



Ecstasy/MDMA use and markets in Australia, 2013-2022

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Data on ecstasy/MDMA use and markets for the period 2013-2022 come from several data sources, comprising: National Drug Strategy Household Survey, the National Wastewater Drug Monitoring Program, the Ecstasy and Related Drugs Reporting System annual interviews with people who regularly use ecstasy and/or other illicit stimulants, national police drug seizure data, and the CanTEST fixed-site drug checking service chemical analysis results.

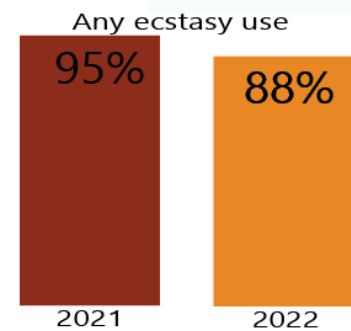
Key Findings



The percentage of Australians aged 14+ reporting past 12-month ecstasy used increased in most recent years of data (from 2016 to 2019).



National wastewater data showed a decline in MDMA consumption from 2020, with a slight increase from April 2022.



The percentage of people who regularly use ecstasy and/or other illicit stimulants reporting past 6-month ecstasy use has declined from 2020.



Median days of ecstasy use in the past six months halved in 2021 and 2022 relative to previous years among people who regularly use ecstasy and/or other illicit stimulants.



Perceived availability of ecstasy decreased from 2020 among people who regularly use ecstasy and/or other illicit stimulants, while price increased from 2021.



Purity of MDMA samples tested through CanTEST, a drug checking service, has been variable.

Introduction

Ecstasy is one of the more commonly used illicit substances in Australia, particularly among young adults (1). Indeed, the most recent National Drug Strategy Household Survey (2019) found that ecstasy was the third most commonly used illicit drug in Australia after cannabis and cocaine, with use reported by 3% of Australians aged 14 and older in the past 12 months (1). According to the 2019 Global Drug Survey, Australia has the second highest rate of MDMA use in the world, after the Netherlands (2).

The most common chemical compound in 'ecstasy' is 3,4-methylenedioxymethamphetamine (MDMA), although other substances can be present (e.g., methamphetamine, caffeine). MDMA markets have fluctuated over the past two decades in Australia and internationally. A shortage of safrole, a key ingredient in the synthesis of MDMA, led to a decrease in the availability and use of MDMA from 2008 until 2010 (3). Other important changes over the past decade or so since include: i) diversification in the forms of MDMA used (e.g., capsules, crystal), ii) reports of higher MDMA content products and high-risk adulterants; iii) more complex market with emergence of new psychoactive substance, iii) greater flexibility and reach in manufacture with globalisation and technological advances, and iv) greater availability of online platforms for sale and exchange of information about MDMA (4). More recently, the COVID-19 pandemic had a significant impact on the MDMA market, with changes in demand and supply chains leading to shifts in drug prices, availability and patterns of use (3,5).

The aim of this bulletin is to consolidate various data sources on MDMA consumption and markets in Australia over the last decade. It should be noted that some data sources do not encompass the entire 10-year timeframe and all trends are merely described without any statistical analysis unless specified.

Methods

This bulletin draws together data from 2013-2022 on 'ecstasy' (MDMA) use and markets from sources held by Drug Trends and from publicly reported data by other agencies. We have focused on inclusion of national data, with the exception of data from CanTEST in Canberra (Table 1).

Table 1. Data sources

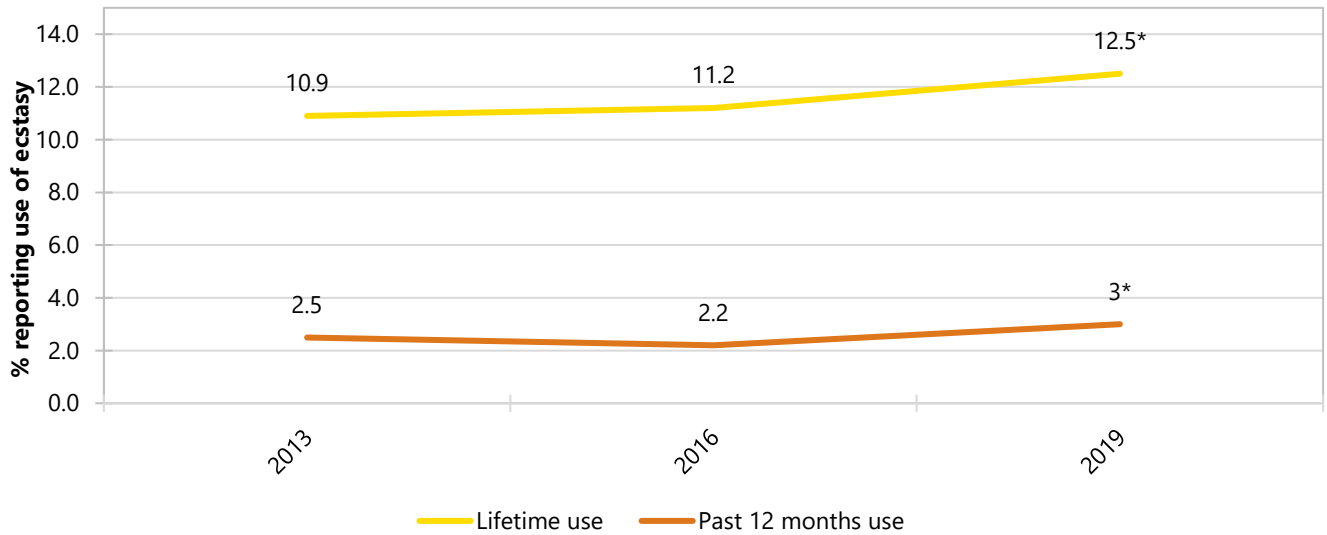
Name	Description	Year range	Geographic coverage	Indicators~	Reference
Use					
<i>National Drug Strategy Household Survey (NDSHS)</i>	Triennial household survey collecting information on drug and alcohol use in the Australian population over 14 years of age	2013, 2016, 2019 (Data from 2022 are delayed and will be released in 2024)	National	Percentage reporting lifetime and past year use of any ecstasy/MDMA	Australian Institute of Health and Welfare. National Drug Strategy Household Survey 2019. Drug Statistics series no. 32. PHE 270. Canberra AIHW. 2020.
<i>National Wastewater Drug Monitoring Program (NWDMP)</i>	Routinely measures the presence of 12 different substances in wastewater, and provides information about trends in drug consumption	August 2016-December 2022	National 55% coverage (at December 2022)	Doses of MDMA per 1,000 people per day	Australian Criminal Intelligence Commission, National wastewater drug monitoring program report 19, Commonwealth of Australia, Canberra. 2023.
<i>Ecstasy and Related Drugs Reporting System (EDRS)</i>	The EDRS comprises annual interviews across Australian capital cities with non-representative sentinel samples of people who have regularly use ecstasy and other illicit or non-prescribed stimulants	2013-2022	All Australian capital cities	Percentage reporting past six month use of ecstasy (by form) and median days used in the past six months	Sutherland R, Karlsson, A, King C, Jones F, Uporova J, Lenton S, et al. Australian Drug Trends 2022: Key Findings from the National Ecstasy and Related Drugs Reporting System (EDRS) Interviews. Sydney: National Drug and Alcohol Research Centre, UNSW Sydney. 2022.
Markets					
<i>Ecstasy and Related Drugs Reporting System (EDRS)</i>	As above	2014-2022 [^]	As above	Price last paid, perceived purity, perceived availability for ecstasy	Sutherland R, Karlsson, A, King C, Jones F, Uporova J, Lenton S, et al. Australian Drug Trends 2022: Key Findings from the National Ecstasy and Related Drugs Reporting System (EDRS) Interviews. Sydney: National Drug and Alcohol Research Centre, UNSW Sydney. 2022.
<i>National police seizures</i>	National seizures by federal police and by state police	2014/15 – 2019/20	National	Number and weight of police MDMA seizures	Australian Criminal Intelligence Commission, Illicit Drug Data Report 2019-2020. Commonwealth of Australia, Canberra. 2021.
<i>CanTEST drug checking</i>	Findings from chemical analysis of drug samples submitted to CanTEST, Australia's first fixed site drug checking service in Australia	July 2022-April 2023	Canberra, ACT	Number of samples ecstasy expected; number of samples where MDMA identified	CanTEST. Monthly reports. Available from: https://directionshealth.com/cantest/

Note. ~ We have adopted the terminology used within the given data source as to 'ecstasy' versus 'MDMA'. [^] Market indicators for forms of MDMA were disaggregated from 2014 onwards, noting that pills and capsules were captured combined from 2014-2016. Data from the Australian Secondary Schools Students' Alcohol and Drug (ASSAD) Survey are not included but findings to the most recent year available at time of publication (2017) are available [here](#).

Results

Figure 1. Lifetime and past 12 month use nationally (NDSHS)

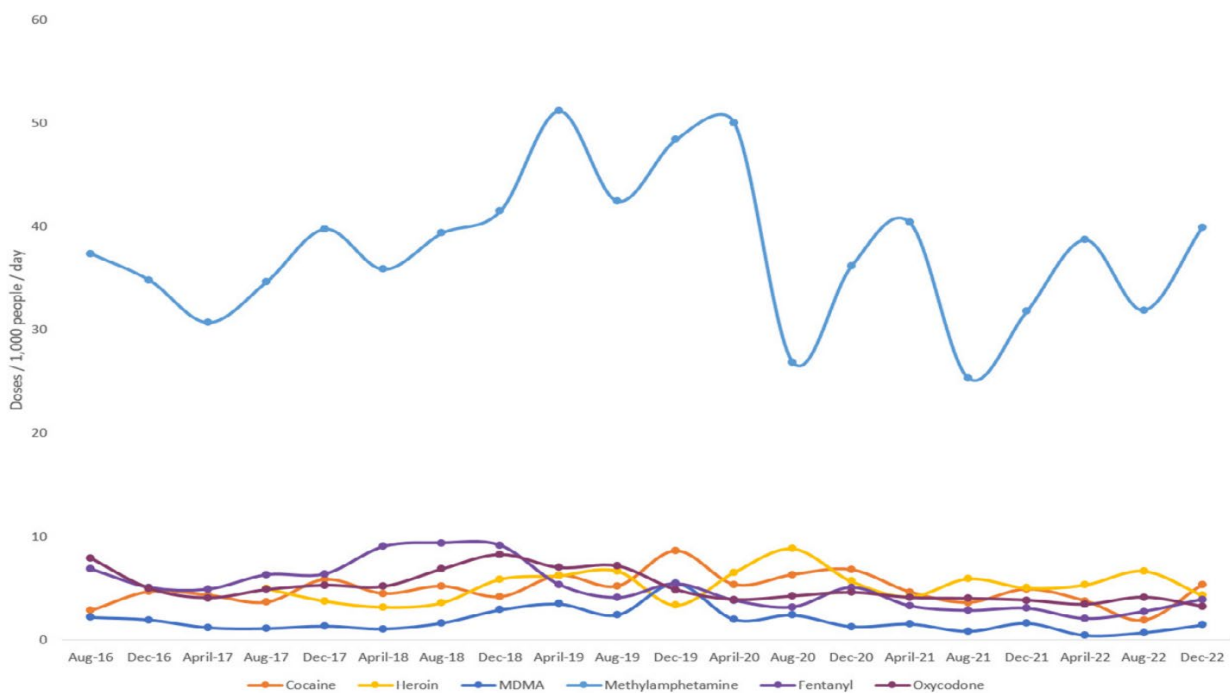
Data from the National Drug Strategy Household Survey (NDSHS) suggests that lifetime and past 12-month ecstasy use among those aged 14 and older remained stable between 2013 and 2016, then increased in 2019.



Note. Data source: NDSHS. Y axis reduced to 15% to improve visibility of trends. * denotes statistical significant change ($p < .050$) relative to previous period.

Figure 2. National average drug consumption of MDMA in wastewater (NWDMP)

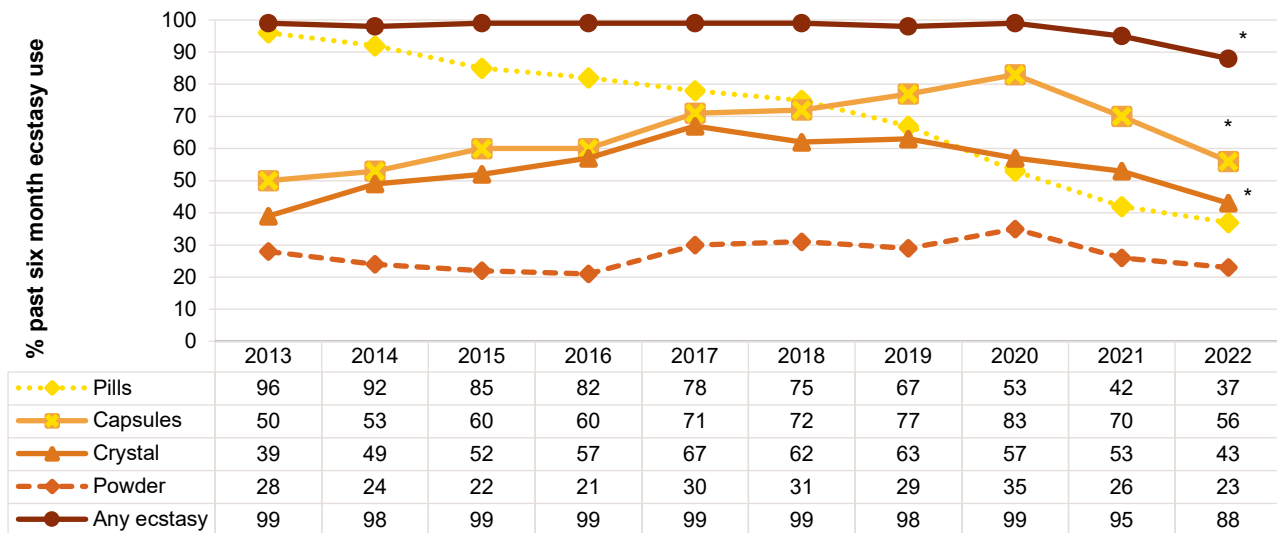
Data from the National Wastewater Drug Monitoring Program shows a decline in consumption from 2020 through to April 2022, rising slightly until the end of monitoring in December 2022 (see dark blue line bottom of Figure 2).



Note. Data source: National Wastewater Drug Monitoring Program. Image reproduced from Australian Criminal Intelligence Commission, National Wastewater Drug Monitoring Program - Report 19 (2023).

Figure 3. Past six month use of ecstasy among those who regularly use ecstasy and/or other illicit stimulants nationally (EDRS)

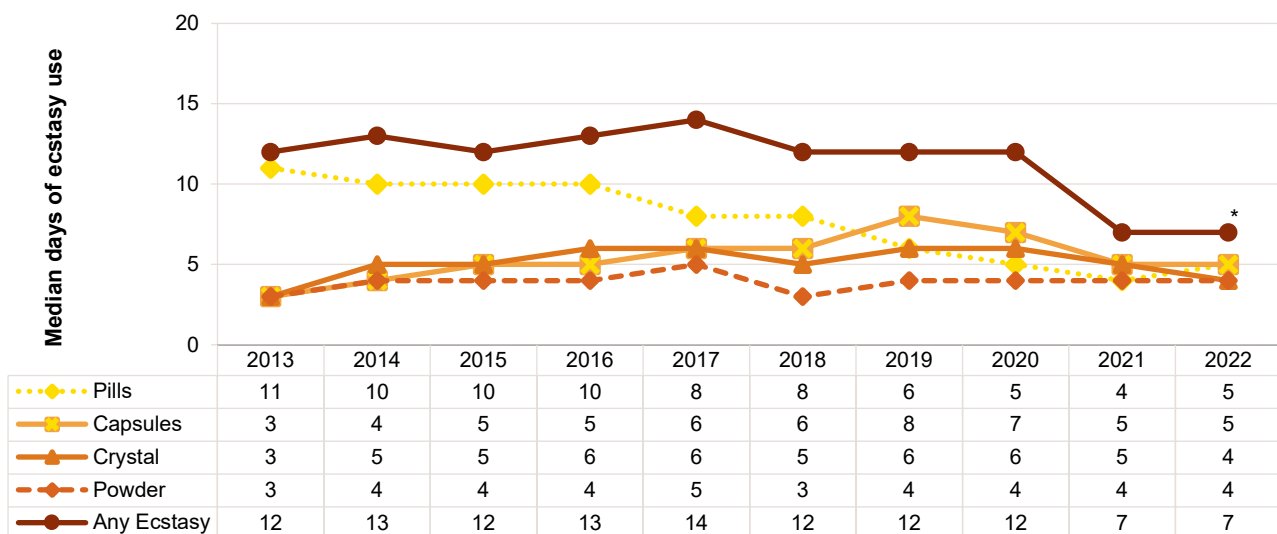
Data from the Ecstasy and Related Drugs Reporting System (EDRS) cross-sectional interviews with people who regularly use ecstasy and/or other illicit stimulants shows a small decline in the percentage reporting any past six-month ecstasy use since 2020. Past six month use of pills has declined over time, from nearly all participants reporting use in 2013 to only two-in-five reporting use in 2022. By contrast, use of capsule and the crystal forms increased until recent years.



Note. Data source: EDRS. / Not asked. Statistical significance for 2021 versus 2022 presented in figure; * $p < 0.050$

Figure 4. Median days of ecstasy use in the past six months among people who regularly use ecstasy and/or other illicit stimulants nationally (EDRS)

Data from the Ecstasy and Related Drugs Reporting System (EDRS) shows that median days of ecstasy use in the past six months, amongst those who reported recent use, nearly halved in 2021 and 2022 as compared to previous years.



Note. Data source: EDRS. / Not asked. Y axis reduced to 20 days to improve visibility of trends. Statistical significance for 2021 versus 2022 presented in figure; * $p < 0.050$.

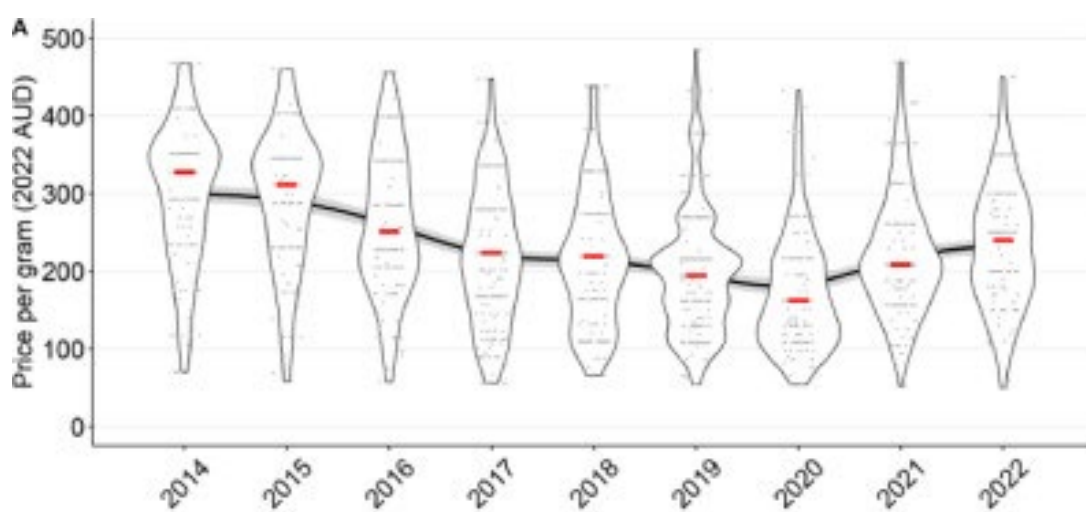
Figure 5. Ecstasy crystal market trends reported by people who regularly use ecstasy and/or other illicit stimulants nationally (EDRS)

Analyses of EDRS data published elsewhere by Price et al (2023) show that the inflation-adjusted median reported price per gram of ecstasy crystal steadily decreased from 2014, staying stable in 2020 and then increasing in 2021 and 2022 (Figure 5A).

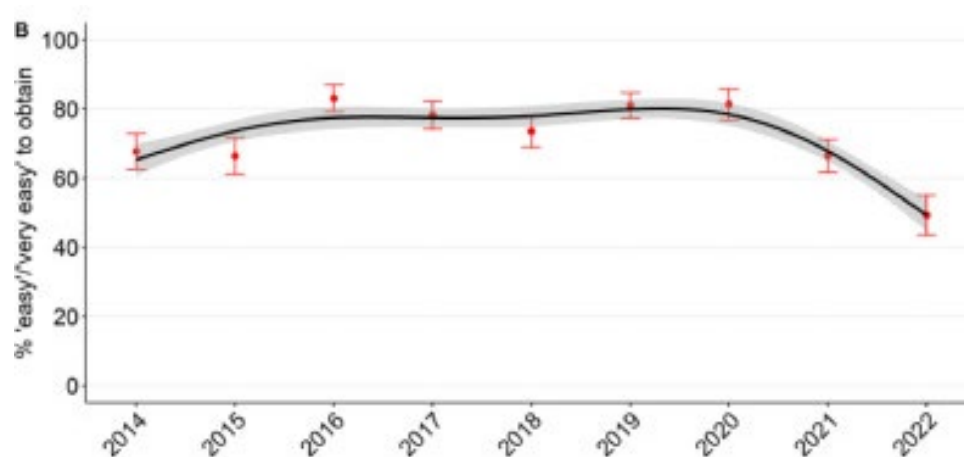
The perceived availability of ecstasy crystal increased with some fluctuation from 2014 to 2020, then decreased in 2021 and 2022 (Figure 5B). Similarly, perceived purity of ecstasy crystal declined, but from 2020 onwards.

Similar trends were observed for ecstasy capsule and pill forms (see Price et al 2023 for these analyses).

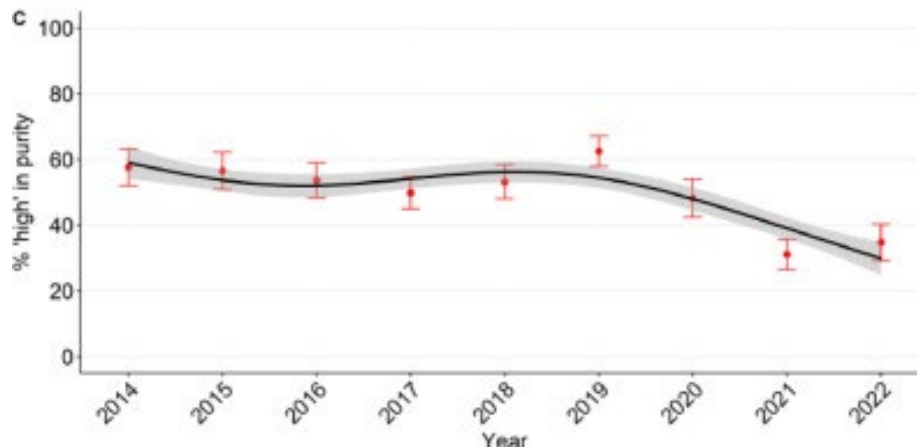
A) Last reported price (inflation-adjusted) per gram of ecstasy crystal



B) Percent reporting perceived availability of ecstasy crystal as 'easy' or 'very easy'



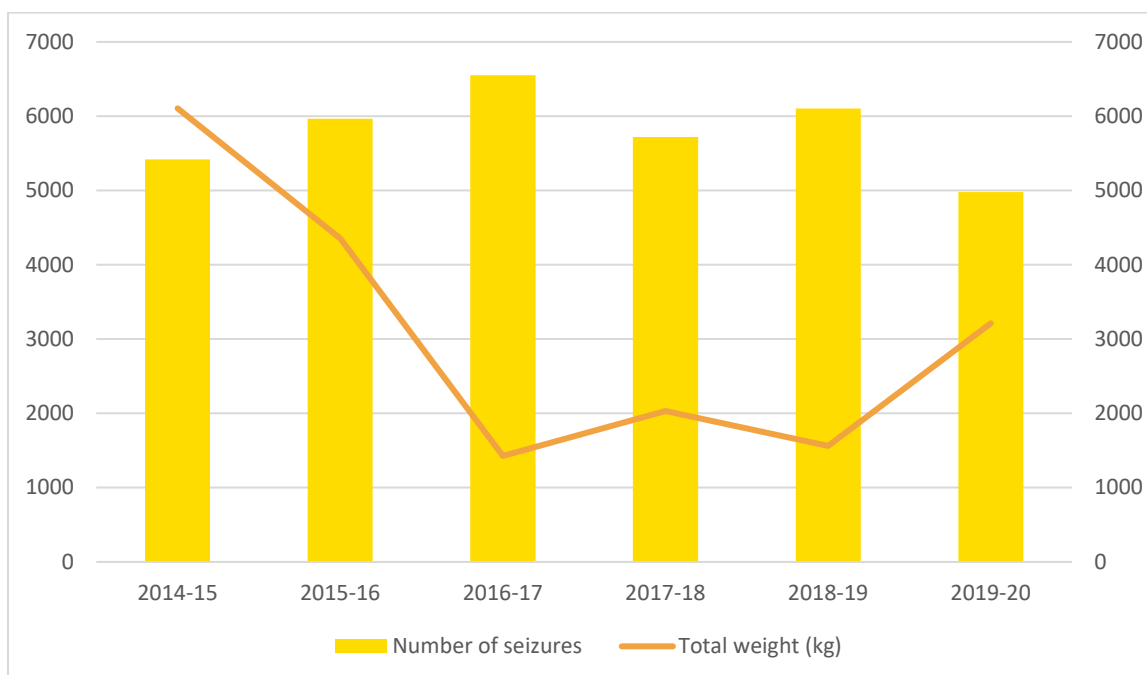
C) Percent reporting perceived purity as 'high'



Note. Data source: EDRS. Image reproduced from Price O, Man N, Sutherland R, Bruno R, Dietze P, Salom C, et al. Disruption to Australian heroin, methamphetamine, cocaine and ecstasy markets with the COVID-19 pandemic and associated restrictions. *International Journal of Drug Policy*. 2023. A) The distribution of individual price observations is summarised as a smoothed density plot; the grey dots represent individual observations; the red line indicates the median price. B & C) The dots represent the mean percent and bars represent 95% confidence intervals. See Price et al (2023) for results for other forms.

Figure 6. National number of MDMA seizures and weight (IDDR)

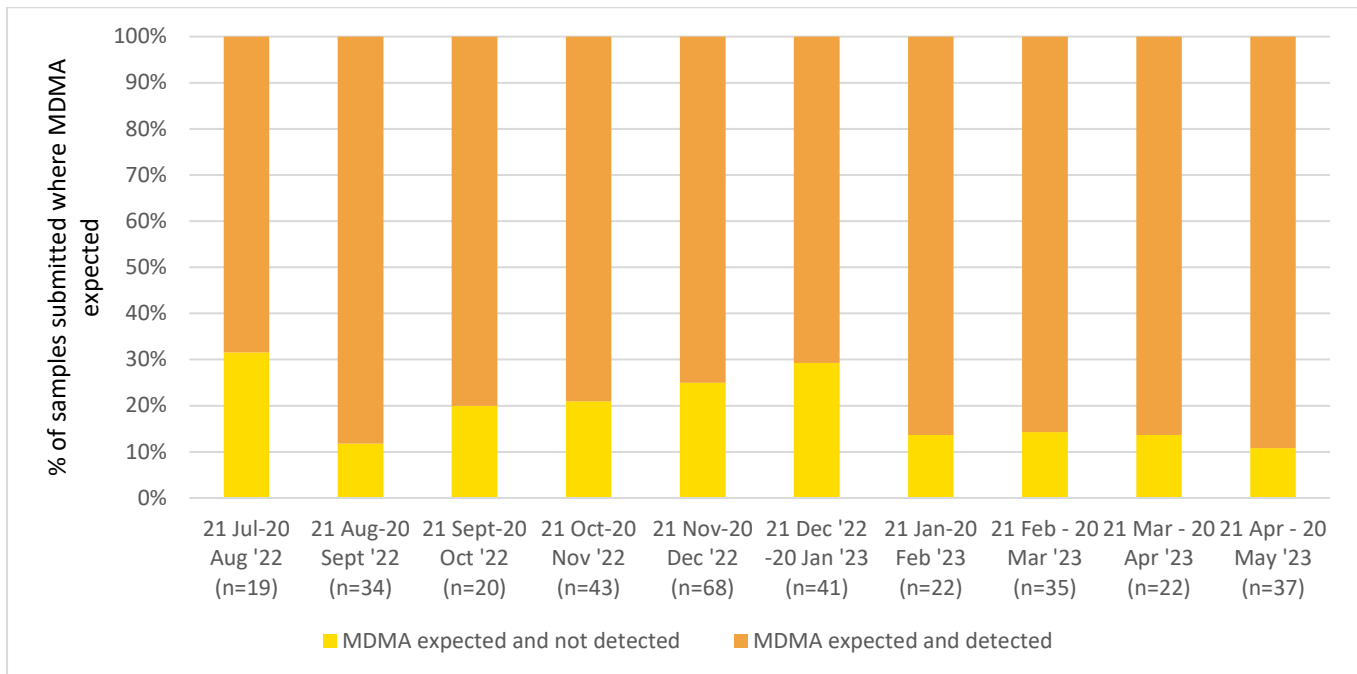
Data from the Illicit Drug Data Report shows that the number of MDMA seizures has fluctuated over time, while weight of seizures was lower in 2016/2017 relative to previous years.



Note. Illicit Drug Data Report 2014/15-2019/20.

Figure 7. MDMA fixed-site drug checking services results from Canberra, ACT (CanTEST)

Data from Australia's first fixed-site drug checking service, CanTEST, in Canberra, ACT, shows that the majority of samples submitted since the service opened in July 2022 that were expected to be MDMA were found to contain MDMA (80% over total period). Purity of MDMA samples submitted and tested have been variable, with pills typically being of lowest purity. A range of new psychoactive substances (e.g., dipentylone, 2F-NENDCK) and other substances (e.g., sucrose, caffeine) have been detected where MDMA was expected but not found.



Note. CanTEST data. Findings relate only to whether MDMA was detected for substances expected to be MDMA; other substances may have been detected in either scenario but are not depicted in the figure. See monthly summaries published by the service [here](#) for further information.

Discussion

This bulletin provides an overview of trends in ecstasy/MDMA use and markets in Australia over the past decade. While household data suggest an increase in ecstasy use in the 2010s, population-level wastewater data and sentinel surveys of people who regularly use ecstasy and other illicit stimulants collected from 2020 suggest a more recent decline in consumption at least until mid-2022. It is difficult to disentangle whether this is a result of fewer people using ecstasy, reduced frequency of use amongst those who report use, or reduced MDMA purity, although data from the EDRS lend support to the first two hypotheses. It will be important to study findings from the 2022 National Drug Strategy Household Survey (collected between July 2022 and June 2023) once released alongside these sources to try and elucidate any changes in consumption patterns.

These findings of potential reductions in use are not surprising given evidence of disruption to ecstasy markets with the COVID-19 pandemic and associated restrictions. Analyses of EDRS market indicators suggest that substantive impacts on price, perceived purity and perceived availability took some time to emerge, potentially due to reduced demand for these drugs during lockdown. However, data available to date suggest ongoing elevated price and reduced perceived availability and purity in 2022. Indeed, drug checking data collected through CanTEST over 2022-23 suggest variable MDMA purity following chemical analysis. With COVID-19 public health restrictions lifted in Australia, and nightlife and entertainment events and precincts becoming revitalised, there is conjecture as to whether demand and supply will increase. Potential indications of issues around supply immediately prior to COVID-19, including reports of international organised crime

groups moving from producing MDMA to methamphetamine (ACIC 2022), may mean supply continues to be impacted. In saying this, there is some indication of an increase in MDMA consumption in the wastewater data from April 2022 through to December 2022, potentially reflecting early signs of possible market recovery.

We acknowledge there are limitations to the individual data collections (see Man et al 2022 for an overview). It is also important to caveat that findings presented here are based on descriptive study of data rather than sophisticated time series analyses (with the exception of EDRS findings from Price et al 2023). Overall though, these findings speak to the importance of continued monitoring and triangulation of these diverse data sources to understand whether ecstasy use and markets continue to be disrupted or recover.

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