

ESTIMATING THE NUMBER OF REGULAR AND DEPENDENT METHAMPHETAMINE USERS IN AUSTRALIA

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Rebecca McKetin Jennifer McLaren, Erin Kelly, Wayne Hall and Matthew Hickman

EXECUTIVE SUMMARY

Background

Almost one in ten Australians have ever tried methamphetamine (known locally by the street terms ‘speed’, ‘base’, ‘ice’, and ‘crystal’, AIHW, 2005) and around half a million Australian adults are current users of the drug. Although many of these people would use the drug infrequently, there are indications of a substantial population of regular methamphetamine users, many of whom are dependent on the drug. Heavy or dependent methamphetamine use is associated with a range of adverse consequences for both the individual and society. Specifically, heavy methamphetamine users are at elevated risk for psychosis, suffer a range of mental and physical health problems, and, if they inject the drug, they are at risk of contracting and transmitting blood borne viruses. Heavy methamphetamine users also show high levels of criminal involvement and contact with the criminal justice system, while police, together with other frontline services, bear the brunt of managing aggressive behaviour associated with methamphetamine-induced psychosis.

We need to know the size of the population of dependent methamphetamine users in order to understand their impact on public health and order, and to estimate the services that are needed to reduce this impact. The current best estimates of the scale of heavy methamphetamine use come from the National Drug Strategy Household Survey. According to the 2001 national household survey, almost 1% of the population had used methamphetamine at least monthly during the past year, and 0.4% of Australian adults took methamphetamine on a daily or weekly basis. This corresponds to an estimated 63,000 heavy methamphetamine users in Australia. However, household surveys tend to under-estimate the extent of heavy illicit drug use because marginalised groups such as illicit drug users are under-represented in household surveys, and stigmatised patterns of drug use are under-reported by those drug users who do participate.

Indirect prevalence estimation techniques offer an alternative way of measuring the extent of heavy illicit drug use. One of the more common and conceptually simple indirect prevalence estimation techniques is the multiplier-benchmark method. This method has previously been used to estimate the size of opioid using populations and injecting drug using populations. Much less use has been made of this method with other populations of drug users, such as dependent stimulant users. The aims of the current study were to: (1) use the multiplier-benchmark technique to estimate the number of regular and dependent methamphetamine users in Sydney, NSW and Australia, and (2) critically examine the methodological issues that arise when using this technique to estimate the size of a stimulant using population.

Method

The benchmark data sources were drug treatment data, hospital separation data and arrest data, which were derived for Sydney, New South Wales and Australia.

Treatment benchmark data consisted of closed treatment episodes collected through the Minimum Data Set for Alcohol and Other Drug Treatment Services (MDS-AODTS) where the main drug of concern was 'amphetamines' (includes amphetamine and methamphetamine).

Three sets of *hospital benchmark data* were derived that corresponded to separations in which there was: (a) a primary diagnosis of a stimulant-related disorder (ICD-10 codes F15.X and T43.6); (b) a primary or any secondary diagnosis of these stimulant-related disorders; and (c) a primary diagnosis of stimulant psychosis (ICD-10 code F15.5). Hospital diagnoses for stimulant-related disorders excluded cocaine, but included other stimulant drugs such as caffeine and ecstasy.

Arrest benchmark data within NSW were based on persons of interest who were charged with offences related to amphetamine or methamphetamine (including use/possession, dealing/trafficking, import or other drug offences), but excluded offences related to ecstasy or unspecified stimulants. National arrest benchmark data included arrests for all amphetamine-type stimulants, including ecstasy.

Benchmark data included only events that occurred among people aged 15-49 years during the financial year 2002/03. The exception was national treatment benchmark data, which included people aged 10-49 years.

Multipliers were derived from a survey of 310 regular methamphetamine users aged 16 years or older who were recruited from across Sydney between December 2003 and July 2004. Multipliers were based on the number of benchmark events that the participant experienced within the previous year. The criteria for having experienced a benchmark event were similar to those used to define the respective benchmark data. The derived multipliers were specific to methamphetamine-related events, excluding events that were related to other forms of stimulant use. Multipliers were based on survey participants aged 15-49 years who were residing within Sydney at the time of the survey (n = 297). An additional set of multipliers were derived for the sub-group of methamphetamine users who were dependent on the drug (n = 166).

Results

It was estimated that there were around 17,700 regular methamphetamine users and 14,700 dependent methamphetamine users in Sydney. This represents 8.5 and 7.0 regular and dependent methamphetamine users per 1000 persons aged 15 to 49 years respectively. The number of heavy methamphetamine users per population was higher in NSW (11.0 to 8.4 per 1000 persons aged 15 to 49 years), and there were an estimated 36,900 regular methamphetamine users of whom 28,000 were dependent on the drug within this age bracket.

The estimated number of regular methamphetamine users in Australia was 102,600, or 10.3 per 1000 persons aged 15 to 49 years. Of these regular methamphetamine users, it was estimated that there were 72,700 dependent methamphetamine users, or 7.3 per 1000 population aged 15-49 years. The bulk of regular and dependent methamphetamine users were located outside of Sydney (83% and 80% respectively).

Median prevalence estimates for the number of regular and dependent methamphetamine users aged 15-49 years in Sydney, NSW and Australia

	Number	Rate per 1000 persons
Regular users		
Sydney	17,700	8.5
NSW	36,900	11.0
Australia	102,600	10.3
Dependent users		
Sydney	14,700	7.0
NSW	28,000	8.4
Australia	72,700	7.3

Note. The estimated number of methamphetamine users is rounded to the nearest 100.

Methodological considerations

The treatment multiplier holds the greatest promise for monitoring the size of the dependent methamphetamine using population in Australia, because of its simplicity, and specificity to dependent methamphetamine use, which is most likely to be predictive of treatment seeking and other methamphetamine-related harms. Although we were also able to derive comparable and plausible prevalence estimates using the hospital multipliers, it was difficult to derive these multipliers from survey data, and they also suffered from a number of limitations. Similarly, the arrest multipliers were not very robust because the frequency of methamphetamine-related arrests was very low among the current sample of methamphetamine users, and likely to have been affected by the incarceration of methamphetamine users who had been arrested within the past year. Also, the national arrest prevalence estimates were spuriously inflated by the inclusion of ecstasy offences in the benchmark data, and therefore needed to be excluded when calculating the median national prevalence estimate.

The current exercise produced provisional prevalence estimates for regular and dependent methamphetamine use in NSW and Australia, by applying multipliers derived from within Sydney to benchmark data from these respective regions. These state-wide and national estimates are provisional and need to be improved through the development of treatment multipliers from surveys of methamphetamine users in other geographic areas within Australia, including regional and rural areas. Further investigation of factors affecting access to treatment services is also needed to understand to what extent these prevalence estimates capture various sub-components of the methamphetamine dependent population. Multipliers need to be stratified by factors that affect treatment entry, such as concurrent heroin use, unemployment and being born outside of Australia.

The validation of the multipliers derived in the current study against other indirect methods of prevalence estimation, such as capture-recapture methods, would also be desirable. This is more likely to be feasible at a local rather than a national level because of the current lack of identity linkage across different data sets both within most jurisdictions and at a national level.

Implications

Previous estimates of problematic drug use in Australia have focussed on dependent heroin users who contribute to disease burden disproportionately to their numbers in the population. The current findings demonstrate that Australia also has a large population of dependent methamphetamine users, most of whom inject the drug. The size of this

population appears to be larger than recent estimates of the size of the heroin using population in Australia, and similar to the estimated size of the heroin using population in the late 1990s.

The contribution of dependent methamphetamine use to the health and social consequences associated with illicit drug use in Australia cannot be ignored. This population will generate a substantial number of hospital presentations for methamphetamine-psychosis that will adversely affect emergency medical and mental health services. Dependent methamphetamine users also reflect a large pool of injecting drug users, who are at risk of contracting and transmitting HIV and other blood borne viruses.

Not only does dependent methamphetamine use represent a public health concern in its own right, but this large population of dependent injecting stimulant users is at high risk of making a transition to heroin injection, among other patterns of polydrug use. This population is therefore also likely to contribute to other drug trends in Australia in the future. Conversely, a proportion of the current population of dependent methamphetamine users is likely to be former or concurrent dependent opioid users. In this regard, the overlap between the current population of dependent methamphetamine users and dependent opioid users needs to be taken into account when understanding trends in dependent injecting drug use and their likely impact on both the individual and society.

Reducing the number of heavy methamphetamine users and consequential problems will require effective treatment for methamphetamine dependence and improvements in treatment coverage. Only one in ten methamphetamine users reports receiving treatment for their methamphetamine use in the past year (Kelly et al., in preparation), a much lower rate of treatment coverage than for problem opioid users. This reflects the scarcity of effective treatment options for methamphetamine use, and the problems that users experience in accessing treatment. We also need to prevent the initiation of methamphetamine use if we want to ensure that the size of this population does not increase, particularly with the increasing popularity of crystalline methamphetamine among younger non-injecting drug users.

In conclusion, further research is needed to better understand the public health impact of methamphetamine dependence, and we need to improve our efforts to reduce the size of this population by implementing prevention initiatives and by providing effective and accessible treatment for methamphetamine dependence. Harm reduction initiatives should also be examined that reduce the up-take of risky patterns of methamphetamine use (i.e., smoking ice and injecting) and minimise the adverse consequences of methamphetamine use among people who are currently heavy users but do not respond well to conventional treatment approaches.