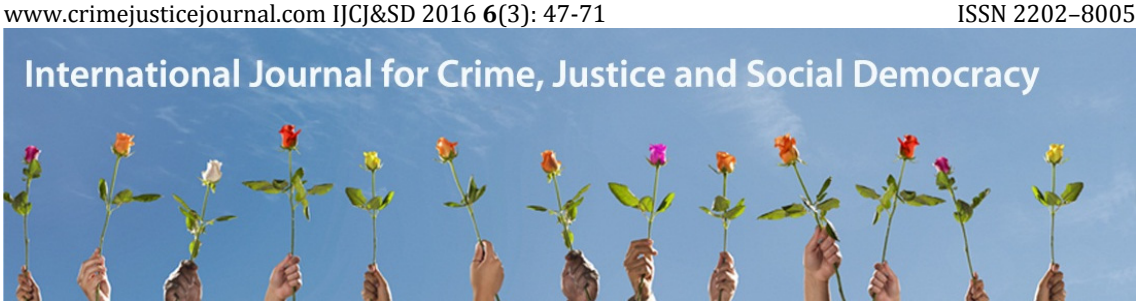

'Zero Tolerance' Drug Driving Laws in Australia: A Gap Between Rationale and Form?

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Abstract

Legislation in all Australian states and territories creates offences and provides for police roadside testing in relation to 'drug driving'. Ostensibly motivated by the same road safety objectives and impairment paradigm as drink driving laws, drug driving laws adopt a significantly different approach. Whereas random breath testing tests for all forms of alcohol and is designed to determine whether there is a sufficient concentration of alcohol in the driver's body that s/he should be deemed to be impaired, random drug testing typically tests for the presence of any quantity of only the three most widely used illicit drugs—cannabis, methamphetamine and ecstasy—in the driver's oral fluids, without reference to what is known about the different pharmacokinetic and pharmacodynamic qualities of different drugs. This article examines this idiosyncratic approach to the criminalisation of drug driving, highlighting its weak correlation with the important road safety objective of deterring substance-impaired driving, and the risks of both over- and under-criminalisation that it creates. It argues that public policy on the prohibition of certain drugs and the criminalisation of their use should be disentangled from public policy on impaired driving. It recommends that drug driving laws in all Australian jurisdictions should be brought back into line with drink driving laws, via legislation and testing practices that turn on substance-specific prescribed concentrations for all drugs (illicit and licit) that have the potential to impair drivers.

Keywords

Drug driving; illicit drugs; criminalisation; road safety; impaired driving; under the influence.

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Introduction

In all Australian states and territories there has been a renewed interest in drug driving offences in recent years. Even though such offences have been on the statute books since 1930, they have been modified over the last 15 years in ways that significantly expand the parameters of the category 'drug driving'. This definitional expansion—characterised by a movement away from an impairment/'under the influence' paradigm in favour of testing for the presence of *any* quantity of selected illicit drugs—has been combined with a significant escalation of police detection and enforcement activity. For example, in 2015 the Victorian Government announced a major investment in drug driving detection, including plans to conduct 100,000 roadside tests annually (Andrews 2015). In Western Australia, from 2014 to 2015, drug driving convictions increased by almost 300 per cent (Hickey 2016).

Given the considerable change and expansion of both the substantive offences of drug driving and enforcement practices in Australia since the early 2000s, it is unsurprising that drug driving laws and police roadside testing practices have begun to attract media attention (Butler 2015; Gulbin 2016; Visentin 2016; Wodak and McDonald 2015), as well as closer scrutiny by legal practitioners (Barns 2016; Lawrence and Zhou 2016; Redfern Legal Centre 2016). Judicial officers have also been required to confront challenges posed by testing practices for the assessment of responsibility and punishment (*Bugden; Halper v R* [2015] NSWDC 346; *Police v Cahil* (unreported, Lismore Local Court, 9 October 2014); *Police v Carrall* (unreported, Lismore Local Court, 1 Feb 2016)).

More surprising is the fact that drug driving laws have attracted relatively little scholarly attention in Australia. Road safety experts and criminologists have considered prevalence and deterrence questions (for example, Adams, Smith and Hind 2008; Armstrong, Watling and Davey 2014; Jones, Donnelly, Swift and Weatherburn 2005; Ramsey and Fitzgerald 2017; Woolley and Baldock 2009), but criminal law and criminalisation scholars in Australia have been slow to engage.[2] The latest edition of the most widely read Australian textbook on driving offences by D Brown (2006) was written more than 10 years ago, prior to the nation-wide adoption and increasingly heavy enforcement of 'zero tolerance' drug driving laws and associated testing.

Our own interest in the topic of drug driving laws has been triggered by a number of factors: first, our involvement in an ongoing study of the concept of 'intoxication' in Australian criminal laws (McNamara, Quilter, Seear and Room forthcoming; Quilter and McNamara forthcoming; Quilter, McNamara, Seear and Room 2016a, 2016b), including the realisation that criminal laws frequently fail to distinguish between the different effects of different drugs (Quilter et al. 2016b: 47-48); secondly, a commitment to addressing those criminal offences that have traditionally been regarded as too 'trivial' (McBarnet 1981) to attract scholarly attention, despite their high volume enforcement and prosecution (see McNamara and Quilter 2014, 2015; Quilter and McNamara 2013); and, thirdly, an interest in the politics of criminalisation as a public policy tool (McNamara 2015; McNamara and Quilter 2016), including in relation to alcohol- and drug-related harms (Quilter 2014, 2015).

That the goals of improving road safety and reducing road accidents and trauma are valid and important is axiomatic. Accordingly, and alongside other measures, the detection of individuals who are driving under the influence of substances that are known to diminish driver capacity is entirely meritorious. The aim of this article is not to question the legitimacy of these objectives, but to scrutinise and produce fresh insights about the way that the criminal law is configured and deployed to this end. Specifically, it investigates whether current drug driving laws and random drug testing (RDT) practices are consistent with the evidence-based *impairment* paradigm that has underpinned the success of random breath testing (RBT) and drink driving offences in transforming driving under the influence of alcohol from a common practice to a highly stigmatised criminal behaviour (Terer and Brown 2014). By producing new knowledge about the

character of contemporary drug driving laws, we aim to identify reform options that will allow drug driving laws to share the combination of social acceptance, evidence-based legitimacy and effectiveness that are widely regarded as the hallmarks of drink driving laws.

The history of drug driving laws in Australia: From impairment to presence

The first drink driving offences

The original drink (alcohol) driving offences in Australia were introduced during the first three decades of the twentieth century, starting with the *Motor Car Act 1909* (Vic). Section 25 of that Act provided that '[a]ny driver of a motor car or motor cycle proved to have been *under the influence* [emphasis added] of intoxicating liquors whilst in charge of such motor car or motor cycle shall be guilty of an offence under this Act'. Similar offences were introduced in other jurisdictions over the next 20 years (D Brown 2006: 147). Victoria (Vic), New South Wales (NSW), Tasmania (Tas), Western Australia (WA) and the Australian Capital Territory (ACT) adopted the 'under the influence' formulation;[3] whereas, in South Australia (SA) and Queensland (Qld), the offence was qualified with reference to the level of incapacity: 'so much under the influence of intoxicating liquor as to be incapable of exercising effective control of such motor vehicle'.[4] Most jurisdictions later adopted this 'incapacity' model; for example, *Motor Car Act 1958* (Vic) s 82(1)(b)).

The early drug driving offences

In 1930 the first *drug* driving offence was implemented with the enactment of the *Traffic Act Amendment Act 1930* (WA). This Act repealed and replaced s 27 of the *Traffic Act 1919* (WA) to expand the offence to include 'drugs', and to effect the move from the 'under the influence' model to the 'incapacity' model:

> 27 (1) Any person who, when driving or attempting to drive, or when in charge of a motor vehicle in motion on a road, or when in charge of a horse or other animal or drove of animals on a road, is under the influence of drink or drugs to such an extent as to be incapable of having proper control of the vehicle or the horse or other animal or drove of animals, shall be guilty of an offence under this Act.

South Australia and NSW followed suit during the 1930s (*Road Traffic Amendment Act 1936* (SA); *Motor Traffic (Amendment) Act 1937* (NSW)). Equivalent laws were not introduced elsewhere until considerably later: 1949 in Victoria, 1952 in the Northern Territory (NT), 1961 in Tasmania, and 1971 in the ACT.[5]

In South Australia, Tasmania, and Western Australia 'drug' was left undefined. Other jurisdictions introduced a statutory definition. For example, in NSW, s 5(2) of the *Motor Traffic Act 1909* (NSW) (inserted in 1937) adopted the definition of 'drug' contained in Part VI of the *Police Offences (Amendment) Act 1908* (NSW): morphine, cocaine, ecognine, diamorphine (commonly known as heroin) and opium.

Most jurisdictions subsequently moved to an approach to defining 'drug' which focused on impairing effects. For example, in Queensland's *Transport Operations (Road Use Management) Act 1995* (Qld), 'drug' means substances covered by the *Drugs Misuse Act 1986* (Qld) and 'any other substance, article, preparation or mixture (with the exception of liquor) whether gaseous, liquid, solid, or in any other form which, when consumed or used by any person, deprives the person either temporarily or permanently of any of the person's normal mental or physical faculties' (Schedule 4 'Dictionary').[6] NSW maintains a (long) cross-referenced list approach: 'drug' includes 'alcohol', any of the 362 'prohibited drugs' contained in Schedule 1 of the *Drug Misuse and Trafficking Act 1985* (NSW), and any of the 70 substances contained in the *Road Transport (General) Regulation 2013* (NSW).

As is demonstrated below, one of the noteworthy features of contemporary RDT laws is that these historical degrees of specificity—including the large number of drugs potentially covered and the focus on the impairing effects of the drugs and on driving capacity—have been lost. Their loss is an important part of the story of how drug driving laws (but *not* drink driving laws) have departed from the central issue of impairment and road safety.

The introduction of a 'proxy' for alcohol impairment: BAC/PCA

The first state to introduce drink driving offences based on the biological detection model (Quilter et al. 2016a: 936-937)—that is, where blood alcohol concentration (BAC) or prescribed concentration of alcohol (PCA) levels serve as statutory 'proxies' for impairment—was Victoria. The *Motor Car (Driving Offence) Act 1965* (Vic) added s 81A(1) to the *Motor Car Act 1958* (Vic): '[a]ny person who drives a motor car while the percentage of alcohol in his blood expressed in grams per one hundred millilitres of blood is more than .05 per centum shall be guilty of an offence'. Other states quickly followed, though most initially preferred a 0.08 threshold.[7] Queensland adopted a 0.10 threshold (*Traffic Acts 1949 to 1967* (Qld) s 16(1a)(a), as amended by the *Traffic Acts Amendment Act of 1968* (Qld)).

These events are widely regarded as a milestone in Australian drink driving laws. They established, as the dominant approach, a model of using BAC/PCA levels as proxies for impairment. The legitimacy of these proxies was attributable to the significant scientific evidence that underpinned them. That the law was moving in line with this expert knowledge is evidenced by the fact that scientific evidence about alcohol effects was a notable feature of parliamentary debates (Griffith 1968: 2435 (WA); Knox 1968: 2859 (Qld); Morris 1968: 3419 (NSW); Rylah 1965: 858 (Vic)).

At this time there was no power to randomly breath test a driver. It was necessary for a police officer to have reasonable cause to believe that the driver was impaired by alcohol or a drug, had committed a traffic-related offence, or was involved in a motor vehicle accident, before a breath test could be administered; for example, *Traffic Act 1909* (NSW) s 4E, as amended by the *Motor Traffic (Amendment) Act 1968* (NSW).

The introduction of RBT for alcohol

In 1976 Victoria became the first Australian jurisdiction to introduce 'random' breath testing. The *Motor Car (Breath Testing Stations) Act 1976* (Vic) added s 80EA to the *Motor Car Act 1958* (Vic), which empowered the police to establish 'preliminary breath testing stations' and direct drivers to stop for the purpose of breath testing. Between 1979 and 1988 all other Australian jurisdictions introduced RBT for alcohol.[8]

Pre-2000s approaches to testing for drugs other than alcohol

The introduction of random testing for other drugs lagged considerably behind RBT for alcohol. Prior to the introduction of routine oral fluid testing in the 2000s (discussed below), legislation originally provided for limited drug testing powers. Across Australia, a variety of regimes existed for gathering and testing blood or urine specimens for drivers suspected of drug driving, and for the admission of specimen analysis as evidence in driving offence cases.[9]

In NSW the *Motor Traffic (Road Safety) Amendment Act 1987* (NSW) amended the *Motor Traffic Act 1909* (NSW) to allow for blood or urine testing following a failed or refused 'sobriety' assessment (s 5AA). With the enactment of the *Traffic (Amendment) Act 1990* (NSW), blood samples taken after road accidents could be tested not only for alcohol, but for other drugs as well (*Motor Traffic Act 1909* (NSW) s 4G). Similar testing powers following accidents were introduced in Victoria in 1989 (*Road Safety Act 1986* (Vic) ss 56-57, as amended by the *Road Safety (Miscellaneous Amendments) Act 1989* (Vic), and ss 55A and 55B, inserted by the *Road Safety*

(Amendment) Act 2000 (Vic)) and the ACT (*Motor Traffic (Alcohol and Drugs) Act 1997* (ACT), s 15A(3)).

The move to 'presence' drug driving offences and random oral fluid testing for (selected) drugs

Between 2003 and 2015 all eight Australian jurisdictions put into place regimes for the criminalisation of drug driving that contained offences based on the 'presence' of any quantity of specified drugs, with random oral fluid testing powers for selected drugs (although, the Tasmanian government's approach was different in two respects, as discussed below). In most jurisdictions it is now a criminal offence to drive with any of three types of drugs in one's system: THC (cannabis), methylamphetamine (speed), and MDMA (ecstasy).[10]

Once again, Victoria was the pioneering jurisdiction, when it enacted the *Road Safety (Drug Driving) Act 2003* (Vic). Relevant amendments to the *Road Safety Act 1986* (Vic) came into operation on 1 December 2004. Section 49(1)(bb) provides that a person who 'drives a motor vehicle or is in charge of a motor vehicle while the prescribed concentration of drugs or more than the prescribed concentration of drugs is present in his or her blood or oral fluid' is guilty of an offence.[11]

In the case of a prescribed *illicit* drug, the 'prescribed concentration of drugs' is '*any* [emphasis added] concentration of the drug present in the blood or oral fluid of that person' (s 3). This is why the Victorian model of drug driving laws, since adopted in all Australian jurisdictions, has been described as a 'zero-tolerance' approach (Kelly and Dillon 2005). Note, however, the language by which this was achieved. The legislation adopts the rhetorically powerful phrase 'prescribed concentration'—that is, the established proxy for impairment in the drink driving context, which has achieved such strong purchase in popular consciousness—while the reality is that the presence of *any* quantity of a prescribed drug meets the definition.

In Victoria the original definition of 'prescribed illicit drug' was limited to THC or methylamphetamine; however, MDMA was added on 1 September 2006, pursuant to the *Road Safety (Drugs) Act 2006* (Vic), thus forming the prescribed 'trio' of substances that has become the cornerstone of Australian drug driving laws and RDT practices today. Random 'oral fluid' testing was permitted under s 55D, which provided that a police force member could require, *inter alia*, 'any person he or she finds driving a motor vehicle … to undergo a preliminary oral fluid test by a prescribed device …'. If a positive result ensued, the person could be detained for the purpose of providing an oral fluid sample for further analysis,[12] a positive result of which would be used as evidence in prosecution of the person.[13]

Tasmania was the next jurisdiction to move to the presence/RDT model with the enactment of the *Road Safety (Alcohol and Drugs) Amendment Act 2005* (Tas). In doing so, it made two notable adjustments to the Victorian model, making it unique amongst Australian jurisdictions. First, although oral fluid testing is used as an initial screening method (see s 7B), the ultimate test must be a blood test (s 7C) with the substantive drug driving offence requiring proof of the presence of a 'prescribed illicit drug' in the *blood*, rather than the more common oral fluid or blood (or oral fluid, blood or urine in NSW). Thus, s 6A of the *Road Safety (Alcohol and Drugs) Act 1970* (Tas) states: 'a person who drives a motor vehicle while a prescribed illicit drug is present in his or her blood is guilty of an offence'.

The second distinctive feature of Tasmania's drug driving laws is that the drug presence offence is not limited to cannabis, speed and ecstasy. There are 18 'prescribed illicit drugs' including cocaine, heroin, GHB, ketamine, LSD, morphine, PCP and magic mushrooms (*Road Safety (Alcohol and Drugs) Regulations 2009* (Tas) cl 16). We will return to both of these distinctive features below.

In the second half of the 2000s, all other Australian jurisdictions adopted drug driving laws based on the Victorian model,[14] where oral fluid is tested for the presence of selected illicit drugs. It is noteworthy that other jurisdictions adopted Victoria's model rather than the Tasmanian approach. Clearly, one of the 'advantages' of oral fluid testing is that, for drivers, the experience is analogous to the procedure for RBT, with little inconvenience and minimal invasion. However, given the issues with oral fluid testing (which we discuss below) the wide-spread adoption of the Victorian model may prove to have been decisive in producing a number of problems with Australian drug driving laws which we will discuss.

Table 1 summarises the current presence drug driving offences in all Australian jurisdictions.

Features of contemporary drug driving laws and enforcement practices that are odds with a best practice impairment model

The previous part of this article demonstrated that, after a long period during which the criminalisation of alcohol- and drug-related driving turned on a common *impairment* paradigm, a significant separation has taken place. When BAC/PCA levels were introduced for alcohol, law-makers did not move away from an impairment paradigm. Rather they drew on expert knowledge about the effects of alcohol to create legislative 'proxies' for impairment, now reflected in low-range (0.05), mid-range (0.08), and high-range (0.15) drink-driving offences according to the concentration and concomitant road safety risk.[15] In the case of drugs other than alcohol, law-makers have taken a different path during the last two decades (Hall and Homel 2007). In this part of the article we show that contemporary drug driving laws and practices display three characteristics that mean that they do not align strongly with the impairment + road safety risk equation that has traditionally underpinned drink/drug driving laws. First, they turn on *presence* of any detectable quantity (rather than a threshold concentration). Secondly, drug presence is evidenced via *oral fluid* testing (rather than blood testing). Thirdly, police routinely test for only *three illicit substances* (rather than all drugs with the capacity to impair driving)

Testing for presence

RDT techniques currently employed in Australia do not test for 'active' drugs in a person's 'system', but the *presence* of any quantity/residue of a drug in a person's oral fluids (discussed further below, 3.2.1). It follows that it is inaccurate to suggest that RDT 'devices will only detect the active ingredient of the drugs when they are active as an impairing influence. They will not detect drugs taken days or weeks earlier' (Lucas 2006: 729), as was stated by the Queensland Transport Minster when that state moved to introduce the 'Victorian model' drug driving legislation (*Transport Legislation and Another Act Amendment Act 2007* (Qld); see also D Brown 2006 above). Similarly, it is inaccurate to suggest that oral fluid testing will only detect 'recent consumption' as the South Australian Transport Minister suggested in his second reading speech on the Road Traffic (Drug Driving) Amendment Bill 2005 (SA): '[i]t will detect recent consumption of methamphetamines and THC. Drivers who have THC or methamphetamine residues in their bodies as a result of use in the previous days or weeks will not be detected' (Conlon 2005: 3359).

Secondly, most roadside drug testing does not test for drugs *generally*, but only three illicit substances: THC, methylamphetamine and MDMA.

Oral fluid testing vs blood sample analysis

The RDT regime in Australia (with the exception of Tasmania) is based on 'oral fluid testing' both for the preliminary random test and the final oral fluid test. The preliminary test is generally conducted via a drug wipe stick (such as the *Securetec DrugWipe Twin* or the *Securetec DrugWipe II Twin*).[16] This involves the driver wiping his/her tongue along the testing stick. If this test is positive, the driver is taken to a roadside testing bus/van (or the police station) to provide a saliva sample, commonly tested by the *Drager DrugTest 5000*, or the *Cozart Drug Detection System (DDS).*

Table 1: 'Presence' drug driving offences, rules and powers in current Australian legislation

Jurisdiction	*Core 'presence' offence(s)*	*Included drugs*	*Random drug test*	*Period for testing*	*'No drive' direction*
New South Wales *Road Transport Act 2013* (NSW)	s 111(1) Drive etc. a 'motor vehicle' with presence of 'Prescribed Illicit Drugs' in (1) oral fluid, (2) blood or (3) urine s 111(3) Drive etc. a 'motor vehicle' with presence of morphine or cocaine in (1) blood or (2) urine (not oral fluid)	S 111(1) 'Prescribed Illicit Drugs' (s 4) 1. THC 2. Methylamphetamine 3. MDMA S 111(3) 1. Cocaine 2. Morphine	Oral Fluid Test Police have power to conduct oral fluid test if 'reasonable cause to believe': (1) person is/was driving on road; or (2) attempting to put vehicle in motion; or (3) accompanying learner driver (cl 6, sch 3)	Oral Fluid 2 hours to take oral fluid from time driving etc. (cl 6(1), sch 3) Blood If Blood test is required under cl 9, 4 hours to conduct blood sampling (cl 2(2), sch 3)	24-hour direction If person who is driving, or about to drive, has failed oral fluid test (etc.), then the police officer may prohibit the person from driving for 24 hours (s 148G)
Victoria *Road Safety Act 1986* (Vic)	s 49(1)(bb) Driving or being in charge of a 'motor vehicle' while the 'prescribed concentration of drugs' present in 'blood or oral fluid', this concentration being zero (s 3) s 49(1)(h) Positive sample for presence of a 'prescribed illicit drug' from an oral fluid sample taken within 3 hours of driving/being in charge of a 'motor vehicle' s 49(1)(j) Positive sample for presence of a 'prescribed illicit drug' from a blood sample taken within 3 hours of driving/being in charge of a 'motor vehicle'	'Prescribed Illicit Drugs' Defined in s 3 as: 1. THC 2. Methylamphetamine 3. MDMA	Preliminary oral fluid test In any of the following circumstances police may conduct an oral fluid test: (1) person driving motor vehicle/in charge of same; (2) driver stopped at preliminary testing station; (3) belief person drove within 3 hours on reasonable grounds; and (4) belief person occupant of vehicle involved in crash (see s 55D)	Preliminary Oral Fluid Test Cannot test if more than 3 hours have passed since driving, occupying, or being in charge of, a motor vehicle (s 55D(8))	Until person is again capable Under s 62, a police officer of the opinion on 'reasonable grounds' that a person is incapable of having proper control of a motor vehicle may (1) forbid them to drive while incapable and (2) require the person to deliver up the keys (etc.). Presence in oral fluid constitutes 'reasonable grounds' (s 62(1A))
South Australia *Road Traffic Act 1961* (SA)	s 47BA Driving a 'motor vehicle' (or attempting to put same in motion) etc. with 'prescribed drug' in (1) oral fluid or (2) blood	'Prescribed drug' Defined as including: 1. THC 2. Methylamphetamine 3. MDMA See ss 5 and 47A, and reg 16 of the *Road Traffic (Miscellaneous) Regulations 2014* (SA)	Alcotest If a police officer believes on reasonable grounds a person (1) is driving or has driven a motor vehicle, (2) is attempting or has attempted to put same in motion, or (3) is accompanying a learner driver, they can require an 'alcotest' (s 47E) Drug Screen Test If a person has submitted to an alcotest or breath analysis, a police officer may require a 'drug screen test' (s 47EAA)	Drug Screen, oral fluid analysis or blood test A drug screening test, oral fluid analysis or blood test under s 47EAA may not be 'commenced' more than 8 hours after the conduct giving rise to the requirement (s 47EAA(5))	Until permitted by police officer Under s 40K(4), if a police officer believes on reasonable grounds the driver is not fit to drive the vehicle because of consumption of alcohol or a drug, he/she may (1) direct the person to surrender keys, (2) immobilise the vehicle and (3) direct the person not to drive 'until permitted to do so by a police officer'
Queensland *Transport Operations (Road Use Management) Act 1995* (Qld)	s 79(2AA) Drive a 'motor vehicle' etc. with presence of relevant drug in (1) blood or (2) saliva	'Relevant Drug' 1. THC 2. Methylamphetamine 3. MDMA See cl 172, sch 4 of the *Traffic Regulations 1962* (Qld)	Saliva Test Police may require a saliva test (for relevant drugs) if the officer 'reasonably suspects' during the 'last preceding 3 hours' that the person was (1) driving a motor vehicle, (2) attempting to put same in motion or (3) being in charge of same (s 80(2))	Saliva Test 3 hours (see s 80(2) and (4))	24-hour suspension A person's driver licence is suspended for 24 hours if they are found with presence of a relevant drug in their saliva (s 80(22)(ab)) or refusal to provide a sample of saliva (s 80(22)(b))
Western Australia *Road Traffic Act 1974* (WA)	s 64AC Driving or attempting to drive a 'motor vehicle' with a 'prescribed illicit drug' present in (1) oral fluid or (2) blood	'Prescribed Illicit Drug' 1. THC 2. Methylamphetamine 3. MDMA See s 65 and reg 3 of the *Road Traffic (Drug Driving) Regulations 2007* (WA)	Preliminary oral fluid test Police may require the driver or person in charge of a motor vehicle, or any person the officer believes, on reasonable grounds, was the driver/person in charge, to undergo a preliminary oral fluid test (s 66C(1))	Oral Fluid Sample (for analysis) 4 hours from the time of driving etc. (s 66D(3)(a))	No express statutory power There is a power under s 71B to require surrender of keys. This applies to driving under the influence of alcohol or drugs, and PCA offences, but does not include driving with a prescribed illicit drug in oral fluid or blood. However, the report by Woolley and Baldock (2009) available on the Road Safety Commission website indicates that: 'The driver is advised not to drive for 24 hours.'

Table 1 (continued): 'Presence' drug driving offences, rules and powers in current Australian legislation

Jurisdiction	Core 'presence' offence(s)	Included drugs	Random drug test	Period for testing	'No drive' direction
Tasmania *Road Safety (Alcohol and Drugs) Act 1970* (Tas)	s 6A Drive a 'motor vehicle' with a 'prescribed illicit drug' present in blood	'Prescribed illicit drug' 1. MDA 2. MDEA 3. MDMA 4. Amphetamine 5. Cocaine 6. THC 7. Heroin 8. GHB 9. Ketamine 10. LSD 11. Quaaludes 12. Methylamphetamine 13. Morphine 14. DET 15. DMT 16. PMA 17. PCP 18. Magic mushrooms See s 2 and reg 16 of the *Road Safety (Alcohol and Drugs) Regulations 2009* (Tas)	Oral Fluid Test Police can require any person 'driving' a motor vehicle on a public street to undergo an oral fluid test, without any suspicion for drugs in their system (s 7B)	Oral Fluid Test No express restriction Blood Test Within 3 hours of the relevant time (s 7C(2))	No express statutory power ... but see Department of Police and Emergency Management (2010) *Tasmania Police Manual* at 14.8.5(1)(k): if the officer believes a prescribed illicit drug may be present, 'that driver should be advised not to drive for a period of time and that, if they do drive, further offences may be committed. Advice in relation to appropriate times should be based on the information provided to personnel trained in oral fluid testing procedures'
Australian Capital Territory *Road Transport (Alcohol and Drugs) Act 1977* (ACT)	s 20 Driving (or being driver trainer in) a 'motor vehicle' on a road or road related area with a 'prescribed drug' in (1) oral fluid or (2) blood	'Prescribed Drug' 1. THC 2. Methylamphetamine 3. MDMA (Dictionary to the Act)	Drug Screening Test(s) A police officer may require a person to undergo one or more drug screening tests in accordance with the directions of the officer, if (1) the person is a driver of, or driver trainer in, a motor vehicle on a road or road related area, or (2) the police officer has reasonable cause to suspect that 'shortly before the requirement is made', the person was (1) the driver or (2) driver trainer in, a motor vehicle on a road or road related area (s 13A(1))	Screening Tests or Samples of Oral Fluid for Analysis Under s 14, a police officer must not require a person to undergo a screening test or provide a sample of oral fluid for analysis: For an accident • If person is taken to hospital, not more than 2 hours after arrival (s 14(1)(a)(i)) • In any other case involving an accident, not more than 2 hours since the accident (s 14(1)(a)(ii)) In any other case 2 hours since the person ceased to be a driver of the motor vehicle (s 14(1)(b))	12-hour direction If a person is required to undergo a drug screening test or give a sample of oral fluid or blood for analysis, and a police officer has reasonable cause to suspect the person's ability to drive is impaired by a prescribed drug, a direction not to drive for 12 hours may be given (s 47B) Reasonable cause includes that an oral fluid analysis indicates presence of a prescribed drug (s 47B)
Northern Territory *Traffic Act 1987* (NT)	s 28 Driving (or being a driver instructor in) a 'motor vehicle' with the presence of a 'prohibited drug' in the person's 'body'	'Prohibited Drug' 1. THC 2. Methylamphetamine 3. MDMA 4. MDA 5. Heroin 6. Cocaine 7. Cocaine metabolite 8. Morphine 9. Methadone 10. Amphetamine See sch 1A of the *Traffic Regulations 1999* (NT)	Saliva Test A police officer may direct a person to pull over for the purpose of requiring a saliva test (see ss 29AAB(1) and 29AAF(1))	Saliva Test May only require if 'no more than 4 hours has expired since the driver was pulled over or the offence, or crash, mentioned in subsection (1) occurred' (s 29AAF(2)) Blood Test Staff at the hospital or health centre are not required to take a person's blood sample if a period of more than 4 hours has elapsed since the person entered the facility (s 29AAK(5)(d))	24-hour direction An officer may give notice to a person immediately disqualifying them from driving for a maximum 24 hour period if they have reasonable belief of the presence of a prohibited drug (s 29AAM)

If this test is positive a direction is normally given to the driver prohibiting him/her from driving (driver directions are discussed below), and this sample is then sent to a laboratory and tested by an analyst to confirm the presence of the drug(s). An analyst's certificate confirming presence of the relevant drug(s) is admissible as evidence in the prosecution against the driver.[17] It follows that, once this confirmation is made, charges are laid (see for instance: ACT Police n.d.; Department of Planning, Transport and Infrastructure n.d. (SA); NSW Police 2015: 11; Queensland Police 2016; Road Safety Commission 2013 (WA); Victoria Police 2010).

While the Australian RDT regime relies on oral fluid sampling, the 'gold standard' for drug detection is said to be blood sample analysis (Wolff 2013: 57). This is because: 'oral fluid tests cannot be used to give a precise prediction of the concentration of a drug in blood (or plasma or serum) for confirmation testing and therefore prediction of possible drug effects' (Wolff 2013: 57).

In other words, oral fluid testing is a relatively poor mechanism for assessing whether a person is drug impaired. While oral fluid testing may be appropriate for preliminary testing, it is not well-suited to confirmatory testing (Wolff 2013: 57, 129).

The ROSITA projects[18] showed that there was a weak correlation between the concentration of a substance in the subject's saliva and their blood. There may be personal physiological factors, varying person to person, that render the testing of saliva inadequate as a basis for estimating the level of drugs in a person's bloodstream and, therefore, unreliable as a basis for assessing impairment (see Wolff 2013: 129). Claims to the contrary have been made in parliamentary debates in Australia. For example, when introducing the Road Safety (Alcohol and Drugs) Bill 2005, the Tasmanian Minister for Police and Public Safety, David Llewellyn, said:

> There exists extensive scientific evidence which shows a direct correlation between the presence of certain drugs in the blood and the presence of those drugs in oral fluid. This correlation is particularly evident in the cases of the drug commonly referred to as delta-9-THC, and drugs containing methylamphetamine, such as those commonly referred to as speed and ecstasy. (Llewellyn 2005: 29)

Another issue with oral fluid testing is that it is open to contamination, particularly in relation to THC. If cannabis is smoked, the active ingredient (THC) remains in the mouth as deposits:

> However, contamination of the buccal cavity is an issue for the detection of cannabis use since the drug is often used by oral, intra-nasal or smoking routes of administration (insufflations). 'Shallow depots' of cannabis may following recent use accumulate in the buccal cavity and produce elevated concentrations in oral fluid for several hours after ingestion. Unfortunately, the cannabinoids do not pass readily from blood into saliva and the detection of … (THC) in oral fluid is largely reported to be due to contamination of the oral cavity following smoking. (Wolff 2013: 65)

A positive test for THC may result, therefore, from the detection of residual deposits of THC in the mouth. However, the drug may no longer be present in the driver's bloodstream and is, therefore, unlikely to have an adverse effect on driving ability (Wolff 2013: 65). The manufacturer of the device used by NSW Police, Dräger, has defended its equipment against such suggestions that oral fluid testing can yield 'false positives'[19] by asserting that 'oral fluid residue typically persists for two to four hours after smoking, which coincides with the time window for marijuana's major effects' (Dräger n.d.). This does not, however, accord with advice from the NSW Government's Centre for Road Safety which states that detection continues for 12 hours for cannabis (Transport for NSW—Centre for Road Safety 2016).

Concerns about the accuracy of oral fluid testing for THC are particularly significant given that cannabis is the most widely used illicit drug in Australia (Australian Institute of Health and Welfare 2014), and one of the three drugs tested for in Australian RDT practices. Therefore, a positive test for THC is likely to account for a significant proportion of the large number of drug driving charges laid every year (see below).

The focus on three illicit drugs

With some exceptions (as discussed above) Australian drug driving laws are heavily focused on the detection and punishment of drivers who have used one or more of three drugs—cannabis, methamphetamine and ecstasy—the use of which is itself a criminal offence in all jurisdictions (see, generally, Bronitt and McSherry 2017: Ch. 14). This selective approach does not sit comfortably with a road safety/impairment paradigm. It appears to be the product of a range of other factors, including: the fact that these are the most commonly used illicit drugs in Australia (Australian Institute of Health and Welfare 2014); duplication of the approach pioneered in Victoria in 2003; the available technology and the ease with which the presence of these drugs can be detected via a roadside oral fluid test; and the ease with which they can be differentiated from substances which it is legal to use. In Western Australia, the selective focus was explained as follows:

> For practical reasons, it is necessary to exclude dexamphetamine, benzodiazepines and all drugs containing opiates. Despite the fact that in some cases these drugs do constitute a road safety concern, they are legally available for therapeutic use and for this reason roadside screening is impractical. At this point in time, roadside screening technology is not able to accurately differentiate between heroin, codeine, prescription pain medication and some over-the-counter medications. Therefore, for the purpose of random drug testing in Western Australia, it is proposed that, similar to other Australian jurisdictions, the regime will be limited to THC, tetrahydrocannabinol; methamphetamine, known as speed; and MDMA, methylenedioxy-methamphetamine, known as ecstasy. The oral fluid tests will not detect the presence of prescription drugs, common over-the-counter medication or ADHD—attention deficit hyperactivity disorder—medication. (Kobelke 2006: 7206)

The NSW Government's justification for focusing on cannabis, speed and ecstasy was succinct: '[t]hese drugs are illegal, they are the most commonly used drugs in the community, and they all affect the skills and sound judgment required for safe driving' (M Brown 2006: 1854; see also Batchelor 2003: 1419, 2006: 389; Conlon 2005: 3359).

When ecstasy (MDMA) was added to the Victorian testing list in 2006, the Transport Minister, Peter Batchelor, said:

> MDMA is considered by scientific experts to impair driving ability. The number of drivers killed in road crashes testing positive to this drug tripled between 2002 and 2004. Moreover, MDMA is illegal in Australia, and there are no legitimate reasons for a driver to have traces of MDMA in his or her saliva or blood. (Batchelor 2006: 390)

This extract from Minister Bachelor's second reading speech draws attention to an important cross-current in the development of 'road safety'-focused Australian drug driving laws: the relevance of the distinction between illicit and licit substances when it comes to impaired driving. This tension manifests in a number of ways in Australian drug driving legislation, including the availability of defences.

'No drive' directions and times for testing

Further aspects of Australian drug driving laws that indicate a widespread failure to attend adequately to pharmacological knowledge are the rules governing the time during which a driver can be tested, and the rules governing directions that a person not drive a vehicle after testing positive to the presence of one or more prescribed illicit substances. Table 1 (column 6) shows that most jurisdictions expressly provide for 'no drive' directions after a positive test.[20] On their face, the rules on directions appear to appropriately align with a road safety/impairment rational: an impaired driver should not be permitted to continue to drive, until s/he is no longer impaired. However, with the possible exception of SA,[21] a closer analysis reveals that driver impairment is assessed by way of temporal or other proxies that do not actually assess driver capacity. For example, in Victoria, while the prohibition on driving is stated to be assessed by way of an officer's opinion on *reasonable grounds* that the driver is incapable of having 'proper control of a motor vehicle', the reality is more circular: a driver is effectively *deemed* incapable on the basis of testing positive to an illicit drug.[22] Similarly, in NSW, Queensland, the Northern Territory and the ACT, the legislation effectively deems a person to be incapable of driving for the relevant period of time of the direction (that is, 24 hours; 12 hours in the ACT). The implication is that, unless further drugs are consumed, the detected drug will no longer be present in the person's body after the expiration of the nominated period.

However, courts are already being required to adjudicate in cases where a drug has been detected via oral fluid test allegedly several days after consumption. For example, in February 2016 a Magistrate in the NSW Local Court dismissed a charge of 'drug (cannabis) driving' where the accused gave evidence that he had consumed cannabis nine days before the time at which he was subjected to a roadside test (Gulbin 2016; Visentin 2016; *Police v Carrall* (unreported, Lismore Local Court, 1 Feb 2016)).

Furthermore, legislated 'no drive' periods are not necessarily consistent with government and police advice regarding the period after consumption for which a person is at risk of testing positive (see Table 1, column 6). For example, NSW Government advice on stimulants ('speed, ice and pills') is that these can be detected for one to two days yet the direction on prohibiting driving is only for 24 hours (Transport for NSW—Centre for Road Safety 2016). Worse, the Queensland Government's advice is vague, suggesting that the detection period 'varies' (Department of Transport and Main Roads 2009); yet, the fixed 'no drive' prohibition is for 24 hours. In the ACT, where the prohibition is for 12 hours, Government advice suggests 'you could test positive hours or even days after consumption'. Note also the inconsistency with claims made during parliamentary debate on relevant legislation (discussed above). In short, standard 'no drive' times contained in Australian drug driving laws—ostensibly for preventive road safety purposes—do not account for the different *pharmacodynamics* and *pharmacokinetics* of different drugs and different drug users,[23] and so are an unreliable guide to impairment duration and return to capacity.

There is a further inconsistency between 'no drive' directions and the legally mandated times in which confirmative oral fluid sampling for these offences must be undertaken. Table 1 (column 5) shows that, across Australian jurisdictions, the time allowed for testing a driver varies from two hours to up to eight hours after the occurrence of the 'event' (typically, the last time of driving). If presence is the 'proxy' for impairment in the drug driving context, it is unclear what purpose these time limits serve, let alone why there is such cross-jurisdictional variation.

Overall, the striking absence of temporal consistency across Australian jurisdictions—in relation to the allowable period for testing, the duration of 'no drive' directions, and governmental advice on the period for which a drug user is at risk of testing positive—raises further doubt about the evidence-base for current criminal law regulatory arrangements. More specifically, such uncertainty and confusion must surely undermine the educative and communicative function

(Farmer 2014) which drug driving laws are meant to serve. A driver (or prospective driver) who has consumed a prescribed illicit drug would rightfully be confused as to his/her legal responsibilities and the risks of criminalisation that driving might pose.

In summary, our analysis of parliamentary debates and the content of current drug driving legislation suggest that law-makers have been insufficiently attentive to linking drug driving offences and testing practices to the established impaired driving paradigm conceived around alcohol. There has been a failure to acknowledge that the adoption of drug presence as a proxy for impairment represents a radical expansion of the criminalisation of drug use and driving behaviours. However their merits are ultimately assessed, drug driving laws are *not* a simple extension of drink driving laws to other drugs. Current laws and practices adopt a distinctive (and selective) approach—centred on the presence of a small number of drugs—which is an uneasy amalgam of the road safety risks posed by drug impaired drivers, and the moral taint/criminal character of the use of illicit substances, mainly cannabis, ecstasy and methamphetamine.

Implications for the operational reach of drug driving laws: Penalties and enforcement

In the previous part, we raised a number of questions about the legitimacy of the prevailing emphasis in Australian drug driving laws on the detection (via oral fluid testing) of the 'presence' of three illicit drugs. To be clear, we are not suggesting that drug driving laws entirely miss their mark. The individuals caught up in, and punished according to, current laws and RDT practices in Australia *do* include drivers who are impaired by drugs other than alcohol and who therefore represent a road safety risk. However, at the same time, there are problems of both under-inclusion and over-inclusion.

In terms of under-inclusion, users of both other illicit drugs (particularly those used commonly, such as cocaine) and lawfully prescribed drugs (such as diazepam (valium)) that can impair driving ability are largely avoiding detection because police in most states are only routinely testing for cannabis, ecstasy and methamphetamine (Shoebridge 2015). This is inconsistent with the stated road safety/crash and injury prevention rationale for drug driving laws.

In terms of over-inclusion, users of the more common illicit drugs—cannabis, ecstasy and speed—may be subjected to a form of over-criminalisation. By over-criminalisation in this context, we mean two interrelated issues. First, individuals may be punished as impaired/dangerous drivers because the *presence* of a relevant drug is detected in their oral fluid, in circumstances where the drug is no longer sufficiently active in their system to impact adversely on driving capacity. There may be relatively little sympathy for such individuals, but to punish them as impaired drivers when their 'sin' is that they have consumed an illicit drug at some point in the past lacks legitimacy. If their crime is illicit drug use, it is *that* crime that should be charged, proven and punished.

Secondly, as a result of the current form of drug driving laws, drives who test positive are exposed to hefty financial penalties and licence disqualifications and, in some cases, imprisonment terms. For example, in Victoria, the state with the highest penalties, a first offence of driving with the presence of a prescribed drug (*Road Safety Act 1986* (Vic) s 49(1)(bb)) attracts a maximum penalty of 12 penalty units (currently $1,902.84) and minimum three months disqualification; a second offence, 60 penalty units ($9,514.20) and minimum six months disqualification; and a third offence, 120 penalty units ($19,280.40) and minimum six months disqualification.

Table 2 summarises the drug driving penalty regimes in all Australian jurisdictions. Note that legislation in Queensland, Tasmania, the ACT and the Northern Territory include imprisonment as a penalty option.

Table 2: Penalties for 'presence' drug driving offences in Australia

Jurisdiction	*Fine in Penalty Units (PU) or $*	*License Disqualification*
NSW *Road Transport Act 2013*	s 111(1) 1st Offence: 10 PU 2nd/Subsequent Offence(s): 20 PU	No major offence within 5 years: 6 months' disqualification, reducible to 3 months At least one major offence within 5 years: 12 months' disqualification, reducible to 6 months (s 205)
VIC *Road Safety Act 1986*	s 49(3AAA) and s 50(1E)) For s 49(1)(bb), (h) and (i) offences: 1st Offence: 12 PU 2nd Offence: 60 PU 3rd Offence: 120 PU	1st Offence: minimum 3 month disqualification 2nd Offence: minimum 6 month disqualification 3rd Offence: minimum 6 month disqualification
SA *Road Traffic Act 1961*	s 47BA 1st Offence: Fine not less than $900 and not more than $1,300. 2nd Offence: Fine not less than $1,100 and not more than $1,600. 3rd Offence: Fine of not less than $1,500 and not more than $2,000. Subsequent Offence: Fine of not less than $1,500 and not more than $2,000.	1st Offence: Disqualification of not less than 3 months 2nd Offence: Disqualification of not less than 6 months 3rd Offence: Disqualification of not less than 12 months Subsequent Offence: Disqualification of not less than 2 years
Qld *Traffic Operations (Road Use Management) Act 1995*	1st offence within 5 years: Maximum 14 PU or imprisonment or 3 months' imprisonment (s 79(2AA)). If 2nd offence within 5 years: The first offence includes a number of alcohol/drug driving offences under s 79. The person is liable to maximum 20 PU or 6 months' imprisonment (s 79(2F)). If 3rd offence within 5 years: Again, the first two offences include a number of alcohol/drug driving offences under s 79. The person is liable to maximum 28 PU or 9 months' imprisonment.	1st offence within 5 years: 6 months' disqualification (s 86(1)) If 2nd offence within 5 years: 9 months' disqualification (s 86(1F)) If 3rd offence within 5 years: 12 months' disqualification (s 86(1G))
WA *Road Traffic Act 1974*	1st Offence: Max 10 PU fine (s 64AC(2)) 2nd/Subsequent Offence(s): Fine not less than 10 PU or more than 20 PU (s 64AC(2)(b)).	2nd/Subsequent Offence: minimum 6 months disqualification (s 64AC(2)(b))
TAS *Road Safety (Alcohol and Drugs) Act 1970*	s 17 1st Offence: Between 2 and 10 PU. Maximum imprisonment of 3 months. Subsequent Offence(s): Between 4 and 20 PU. Maximum 6 months' imprisonment.	1st Offence: Between 3 and 12 months' disqualification Subsequent Offence(s): Between 6 and 24 months' disqualification
ACT *Road Transport (Alcohol and Drugs) Act 1997*	1st offender: 10 PU (s 20(1)) Repeat Offender, If Driver: 25 PU or 3 months' imprisonment, or both (s 20(1)) If Driver Trainer: 20 PU (s 20(1))	1st offender: Automatic disqualification for 3 years, able to be reduced to 6 months (s 34(1)) Repeat Offender, If Driver: Automatic disqualification for 5 years, able to be reduced to 12 months (s 34(2)) If Driver Trainer: none
NT *Traffic Act 1987*	1st Offence: 5 PU or imprisonment for 3 months (s 28(1)) 2nd 'relevant' Offence: 7.5 PU or imprisonment for 6 months (s 28(1)) Subsequent 'relevant' Offence: 7.5 PU or imprisonment for 6 months	1st Offence: None 2nd 'relevant' Offence: Automatic cancellation of licence and 3 months' disqualification (s 28(4)(a)); Immediate suspension (s 28(5)) Subsequent 'relevant' Offence: Automatic cancellation of licence and minimum 6 months' disqualification (s 28(4)(b)); Immediate suspension (s 28(5))

The concerns we have raised are amplified when it is recognised that recent years have seen a major escalation in the number of roadside tests conducted, and the number of charges laid. A full empirical analysis of the operation of drug driving laws is beyond the scope of this article,[24] but here we present preliminary data from Victoria and NSW to illustrate the scale of enforcement. Victoria conducted 42,160 (3.8% positive[25]) tests in the financial year 2012-2013; 42,780 (7.8%) tests in 2013-2014; and 79,986 (5.7%) tests in 2014-2015 (Victoria Police 2013, 2014, 2015). As noted in the introduction to the article, the Victorian Police plan to conduct 100,000 tests in 2015-2016 and 2016-2017 (Andrews 2015). NSW conducted 34,280 (2.5% positive[26]) tests in the 2013 calendar year; 38,830 (5.6%) tests in 2014; and 62,534 (14.6%) in 2015 (NSW Police 2016). NSW Police have set a future target of 97,000 tests annually (NSW Government 2015). These measures have produced an exponential rise in the number of criminal charges over the last decade (see Table 3).

Table 3: Drug driving 'presence' offences in Victoria and NSW: Charges 2006-2016[(a)]

Year	*Victoria*	*NSW*
2006-2007	83	13
2007-2008	165	193
2008-2009	252	517
2009-2010	301	512
2010-2011	633	654
2011-2012	1,134	644
2012-2013	1,854	732
2013-2014	2,348	1,116
2014-2015	3,256	2,326
2015-2016	5,554	7,123[(b)]
Total	15,580	13,830

Sources: NSW Bureau of Crime Statistics and Research; Victoria Magistrates' Court

(a) The Victorian data are total offences under ss 49(1)(bb), 49(1)(h) and 49(1)(i) of the *Road Safety Act 1986* (Vic), finalised in the Victorian Magistrates' Court. The NSW data are total offences under the former s 11B of the *Road Transport (Safety and Traffic Management) Act 1999* (NSW), and the current s 111 of the *Road Transport Act 2013* (NSW), finalised in all NSW courts.

(b) This figure does not include the final quarter (April – June 2016) as BOSCAR NSW was yet to receive and collate this data at the time of writing.

This statistical information provides further reason to scrutinise whether Australian law-makers have received an appropriate alignment between the road safety risks posed by drugs other than alcohol and the form of contemporary drug driving offences and testing practices.

Conclusions and recommendations

In this article we have shown that, although drug driving has been criminalised in Australia since the 1930s, the preferred approach took a significant turn in the 2000s. Eschewing the traditional requirement of evidence of impaired driving, or a driver being 'under the influence' of a drug, law-makers have empowered the police to conduct high volume roadside testing for the *presence* of the three most widely used illicit drugs—cannabis, methamphetamine and ecstasy—without any requirement to establish that there is a sufficient concentration of the drug in question to produce impairment effects. At the same time, there is no routine testing for other drugs (including licit prescription drugs) which can impair driving ability. This approach stands in stark contrast to the evidence-based approach to detecting and punishing individuals who drive with alcohol in

their system, which largely turns on an evidence-based 'proxy' for impairment: BACs written into legislation.

It appears that the *illicit* nature of drugs such as cannabis, ecstasy and speed has been seen to justify a type of 'fast-forward' from *presence* to *deemed impairment* without any requirement to establish and meet *prescribed concentration* thresholds of the sort that are both conventional in the *drink* driving context and essential to the normative legitimacy of drink driving laws. To drive while 'drunk' is regarded as unacceptable because the scientific evidence shows that this carries an elevated risk of accident due to diminished driver capacity (Fell and Voas 2014; Howat, Sleet and Smith 1991; Mann et al. 2001). By contrast, contemporary drug driving laws in Australia are not strongly linked to scientific evidence about the relationship between substance use and driver capacity. The road safety justification for treating the *presence* of a particular drug in a driver's oral fluid as synonymous with impairment is open to question, just as it would be if the trace detection of a minute quantity of alcohol in any driver's breath were to be regarded as a sufficient basis for criminal punishment. In addition, testing for only three illicit drugs is not consistent with a road safety/impairment paradigm.

Just as for *drink* driving, criminal laws governing *drug* driving should be underpinned by what the expert literature tells us about the drug/safety/crash risk relationship. Reviewing that large body of literature is beyond the scope of this article, but it *does* exist (see, for example, Bondallaz et al. 2016; Elvik 2013; Kelly, Darke and Ross 2004; Verster, van de Loo and Roth 2017) and warrants closer attention. Policy-making and law reform can and should be informed by it, just as in the 1960s, when (alcohol) drink driving laws were modernised, and road safety qualitatively improved, in line with the available evidence about the impairment effects of alcohol.

It might be assumed that presence-focussed drug testing is the only available approach because the available scientific evidence about the pharmacology of drugs lacks the sophistication of evidence about alcohol's effects. Such an assumption would be incorrect. Several countries in Europe have taken, or are investigating, such an approach (Wolff 2013). For example, in 2012, Norway introduced evidence-based prescribed concentrations for 20 non-alcohol drugs, both illicit and licit (Kristoffersen et al. 2016; Vindenes et al. 2012). These include thresholds for THC (1.3 nanograms (ng)/ml in blood), MDMA (48 ng/ml), methamphetamine (48 ng/ml) and diazepam (57 ng/ml) (Norwegian Ministry of Transport and Communications 2014). A drug-specific threshold was also recommended by a major UK review of impaired driving (Wolff 2013).

We recommend that all Australian states and territories consider three changes to existing drug driving laws. First, serious consideration should be given to assessing the cost and feasibility of roadside drug testing that screens for *all drugs* which are known to have the potential to impair driving ability, whether they are currently illicit or licit substances. The Norwegian experience shows that such an approach is both technically possible and, so long as there is political will, feasible. Second, oral fluid testing should only be used as a preliminary screening device. Where this relatively non-invasive method detects the presence of a potentially impairing drug, the 'gold standard' of *blood sample analysis* should thereafter be used as the basis for decisions about criminal charges and convictions. To be clear, our recommended approach would *not* involve the mass administration of random blood tests (which would raise myriad risks to health and infringements of human rights). Only where an individual tested positive on an initial oral fluid test would a blood test be authorised. Third, informed by the available scientific evidence, *minimum prescribed concentrations* for all impairing drugs should be set and added to Australian drug driving laws as legislated 'proxies' for impairment, just as BAC/PCA levels are recognised as legitimate proxies for alcohol impairment.

The Wolff Report explained that the reason for setting blood concentration thresholds for different drugs is that, like PCA/BAC levels for alcohol, these thresholds would 'stand-in' or serve as proxies for levels of driver impairment:

> Setting a concentration or 'limit' for a psychoactive drug, for the new drug driving offence, means that if a driver exceeds this threshold the driver can be prosecuted without the requirement to prove that he or she was impaired and that this impairment was caused by the drug in the body. The implications of setting such a limit in law are therefore far-reaching, and the Panel members accept that their task in advising Government on such limits is crucial. Before recommending drug thresholds the Panel have therefore properly considered both the empirical (epidemiological) and experimental evidence, in relation to blood drug concentrations and driver behavior, whilst being mindful of stakeholders, practical and ethical considerations. (Wolff 2013: 19-20)

Law reform in accordance with the three recommendations we have proposed here would bring Australian drug driving laws back into line with a road safety/impairment paradigm. It would address both the over-inclusion and under-inclusion that results from current laws and testing practices. It would remedy the current conflation of what should be regarded as two discrete public policy goals: promoting road safety; and deterring the use of certain drugs. The integrity of criminal laws and police powers concerned with drug-impaired driving will be enhanced if they are disentangled from the decision of governments to criminalise the use of certain drugs (like cannabis, ecstasy and 'ice').

We acknowledge that recommending the setting of drug thresholds to underpin driving offences might encounter resistance if it is perceived as condoning the use of substances that are currently prohibited. However, we argue that our recommended approach to drug driving laws is the most appropriate mechanism for advancing their primary goal of improving road safety. Drug driving laws should not be used as a de facto mechanism for punishing individuals who are suspected of having committed the crime of possession and/or self-administration of an illicit drug (see, for example, *Drug Misuse and Trafficking Act 1985* (NSW) ss 10 and 12). Personal drug use remains a controversial site of criminalisation (Schwartz 2015), but there is little doubt that, outside the driving context, it would be regarded as unlawful for police to arbitrarily search an individual for illicit drugs, absent a 'reasonable suspicion' of possession and/or recent administration. On one reading of contemporary drug driving laws and the random testing for selected drugs that they facilitate, police have been empowered to test for illicit drug possession/use in a way that would otherwise be regarded as inconsistent with Australian society's respect for civil liberties and the presumption of innocence. Re-alignment with an evidence-based impairment paradigm would go a considerable way towards restoring the integrity of current laws.

This approach is consistent with the position advanced in the Wolff Report, which emphasised the need to distinguish the optimal impairment/road safety-focused approach to drug driving from the wider Government strategy of deterring (via criminalisation) the use of certain psychoactive substances:

> … the Panel has been solely concerned with the relationship between drug use while driving and this should not be confused with or taken as an extension to existing legislation about possession or supply of drugs or the Government's wider drugs strategy. Drug driving legislation is contained in the Road Traffic Act 1988 and has a separate policy aim from wider drug related legislation—namely it aims to improve road safety. The Government's drug strategy aims to reduce illicit and other harmful drug use and to increase the numbers recovering from their dependence. (Wolff 2013: 19)

State and territorial governments in Australia would do well to heed this advice.

It might be considered naïve to argue for evidence-based law reform in a context where it is well known that much criminal justice policy formation and law making in Australia defies rational

explanation, where 'common sense' paradigms dominate, motivated by the assumed electoral appeal of punitive 'law and order' approaches (Hogg and Brown 1998; McNamara and Quilter 2016). However, we believe it is incumbent on researchers to 'call out' unprincipled law making and encourage governments to be attentive to the normative deficits (and long-term legitimacy) of how criminal law is employed as a public policy tool (McNamara 2015).

A final consideration in our call for reconsideration of the nature of drug driving laws is the cost of current drug driving enforcement practices. As noted above, in recent years, most state and territory governments have significantly increased their investment in RDT (Andrews 2015; NSW Government 2015). For example, Transport for NSW have released information relating to the annual operating budgets of the Random Drug Testing Program between 2011 and 2016, with the 2011-12 expenditure amounting to $3.679 million, and the 2015-16 expenditure estimated to be $7.4m (Transport for NSW 2016). Undoubtedly, improving road safety is sufficiently important that governments *should* devote considerable resources to policing and other initiatives that support that goal. However, the community is entitled to expect that the legal framework of criminal offences and police powers that underpins drug driving prevention strategies is sound and well adapted to the task of reducing the number of impaired drivers on Australian roads.

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[1] We thank Lachlan Auld for excellent research assistance.

[2] There is a small body of Australian legal literature, focused on questions of civil liberties, and the social construction and perception of 'drug drivers' (Chesher 1992; Prichard et al. 2010; Wilson 2012) rather than the rationale for, and nature of, the criminal law regulatory regimes that have been established in all Australian jurisdictions. In addition, there is a small body of literature from comparable common law jurisdictions (see, for example, Cafaro 2010; Dawkins and Briggs 2008: 559-567; Ducharme 1975; Roth 2015; Schwartz, Cohen and Abramson 1977).

[3] For example, *Motor Traffic Ordinance 1926* (ACT) s 52.

[4] For example, *Motor Vehicles Act 1921* (SA) s 26.

[5] *Motor Car (Amendment) Act 1949* (Vic); *Traffic Ordinance 1952* (NT); *Traffic Act 1961* (Tas); *Motor Traffic Ordinance 1971* (ACT).

[6] See also *Traffic Act 1987* (NT) s 19; *Road Traffic Act 1974* (WA) s 65; *Road Safety Act 1986* (Vic) s 3(1); *Road Transport (Alcohol and Drugs) Act 1977* (ACT) Dictionary.

[7] For example, *Traffic Act 1925* (Tas) s 41B, as amended by the *Traffic Act 1966* (Tas).

[8] *Traffic Act (No. 4) 1979* (NT); *Road Traffic Act Amendment Act (No.3) 1981* (SA); *Motor Traffic (Alcohol and Drugs) Amendment Ordinance 1982* (ACT); *Motor Traffic (Road Safety) Amendment Act 1982* (NSW); *Road Safety (Alcohol and Drugs) Amendment Act 1982* (Tas); *Traffic Act Amendment Act 1988* (Qld); *Road Traffic (Random Breath Tests) Act 1988* (WA).

[9] For example, *Road Traffic Act 1961* (SA) s 47g(4), as amended by the *Road Traffic Act Amendment Act (No. 2) 1967* (SA).

[10] For example, in Victoria, 'prescribed illicit drug' for the purposes of the s 49(1)(bb) 'presence' offence under the *Road Safety Act 1986* (Vic) includes THC, MDMA and speed (Dictionary);

[11] It is noted that there are additional 'presence' offences, such as ss 49(1)(h) and (i) of the *Road Safety Act 1986* (Vic).

[12] *Road Safety Act 1986* (Vic) s 55E.

[13] *Road Safety Act 1986* (Vic) s 57B.

[14] *Road Traffic (Drug Driving) Amendment Act 2005* (SA); *Road Transport Legislation Amendment (Drug Testing) Act 2006* (NSW); *Road Traffic Amendment (Drugs) Act 2007* (WA); *Transport Legislation and Another Act Amendment Act 2007* (Qld); *Road Transport (Alcohol and Drugs) (Random Drug Testing) Amendment Act 2010* (ACT); *Road Transport (Alcohol and Drugs) Legislation Amendment Act 2010* (ACT); *Transport Legislation (Drug Driving) Amendment Act 2007* (NT); *Traffic and Other Legislation Amendment Act 2015* (NT).

[15] We acknowledge that, more recently, Australian governments have moved to introduce a 'zero tolerance' approach to alcohol in the case of inexperienced/high risk drivers. The standard prescribed concentration of alcohol for learner drivers and provisional licence holders is now zero and less than 0.05 for certain categories of drivers (such as drivers of taxis and other passenger vehicles): see, for example, *Road Transport Act 2013* (NSW) s 108, which establishes a 'novice range' PCA threshold of zero, and a 'special range' PCA of 0.02.

[16] These devices are approved in each state/territory under the relevant legislation and/or by gazette notice.

[17] For instance, in Victoria, see s 57B(3) of the *Road Safety Act 1986* (Vic).

[18] The Rosita project was a collaborative international exercise 'to evaluate the usability and analytical reliability of the onsite oral fluid (saliva) drug testing devices' (Verstraete and Raes 2006).

[19] Issues have also been raised about the number of 'false negatives' (that is, a problem of potential under-detection) (see, for example, Barone 2016).

[20] Western Australia and Tasmania do not have such express powers, however, police practice in Tasmania appears to involve the giving of directions not to drive following a positive test for the presence of a prescribed illicit drug (Department of Police and Emergency Management 2010: 14.8.5(1)(k)).

[21] Section 40K(7) of the *Road Traffic Act 1961* (SA) appears to require a police officer to make an assessment of fitness before keys can be delivered back to a driver: 'A police officer on duty at the station must deliver possession of the keys to any person the officer is satisfied is lawfully entitled to them, and who makes a request for them at the police station, provided the officer has no reason to believe that person will drive the vehicle but not be qualified or unfit to do so'.

[22] Similarly, in the ACT, impairment is deemed on the basis of the presence of a prescribed illicit drug: *Road Transport (Alcohol and Drugs) Act 1977* (ACT) s 47B(2)-(3).

[23] 'Pharmacodynamics' refers to 'what the drug does to the body'; that is, the effect that the drug has on the body of a living person (Wolff 2013: 9). 'Pharmacokinetics' refers to what 'the body does to a drug' that is being consumed; that is, what happens to substances, in this case drugs, when they are consumed by a living person. This includes how the substance is absorbed, how it distributes in the body, how it breaks down or changes within the body, and how it is excreted (Wolff 2013: 8).

[24] The operation of drug driving laws is the subject of ongoing research by the authors.

[25] These 'positive' figures have been calculated by deducting from 100% the 'proportion of drivers tested who return clear result for prohibited drugs' in the respective years contained in the Victoria Police Annual Reports. We note that the information available does not distinguish whether these clear results were a product of the initial 'drug screening' tests alone, or a combination of the initial tests and secondary analyses.

[26] These 'positive' figures refer to the percentage of positive results from the *initial* roadside saliva tests. Positive results from second roadside screening tests, as a percentage of initial roadside saliva tests conducted, were: 2.1% in 2013; 4.1% in 2014; and 10.6% in 2015.

References

ACT Police (n.d.) *Alcohol and Drug Impaired Driving*. Available at https://www.police.act.gov.au/road-safety/safe-driving/alcohol-and-drug-impaired-driving (accessed 2 October 2016).

Adams K, Smith L and Hind N (2008) Drug driving among police detainees in Australia. *Trends and Issues in Crime and Criminal Justice No. 357*. Canberra, ACT: Australian Institute of Criminology.

Andrews D (2015) 200,000 tests step up the fight against drug drivers. Media release, 11 October. Premier of Victoria, Minister for Police, The Hon. Daniel Andrews MP. Available at http://www.premier.vic.gov.au/200000-tests-step-up-the-fight-against-drug-drivers/ (accessed 12 August 2016).

Armstrong K, Watling C and Davey J (2014) *Deterrence of Drug Driving: The Impact of the ACT Drug Driving Legislation and Detection Techniques*. Brisbane, Queensland: Centre for Accident Research and Road Safety – Queensland.

Australian Institute of Health and Welfare (2014) *National Drug Strategy Household Survey Detailed Report 2013*. Canberra, ACT: AIHW. Available at http://www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=60129549848 (accessed 1 September 2016).

Barns G (2016) Australia's drug driving laws are grossly unfair. *The Drum* (ABC TV), 29 January. Available at http://www.abc.net.au/news/2016-01-29/greg-barns-drug-driving-laws-are-unfair/7116994 (accessed 2 August 2016).

Barone T (2016) Police drug test accuracy in doubt. *The West Australian*, 8 March. Available at https://au.news.yahoo.com/thewest/wa/a/31046715/police-drug-test-accuracy-in-doubt/ (accessed 14 April 2016).

Batchelor P (2003) (Minister for Transport) Second reading speech, *Road Safety (Drug Driving) Bill 2003.* Hansard, Legislative Assembly, Victorian Parliament, 30 October: 1418-1420.

Batchelor P (2006) (Minister for Transport) Second reading speech, *Road Safety (Drugs) Bill 2006*. Hansard, Legislative Assembly, Victorian Parliament, 1 March: 389-390.

Bondallaz P, Favrat B, Chtioui H, Fornari E, Maeder P and Giroud C (2016) Cannabis and its effects on driving skills. *Forensic Science International*. Epub ahead of print 16 September. DOI: 10.1016/j.forsciint.2016.09.007.

Bronitt S and McSherry B (2017) *Principles of Criminal Law*, 4th edn. Australia: Thomson Reuters.

Brown D (2006) *Traffic Offences and Accidents*, 4th edn. Sydney: LexisNexis Butterworths.

Brown M (2006) (Parliamentary Secretary) Second reading speech, *Road Transport Legislation Amendment (Drug Testing) Bill 2006.* Hansard, Legislative Assembly, NSW Parliament, 19 September: 1854-1856.

Butler J (2015) Shoalhaven police to test for drug-drivers daily. *Illawarra Mercury*, 20 July. Available at http://www.illawarramercury.com.au/story/3224147/one-in-five-nabbed-for-drug-driving/ (accessed 3 April 2016).

Cafaro T (2010) Slipping through the cracks: Why can't we stop drugged driving? *Western New England Law Review* 32(1): 33-72.

Chesher G (1992) The scientific basis for our drink-driving laws: Why we can't approach cannabis and prescribed drugs in the same way. *Current Affairs Bulletin* 68(10): 4-11.

Conlon, P (2005) (Minister for Transport) Second reading speech, *Road Traffic (Drug Driving) Amendment Bill 2005*. Hansard, House of Assembly, South Australian Parliament, 14 September: 3358-3362.

Dawkins K and Briggs M (2008) Criminal law [2008]. *New Zealand Law Review*: 541-587.

Department of Planning, Transport and Infrastructure (n.d.) *Towards Zero Together – Drug Driving FAQs*. Adelaide, South Australia: South Australian Government. Available at http://www.dpti.sa.gov.au/towardszerotogether/Safer_behaviours/Drug_driving2/drug_driving_faqs (accessed 2 October 2016).

Department of Police and Emergency Management (2010) *Tasmania Police Manual – Orders, Instructions and Operational Guidance for Members of Tasmania Police*. Hobart, Tasmania: Tasmanian Government. Available at http://tasmaniantimes.com/downloads/Tasmania_Police_Manual-RTIInternetVersion-dated_11November2010.pdf (accessed 5 August 2016).

Department of Transport and Main Roads (2009 *Drug Driving Fact Sheet*. Brisbane, Queensland: Queensland Government. Available at https://www.police.qld.gov.au/programs/roadSafety/Documents/drug_driving_fact_sheet.pdf (accessed 26 August 2016).

Dräger (n.d.) *Customer Support for Your DrugTest 5000*. Lübeck, Germany: Drägerwerk AG & Co. Available at http://www.draeger.com/sites/enus_us/Pages/Alcohol-and-Drug-Detection/DrugTest-5000-CS.aspx (accessed 15 August 2016).

Ducharme P (1975) Impaired driving. *Chitty's Law Journal* 23(10): 338-355.

Elvik R (2013) Risk of road accident associated with the use of drugs: A systematic review and meta-analysis of evidence from epidemiological studies. *Accident Analysis & Prevention* 60: 254-267. DOI: 10.1016/j.aap.2012.06.017.

Farmer L (2014) Criminal law as an institution: Rethinking theoretical approaches to criminalisation. In Duff R, Farmer L, Marshall S, Renzo M and Tadros V (eds) *Criminalization: The Political Morality of the Criminal Law*: 80-100. Oxford, UK: Oxford University Press.

Fell J and Voas R (2014) The effectiveness of a 0.05 blood alcohol concentration (BAC) limit for driving in the United States. *Addiction* 109(6): 869-874. DOI: 10.1111/add.12365.

Griffith AF (1968) (Minister for Mines) Second reading speech, *Traffic Act Amendment Bill (No.2)*. Hansard, Legislative Council, Western Australian Parliament, 31 October: 2025-2028.

Gulbin M (2016) Drug driving case highlights 'nonsensical' laws. *The Northern Star*, 15 March. Available at http://www.northernstar.com.au/news/drug-driving-case-highlights-nonsensical-laws/2964281/ (accessed 15 March 2016).

Hall W and Homel R (2007) Reducing cannabis-impaired driving: Is there sufficient evidence for drug testing of drivers? *Addiction* 102(12): 1918-9. DOI: 10.1111/j.1360-0443.2007.02042.x.

Hickey P (2016) WA's drug-driving court convictions reach record levels as meth addiction soars. *Perth Now Sunday Times*, 14 August. Available at http://www.perthnow.com.au/news/western-australia/was-drugdriving-court-convictions-reach-record-levels-as-meth-addiction-soars/news-story/770febb88932c6ca81a6a649475c9bb9 (accessed 14 August 2016).

Hogg R and Brown D (1998) *Rethinking Law and Order*. London: Pluto Press.

Howat P, Sleet D and Smith I (1991) Alcohol and driving: Is the 0.05% blood alcohol concentration justified? *Drug Alcohol Review* 10(2): 151-166. DOI: 10.1080/09595239100185211.

Jones C, Donnelly N, Swift W and Weatherburn D (2005) Driving under the influence of cannabis: The problem and potential countermeasures. *NSW BOCSAR Crime and Justice Bulletin*, No 87. Available at http://www.bocsar.nsw.gov.au/Documents/CJB/cjb87.pdf (accessed 15 September 2016).

Kelly E and Dillon P (2005) *Drugs and Driving*. Sydney, New South Wales: The National Drug and Alcohol Research Centre.

Kelly E, Darke S and Ross J (2004) A review of drug use and driving: Epidemiology, impairment, risk factors and risk perceptions. *Drug and Alcohol Review* 23: 319-344. DOI: 10.1080/09595230412331289482.

Knox WE (1968) (Minister for Transport) Second reading speech, *Traffic Acts Amendment Bill*. Hansard, Legislative Assembly, Queensland Parliament, 5 April: 3021-3026.

Kobelke JC (2006) (Minister for Community Safety) Second reading speech, *Road Traffic Amendment (Drugs) Bill 2006*. Hansard, Legislative Assembly, Western Australian Parliament, 18 October: 7206-7207.

Kristoffersen L, Strand D, Liane V, Vindenes V, Tvete I and Aldrin (2016) Determination of safety margins for whole blood concentrations of alcohol and nineteen drugs in driving under the influence cases. *Forensic Science International* 259: 119-126. DOI: 10.1016/j.forsciint.2015.12.009.

Lawrence S and Zhou T (2016) Drug driving offences (and defences) in New South Wales. Paper presented at the *2016 Sir Owen Dixon Chambers Floor Conference*, 5 March, Sydney, New South Wales. Available at http://www.criminalcle.net.au/attachments/Drug_Driving__Stephen_Lawrence_ands_Tina_Zhou.pdf (accessed 16 August 2016.

Llewellyn D (2005) (Minister for Police and Public Safety) Second reading speech, *Road Safety (Alcohol and Drugs) Act Bill 2005*. Hansard, Legislative Assembly, Tasmanian Parliament, 13 April: 28-30.

Lucas PT (2006) (Minister for Transport and Main Roads) Second reading speech, *Transport Legislation and Another Act Amendment Bill 2006*. Hansard, Legislative Assembly, Queensland Parliament, 29 November: 728-731.

Mann R, Macdonald S, Stoduto LG, Bondy S, Jonah B and Shaikh A (2001) The effects of introducing or lowering legal per se blood alcohol limits for driving: an international review. *Addiction* 33: 569–583.

McBarnet D (1981) *Conviction: The Law, the State and the Construction of Justice*. Basingstoke: UK: Palgrave Macmillan.

McNamara L (2015) Criminalisation research in Australia: Building a foundation for normative theorising and principled law reform. In Crofts T and Loughnan A (eds) *Criminalisation and Criminal Responsibility in Australia*: 33-51. Melbourne, Victoria: Oxford University Press.

McNamara L and Quilter J (2014) Turning the spotlight on 'offensiveness' as a basis for criminal liability. *Alternative Law Journal* 39(1): 36-39.

McNamara L and Quilter J (2015) Public intoxication in NSW: The contours of criminalisation. *Sydney Law Review* 37(1): 1-35. Available at https://sydney.edu.au/law/slr/slr_37/slr37_1/SLRv37n1McNamaraQuilter.pdf (accessed 29 May 2017).

McNamara L and Quilter J (2016) The 'bikie effect' and other forms of demonisation: The origins and effects of hyper-criminalisation. *Law in Context* 34(2): 5-35.

McNamara L, Quilter J, Seear K and Room R (forthcoming) Evidence of intoxication in Australian criminal courts: A complex variable with multiple effects. *Monash University Law Review* 43(1).

Morris M (1968) (Minister for Transport) Second reading speech, *Motor Traffic (Amendment) Bill 1968*. Hansard, Legislative Assembly, NSW Parliament, 4 December: 3412-3422.

Norwegian Ministry of Transport and Communications (2014) *Driving Under the Influence of Non-Alcohol Drugs: Legal Limits Implemented in Norway*. Oslo, Norway: Norwegian Ministry of Transport and Communications.

NSW Government (2015) New drug driving campaign launched: MDT—there's no escaping it. Media release, Department of Transport, 1 December. Sydney, New South Wales. Available at http://www.transport.nsw.gov.au/newsroom/media-releases/new-drug-driving-campaign-launched-mdt-theres-no-escaping-it (accessed 29 May 2017).

NSW Police (2015) Random drug testing standard operating procedures. Information released pursuant to a 2015 *Government Information (Public Access) Act 2009* Application. Sydney, New South Wales.

NSW Police (2016) Roadside drug testing. Information release pursuant to a *Government Information (Public Access) Act 2009* application. Sydney, New South Wales. Available at http://www.police.nsw.gov.au/services/information_access_unit_gipa/disclosure_logs/2016 (accessed 12 August 2016).

Pritchard J, Matthews AJ, Bruno RB, Rayment K and Cockburn H (2010) Detouring civil liberties? Drug-driving laws in Australia. *Griffith Law Review* 19(2): 330-349.

Queensland Police (2016) Drug driving. Brisbane, Queensland. Available at https://www.police.qld.gov.au/programs/roadsafety/drugdriving.htm (accessed 2 October 2016).

Quilter J (2014) One-punch laws, mandatory minimums and 'alcohol-fuelled' as an aggravating factor: Implications for NSW criminal law. *International Journal for Crime, Justice and Social Democracy* 3(1): 81-106. DOI: 10.5204/ijcjsd.v3i1.145.

Quilter J (2015) Criminalisation of alcohol-fuelled violence: One-punch laws. In Crofts T and Loughnan A (eds) *Criminalisation and Criminal Responsibility in Australia*: 82-121.

Melbourne, Victoria: Oxford University Press.

Quilter J and McNamara L (2013) Time to define 'the cornerstone of public order legislation': The elements of offensive conduct and language under the *Summary Offences Act 1988* (NSW). *University of New South Wales Law Journal* 36(2): 534-562.

Quilter J and McNamara L (forthcoming) The meaning of 'intoxication' in Australian criminal cases: Origins and operation. *New Criminal Law Review*.

Quilter J, McNamara L, Seear K and Room R (2016a) Criminal law and the effects of alcohol and other drugs: A national study of the significance of 'intoxication' under Australian legislation. *UNSWLJ* 39(3): 488-511. Available at http://ro.uow.edu.au/cgi/viewcontent.cgi?article=3522&context=lhapapers (accessed 29 May 2017).

Quilter J, McNamara L, Seear K and Room R (2016b) The definition and significance of 'intoxication' in Australian criminal law: A case study of Queensland's 'safe night out' legislation. *QUT Law Review* 16(2): 42-58. DOI: 10.5204/qutlr.v16i2.654.

Ramsey S and Fitzgerald J (2017) Recent trends in arrests for drug driving. *NSW BOCSAR Crime and Justice Statistics*, No 125. Available at http://www.bocsar.nsw.gov.au/Documents/BB/Report-2017-Recent-Trends-in-Arrests-for-Drug-Driving-BB125.pdf (accessed 30 May 2017).

Redfern Legal Centre (2016) NSW Police increase mobile drug testing. Sydney, New South Wales. Available at http://rlc.org.au/article/nsw-police-increase-mobile-drug-testing (accessed 12 August 2016).

Road Safety Commission (2013) FAQ—drug driving. Perth, Western Australia: Western Australian Government. Available at https://rsc.wa.gov.au/Documents/Drug-Driving/ors-drug-driving-faq.aspx (accessed 2 October 2016).

Roth A (2015) The uneasy case for marijuana as chemical impairment under a science-based jurisprudence of dangerousness. *California Law Review* 103(4): 841-917. Available at http://scholarship.law.berkeley.edu/cgi/viewcontent.cgi?article=4294&context=californialawreview (accessed 29 May 2017).

Rylah A (1965) (Chief Secretary) Second reading speech, *Motor Car (Driving Offence) Bill*. Hansard, Legislative Assembly, Victorian Parliament, 19 October: 858-859.

Schwartz M (2015) Criminalisation and drugs: What should we do about cannabis? In Crofts T and Loughnan A (eds) *Criminalisation and Criminal Responsibility in Australia*: 68-81. Melbourne, Victoria: Oxford University Press.

Schwartz R, Cohen V and Abramson F (1977) Drugs, driving and the Law: A prospective review. *Contemporary Drug Problems* 6(3): 283-306.

Shoebridge D (2015) Roadside drug testing shouldn't ignore the commonly used drugs that impair driving: prescription medication. *The Sydney Morning Herald*, 19 October. Available at http://www.smh.com.au/comment/roadside-drug-testing-shouldnt-ignore-the-commonly-used-drugs-that-impair-driving-prescription-medication-20151019-gkcfex.html (accessed 5 June 2016).

Terer K and Brown R (2014) Effective drink driving prevention and enforcement strategies: Approaches to improving practice. *Trends & Issues in Crime and Criminal Justice No. 472*. Canberra, ACT: Australian Institute of Criminology.

Transport for NSW (2016) Information relating to the cost and results of mobile drug testing. Sydney, New South Wales. Available upon request at http://www.transport.nsw.gov.au/about/access-nsw-government-transport-information-gipa/disclosure-log.

Transport for NSW—Centre for Road Safety (2016) Drugs and driving. Sydney, New South Wales. Available at

http://roadsafety.transport.nsw.gov.au/stayingsafe/alcoholdrugs/drugdriving/ (accessed 20 August 2016).

Verster J, van de Loo A and Roth T (2017) Effects of hypnotic drugs on driving performance. In Kryger M, Roth T and Dement W (eds) *Principles and Practice of Sleep Medicine,* 6th edn: 499-505. USA: Elsevier. DOI: 10.1016/B978-0-323-24288-2.00179-3.

Verstraete A and Raes E (eds) (2006) *Rosita-2 Project: Final Report*. Ghent, Belgium: Academia Press. Available at http://www.rosita.org/docs/Rosita2%20Final%20report%20May2006.pdf (accessed 26 July 2016).

Victoria Police (2010) *Alcohol, Drugs & the Law*. Melbourne, Victoria. Available at http://www.police.vic.gov.au/content.asp?a=internetBridgingPage&Media_ID=56941 (accessed 2 October 2016).

Victoria Police (2013) *Annual Report 2012-13*. Melbourne, Victoria. Available at http://www.police.vic.gov.au/content.asp?Document_ID=49 (accessed 20 August 2016).

Victoria Police (2014) *Annual Report 2013-14*. Melbourne, Victoria. vailable at http://www.police.vic.gov.au/content.asp?Document_ID=49 (accessed 20 August 2016).

Victoria Police (2015) *Annual Report 2014-15*. Melbourne, Victoria. Available at http://www.police.vic.gov.au/content.asp?a=internetBridgingPage&Media_ID=112492 (accessed 20 August 2016).

Vindenes V, Jordbru D, Knapskog AB, Kvan E, Mathisrud G, Slørdal L and Mørland J (2012) Impairment based legislative limits for driving under the influence of non-alcohol drugs in Norway. *Forensic Science International* 219(1-3): 1-11. DOI: 10.1016/j.forsciint.2011.11.004

Visentin L (2016) Roadside drug driving tests mysterious and uncertain, magistrate says. *The Sydney Morning Herald*, 2 February. Available at http://www.smh.com.au/nsw/roadside-drug-driving-tests-mysterious-and-uncertain-magistrate-says-20160202-gmjus2.html (accessed 2 February 2016).

Wilson L (2012) Exploring illicit drug use and drug driving as edgework. *Current Issues in Criminal Justice* 24(2): 223-240. Available at http://www.austlii.edu.au/au/journals/CICrimJust/2012/31.pdf (accessed 29 May 2017).

Wodak A and McDonald D (2016) What would effective, fair and just drug-driving laws look like? *The Conversation*, 26 February. Available at https://theconversation.com/what-would-effective-fair-and-just-drug-driving-laws-look-like-55379 (accessed 26 February 2016).

Wolff K et al. (2013) *Driving Under the Influence of Drugs*: *Report from the Expert Panel on Drug Driving*. London: UK Department of Transport. Available at http://www.antoniocasella.eu/archila/drug-driving-march2013.pdf (accessed 29 May 2017).

Woolley J and Baldock M (2009) Review of Western Australian drug driving laws. Centre for Automotive Safety Research, CASR Report Series, CASR064. Adelaide, South Australia: The University of Adelaide. Available at https://hekyll.services.adelaide.edu.au/dspace/bitstream/2440/50002/1/CASR064.pdf (accessed 29 May 2017).

Cases

Bugden; Halper v R [2015] NSWDC 346.

Police v Cahil (unreported, Lismore Local Court, 9 October 2014).

Police v Carrall (unreported, Lismore Local Court, 1 Feb 2016).

Legislative material

Drug Misuse and Trafficking Act 1985 (NSW)

Motor Traffic (Amendment) Act 1937 (NSW)
Motor Traffic (Amendment) Act 1968 (NSW)
Motor Traffic (Road Safety) Amendment Act 1982 (NSW)
Motor Traffic (Road Safety) Amendment Act 1987 (NSW)
Motor Traffic Act 1909 (NSW)
Road Transport (General) Regulation 2013 (NSW)
Road Transport Act 2013 (NSW)
Road Transport Legislation Amendment (Drug Testing) Act 2006 (NSW)
Traffic (Amendment) Act 1990 (NSW)
Traffic Act 1909 (NSW)

Motor Car (Amendment) Act 1949 (Vic)
Motor Car (Breath Testing Stations) Act 1976 (Vic)
Motor Car (Driving Offence) Act 1965 (Vic)
Motor Car Act 1958 (Vic)
Road Safety (Amendment) Act 2000 (Vic)
Road Safety (Drug Driving) Act 2003 (Vic)
Road Safety (Drugs) Act 2006 (Vic)
Road Safety (Miscellaneous Amendments) Act 1989 (Vic)
Road Safety Act 1986 (Vic)

Motor Vehicles Act 1921 (SA)
Road Traffic (Drug Driving) Amendment Act 2005 (SA)
Road Traffic Act Amendment Act (No. 2) 1967 (SA)
Road Traffic Act Amendment Act (No.3) 1981 (SA)
Road Traffic Amendment Act 1936 (SA)
Road Traffic Act 1961 (SA)

Drugs Misuse Act 1986 (Qld)
Traffic Act Amendment Act 1988 (Qld)
Traffic Acts 1949 to 1967 (Qld)
Traffic Acts Amendment Act of 1968 (Qld)
Transport Legislation and Another Act Amendment Act 2007 (Qld)
Transport Operations (Road Use Management) Act 1995 (Qld)
Road Traffic (Random Breath Tests) Act 1988 (WA)
Road Traffic Act 1974 (WA)
Road Traffic Amendment (Drugs) Act 2007 (WA)
Traffic Act 1919 (WA)
Traffic Act Amendment Act 1930 (WA)

Road Safety (Alcohol and Drugs) Act 1970 (Tas)
Road Safety (Alcohol and Drugs) Amendment Act 1982 (Tas)
Road Safety (Alcohol and Drugs) Amendment Act 2005 (Tas)
Road Safety (Alcohol and Drugs) Regulations 2009 (Tas)

Traffic Act 1925 (Tas)
Traffic Act 1961 (Tas)
Traffic Act 1966 (Tas)

Motor Traffic (Alcohol and Drugs) Act 1997 (ACT)
Motor Traffic (Alcohol and Drugs) Amendment Ordinance 1982 (ACT)
Motor Traffic Ordinance 1926 (ACT)
Motor Traffic Ordinance 1971 (ACT)
Road Transport (Alcohol and Drugs) (Random Drug Testing) Amendment Act 2010 (ACT)
Road Transport (Alcohol and Drugs) Act 1977 (ACT)
Road Transport (Alcohol and Drugs) Legislation Amendment Act 2010 (ACT)

Traffic Act (No. 4) 1979 (NT)
Traffic Act 1987 (NT)
Traffic and Other Legislation Amendment Act 2015 (NT)
Traffic Ordinance 1952 (NT)
Transport Legislation (Drug Driving) Amendment Act 2007 (NT)