Drug Driving: Analysis of Current Trends in South Australia

Lisa Wundersitz [a], Arthur Konstad[b]

[a]Centre for Automotive Safety Research, The University of Adelaide, [b]Motor Accident Commission, South Australia

Abstract

Through a collaborative approach, five data sources are examined to provide an overview of current trends in drug use and drug driving over the last five years in South Australia for the three proscribed drugs: cannabis (THC), methamphetamines (MA), and ecstasy (MDMA). Patterns of drug use within the wider South Australian community are investigated using three data sources. Positive drug detection rates for roadside drug testing and the number of drug positive drivers within casualty crashes are also examined. The analysis suggests that the increasing incidence of drug driving, particularly for MA, evident in roadside drug testing and crash statistics, appears to reflect general drug use trends observed in the wider community. Overall, drug drivers are likely to be male and aged 30-39 years. Younger drivers are more likely to test positive to THC while older drivers are more likely to test positive to MA.

Background

The use of illicit drugs is widely recognised as a major community problem that can have vast social and economic impacts. Drug driving is also a problematic issue for road safety. Studies suggest the use of some illicit drugs may increase the likelihood of crash involvement, relative to drug free drivers (see Elvik, 2013 for a meta-analysis and review). Within South Australia, over the last decade the incidence of driver and rider fatalities with an illegal BAC has decreased while the incidence of those positive for illicit drugs has remained steady. However, those reporting the incidence of drug driving in Australian jurisdictions have traditionally focused on relatively small samples of fatally injured drivers, have been unable to provide a detailed understanding of the patterns of drug involvement over time and have not considered the wider context in which drug driving occurs (Palamara, 2015).

While there is a need to better understand drug driving trends in Australian jurisdictions, previous efforts have been hampered by the lack of appropriate data sets. In particular, few studies have been able to report the prevalence of drug driving among non-fatal crash involved drivers. One such study analysed drugs found in the blood of injured drivers admitted to hospital in Victoria (July to November 2009) and found methamphetamine (MA) in 3.1% of drivers, the active constituent in cannabis (THC) in 9.8% and MDMA (ecstasy) in 0.8% (Drummer et al, 2012). In the absence of such recent studies in South Australia, we need to look at various data sources to enhance our understanding of the drug driving problem.

Roadside drug testing (RDT) provides an opportunity to examine the incidence and characteristics of drug driving. In 2004, Victoria was the first Australian jurisdiction to introduce an oral fluid based RDT program. RDT programs have now been adopted in all Australian jurisdictions with South Australia implementing RDT on 1 July 2006. Consistent with other jurisdictions, South Australia Police (SAPOL) conducts random and targeted driver tests for the following (proscribed) drugs: N-methyl-alpha-methylphenethylamine (MA, methamphetamine also known as ice, speed or crystal meth), delta 9–tetrahydrocannabinol (THC, the active component of cannabis) and 3,4-methylenedioxy-N-methamphetamine (MDMA, also known as ecstasy). It is an offence for a person to drive a motor vehicle while a proscribed drug is present in their oral fluid or blood. Australia employs this zero-tolerance approach to drug driving because realistic impairment limits cannot be determined. In contrast to alcohol, for most drugs there is no reliable relationship between the

concentration of the drug and the level of impairment or crash risk (Reisfield, Goldberger, Gold & DuPont, 2012).

There is limited recent published research providing an indication of RDT detection rates in Australian jurisdictions. The New South Wales roadside drug testing program reported a detection rate of around 2% in 2010 (Rowden, Mazurski, Withaneachi & Stevens, 2011). In 2012, 5.4% of drivers were detected drug positive by roadside testing in Western Australia (Palamara, Broughton & Chambers, 2014) and 3.8% in Queensland (Davey, Armstrong & Martin, 2014). Of the drug positive drivers in Queensland, 76% tested positive for MA, 47% were positive for THC and 5.3% were positive for MDMA. Most recently, a drug positive detection rate of 5.7% was recorded in Victoria for 2014/15 (Victoria Police, 2015).

Analysis of trends in positive drug detection rates from RDT in South Australia is important given the large scale of the South Australian RDT regime (up to 50,000 screening tests are conducted each year). Previous published data concerning trends in positive drug driving detections from South Australia reported an overall detection rate of just over 6% in 2011/12 (Thompson, 2013). The author also noted a significant increase in the detection rate for MA over the previous 12 months with an associated decrease in the detection rate for THC. At the time, there was some indication of a rise in the availability of MA in Australia generally (Thompson, 2013). However, trends in drug availability and use can change rapidly and these may influence the incidence of, and trends within, drug driving. Consequently, any analysis of the incidence of drug driving should also consider recent trends in drug use within the same jurisdiction to better understand the wider context in which drug driving is occurring.

This project explores the current state of drug driving in South Australia and was undertaken by the Collaborative Data Sharing Unit (CDSU). The CDSU was an initiative that involves the collaboration and cooperation of members from the Motor Accident Commission (MAC), South Australian Police (SAPOL) and the Centre for Automotive Safety Research (CASR). The three CDSU member groups collaborated on data analysis and research, bringing together a number of data sources to obtain a more comprehensive picture of trends in drug use and drug driving in South Australia.

Through a collaborative approach, this paper provides an overview of current trends in drug use over the last five years within the wider community in South Australia for the three proscribed drugs: THC, MA, and MDMA. It also investigates the prevalence of drug driving within South Australia by examining positive drug detection rates for roadside drug testing and the number of drug positive drivers within casualty crashes. Basic demographic profiles of drivers testing positive to a roadside drug test are also explored to further inform targeted communication campaigns and enforcement strategies.

Note that this paper does not attempt to make any causal links between drug use and drug driving as it is extremely difficult to control for the many possible external factors that might influence the incidence of drug driving (e.g. economic factors, drug availability, socio economic indicators, communication campaigns etc.). Rather, this paper is concerned with describing trends and understanding drug driving as an indicator of drug use within society generally.

Method

To investigate current trends in drug use (for the three proscribed drugs) within the wider South Australian community, we used data from three data sources: 2013 National Drug Strategy Household Survey (NDSHS), the Drug Use Monitoring in Australia (DUMA) program and the University of South Australia Wastewater Analysis study. We also examined drug detection rates for roadside drug testing and the prevalence of drugs in crashes using data supplied by SAPOL.

National Drug Strategy Household Survey (NDSHS)

The NDSHS is the leading interview survey of the non-medical use of drugs in Australia. The survey, undertaken every three years, is managed by the Australian Institute of Health and Welfare (AIHW) and includes responses from a representative sample of the Australian population (n≈24,000). In the key findings from the 2016 survey, 12.6% of Australians aged 14 years or older reported using drugs (excluding pharmaceuticals) within the previous 12 months (AIHW, 2017). State level results for drug use from the 2016 survey are not yet available so this paper uses data from the 2013 survey (AIHW, 2014).

Drug Use Monitoring in Australia (DUMA) program

The DUMA program, managed by the Australian Institute of Criminology, examines drug use among police detainees (offenders). Note this is not a representative sample. The program is comprised of an interviewer-assisted self-report survey and voluntary provision of a urine sample which is subjected to urinalysis to detect licit and illicit drug use. On average, compliance rates for urine provision by detainees Australia wide are just over 70% with 73% testing positive to a drug (Coghlan, Gannoni, Goldsmid, Patterson & Willis, 2015). Results from the most recent published data (2013-14) are included in this paper.

Wastewater analysis

The most recent indicator of the prevalence of drug use in metropolitan South Australia is derived from an analysis of municipal wastewater from four treatment plants within metropolitan Adelaide (Bolivar ASR, Bolivar HSP, Christies Beach, Glenelg). Wastewater analysis is a useful technique for analysing population-scale consumption of licit and illicit drugs. Wastewater has been sampled every two months since December 2011 to analyse trends in the presence of 22 drug metabolites (Tscharke, Chen, Gerber, & White, 2016). The levels of the metabolites are then converted into dose rates per head of population. The project was commissioned by Drug and Alcohol Services South Australia (DASSA), while the analyses were performed by the University of South Australia. South Australian data from 2011 to 2016 was made available to the CDSU. Data collected from June 2016 now forms part of a new three year National Wastewater Drug Monitoring Program.

Roadside testing procedure

The roadside testing procedure to determine the presence of a proscribed drug in South Australia is a three step process primarily using oral fluid. The process includes: 1) screening test 2) oral fluid analysis or blood test and 3) laboratory confirmation. Utilising oral fluid, the equipment used to conduct a screening test is a Drugwipe Twin II. If a driver tests positive to the screening test, they are required to undergo a second stage screening test (oral fluid analysis) in either a police vehicle at the roadside or at a police station. The equipment used to conduct an oral fluid analysis is a Cozart Drug Detection System (DDS). At the conclusion of the screening process, all positive samples are sent to Forensic Science SA for confirmation of the presence of a proscribed drug. This procedure has remained unchanged over the period of analysis. In South Australia oral fluid testing for drugs is conducted after breath testing for alcohol, regardless of the outcome of the alcohol test, in contrast to some other Australian jurisdictions. Note that legislation is currently being considered to discontinue the second stage screening test by police. It is proposed that police will continue to collect an oral fluid sample after a positive saliva (screening) test at the roadside, but the oral fluid sample will be sent to Forensic Science SA for laboratory analysis and confirmation of the presence of drugs (no Cozart screening test by police). SAPOL provided roadside drug detection data for the last six years (2011-2016) including data by age (2013-2016) and gender (2013).

Drug drivers in crashes

The Toxicology section of Forensic Science SA analyse blood and tissue samples in cases of unexplained death (coronial toxicology). Additionally, pursuant to the Road Traffic Act 1961 (s47I) a medical practitioner must take a blood test from anyone aged 10 years or more and who attends or is admitted to hospital and incurred injuries as a result of a road crash unless there is a good medical reason why the blood sample should not be taken. A blood test must be taken within eight hours of attending hospital. Results from forensic blood tests are sent to SAPOL's Data Management Unit. Currently, access to this data is limited to the hospital where the patient presented, the patient and to SAPOL. SAPOL provided data for the number of casualty crash (hospital treated or admitted) involved drivers testing positive to drugs from 2010 to 2014.

Results

Prevalence of drug use in South Australia

NDSHS and DUMA

Results from the 2013 NDSHS indicated that THC was the most widely used illegal drug. The proportion of the South Australian population aged 14 years or older self-reporting THC use in the last 12 months remained steady at 11%, compared to 11.3% in 2010 (AIHW, 2014). The level of THC use in South Australia was slightly higher than the national average (10.2%). Consistent with national trends, the 20–29 year age group accounted for the largest proportion of THC users in South Australia at 22.3% and males (13.7%) were more likely to be users than females (8.3%).

The most recent published report for the national DUMA program (2013-14) indicated that THC remains the most commonly used illicit drug among Australian police detainees (Coghlan et al, 2015). The proportion of detainees testing positive for THC via urinalysis in South Australia was 43%. This was slightly lower than the national average (44%) and at a similar level to the previous survey (43%, 2011-12).

According to the 2013 NDSHS, 2.2% of South Australians reported MA use in last 12 months, a level similar to that found Australia wide (AIHW, 2014). While no significant increase in the self-reported use of MA was reported nationally, there was a change in the preferred form of drug used from powder (speed) to crystal (ice). There was also an increase in the reported frequency of use, with the proportion of users reporting daily or weekly use increasing from 9.3% in 2010 to 15.5% in 2013. The 20-29 age group had the national highest rate of reported MA use (6.7%). In line with national trends, males (2.8%) in South Australia were more likely to be users than females (1.7%).

The 2013-14 DUMA study results found 23% of detainees in South Australia tested positive to MA via urinalysis, a proportion similar to the previous survey in 2011-12 (22%) but lower than the national level (Coghlan et al, 2015). More recently, a brief report on MA use in Adelaide found that 21% of police detainees tested positive in 2015 (Kapira, Goldsmid & Gannoni, 2015). The level of MA use amongst detainees has plateaued since 2011, remaining at around 20-25%.

The 2013 NDSHS revealed that 2.8% of South Australians reported using MDMA within the last 12 months, which was slightly higher than the national average of 2.5%. The DUMA study reported that the proportion of police detainees nationwide testing positive for MDMA decreased marginally from 1.4% in 2012–13 to 1.2% in 2013–14. In contrast, the proportion of detainees in South Australia testing positive increased from 1% in 2011-12 to 3% in 2013-14.

Wastewater analysis

The results from the analysis of wastewater in metropolitan Adelaide indicate that, of all drugs analysed, THC use is the highest (see Figure 1). However, levels have remained generally stable across the years, consistent with self-report surveys. In 2016, on average, there were 1145 doses of THC each week per 1000 people. THC use appears to be relatively constant during the week but is subject to seasonal fluctuations, with use 45% lower in February and generally higher during winter, consistent with the seasonal maturation cycle (Tscharke, et al., 2016).

MA levels have more than doubled from 2012 to 2016, from 153 doses each week per 1000 people to 388 doses on average. It is currently the most commonly used stimulant. This is consistent with trends of increasing use evident in self-report surveys. In terms of weekly trends, use is slightly higher on weekends with no obvious seasonal trends.

In contrast, rates of MDMA use have slowly decreased over the period of analysis from 5.1 doses each week per 1000 people in 2012 to 2.3 doses in 2016. MDMA use peaks on weekends, consistent with most stimulants, and was approximately 90% higher in December, a time of increased social activity.

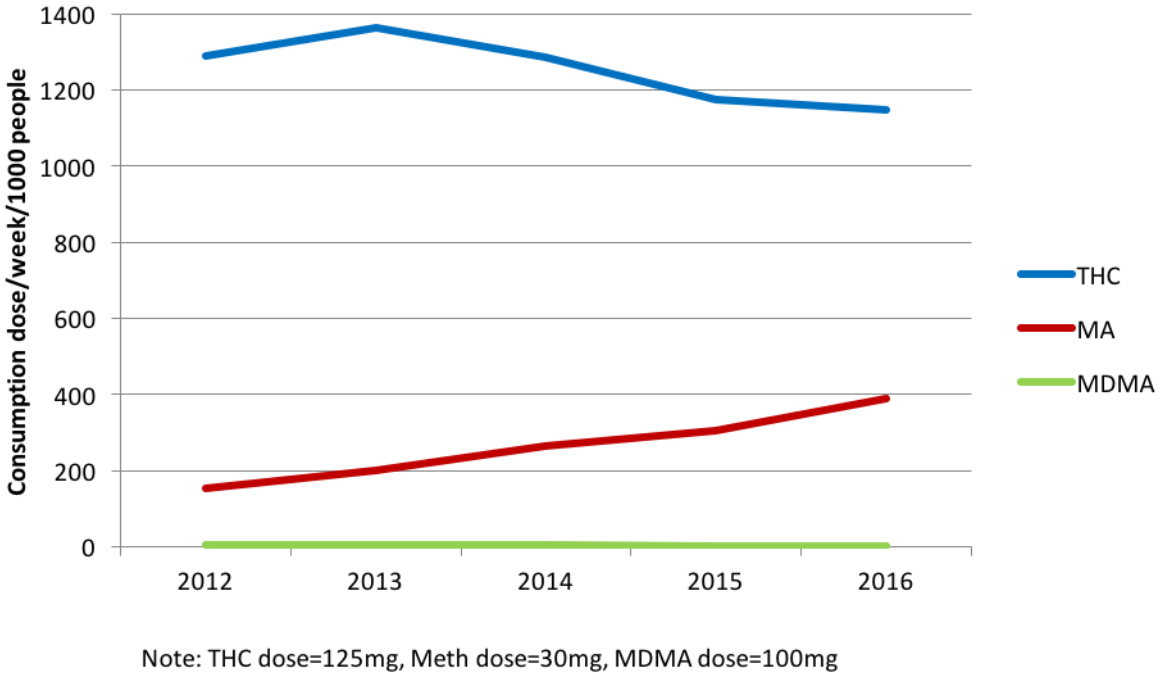

Figure 1. Levels of drug use in Adelaide from wastewater analysis, 2012-2016

Roadside drug testing

In 2016, 49,028 roadside drug screening tests (random and targeted) were conducted in South Australia (see Table 1). The level of roadside drug testing (RDT) undertaken by SAPOL, per capita, is greater than other Australian jurisdictions and is believed to be one of the highest in the world (see Thompson, 2013).

The detection rate (based on evidentiary test results) has doubled over the six year period from 5.1% in 2011 to 10.5% in 2016 suggesting that either enforcement strategies are becoming more strategic and targeted (i.e. an emphasis on specific rather than general deterrence) or the prevalence of drug driving is increasing. While SAPOL can use intelligence to target suburbs, they state that their procedures and strategies have not changed significantly during this period (Personal

communication, Peter Thompson, 2016). However, it should be noted that the screening device (Drugwipe Twin II) was improved in June 2012 with the use of a buffering solution resulting in a shorter testing time (3 mins rather than 5 mins) and improved sensitivity in detecting THC.

Table 1. RDT drug tests and detections by year, 2011-2016

Year	No. of screening tests	Drug positives	% of drivers testing positive
2011	44348	2281	5.14
2012	43755	3112	7.11
2013	51387	3695	7.19
2014	49834	4455	8.94
2015	54272	5124	9.44
2016	49028	5122	10.45

Examination of the drug type detected by RDT operations by year is provided in Table 2. Across all years, MA alone was the most common drug detected by RDT followed by the combination of MA and THC. From 2011 to 2016, the detection rate for MA alone has more than doubled from 2.3% to 5.9%.

Table 2. RDT positive drug detections by drug type, 2011-2016

	2011		2012		2013		2014		2015		2016	
Drug type	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
MA	1013	44.4	1441	46.3	1668	45.1	2201	49.4	2646	51.6	2903	56.7
MDMA	6	0.3	29	0.9	20	0.5	22	0.5	16	0.3	9	0.2
THC	563	24.7	588	18.9	779	21.1	1056	23.7	1138	22.2	910	17.8
MA & MDMA	21	0.9	62	2.0	44	1.3	58	1.3	46	0.9	24	0.5
MA & THC	659	28.9	925	29.7	1136	30.7	1071	24.0	1243	24.3	1247	24.4
MDMA & THC	3	0.1	25	0.8	21	0.6	18	0.4	11	0.2	12	0.2
All three	16	0.7	42	1.4	27	0.7	29	0.7	24	0.5	17	0.3
Total	2281	100.0	3112	100.0	3695	100.0	4455	100.0	5124	100.0	5122	100.0

Figure 2 shows the RDT driver drug detections as a percentage of all tests for individual drugs (alone or in combination with other drugs). During this six year period, on average, about three quarters of the drivers testing positive did so for MA (78%), alone or in combination, while half tested positive for THC (50%) and a very small proportion for MDMA (2.7%). The detection rate for MA has more than doubled from 3.9% in 2011 to 8.6% in 2016. A linear regression trend line was fitted and indicated a statistically significant increase over time ($p=.001$, $R^2=.949$). The detection rate for THC has also increased over the same period, but to a lesser extent than MA, from 2.5% to 4.5% which was statistically significant ($p=.007$, $R^2=.867$). In contrast, the detection rate for MDMA has remained steady and at a low level (0.1%) ($p=.695$, $R^2=.043$). Since 2014, the MA detection rate has increased more rapidly than THC.

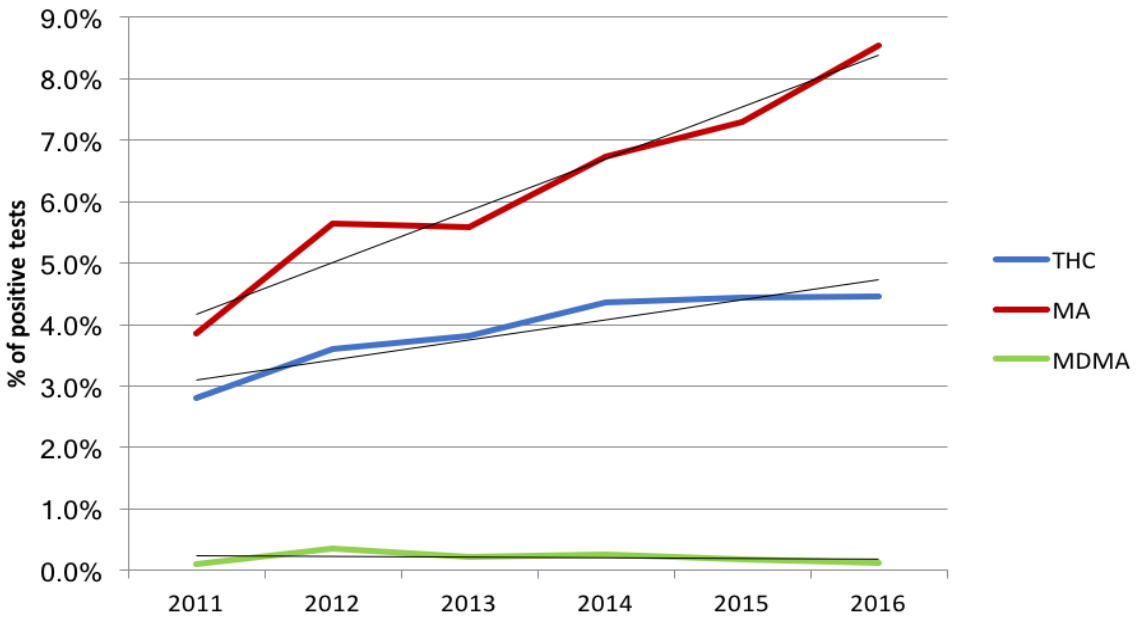

Figure 2. RDT positive drug detections as a percentage of tests by drug type with fitted linear regression trend line, 2011-2016

Examination of positive drug detections for drug types by age group for the years 2013 to 2016 combined (see Table 3) revealed that the greatest proportion of detections were in the 30-39 year age group (33%), followed by those aged 20-29 years (30%, 20-24 and 25-29 combined). Overall, drivers aged 20-29 had the greatest number of detections for THC (n=2992) while drivers aged 30-39 had the greatest number of detections for MA. Of interest, among those aged 16-19 years, drivers most frequently tested positive to THC, while in all other older age groups MA was the most common drug detected. Drivers under the age of 30 years were more commonly detected with MDMA than their older counterparts.

Table 3. RDT positive drug detections by age group and drug type, 2013-2016

	16-19		20-24		25-29		30-39		40-49		50-59		60+	
Drug type	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
MA	78	19.8	840	37.6	1768	50.3	3528	56.4	2585	53.4	737	47.2	74	46.8
MDMA	16	4.1	31	1.4	16	0.5	11	0.2	3	0.1	1	0.1	0	0.0
THC	212	53.9	724	32.4	760	21.6	962	15.4	906	18.7	460	29.5	54	34.2
MA&MDMA	3	0.8	51	2.3	55	1.6	58	0.9	22	0.5	5	0.3	0	0.0
MA&THC	69	17.6	540	24.2	858	24.4	1661	26.6	1310	27.0	355	22.7	30	19.0
MDMA&THC	8	2.0	30	1.3	25	0.7	9	0.1	2	0.0	0	0.0	0	0.0
All three	7	1.8	20	0.9	35	1.0	25	0.4	17	0.4	3	0.2	0	0.0
Total	393	100.0	2236	100.0	3517	100.0	6254	100.0	4845	100.0	1561	100.0	158	100.0
MA (total)	157	39.9	1451	64.9	2716	77.2	5272	84.3	3934	81.2	1100	70.5	104	65.8
THC (total)	296	75.3	1314	58.8	1678	47.7	2657	42.5	2235	46.1	818	52.4	84	53.2
MDMA(total)	34	8.7	132	5.9	131	3.7	103	1.6	44	0.9	9	0.6	0	0.0

Data concerning RDT drug detections by gender was only available for a single year (2013) and could not be broken down by drug type. Males (79.7%) were much more likely to be detected positive for drugs in RDT operations than females (20.3%).

Drug drivers in crashes

During the last five years (2012-2016), drug involvement in fatal crashes has generally remained steady with an average of 24% of drivers/riders killed testing positive to one or more of the

proscribed drugs (Department of Planning, Transport and Infrastructure, 2017). This equates to an average of 13 drivers/riders testing positive each year. However, these numbers are too low to draw meaningful conclusions about any trends over time.

Casualty crash data indicates that there has been a 35% increase in the total number of crash-involved drivers testing positive for at least one drug from 178 drivers in 2010 to 260 drivers in 2014. With respect to drug type (as seen in Figure 3), THC was the most common drug detected in drivers involved in a casualty crash, with the level remaining relatively stable (with some fluctuation). In contrast, the number of casualty crash involved drivers testing positive for MA has doubled between 2010 and 2014. Unfortunately, the total number of drivers tested each year could not be obtained to calculate the proportion of drivers testing positive. Note that a driver can be positive for more than one drug; that is, some of these drugs occur in combination with others.

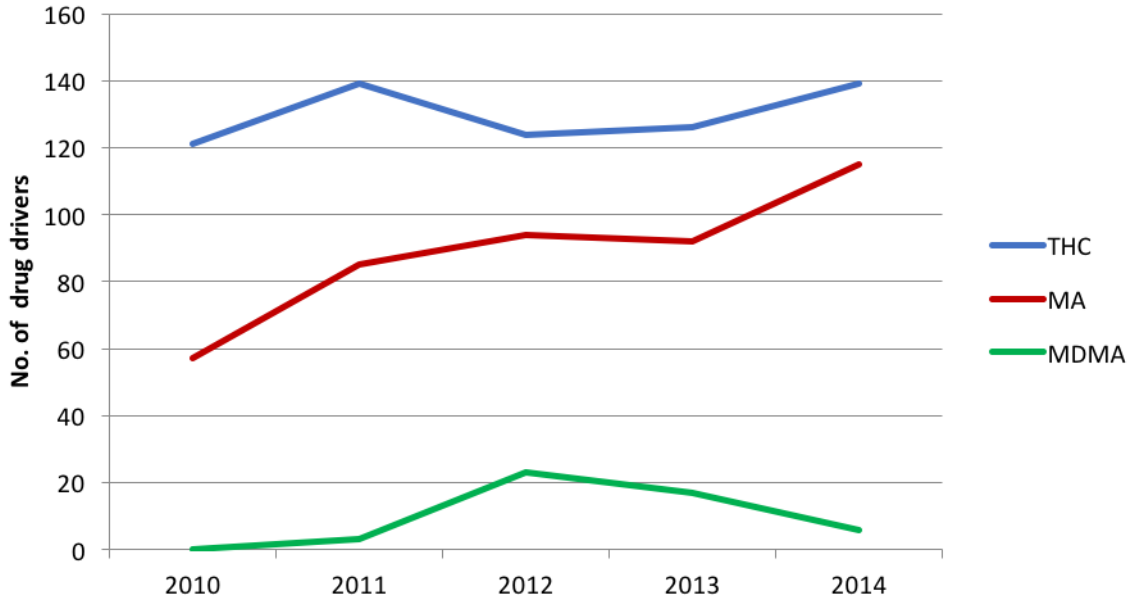

Figure 3. Number of drug drivers involved in crashes by year and drug type

Discussion

This paper provides a comprehensive overview of the most recent trends in drug use and drug driving in South Australia. The results from the roadside drug testing are of significant interest given the consistent large scale of the South Australian operations. The data sources examined in this study indicate that THC is universally the most common illicit drug used in the general population and in offender samples within South Australia. This is consistent with national trends; THC continues to dominate the Australian illicit drug market and remains the leading illicit drug in Australia in terms of seizures, arrests and self-reported use (Australian Crime Commission, 2014). The level of THC use appears to be relatively stable during recent years in South Australia.

In contrast to THC, the most recent drug use data based on wastewater analysis in metropolitan Adelaide, indicates that the rates of use of MA have more than doubled from 2012 to 2016. Levels of MDMA use remained consistently low. While there was an increase in the level of MA and levels were much higher than for MDMA, it may partially reflect the different habits of drug users. For example, it is not known from this data whether it is the same users consuming multiple doses per day on a regular basis (more typical for MA use) or more occasional users who only take a low dose (i.e. MDMA users on a weekend). Nevertheless, in comparison to other Australian jurisdictions, the level of MA use in South Australia in 2016 was above the national average while MDMA use was below the national average (Australian Criminal Intelligence Commission, 2017).

From an international perspective, MA levels in Australia in 2016 ranked second highest in relation to 18 countries in Europe where wastewater analysis is routinely conducted (Australian Criminal Intelligence Commission, 2017).

Roadside drug testing data indicated that the proportion of drivers testing positive for illicit drugs has doubled in the last six years to 10.5% in 2016, despite relatively consistent enforcement operations within South Australia. This is suggestive of a real increase in the prevalence of drug driving. In comparison to other jurisdictions, this rate appears to be relatively high (i.e. Victoria 5.7% in 2014/15, Western Australia 5.4% in 2012). This may be reflective of enforcement practices (i.e. more targeted approach in South Australia) or it may be that more recent data from other jurisdictions, of which we currently do not have access, follows the same trend in South Australia. The rate of detections for MA markedly increased in recent years in comparison to THC, possibly reflecting the increasing use of MA in the population. Of the drivers testing positive for drugs, MA (78%) was detected more frequently than THC (50%), despite THC use being considerably more prevalent in the general population. This reversal may be partly explained by the different metabolism rates of the drugs (Newmeyer et al, 2014; Huestis & Cone, 2007). MA can take 24 hours or more to metabolise while THC can take up to five hours (Thompson, 2013) therefore the window for detection of MA after consumption is much larger. A second possible reason for the reversal is the imperfect sensitivity of roadside screening equipment to THC (Woolley & Baldock, 2009) although this has improved since June 2012. Nevertheless, the proportions of MA and THC in evidentiary samples taken from RDT were consistent with those reported in Queensland for 2012 (Davey et al, 2014).

In contrast to THC and MA, there were very low levels of MDMA detected in roadside testing and for crash involved drivers. Testing of police detainees and analysis of population based wastewater in the metropolitan area also indicated low levels of MDMA use in the community. The NDSHS found self-reported levels of MDMA use were similar to that of MA in the general population. This differentiation might reflect differences between years in which the surveys were undertaken (the NDSHS data is now becoming dated), be related to different sampling methods between surveys or may be related to inaccuracies in self-reported data. It is also possible that some MDMA 'users' were not actually consuming any MDMA as "the composition and purity of tablets sold as MDMA can vary greatly and may not actually contain any MDMA at all" (Australian Crime Commission, 2014, p25).

The overall characteristics of drug drivers, as evident in the roadside testing data, indicate that they are predominantly male and aged 30-39 years. These characteristics are generally consistent with findings from the NDSHS for the general population and other drug driving samples (Davey et al, 2014; Palamara, 2015). Of interest, closer analysis of drug type by age indicated that younger drivers were more likely to test positive for THC, while older drivers were more likely to test positive for MA. These findings support the age patterns found for roadside drug testing data in Queensland (Davey et al, 2014).

During the last five years (2012-2016), an average of 24% of fatally injured drivers tested positive for drugs. These findings are consistent with Western Australia where an average of 23% of fatally injured drivers were positive for drugs from 2000 to 2012 (Palamara, 2015). However, the number of drug positive fatalities are too low to draw meaningful conclusions about any trends over time. Casualty crash data indicated that there has been a 35% increase in the total number of drivers testing positive for drugs from 2010 to 2014. THC was the most common drug detected in drivers involved in a casualty crash with the level remaining relatively stable. In contrast, the number of casualty crash involved drivers testing positive for MA doubled between 2010 and 2014, possibly reflecting the increase in the prevalence of MA observed in the community. However, there were some deficiencies in the available casualty crash data. We were unable to examine any changes over

time as a proportion of drivers tested and the number of drug drivers involved in serious injury crashes could not be determined.

Examining de-identified driver blood test results for all drivers involved in crashes and presenting at hospital would provide the clearest picture of the prevalence of drug driving in South Australian crashes. Wider access to such data has the potential to further inform drug driving enforcement strategies and interventions. Given the persisting incidence of drug driving, there is a need for further research to explore the social context and circumstances in which drug driving occurs. A more expansive, collaborative approach in which road safety stakeholders partner with other agencies such as health, social services and community groups, might lead to a better understanding of the mechanisms behind drug driving and ultimately a reduction in the incidence of drug driving.

Conclusions

The increasing incidence of driving under the influence of drugs, particularly MA, evident in roadside drug testing and crash statistics, appears to reflect general drug use trends observed in the wider community. Our findings suggest the need for a more expansive, collaborative approach in which road safety stakeholders partner with non-traditional road safety agencies to reduce the incidence of drug driving. The wider promulgation of drug related road safety data (i.e. de-identified driver blood test results) might also inform drug driving enforcement strategies and interventions.

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