to the time of driving. Furthermore, since the selection of tested drivers is alcohol-oriented, cannabis users are therefore probably underrepresented.
- *Road-side-studies* are, from an epidemiological point of view, the best possibility to collect representative data on the extent of drugged driving. To this purpose, random samples are taken among drivers in ordinary road traffic and tested for alcohol and drugs. However, this is only possible in exceptional cases like for example as part of a study. In principle, tests which are carried out without justifiable suspicion, are not allowed.

- The analysis of data on recorded *road accidents* with or without damage to persons and property, gives an insight into quite a large number of accidents. The data basis is formed by accidents which were recorded by police. Since police are called in most of the road accidents in Germany, the data situation is quite good. Only petty cases are possibly not taken account of. Apart from alcohol, the influence of "other intoxicating substances" - mostly cannabis - is recorded in the statistics. Information on accident-free driving under the influence of intoxicating substances is of course not included by this method.

Results

A road-side-study was carried out in Germany in the nineties. As part of the study, a representative sample of car drivers was tested for several substances. In 0.57% of the tested drivers, cannabis and in 5.48% of the cases alcohol was found in the blood. By comparison, the figures for opiates ranged between 0.15 - 0.62% (heroin, codeine). Only one in 2,017 samples contained cannabis in a quantity (>40 ng/ml) which actually represented an acute impairment of the fitness to drive (Krüger, Schulz & Magerl, 1998). However, prevalence of cannabis consumption has risen since then, which probably has also led to an increase of driving under the influence of this drug.

The following presentation is based on the most recent statistical data on road accidents. In the year 2004, accidents with casualties on German roads totalled 336,619 with 413,942 operators of motor vehicles being involved. Out of these, 1,343 (0.3%, 2003: 1,341) were under the influence of "other intoxicating substances" and 20,663 (5.0%, 2003: 22,674) under the influence of alcohol. Regarding accidents with deaths, influence of drugs was found in 41 out of 6,729 cases (0.6%) compared to alcohol which was found in 6.8% of the cases. As for accidents with injury to property, influence of drugs was found in 770 out of 128,168 cases (0.6%) compared to alcohol with 9.4% (Statistisches Bundesamt, 2006c). Considering the prevalence of the different drugs used in Germany, cannabis probably accounted for the largest part of these "intoxicating substances".

Contrary to alcohol, detection of drug use in road traffic still poses major problems. Therefore, drug cases are probably clearly underreported. According to a frequently quoted proximate value, one in 600 cases of drugged driving is detected compared to one in 300 hundred cases of drunk driving. Even when taking account of the underreporting of drug-cases, the number of accidents caused under the influence of alcohol still is 5 times higher.

1.4 Detection, measurement and law enforcement

Detection and measurement

Funded by the European Commission and institutions in the USA, the international project Rosita was dedicated to the development of appropriate technical instruments for the quick detection of drugs in road traffic. Urine tests are considered a reliable method for drug detection, but haven't proven useful in their practical implementation. Therefore, the

development and testing of saliva testing instruments in drug detection formed an important part of the project (Moeller, 2004).

However, the final report on these projects arrived at an overall negative judgement of these methods. It points to the largely dissatisfying sensitivity of the tests with good sensitiveness for many substances. Therefore, under current conditions, none of the analysed methods was recommended for practical usage. The authors of the study held the opinion that use of the methods could nevertheless make sense because of the deterring effect of the tests. However, the effect would decrease, when it became known that the tests often give negative results after drug consumption (Verstraete & Raes, 2006).

As a result, despite the introduction of new detection methods and training of police officers, the chances of detecting drugged driving, have probably not really increased. Since it is forbidden to carry out tests without justifiable suspicion and personnel resources for regular controls are limited, tests are mainly carried out in the surroundings of discotheques and other events which are assumed to have a higher prevalence of drugs and alcohol consumption.

Legal situation

Since 1998, driving under the influence of drugs is legally classified as a regulatory offence which can be punished with a fine or the suspension of the driving licence. This also applies to cases where unfitness to drive could not be proven.

Experts currently work on a grid to measure intoxication caused by THC analogously to the blood alcohol concentration. However, the connection between THC concentration in the body and the impairment of physical ability is more complex than in the case of alcohol. Therefore it is more difficult to define individual limit values.

Based on the meta-analysis by Berghaus and Krüger (1998), Grotenhermen and colleagues (2005) have given their view on cannabis in road traffic. They recommend setting the limit value for the THC concentration in the blood at 3.5–5 ng/mL. This limit value would, says this group of experts, allow on the one hand to prosecute impaired fitness to drive through THC, and on the other, to ignore residual symptoms of cannabis use which do not impair fitness to drive anymore. If, at the same time, the blood alcohol concentration is higher than 0.3 per mille, the limit value for cannabis should be lowered. Legally valid tests should be based on blood samples and saliva tests can serve for screening. Since laboratory results of one and the same sample can diverge up to 30%, limit values need to be given a larger range of variations.

Driving under the influence of alcohol or drugs entails penal consequences but has also insurance-related aspects. If, after the consumption of alcohol or drugs, driving is rated as “grossly negligent“, the obligatory third party insurance of the driver who caused the accident, may claim back parts of the costs asserted by the victim of the accident from the driver who caused the accident. The same applies to insurances against damage to one’s own automobile.

Driving under the influence of medical drugs

The problematic effects of medical drugs in road traffic remain a side issue in public and expert discussion. Benzodiazepines play the most important role among the group of active substances. The possibly problematic effects of medication on the driving capacity need to be weighed against the negative effects of the disease itself which can be reduced or cured by medication (Berghaus, 2004). Driving under the influence of medical drugs is not regularly monitored in Germany and there are no representative data available on this issue.

Driving and substitution

Driving of persons undergoing substitution therapy is a special topic. An intensive debate has been led in Germany for quite some time on the re-grant of the driving license to those in stable substitution therapy, since a driving license would definitely increase patients' employment chances on the labour market. The question when and under which circumstances the driving license can be re-granted to heroin and cocaine addicts who generally have lost their licence long before, hasn't been sufficiently answered. However, there is agreement on a few aspects: substitution should have been ongoing for a year and no additional drugs should be taken. The overall situation of the patients should be stable. Buprenorphine seems to impair the driving capacity less than methadone. Comparing between persons who were treated with methadone (n=24) and buprenorphine (n=22), a study carried out by Soyka and colleagues (2005b) found a significant impairment of the cognitive-motor functions of the users of buprenorphine.

There is large grey zone between doctor's secrecy, insurance law and regulations of the criminal law. It is the doctor's duty to inform patients in substitution therapy that driving under the influence of substitution substances is forbidden. A re-grant of the driving license is difficult to achieve even in a stable therapy situation (Ebert et al., 2005).

1.5 Prevention

The attempt to prevent or reduce risks and damage caused by intoxicated drivers of motor vehicles, comprises both structural and behavioural prevention. In practice, the risks caused by alcohol and drugs – especially by cannabis – are often commonly worked on. Preventive measures and offers are generally not substance-specific. Specific measures undertaken for users of benzodiazepines are not known. Information on a driving ban and special risks should generally come from the doctor in charge of the treatment. Additionally, patients can inform themselves on these and other undesired side effects in the package circulars of the medical drugs.

In the following, the report presents innovative projects which have been recently developed for these subject areas in Germany.

Fifty-fifty

An interesting approach of structural prevention is the initiative “fifty-fifty-Taxi“. The project is addressed to visitors of discotheques in Saxony-Anhalt who can ride home by taxi for half the price on Friday and Saturday nights. In this way, drunk or drugged driving is prevented. So far, 300,000 tickets have been sold for such rides. Sponsors who cover the other half of the costs are from industry and economy (Ministerium für Gesundheit und Soziales Sachsen, 2006, personal communication).

In the last decades, additional bus lines have been introduced in many cities which can be used at night after the end of regular operating hours by discotheque goers for a trip home at regular bus fares. The buses operate either on an hourly schedule or can even be called on demand. However, such initiatives are limited to cities and are hardly found in rural areas.

FreD

The project FreD uses peer trainers to inform young adults in the course of their driving instruction about risks of drunk and drugged driving. The project has been running since 2001 and has been used by a series of Laender. It is currently used in a demonstration project at European level. Details are contained in the last REITOX-report. The project description can be found in the EDDRA data base.

Public discussion and media

Accident risks caused by driving under the influence of drugs are only occasionally picked up as a subject in the public discussion and by the media. Hereby, drunk driving is far more often addressed than driving under the influence of cannabis or other drugs. Due to the relatively high accident figures of nightly rides home of young adults, press deals with this subject mostly under the headline “disco trips“.