

Roadside oral fluid testing for illicit drugs in Western Australia: Trend in testing and offences and characteristics of offenders, 2008-2015

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Abstract

This research sought to describe the trend in roadside oral fluid testing in Western Australia and associated offences and characteristics of offenders during the period 2008-2015. The rate of testing per licensed driver fluctuated over the period but showed signs of increasing in the latter years of the period, as did the rate of offending. Males and drivers aged 25-39 years were the most frequent offenders; repeat offenders were most likely to be female, aged < 40 years and to have first offended in regional WA. The results are discussed in relation to testing and enforcement practices.

Background

Impaired driving due to drugs other than alcohol is a growing area of concern. Unlike alcohol however, there is mixed and often contradictory evidence regarding which substances and levels thereof are most impairing and causally related to crash involvement (Palamara, Govorko, Broughton & Chambers, 2017). Notwithstanding these issues, roadside testing for illicit drugs in Australia commenced in 2004 in Victoria; Western Australia's program commenced some three years later in October 2007. Nowadays, all Australian States and Territories operate a roadside oral fluid testing program to enforce a 'zero tolerance' of the three proscribed illicit substances: Cannabis, Methamphetamine and Ecstasy. This study investigates the trend in roadside testing in Western Australia, resulting offences, and characteristics of offending drivers over the first full eight years of the program, 2008-2015.

Method

Roadside testing operations data and Section 64AC offence data for the period 2008-2015 were retrieved from Western Australian Police for analysis. Operations-level data was analysed to calculate the number and rate of roadside oral fluid tests for illicit drugs conducted per year of operation. De-identified Section 64AC offence data was analysed to determine the annual number and rate of drivers testing positive for illicit drugs in oral fluids; the particulars of the offence, and the characteristics of single and repeat offending drivers. Reoffending drivers were identified through an applied 'case number'.

Summary Results

The rate of roadside oral fluid testing (Table 1) remained relative constant during the years 2008 to 2013 then significantly increased in 2014 and 2015 relative to other years. This increase was in part due to an expansion of testing in the non-metropolitan areas of Western Australia. Calculation of the annual rate of Section 64AC offences (Table 2) showed that for each additional year of operation the number of recorded offences per 100,000 licensed drivers significantly increased by an average of 10.9 ($\beta=10.9$; $t=2.62$, $p=0.039$) and by an average of 7.1 for each 1,000 roadside oral fluid tests conducted ($\beta=7.1$; $t=9.18$, $p=0.000$). The proportion of offences related to the detection of Methylamphetamine alone significantly increased by an average of 5.8% per annum, 2008-2015. Over the period, offending drivers were most likely to be male (79%) and aged 25-39 years (57%). Multivariate Cox Proportion Hazards regression showed that repeat offenders were significantly more likely to be female (HR=1.41, 95% CI 1.14-1.73); aged under 40 years (HR1.41, 95% CI 1.02-1.95) and to have first offended in Regional WA (HR=3.39, 95% CI 2.81-4.08). Around a third of repeat offenders had committed their second offence within 68 days of their first offence.

Table 1 Annual number and rate of roadside oral fluid testing for illicit drugs; Western Australia 2008-2015

Year	Roadside Oral Fluid Tests		
	n	Rate [^]	95% Confidence Interval
2008	9,325	614.4	601.9-626.9
2009	7,496	483.1	472.1-494.0
2010	9,711	612.3	600.1-624.5
2011	7,598	469.8	459.2-480.3
2012	9,046	540.4	529.3-551.5
2013	7,265	420.4	410.7-430.1
2014	12,166	690.6	678.3-702.8
2015	27,899	1555.6	1537.3-1573.8

[^] per 100,000 Motor Vehicle Driver Licences on record in WA

Table 2. Annual frequency distribution and rates for Section 64AC traffic offences for illicit drugs; Western Australia 2008-2015

Year	n	Section 64AC Traffic Offences for Illicit Drugs			
		Rate 100,000 MDL	95% CI	Rate 1,000 ROFT	95% CI
2008	307	20.2	18.0-22.49	32.9	29.2-36.1
2009	235	15.1	13.2-17.08	31.3	27.3-35.3
2010	331	20.9	18.6-23.12	34.0	30.4-37.7
2011	355	21.9	19.7-24.23	46.7	41.8-51.5
2012	496	29.6	27.0-32.24	54.8	50.0-59.6
2013	402	23.3	21.0-25.54	55.3	49.9-60.7
2014	860	48.8	45.6-52.08	70.6	65.9-75.4
2015	2,241	125.0	119.8-130.13	80.3	77.0-83.6

MDL: Motor Vehicle Driver Licences on record in WA. ROFT: Roadside Oral Fluid Tests for Illicit Drugs

Conclusions

Western Australia's roadside oral fluid testing program for illicit drugs significantly increased over the latter years of the period 2008-2015. In these later years the rate of offending, particularly in Regional WA, and the detection of Methamphetamine also increased. These findings will be discussed in relation to changes in funding for testing and the policies and practices for roadside testing.

References

Palamara, P., Govorko, M., Broughton, M; Chambers, F. (2017). *Illicit drugs and driving: An investigation of fatalities and traffic offences in Western Australia, 2000-2015 update*. Perth, Western Australia: Curtin-Monash Accident Research Centre. RR17-001.