



# Research in Practice

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## Patterns of mephedrone, GHB, Ketamine and Rohypnol use among police detainees: Findings from the DUMA program

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### Key findings

- In recognition of the need for ongoing monitoring of new or less common drug types, the Australian Institute of Criminology (AIC), as part of the Drug Use Monitoring in Australia (DUMA) program, interviewed 824 police detainees about their knowledge of and experience with mephedrone, GHB, Ketamine and Rohypnol.
- Mephedrone was the least known of the four drugs, with only 221 detainees (27%) reporting knowledge of the drug. Only six detainees (<1%) had used the drug in the previous 12 months, while 30 detainees (4%) knew of someone dealing mephedrone at the time they were interviewed. Detainees in East Perth were the most likely to have reported knowledge of mephedrone.
- GHB was known to more than half of all detainees interviewed (53%) and had been used in the 12 months prior to interview by 23 detainees (3%). More detainees had been offered GHB (8%), or knew of a dealer selling GHB (6%), than any of the other four drug types.
- Ketamine was known to 43 percent of detainees and had been used by three percent. The prevalence of Ketamine use was equal with GHB, however, knowledge of a current Ketamine dealer was lower (4%).
- Rohypnol was the most widely known of the four drug types (59%), however, use of the drug in the 12 months prior to interview was lower than for GHB or Ketamine (1%).

In Australia, there is a large body of research dedicated to examining the prevalence and harms associated with common illicit substances such as cannabis, opiates and amphetamines (AIHW 2008, 2007a, 2007b; Proudfoot et al. 2006; Stafford & Burns 2010). However, the Australian Institute of Health and Welfare's *National Drug Strategy Household Survey* is Australia's only national population survey with the capacity to provide population estimates for a range of drug types. Discrete data collection programs such as the AIC's DUMA program and the National Drug and Alcohol Research Centre's *Illicit Drug Reporting System* provide supplementary data from key sentinel populations who are likely to be over-represented as drug users but under-represented in national survey samples.

Despite this extensive coverage of some of the most widely used illicit substances, much less is known about newly emerging or less common drugs, such as mephedrone, GHB, Ketamine and Rohypnol. Where information is available, such as that found in the

*National Drug Strategy Household Survey*, there are concerns that these surveys are likely to under-sample key user groups and therefore underestimate prevalence rates. For the health and drug treatment sector, the absence of recent data on the prevalence and harms associated with these drugs makes responding to those who are using them difficult. For law enforcement agencies, not knowing where the drug is most likely to be used, or how easily available it is, limits their ability to develop targeted interventions or market interdiction/disruption efforts.

Perhaps the most recent example of this difficulty involved mephedrone (4-methylmethcathinone), which became a significant concern in 2010 following several media reports detailing its increased availability on the entertainment scene. Developed originally as a plant fertiliser, mephedrone became a significant public health and law enforcement concern after a number of reports about its apparent link to self-mutilation and, in some overseas cases, death (Fleming 2010).

Since then, there has been only one detailed study of mephedrone use in Australia, conducted with a sample of 693 regular ecstasy users from all state and territory jurisdictions who participated as part of the Ecstasy and Related Drugs Reporting System, an annual study undertaken to monitor ecstasy and related drug markets across Australia (Matthews & Bruno 2010). In that study, the authors examined lifetime and recent use of mephedrone, concluding that 21 percent of the sample reported having used mephedrone at least once, while 17 percent described using mephedrone in the past six months. Yet, as with all new and emerging drugs, quality information about the availability and source of mephedrone, as well as its potentially lethal psychotropic effects, remains largely unknown. This consequently limits efforts to address the emerging community and public health concerns.

Recognising the need for more comprehensive information about newly emerging or less common drug types, the AIC developed a series of new questions that were later included as an addendum to its DUMA program.

## About the study

Using data collected from a sample of 824 police detainees, the present study examined the prevalence of four separate drug types—mephedrone, Rohypnol, GHB and Ketamine—that are not included in the regular DUMA core questionnaire. Specifically, data were collected from alleged offenders who were detained and interviewed (but not yet convicted) as part of the DUMA program during the third quarter of 2010 (August–October) at one of the eight data collection sites (Bankstown, Kings Cross, Brisbane, Southport, East Perth, Adelaide, Footscray and Darwin). For each of the four drug types, detainees were asked the following questions:

- Have you ever heard of a drug called [.....]?

- Has anyone offered to sell or give you [.....] in the last 12 months?
- Do you know of anyone selling [.....] at the moment?
- Have you used [.....] in the last 12 months?

There are a number of limitations that should be considered when interpreting these results. In particular, it is important to note that DUMA is a voluntary self-report survey of alleged offenders detained by the police and as with all self-report surveys, the quality of the data hinges on the truthfulness and reliability of the respondents. Please see *Drug Use Monitoring in Australia: 2008 Annual Report on Drug Use Among Police Detainees* (Gaffney et al. 2010) for further methodological information about the DUMA program.

## Results

### Mephedrone

Mephedrone is a synthetic drug with both stimulant and hallucinogenic properties (Matthews & Bruno 2010). Common psychological effects include euphoria, increased energy levels, anxiety and in some cases, visual hallucinations. Physical effects include blurred vision, hot flushes, erratic heart rate and skin rash (Australian Drug Foundation 2010). Mephedrone is also known by a number of alternative street names, including *meow meow*, *4-MMC*, *drone* and *MCAT*.

Of the 824 detainees included in this study, 221 (27%) had heard of the drug mephedrone (see Table 1). This included those detainees who knew the drug by one of its alternative street names. Of those who had heard of mephedrone:

- fifteen percent had been offered it, for sale or otherwise, on at least one occasion in the 12 months prior to interview (4% of all detainees interviewed);

### A snapshot of the DUMA sample, Quarter 3 2010

- In total, 939 police detainees were interviewed in the third quarter of 2010 when the new drugs addendum was administered. Of these, 824 (88%) police detainees responded to this addendum.
- The average age of detainees was 32 years and 82% were male.
- Approximately half of all detainees reported living in premises that they either privately owned or rented in the 30 days prior to being detained. Thirty-nine percent of detainees reported living in someone else's house or apartment, while five percent reported living at no fixed address.
- Thirty-nine percent of detainees were employed on a full-time or part-time basis, while 39 percent reported currently being unemployed.
- Nineteen percent of detainees reported an Indigenous background.
- Twenty-nine percent of detainees were charged with a violent offence as their most serious charge, 20 percent were charged with a property offence as their most serious charge and 22 percent of detainees were charged with a breach of conditional release.

**Table 1 Indicators of mephedrone use and availability by site, Quarter 3 2010**

	Heard of mephedrone		Offered mephedrone in the past 12 months		Know of anyone selling mephedrone		Used mephedrone in the past 12 months	
	n	%	n	% <sup>a</sup>	n	% <sup>a</sup>	n	% <sup>a</sup>
Bankstown	10	14	1	10	2	20	0	0
Kings Cross	15	26	5	33	3	20	1	7
Southport	32	27	7	22	5	16	2	6
Brisbane	31	22	7	23	6	19	0	0
Footscray	23	31	2	9	2	9	0	0
Adelaide	36	31	1	3	3	8	0	0
Darwin	13	21	0	0	0	0	0	0
East Perth	61	34	11	18	9	15	3	5
All sites	221	27	34	15	30	14	6	3

a: Of those who had heard of mephedrone

Source: AIC 2010 DUMA collection [computer file]

- three percent reported using it on at least one occasion in the past 12 months (<1% of all detainees); and
- fourteen percent of detainees had knowledge of at least one person selling it at the time of interview (4% of all detainees).

Knowledge of mephedrone varied across the DUMA data collection locations, with detainees in East Perth most likely to have heard of the drug (34%), followed by those in Adelaide and Footscray (both 31% respectively), Southport (27%) and Kings Cross (26%). Detainees in Bankstown, a site located in the western suburbs of Sydney (New South Wales), were least likely to report having heard of mephedrone (14%).

## GHB

GHB (Gamma-hydroxybutyrate) is a drug with sedative properties (McKim 2003). It is commonly used as a recreational drug and colloquially referred to as

*fantasy, grievous bodily harm or liquid ecstasy*. Common physical effects include drowsiness, dizziness and induced sleep. Characteristic psychological effects have included confusion, disorientation and hallucinations (DHA 2010).

Of the 824 detainees interviewed, just over half (n=439, 53%) had heard of the drug GHB (see Table 2). Of these:

- sixty-six detainees (15%) had been offered it, for sale or otherwise, on at least one occasion in the 12 months prior to interview (8% of all detainees interviewed);
- five percent of detainees reported using it on at least one occasion in the past 12 months (3% of all detainees); and
- fifty-one detainees (12%) had knowledge of at least one person selling it at the time of interview (6% of all detainees).

**Table 2 Indicators of GHB use and availability by site, Quarter 3 2010**

	Heard of GHB		Offered GHB in the past 12 months		Know of anyone selling GHB		Used GHB in the past 12 months	
	n	%	n	% <sup>a</sup>	n	% <sup>a</sup>	n	% <sup>a</sup>
Bankstown	27	38	2	7	5	19	1	4
Kings Cross	38	67	8	21	7	18	4	11
Southport	72	60	9	13	10	14	5	7
Brisbane	94	67	22	23	14	15	5	5
Footscray	44	59	8	18	3	7	0	0
Adelaide	70	59	8	11	2	3	6	9
Darwin	12	20	0	0	0	0	0	0
East Perth	82	45	9	11	10	12	2	2
All sites	439	53	66	15	51	12	23	5

a: Of those who had heard of GHB

Source: AIC 2010 DUMA Collection [computer file]

By site, as can be seen in Table 2, detainees in Brisbane and Kings Cross were most likely to have heard of GHB (both 67%, respectively), followed by those in Southport (60%), Footscray and Adelaide (both 59%, respectively). Fewer detainees in Darwin had heard of GHB than in any other location (20%). Of the detainees who had heard of GHB, in both Kings Cross and Brisbane, one-fifth reported that they were offered GHB in the past 12 months. Furthermore, approximately 20 percent of detainees in both NSW sites (Bankstown and Kings Cross) who had heard of GHB also reported knowing someone currently dealing this substance.

The self-reported use of GHB in the 12 months prior to interview was relatively low across all sites, although, despite the small numbers, some locations had higher rates than others. In Kings Cross for example, 11 percent (n=4) of detainees had used GHB in the past 12 months. This compares with nine percent in Adelaide, seven percent in Southport and five percent in Brisbane.

### Ketamine

Ketamine, commonly known as *special K*, *vitamin K* or *K*, is a dissociative anaesthetic (Lankenau & Sanders 2007). Physical effects include drowsiness, numbness and nausea. Psychological effects include altered perception, disorientation and hallucinations (DHA 2010).

Two out of every five detainees interviewed (n=353, 43%) had heard of the drug Ketamine (see Table 3). Of these:

- fifteen percent had been offered Ketamine, for sale or otherwise, on at least one occasion in the 12 months prior to interview (6% of all detainees interviewed);
- seven percent reported using Ketamine on at least one occasion in the past 12 months (3% of all detainees); and

- nine percent had knowledge of at least one person selling Ketamine at the time of interviewed (4% of all detainees).

By site, detainees in Kings Cross were most likely to have heard of Ketamine (61%), followed by those in Footscray (50%), Adelaide (48%) and Southport (47%). Bankstown and Darwin were the two locations where detainees had the least knowledge of Ketamine (30% and 15%, respectively).

### Rohypnol

Rohypnol, colloquially known as *roofies*, *circles* or *the date rape drug*, is a sedative commonly used to provide short-term relief from insomnia. Ingestion of Rohypnol has the following effects—sedation, muscle relaxation, reduced anxiety and reduced arousal. Rohypnol also can cause partial amnesia. Due to its prominent sedative properties and tendency to cause partial amnesia, it has historically been used as a date rape drug (American Council for Drug Education nd).

More than half of the 824 detainees interviewed had heard of Rohypnol (n=482, 59%). Yet, despite being the most well-known of the four drugs included in this research, recent knowledge of a dealer and the personal use of Rohypnol were comparatively low. For example, of the 482 detainees who had heard of Rohypnol:

- six percent had been offered Rohypnol, for sale or otherwise, on at least one occasion in the 12 months prior to interview (4% of all detainees interviewed);
- nine (2%) detainees reported using Rohypnol on at least one occasion in the previous 12 months (1% of all detainees); and
- six percent had knowledge of at least one person selling Rohypnol at the time of interview (4% of all detainees).

**Table 3 Indicators of Ketamine use and availability by site, Quarter 3 2010**

	Heard of Ketamine		Offered Ketamine in the past 12 months		Know of anyone selling Ketamine		Used Ketamine in the past 12 months	
	n	%	n	% <sup>a</sup>	n	% <sup>a</sup>	n	% <sup>a</sup>
Bankstown	21	30	4	19	4	19	0	0
Kings Cross	35	61	8	23	6	17	4	11
Southport	56	47	7	13	5	9	3	5
Brisbane	58	41	9	16	3	5	4	7
Footscray	37	50	6	16	3	8	0	0
Adelaide	57	48	9	16	3	5	6	11
Darwin	9	15	0	0	0	0	0	0
East Perth	80	44	11	14	9	11	6	8
All sites	353	43	54	15	33	9	23	7

a: Of those who had heard of Ketamine

Source: AIC 2010 DUMA Collection [computer file]

**Table 4 Indicators of Rohypnol use and availability by site, Quarter 3 2010**

	Heard of Rohypnol		Offered Rohypnol in the past 12 months		Know of anyone selling Rohypnol		Used Rohypnol in the past 12 months	
	n	%	n	% <sup>a</sup>	n	% <sup>a</sup>	n	% <sup>a</sup>
Bankstown	25	35	1	4	2	8	0	0
Kings Cross	35	61	6	17	6	17	1	3
Southport	68	57	4	6	3	4	4	6
Brisbane	97	69	4	4	2	2	1	1
Footscray	44	59	3	7	3	7	1	2
Adelaide	76	64	1	1	2	3	0	0
Darwin	20	33	0	0	0	0	0	0
East Perth	117	64	8	7	9	8	2	2
All sites	482	59	27	6	27	6	9	2

a: Of those who had heard of Rohypnol

Source: AIC 2010 DUMA Collection [computer file]

As can be seen in Table 4, by site, detainees in Brisbane were most likely to have heard of Rohypnol (69%), followed by those in East Perth (64%), Adelaide (64%) and Kings Cross (61%). Bankstown and Darwin were the two sites where detainees had the least knowledge of Rohypnol (35% and 33% respectively).

Recent knowledge of a person selling Rohypnol was reported by approximately one in five (20%) detainees in Kings Cross—substantially higher than the national average (6%) and twice as high as East Perth (8%), the site with the second highest result. Interestingly, although Brisbane was the site with the highest overall awareness of Rohypnol, only two detainees reported knowing a person selling Rohypnol at the time of interview.

## Discussion

Developing an evidence base and monitoring trends in illicit drug use is critical to ensuring that health and law enforcement responses are adequately and appropriately targeted. In particular, it is important to ensure that policymakers and practitioners are sufficiently equipped with current and reliable information about some of Australia's least researched drug types—including the newly emerging as well as less commonly used drugs.

In recognition of this, the AIC, through its DUMA program interviewed 824 police detainees about their knowledge and experience using mephedrone, GHB, Ketamine and Rohypnol. The DUMA program complements existing data sources through its sampling of police detainees—those more likely to be involved in drug use, but less likely to be included in national prevalence surveys.

Overall, a substantial proportion of detainees reported having heard of GHB, Rohypnol and Ketamine, suggesting that these illicit substances are well-known among offender populations. However, the prevalence of use in the 12 months prior to interview, as well as knowledge of a current dealer was low (less than 6% for each of the 3 drug types). Mephedrone, by contrast, was the least well-known of the four drug types; reported as being known by only one-quarter of detainees, with few detainees reporting having used the drug in the 12 months prior to interview (<1%). Despite this low level of recognition and use, a similar proportion of detainees reported knowing a current dealer of mephedrone (4%) compared with the other drug types.

Although the numbers are small in this study, analysis by location revealed some notable patterns. In particular, detainees in East Perth were most likely to report having heard of mephedrone, whereas knowledge of GHB, Ketamine and Rohypnol was more frequently reported by detainees at DUMA sites on the east coast (in particular, Brisbane and Kings Cross). Knowledge of a current GHB or Ketamine dealer was highest in Bankstown and Kings Cross, while knowledge of Rohypnol was highest in Brisbane.

This study is the first to use a large sample of Australian police detainees to investigate both the knowledge and prevalence of use for newly emerging and less commonly used drugs such as mephedrone, GHB, Ketamine and Rohypnol. While the findings indicate a relatively low level of use, there nevertheless remains a need for ongoing assessment to identify changing trends and patterns of use that can be responded to accordingly.

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### What is DUMA?

*DUMA is Australia's only nationwide survey of drug use and criminal offending among police detainees. Funded by the Australian Government, DUMA uses a detailed self-report survey and voluntary urinalysis to provide timely data on drug use and local drug markets. DUMA is an important source of information for local and national law enforcement agencies in the development of strategic responses to new and emerging drug/crime issues.*

*DUMA data collection occurs every quarter at eight of the nine available sites across the country and operates on a rotating basis. The program operates as a successful partnership between the AIC and state and territory police agencies.*

*For more information about DUMA, or to access DUMA data and publications, please visit: [http://www.aic.gov.au/about\\_aic/research\\_programs/nmp/duma.aspx](http://www.aic.gov.au/about_aic/research_programs/nmp/duma.aspx) or email us at: [duma@aic.gov.au](mailto:duma@aic.gov.au)*