

Pharmacy medications and driving: delivering key information to ageing drivers

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ABSTRACT

Ageing road users face an increased risk of fatality and serious injury in a crash due to their fragility and other issues associated with ageing.

A high proportion of ageing driver fatalities involves multiple vehicle accidents, with many occurring at intersections. Complex traffic situations become more demanding, particularly in combination with deteriorating hearing, vision, reaction time and/or mobility.

A range of research recently reviewed by the TAC also highlights that as drivers age, there is a higher prevalence of medication usage for health purposes, but the use of these medications can often and unknowingly, impair driving ability.

Taking multiple medications increases the chance that driving will be impaired. Likewise, mixing of drugs with alcohol also has the potential to increase the level of impairment. Main classes of drugs that are impairing include anxiety, depression, any emotional condition, cold and cough, antihistamines, and epilepsy drugs.

The TAC has undertaken a project to provide all drivers (but primarily those aged 60 years and over) with up-to-date information and associated safety advice about specific pharmacy medications and how they can impair driving ability/judgment, so that they can make an informed decision about their driving capabilities.

This paper will describe the research and development of this initiative, including the comprehensive stakeholder engagement process.

BACKGROUND

From 2008-09, the 60-69 age group in Victoria grew by 3.8%. As people are living longer, it is expected Victoria's population aged 65+ years will be around 25% in 2042 (compared to 14% in 2006). Likewise, the issue of ageing road user crashes, injuries and fatalities will become increasingly important.

	2011 – 288 fatalities	2010 – 288 fatalities	1997-2010 Avg
60-69 years	29	23	27
70+ years	45	44	51
Total	74 (26%)	67 (23%)	78

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In the mid 1990's the Transport Accident Commission (TAC) conducted a targeted campaign to communicate the affects of certain pharmacy medications on driving. This campaign, developed for older drivers, included a printed information brochure and posters for distribution and display through general practitioner clinics, pharmacies and in other places likely to be seen by the target audience (see figure 1 for an example of some of the artwork used in the original campaign).

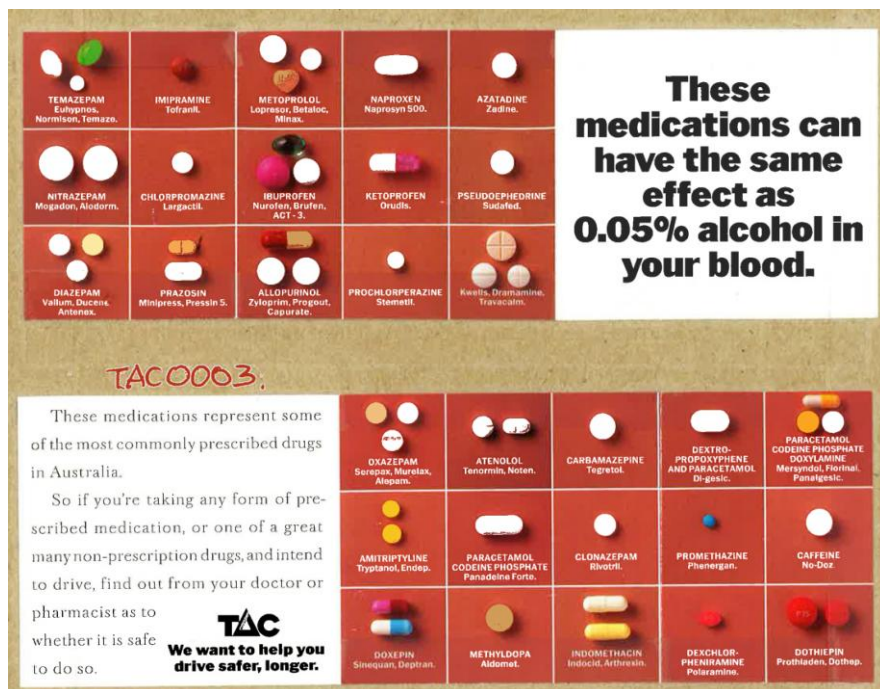


Figure 1. TAC brochure on medications and driving risk.

Although the campaign was developed to target older drivers, because of their increased likelihood to be using medications, which could be affected by poly drug use or alcohol, the campaign was developed to have broader appeal to the others who may be taking pharmacy medications.

The TAC continues to receive requests for copies of the brochure and poster. Given the lapsed time since the campaign was first implemented, it is likely that the information regarding specific medications would be in need of updating

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DRUGS AND DRIVING

Recent Australian research shows that older drivers taking benzodiazepines face a 5 times increased risk of hospitalisation from a crash, and twice the crash risk if taking antidepressants¹. Research shows that taking multiple medications increases the chance that driving will be impaired².

A range of drugs including benzodiazepines, antidepressants and mood stabilisers have been shown to impair driving ability and these medications are commonly used by older people³.

¹ Meuleners, L.B., Duke, J., Lee, A.H., Palamara, P. Hilderand, J. & Ng, J.Q. (2011). Psychoactive medications and crash involvement requiring hospitalisation for older drivers: A population-based study. *Journal of American Geriatric Society*, 59, 1575-1580.

² DRUID (2006). Prototypes of booklets, posters and messages for risk communication including a script for a TV clip.

³ See Meuleners et al., 2011.

However research from the USA indicates that relatively fewer older drivers are aware of the potentially impairing effects of pharmacy medications and that few taking potentially impairing medications recall having received a warning about the effects of medications on driving⁴.

CONSULTATION PHASE

In conducting this review, a number of individuals and organisations were consulted to gain their views on the road safety issues relating to drivers taking pharmacy medications and their support for this TAC project to update communications materials.

The TAC identified the stakeholders to be consulted. They included:

- VicRoads
- Victoria Police
- Victorian Institute of Forensic Medicine
- Pharmacists

The individuals consulted were generally supportive of the TAC reviewing its communications materials to assist older drivers to understand the impacts of particular pharmacy medications. Key recommendations from the consultation phase included:

- That the main classes of drugs that are impairing form the basis of the communication. These are anxiety, depression, any emotional condition, cold and cough, antihistamines and epilepsy medications.
- As detailed in the previous section, of all pharmacy medications it is the benzodiazepines that appear to be most impairing. The mixing of benzodiazepines with alcohol increases the level of impairment.
- It is important to note that abuse of drugs as the key issue and the underlying cause of the road safety problem, rather than taking particular pharmacy medications in accordance with medical advice and prescriptions. Therefore it is important that messages don't panic older drivers into stopping their medication as it could be more risky if they go off their medications.
- Given the increase in pharmacy medications, it would be best to communicate 'generic' images, rather than particular pharmacy medications.
- The key messages relevant for older people are that:
 - it's risky to drive when taking a new medication – first 2 weeks
 - it's risky to drive if using a temporary medication
 - if you are taking medications and plan to drive – don't drink
 - talk with your doctor or pharmacist about your medications and their potential side effects.

⁴ McLennan, P.A., Owsley, C., Rue, L.W. & McGwin, G. (2009). *Older Adults' Knowledge about Medications That Can Impact Driving*. AAA Foundation for Traffic Safety.

WHAT CAN WE LEARN FROM?

The DRUID (**DR**iving **U**nder the **I**nfluence of **D**rugs, alcohol and medicines) project is a joint project comprising participants from 19 European states, representing 37 participating organisations. The DRUID project was developed to support EU transport policy and has the following objectives:

- conduct reference studies of the impact on fitness to drive for alcohol, illicit drugs and medicines and give new insights to the real degree of impairment caused by psychoactive substances and their actual impact on road safety,
- generate recommendations for the definition of analytical and risk thresholds,
- analyse the prevalence of alcohol and other psychoactive substances in accidents and in general driving, set up a comprehensive and efficient epidemiological database,
- evaluate "good practice" for detection and training measures for road traffic police allowing a legal monitoring of drivers,
- establish an appropriate classification system of medicines affecting driving ability, give recommendations for its implementation and create a framework to position medicines according to a labelling system,
- evaluate the efficiency of strategies of prevention, penalisation and rehabilitation, considering the difficulties of appropriate evaluation strategies for combined substance use and recommend "good practice",
- define strategies of driving bans, combining the road safety objectives with the individual's need for mobility
- define the responsibility of health care professionals for patients consuming psychoactive substances and their impact on road safety, elaborate guidelines and make information available and applicable for all European countries

(Source: www.druid-project.eu/clin_031/nn_112414/Druid/EN/about-DRUID/about-DRUID-node.html?__nnn=true)

ICADTS (International Council on Alcohol, Drugs and Traffic Safety) has developed a three tiered list of substances that have the ability to impair driving. These three tiers provide comparisons to the impairment observed with different BACs Tier 1 <.05, Tier 2, .05-.08 and Tier 3, > .08. The DRUID project will review this list, searching the literature to ensure it is up to date.

DRUID has made some recommendations about brochure content for the following audiences, which are relevant to this project and extracts from these are shown in the appendix.

- General population audience
- Drivers as patients – senior drivers audience
- Physicians and Pharmacists audience

Based on the ICADTS work the Australian Drug Foundation (ADF) has published a fact sheet on medications and safe driving and lists the impairing effects of different medications on driving, comparing it to an equivalent level of alcohol impairment

The ADF provided recommendations and publications⁵ to the TAC for this project. The key information relating to this project includes that:

⁵ Reference: http://www.druginfo.adf.org.au/attachments/338_ADFPRQ0310_www.pdf

- Some studies have found that methadone and buprenorphine adversely affect driving ability. Some patients starting methadone/buprenorphine have been advised to stop driving for up to 4 weeks until their opioid regimen is stabilised.
- Anti depressants may impair driving and studies have found that different classes of anti depressants have differing effects on driving.
- It may be beneficial to include information regarding diabetes mellitus, which may result in impairment. The risk is more associated with mismanagement of dosage regimens, reduced food intake or strenuous exercise than with the medication itself.
- Antihypertensive medication can impact on driving. In the initial stage of treatment, hypotension and dizziness may occur.

The Centre for Accident Research and Road Safety at the Queensland Institute of Technology (CARRS-Q) has an online fact sheet which contains useful information relevant to this issue, which includes the types of drugs which may potentially impair driving; the potential impairing effect of medication; and tips for staying safe:

RECOMMENDATIONS TO THE TAC

As noted, there was general support from stakeholders in informing older people and general audiences about the effects of medicines on driving. While the abuse of benzodiazepines is observed in the trauma data, it is not older people who are taking benzodiazepines at these high risk levels. Older people should only be considered as a target because at this age taking medications becomes more common, older people are exposed to medications, often in combination. Targeting the abuse levels of benzodiazepines would take a different approach and need to work with doctors and pharmacists, to deal with issue of supply.

In considering the feedback from the consultation phase and in considering the literature and other existing materials related to this issue, the TAC will consider materials that provide key messages for the target audience on the effects of drugs on driving and the types of drugs (drug classes) and the conditions they treat.

Key Messages

Some key messages that were found throughout the literature and the echoed by the experts consulted, include:

- Many drugs can have side effects and the following side effects can make driving dangerous:
 - Drowsiness
 - Dizziness
 - Shakiness
 - Mood changes (e.g. feeling angry or anxious)
 - Nausea
 - Slower reaction time
 - Vision or hearing impairment

- Risk and medications:
 - It is risky to drive when taking a new medication – first few weeks are high risk
 - It is risky to drive if using a temporary medication or an additional medication on top of others (e.g. cold and flu medication)
- Tips for staying safe:
 - If you are taking medications and plan to drive – don't drink any alcohol at all, alcohol can increase the impairing effects of medications
 - Talk with your doctor or pharmacist about your medications and if they can impair your driving, there may be alternative medications that do not impair driving ability
 - If starting a new medications speak with your pharmacist or doctor about any existing medications you are taking as medications in combination can impair driving
 - Never stop taking your medication in order to drive – stopping medication may adversely affect your driving ability, instead speak with your doctor

Listing Impairing Drugs

There are some problems with listing individual drugs as the previous TAC brochures did (generics are now used and the names will vary). Where the TAC decides to proceed with revised communication campaign, materials should list the types of drugs that can impair driving, and use example names of medications.

Main classes of drugs that are impairing include anxiety, depression, drugs for any emotional condition, cold and cough, antihistamines, epilepsy drugs, non-steroidal anti-inflammatories and sleep medications.

It was also recommended that the TAC should consider listing the medical conditions that are likely to be subject to these types of drugs as a further measure to assist the target audiences to understand the impact that particular medications may have on their ability to drive safely.

NEXT STEPS

To assist in the development of the revised pharmacy medications materials, the TAC has engaged the Pharmaceutical Society of Australia (PSA) to provide information on the following aspects:

- Drug Class and a description and medical condition it treats in layman's terms
- Generic name
- Examples of brand names
- Estimated BAC equivalent
- Examples of side affects

The TAC has received a report from the PSA that provides comprehensive information in response to the above aspects. The TAC has decided to use types of medical conditions and the equivalent BAC estimates of impairment associated with medications as it provides an easy to understand reference point for drivers, who generally accept that driving at BAC .05 is dangerous.

This report is currently with the TAC's creative agency to inform the development of communications concepts.

The TAC is also working with its key stakeholders to finalise the content of the materials and determine appropriate distribution opportunities. The TAC is considering distribution and communication channels such as pharmacies, medical practitioners, hospitals and targeted publications. Opportunities for Victorian road safety partners and other relevant organisations to support the initiative will also be explored. The campaign will be targeted at those who take the medicines for medical conditions, with a view to reaching older people, rather than those who take prescription medications at 'abuse' levels.

As the project is ongoing, further developments will be provided during the presentation at the conference, including some sample artwork to be used in the campaign.

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