Drug-related driving and roadside drug testing among a sample of people who regularly use ecstasy and/or other illicit stimulants in Brisbane/Gold Coast, 2008-2023

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Data were collected as part of the Ecstasy and Related Drugs Reporting System (EDRS). Annual interviews were conducted with people residing in Brisbane and the Gold Coast who used ecstasy and/or other illicit stimulants at least six days in past six months and were aged 18 or older.

Key Findings

Brisbane/Gold Coast EDRS

Among EDRS participants who had driven in the past 6 months, driving within 3 hours of **illicit drug use** was **frequent**, fluctuating between 44-65% across 2008-2023.

Among participants who drove in the past 6 months, driving after **cannabis use** was most common (32% in 2023): this has remained **consistent** over time.

Substantial increases in recent cocaine use **do not** appear to be reflected in increases in driving after drug use.

Roadside drug testing remains **low** (14% of drivers in 2023) in Brisbane/Gold Coast but similar to national rates; testing was **not** associated with driving after illicit drug use.

Introduction

Driving under the influence (DUI) of psychoactive substances can increase the risk of crashes and presents a road safety risk (1). A review of Queensland Coroner's findings between 2011 to 2015 found that almost half of all fatally injured drivers tested positive to alcohol or illegal drugs (2). A key focus of road safety policy is the deterrence of drug-related driving through roadside drug testing, although the evidence for this is equivocal (1,3). In Queensland, roadside drug testing commenced in December 2007, with initial testing for the presence of methylamphetamine, MDMA, and THC. More recently, in July 2023 Queensland Police Service also commenced testing drivers for cocaine. Given this change in road safety testing, we examined factors associated with reports of driving after use of illicit drugs among people in Brisbane/Gold Coast who regularly use ecstasy and/or other illicit stimulants, with a specific focus on driving after use of cocaine.

Methods

Data were collected as part of the Ecstasy and Related Drugs Reporting System (EDRS). Annual interviews were conducted between April and June each year with people residing in Brisbane and the Gold Coast in Queensland who used ecstasy and/or other illicit stimulants on a monthly or more frequent basis and were aged 18 or older.

The data used for these analyses are from interviews with people (n~100) recruited anew each year between 2008 and 2023, i.e. prior to the introduction of roadside testing for cocaine. These interviews were conducted predominately via face-to-face surveys as well as telephone surveys where COVID-19 restrictions applied. Please refer to the EDRS Background and Methods (4) document for further details. For more information regarding the demographics of the Brisbane/Gold Coast samples over time, please refer to the QLD 2023 EDRS report (5).

Participants reported on driving within 3 hours of using illicit drugs and having been roadside drug tested by police, both within the 6 months prior to interviews.

Descriptive statistics were used to investigate trends in the data over time, focusing on driving outcomes as a percentage of Brisbane/Gold Coast EDRS samples who drove in the last 6 months (self-reported driving within 3 hours of illicit drug use and roadside drug testing), as well as trends in self-reported cocaine use in the last 6 months (any and greater than weekly). Univariate logistic regressions were used to examine associations between driving after illicit drug use, demographics, frequency of ecstasy/illicit stimulant use, drug most often used, and experience of roadside drug testing. To examine variation across jurisdictions in driving after illicit drug use, multivariate logistic regression was conducted using 2023 national data. Results were considered significant at $p<0.05$.

Results

In 2023, 53% of Brisbane/Gold Coast EDRS participants who drove reported driving within 3 hours of illicit drug use in the last six months (Figure 1), and on a median of 12 days (IQR=3-90): this is higher than reported nationally (44%; 5 days (IQR=2-48)). Over time, the percentage of participants in the Brisbane/Gold Coast sample reporting driving within three hours of illicit drug use has fluctuated between 44-65% of those who had driven a vehicle in that same period.

Logistic analysis showed EDRS participants who drove in Brisbane/Gold Coast were significantly more likely to drive after using illicit drugs than those in Sydney (AOR 0.42, CI$_{95}$ 0.22-0.80) and Melbourne (AOR 0.41, CI$_{95}$ 0.21-0.78), after accounting for gender, sexual identity and the number of days using ecstasy and related drugs over the past month.

Cocaine use

Reports of recent (last 6-month) cocaine use have increased in Brisbane/Gold Coast participants (95% in 2023; 30% in 2008) but regular (weekly or more) use remains relatively low (6%; n≤5 in 2008). Similar trends have been observed among those who reported driving a vehicle in the past six months, with 85% of drivers reporting recent cocaine use in 2023 (37% in 2008). This increase in reported recent cocaine use does not seem to be reflected in rates of driving after any illicit drug use, or after cocaine specifically (Figure 1). In 2023, driving within 3 hours of cocaine use was reported by 17% of drivers (18% of drivers who had used cocaine in the last 6 months). Roadside drug testing was reported by 14% of drivers (13% of drivers who used cocaine in the last 6 months).

Figure 1. Drug-driving, roadside drug testing and cocaine use among drivers, EDRS Brisbane/Gold Coast, 2008-2023
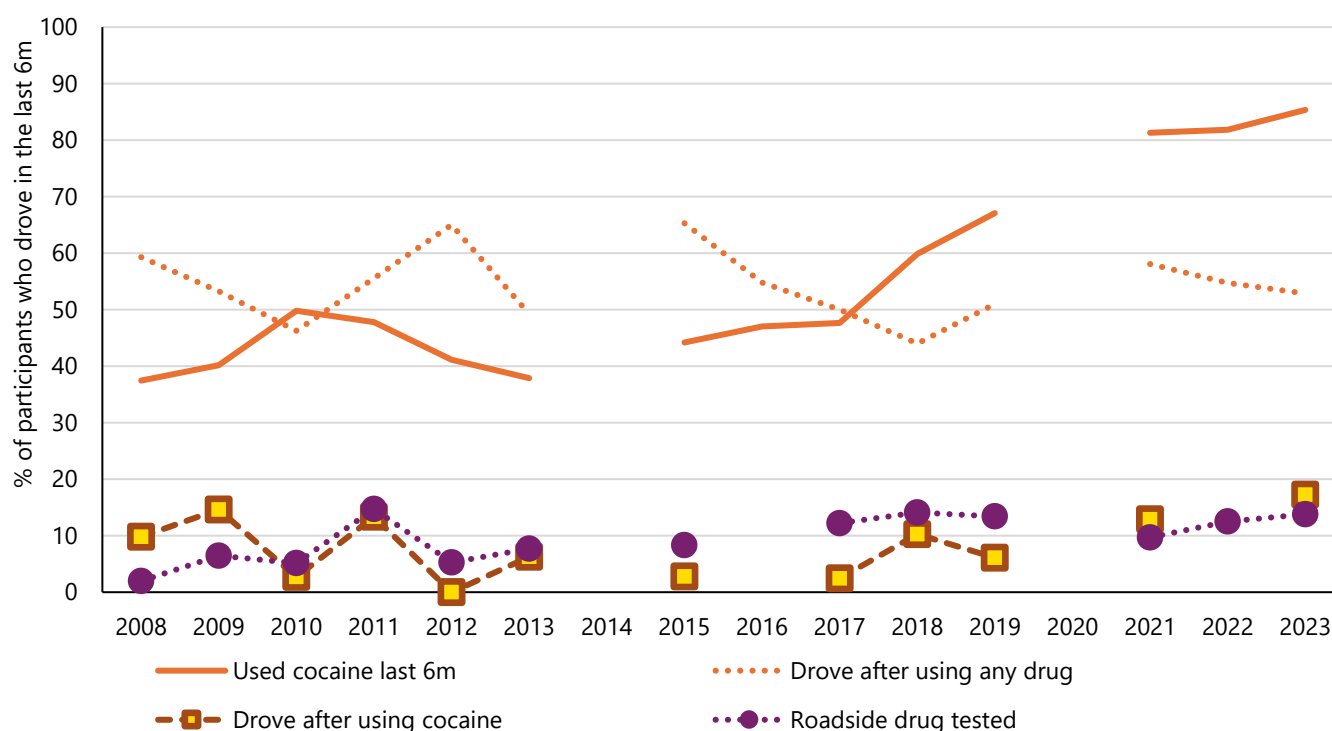
Note: Limited driving data collected 2014, 2016, 2020, 2022

MOST COMMONLY REPORTED SUBSTANCES USED WITHIN 3 HOURS OF DRIVING

Among 2023 Brisbane/Gold Coast EDRS participants who drove in the last 6 months, driving after cannabis use (32%) was most commonly reported, followed by cocaine (17%), methamphetamine (15%) and MDMA (15%).

Those who nominated cannabis as the drug used most often in the last month were more likely to report driving within 3 hours of illicit drug use, while those who nominated MDMA were less likely (Table 1).

Reports of driving within 3 hours of using LSD, psilocybin, ketamine and other drugs were low (n≤5).

Table 1. Factors associated with driving within 3 hours of illicit drug use among Brisbane/Gold Coast EDRS participants, 2023

	Drove within 3 hours of illicit drug use		OR	CI₉₅
	No (n=41)	Yes (n=46)		
Male %	59%	63%	1.21	0.51-2.86
Heterosexual %	70%	74%	1.21	0.47-3.12
Employed full-time %	46%	33%	0.56	0.23-1.34
Post school qualification %	68%	67%	1.04	0.42-2.57
Current student %	44%	26%	2.21	0.90-5.46
Age (years)†	24 (22-33)	26.5 (21-38)	1.02	0.97-1.07
Days used ERDs$^\yen$ last month †	2 (1-3)	3 (2-4)	1.23	0.89-1.71
Cocaine use last 6 months %	95%	98%	2.30	0.20-26.44
DMO$^\delta$ cannabis %	17%	44%	3.74*	1.37-10.16
DMO$^\delta$ cocaine %	20%	13%	0.62	0.20-1.96
DMO$^\delta$ MDMA %	27%	9%	0.26*	0.08-0.89
DMO$^\delta$ methamphetamine %	2%	13%	6.0	0.69-52.13
Drug tested last 6 months %	12%	15%	1.62	0.44-5.98

Note. $^\yen$ERDs = ecstasy and related drugs. † median value (inter-quartile range). $^\delta$DMO = drug used most often last month; reference category is 'any other drug' nominated. OR = Odds Ratio (unadjusted): CI₉₅ = 95% Confidence Interval; * indicates a significant association with driving within 3 hours of illicit drug use ($p<0.05$).

ROADSIDE DRUG TESTING

The percentage of drivers reporting roadside drug testing in the last 6 months has fluctuated since 2008, although has consistently remained below 20%. In 2023, 14% of Brisbane/Gold Coast participants who drove reported having received a roadside drug test by police.

Testing was similar (15%) among those who reported driving after using illicit drugs; testing was not associated with drug-driving in the logistic regression (Table 1). These are similar to 2023 national figures for testing (14% of drivers and 15% of drug-drivers).

Discussion

Amongst Brisbane/Gold Coast EDRS 2023 participants, the most commonly reported substance used before driving was cannabis, followed by cocaine, methamphetamine and MDMA/ecstasy. These findings align with study of roadside drug testing results in QLD between 2015-2020, which showed that methamphetamine was the most commonly detected drug in isolation, followed by THC, and less commonly MDMA (6).

EDRS participants who reported cannabis as their drug used most often last month were more likely to report drug driving, which aligns with research which suggests that people who engage in drug driving are more likely to be young males who drive after using cannabis (1). We did not however find links in this sample to gender or other demographic factors. Neither recent cocaine use or cocaine as the drug used most often were associated with either drug driving or roadside drug testing, suggesting that reported increases in cocaine use may not be reflected in future roadside drug testing that includes cocaine.

The high overall percentage of drivers reporting driving within 3 hours of illicit substance use and the lack of association with roadside drug testing suggest that testing may have been of limited deterrence in this sample and awareness of the risks of impairment and harm to others should be revisited in awareness campaigns. Regular and rapid data collection that allows monitoring of emerging practices around substance use can be helpful to inform targeting of safety responses where harms to others may be indicated.

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