RESEARCH REPORT 597

The prevalence and impairment effects of drugged driving in New Zealand

Full report: www.nzta.govt.nz/resources/research/reports/597

NZ TRANSPORT AGENCY WAKA KOTAHI
New Zealand Government

Drivers admit driving under the influence of drugs

Research looked into the incidence of drugged driving in New Zealand, and suggested future measures to improve our understanding of this issue, and how to avert it.

A key part of the government's Safer Journeys road safety strategy is to 'significantly reduce the incidence of alcohol and drug impaired driving' by 2020.

The strategy recognises the significant part that alcohol and other drugs play in fatal and other crashes. Between 2011 and 2013, alcohol and drugs played a role in 30 percent of fatal crashes, 20 percent of serious injury crashes and 12 percent of minor injury crashes.

Yet although the incidence and adverse consequences of alcohol-impaired driving are now well understood and documented, the impact of drugged driving is less so.

A study by researchers at the University of Waikato has helped redress this imbalance by establishing a quantitative picture of the type and extent of drugged driving in New Zealand and investigating the level of driving impairment produced by the more commonly used drugs, both legal and illegal.

Establishing the extent of the issue

The study drew on telephone and internet surveys, a literature review and health sector consultation. It sought to address limitations in previous studies, such as biased sampling and restricted scope.

Stratified telephone surveys and a follow-up internet survey were used to explore the extent of drugged driving. Participants reported that, other than alcohol, the drugs they took most commonly before driving were strong opioid-based painkillers, antidepressant medication, anti-nausea medication, cannabis and anti-anxiety medication.

A large proportion of drivers also took combinations of different drugs prior to driving. Between a quarter and a half of drivers who reported taking drugs admitted to doing so more than once a week over the previous 12 months, with the time of day that drugged driving occurred varying depending on the type of drug taken (driving after taking prescription drugs was most common in the morning, and after taking illegal drugs, in the evening).

Using the information from the surveys, the research team conducted a systematic review of the literature to determine the degree of impairment caused by the most commonly taken drugs, and combinations of drugs.

Of these, cannabis, opioid-based painkillers and benzodiazepines (typically used to treat anxiety or insomnia) were most strongly associated with increased crash and driving-related impairment. Further research was needed in relation to morphine and methadone (where the effects were unclear), and selective serotonin re-uptake inhibitors or tramadol (where there was little evidence that they were associated with increased crash risk or impaired driving).

With respect to stimulants, most studies report that they could improve aspects of driving behaviour (such as reaction times), but they may lead to increased risk taking and fatigue.

The combination of drugs and alcohol was also shown to lead to significantly higher crash risk and driving-related impairment, with studies indicating that the odds ratios for crash risk are multiplicative (rather than additive) when substances are taken together.

Influencing drivers' attitudes

The surveys revealed that many of the participants who took drugs and drove were aware of the potentially impairing effects the drugs had on their driving behaviour. Over half of the cannabis users, almost 40 percent of those taking strong painkillers, and a quarter of those taking benzodiazepines had decided not to drive within three hours of taking the drugs. Awareness of potentially debilitating effects was lower among participants taking other types of drugs.

Participants' attitudes to drugged driving were strongly influenced by the legality of the drugs. The majority of participants did not think it was ok to use illegal drugs and drive. Participants were more ambivalent, however, about driving after taking prescription drugs, if they felt their driving abilities had not been compromised.

Only a quarter of participants thought that, at present, people were likely to get caught for drugged driving, although most supported more police time and resources being directed towards enforcing drugged driving laws.

The research team concluded that public education initiatives around drunk and drugged driving could usefully focus on the effects of combined drug use, in particular the combination of alcohol and prescription medication.

In their report, they say, ‘Drivers need to be aware that any amount of alcohol (even below the legal drink driving limit) in combination with prescription medication may affect their driving ability and increase their risk of being involved in a crash. One strategy would be to encourage people to plan when they take their medication in relation to when they need to drive and to continue to raise awareness of the fact that we are not good at judging our own levels of impairment.’

Gathering better information

An associated part of the study was to investigate the feasibility of developing a new approach to studying drugged driving, which did not rely on participants’ self-reporting. The proposed alternative method would involve analysing blood or saliva samples taken from drivers who had been involved in a crash.

Some information is already available in New Zealand on the blood drug levels of dead and injured drivers. The information comes from blood samples taken for blood alcohol testing purposes. However, the sample sizes in any studies based on this information have been relatively small and limited to blood collected for evidential purposes. Analysis of a larger sample of drivers involved in crashes would provide a more accurate picture of the extent (and impact) of drugged driving in New Zealand.

With this end in mind, the research team consulted with staff from Waikato District Health Board, the Institute of Environmental Science and Research, the Ministry of Transport, and the Waikato Police Traffic and Alcohol group. Consultation explored the feasibility of carrying out additional toxicological analysis on the blood samples that are routinely drawn from trauma patients admitted because of a car crash.

At present, it is not possible to carry out additional analyses on the blood samples that are drawn, but the team proposed that an additional sample (of blood or saliva) could be taken, and sent to an external laboratory for analysis.

Such an approach would require health board and national ethics committee approval, but would significantly increase the amount of information about drug use and driving available to researchers.

Other recommendations included developing a drugged driving marketing campaign directed at women in their late 30s (who featured highly among survey participants who identified that they took prescription (or legal) drugs and drove), and measures to encourage doctors and pharmacists to provide accurate information to patients about how medication may affect their driving skills.