AUSTRALIAN CRIMINAL INTELLIGENCE COMMISSION

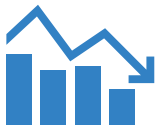
Methylamphetamine supply reduction

Measures of effectiveness

Contents

Key judgements

Large seizures of methylamphetamine have a demonstrable impact on methylamphetamine consumption in Australia, particularly in capital city markets. The impact of seizures on consumption is not immediate, usually lasts only two to four months, and is specific to particular geographic locations.



Supply reduction is unlikely to be the only contributing factor to fluctuations in Australia's methylamphetamine markets. Nonetheless, available data demonstrate statistically significant decreases in consumption—both over time and across jurisdictions—following multi-hundred-kilogram seizures.

Domestic production of methylamphetamine in clandestine laboratories is a critical factor which contributes to the resilience of Australia's market. The scale of domestic production is likely higher than previously understood, counters the impact of national and international methylamphetamine seizures (to an extent) and—given regional consumption trends—supports regional (and potentially capital city) methylamphetamine consumption.

At a national level, supply reduction is most effective when directed towards disrupting the 'wholesale' methylamphetamine market, given large individual seizures appear to have greater impact on consumption than multiple smaller seizures. However, addressing methylamphetamine consumption long-term requires a concurrent and equivalent focus on demand and harm reduction activities, complementing supply-side efforts.

Introduction

There is a significant amount of research and administrative data on illicit drug use available in Australia. This assessment represents the first time the Australian Criminal Intelligence Commission (ACIC) has overlaid consumption data derived from the National Wastewater Drug Monitoring Program (NWDMP) with other illicit drug indicator data to understand the relationship between supply and demand within the Australian methylamphetamine market.

Data limitations

This report analyses the effectiveness of significant methylamphetamine seizures as one component of supply reduction. It overlays national seizure data for amphetamines with methylamphetamine consumption data as measured through the NWDMP.

Granularity within drugs categorised as amphetamines is determined by available data. It is not currently possible to provide a further breakdown of drugs within this category at a national level. Amphetamines includes amphetamine, methylamphetamine, dexamphetamine and amphetamines not elsewhere classified. Based on available data, methylamphetamine accounts for the greatest proportion of amphetamines seized nationally. The seizure data used in this report are sourced exclusively from data supplied for the ACIC's Illicit Drug Data Reports. The report does not include analysis of the impact of offshore seizures destined for Australia or the potential impact of domestic seizures on the average annual or quarterly purity of analysed methylamphetamine samples.

Under the NWDMP, wastewater is sampled every two months at capital city sites and every four months at regional sites. Analysis of consumption patterns therefore does not incorporate fluctuations that may occur between sampling periods.

Between April 2016 and June 2018, there were five instances where the combined monthly weight of amphetamines seized nationally exceeded 500 kilograms (Table 1). While the reported weight of amphetamines seized nationally in June 2016 exceeded 500 kilograms, this (and any other seizure prior to August 2016) is not included in the analysis as it occurred prior to the commencement of the NWDMP.

Table 1. National monthly amphetamines seizures above 500 kilograms and state of largest seizure(s), April 2016 to June 2018

Date	National seizure weight (kg)	NSW seizure weight (total)	Victoria seizure weight (total)	WA seizure weight (total)
Jun–2016	816	470	276	55
Feb–2017	1,822	932[a]	878[b]	–
Sep–2017	527	438[c]	–	–
Dec–2017	1,390	–	–	1,268[d]
Mar–2018	1,175	979[e]	–	–

a. Includes two methylamphetamine seizures of 317 and 541 kilograms.
b. Includes an individual methylamphetamine seizure of 860 kilograms.
c. Includes an individual methylamphetamine seizure of 408 kilograms.
d. Includes an individual methylamphetamine seizure of 1,220 kilograms.
e. Includes an individual methylamphetamine seizure of 871 kilograms.
Note: not all state/territory seizures are included in Table 1, therefore the total national seizure weight exceeds state/territory totals. State/territory seizure data only include seizures for which a valid drug weight was recorded. Figures are rounded (down) to the nearest whole kilogram.

For the purposes of this report, six individual methylamphetamine seizures between February 2017 and March 2018 (Table 1, notes a. to e.) form the basis of the analysis, and are compared with consumption data over the same time period. Each individual seizure (or for New South Wales [NSW] in February 2017, both seizures) comprises over 85 per cent of the total weight of amphetamines seized in that month.

Assessment

National picture

The market for methylamphetamine in Australia is robust and resilient, and has been steadily increasing for at least the last five years. The market is supplied by both imported methylamphetamine, as well as methylamphetamine produced in domestic clandestine laboratories. Analysis of data from the NWDMP indicates that (of the substances for which dosage data are available) methylamphetamine is the highest consumed illicit substance measured by the program[1] and vastly exceeds cocaine, heroin and MDMA consumption. The ACIC used wastewater data collected between August 2016 and August 2017 (Year 1) and August 2017 and August 2018 (Year 2) to estimate the annual weight of methylamphetamine, consumed in Australia. The ACIC estimates 8,405 kilograms of methylamphetamine was consumed in Year 1, increasing to an estimated 9,847 kilograms in Year 2.[2]

This report primarily compares specific state and territory seizure data with average regional and capital city consumption data. Comparing national seizures to average national consumption obscures consumption patterns at the local level and therefore conceals the extent of the impact supply reduction has on consumption in specific geographic locations. Nonetheless, Figure 1 (see appendix) demonstrates the broad national trends which are reflected in individual state and territory data, namely: large methylamphetamine seizures have a significant (but temporary) impact on average capital city consumption, whereas regional methylamphetamine consumption is generally unaffected by the same seizures.

Capital city markets

Large seizures of methylamphetamine have a demonstrable short-term impact on methylamphetamine consumption in Australia, particularly in capital city markets. NSW, Victoria and the Australian Capital Territory (ACT) best illustrate this impact. In each of these jurisdictions, between February 2017 and June 2018 there is a pattern of declining capital city methylamphetamine consumption following one or more significant seizures (see Figures 2, 3, 4 and 5). This pattern appears to be specific to these three jurisdictions—where a series of methylamphetamine seizures in NSW impacted capital city consumption across states and territories—but it was also observed in Western Australia (WA), Queensland and South Australia (SA), where a large (1.2 tonne) seizure in December 2017 in WA had a significant impact on capital city consumption in all three states and a smaller impact on Tasmania (see Figure 7).

1 As known dosage figures are not available for cannabis, it is not included in comparisons of the substances tested under the NWDMP.

2 Australian Criminal Intelligence Commission (ACIC) 2019, *National Wastewater Drug Monitoring Program – Report 6, Canberra*, <https://www.acic.gov.au/publications/intelligence-products/national-wastewater-drug-monitoring-program-report>.

Available data generally indicate statistically significant[3] decreases in consumption—both over time and across jurisdictions—following multi-hundred-kilogram seizures. For example, between February 2017 and June 2018, four large (317, 541, 408 and 871 kilograms—see Table 1) and two smaller (101 and 150 kilograms) methylamphetamine seizures occurred in NSW. Over this timeframe, three separate decreases were observed in average NSW capital city consumption, ranging between 10 and 30 per cent (Figure 2).

Statistical modelling demonstrates that for every tonne of methylamphetamine seized in NSW between 2016 and 2018, average capital city methylamphetamine consumption in NSW decreased 14 per cent after two months and 31 per cent after four months. Separate modelling also demonstrates that the December 2017 seizure in WA had a statistically significant impact on that state's capital city consumption.

The impact of seizures on consumption is not immediate, usually lasts two to four months, and is specific to geographic location. Across jurisdictions, available data demonstrate that the onset of any decrease in consumption is not immediate (taking between one and three months to take effect) and usually lasts between two and four months, after which consumption begins to increase—generally to a level either similar to, or higher than, pre-seizure consumption. For example, Figure 3 demonstrates that despite a series of decreases in average capital city methylamphetamine consumption in Victoria following seizures in both Victoria and NSW, the overall two-year trend illustrates increasing consumption. Further, the data also suggest the February 2017 seizure in Victoria (860 kilograms) had a more limited impact on methylamphetamine consumption in Victoria than the NSW seizures (317 and 541 kilograms) had on NSW capital city consumption over the same period (Figures 2 and 3).

Significant seizures in one jurisdiction can impact consumption patterns in others. Although illicit drugs are seized across Australia and at the border, the jurisdiction in which seizures occur is not necessarily the destination market. It is therefore likely that large 'wholesale' methylamphetamine seizures were destined for several 'retail' markets. Similarly, smaller capital city methylamphetamine markets are likely to be supplied by larger capital city sources. For example, Figures 4 and 5 demonstrate that for most of the period August 2016 to August 2018, NSW and the ACT have broadly similar consumption trends. This suggests that methylamphetamine consumed in the ACT is probably sourced from NSW and impacted—albeit to a greater or lesser degree—by seizures in NSW.

3 In this instance, significance means that the effect of seizures on consumption is not attributable to chance. Distributed Lag and Interrupted Time Series modelling analysis were used to establish the significance of the impact of large methylamphetamine seizures on consumption.

Supply reduction appears most effective when directed towards disrupting the wholesale methylamphetamine market. This is probably a question of scale. Given (at a national level) large individual seizures appear to have greater impact on consumption than multiple smaller seizures, it is likely that multi-hundred-kilogram methylamphetamine seizures temporarily disrupt the demand/supply equilibrium—which smaller retail level seizures are unable to achieve, except in small local markets. By extension, long-term disruptions to the market require continual interruptions (that is, seizures) to supply to have the greatest effect on reducing methylamphetamine consumption.

Regional markets

Across Australia, average regional methylamphetamine consumption appears largely unaffected by the seizures which impact capital city consumption. Of the six significant individual methylamphetamine seizures in Australia between April 2016 to June 2018 (Table 1), only one had a statistically significant impact on regional methylamphetamine consumption across a number of jurisdictions. This December 2017 seizure in WA is likely to have had a decisive impact on regional methylamphetamine consumption and represents the only known instance in the available data where the same seizure has impacted both regional and capital city consumption (Figures 7 and 8).

- The primary impact of the December 2017 seizure appears to be on average capital city and regional methylamphetamine consumption in SA and WA, though it also appears to have impacted average consumption in capital city Queensland and Tasmania and in regional Queensland, Tasmania and (to a lesser extent) Victoria.
- Between December 2017 and April 2018 average capital city consumption nearly halved in WA. Average consumption in regional WA also decreased over the same period, but to a much lesser extent. Although it increased in the two months immediately after the seizure (December 2017 to February 2018), between February and April 2018 average capital city consumption in SA more than halved, and continued to decrease slightly until June 2018. Average regional consumption in SA close to halved between December 2017 and April 2018.
- Figures 8 and 9 also show that average regional consumption across a number of jurisdictions decreased in the six months (and beyond, in some instances) following August 2016. While the three significant seizures in February 2017 (in NSW and Victoria) may have contributed to or prolonged this decrease, the specific impact is unclear because consumption was declining prior to the seizures. Furthermore, as the seizures occurred between wastewater sampling periods, the level of average regional methylamphetamine consumption in February 2017 is unknown.

None of the five other significant methylamphetamine seizures across Australia between April 2016 and June 2018 appear to have impacted regional consumption. Figure 6 demonstrates that following large methylamphetamine seizures between February 2017 and March 2018, average consumption increased sharply between April and December 2017 in regional NSW, Victoria and Queensland, after which it either remained relatively stable (Victoria), further increased (NSW), or decreased (Queensland). Figure 6 also shows that despite the significant seizures in NSW between September 2017 and June 2018, average methylamphetamine consumption in regional NSW increased 67 per cent between April 2017 and December 2018.

High, and increasing, regional consumption suggests regional methylamphetamine markets have a different dynamic to capital city markets—probably driven by domestic production in clandestine laboratories. Methylamphetamine consumption in regional Australia (Figure 9) is more stable (with the exception of SA) and appears less impacted by significant seizures than capital city markets. Regional methylamphetamine consumption is probably driven by domestic production in clandestine laboratories. This hypothesis may be supported by the record weight (4,912.4 kilograms) of amphetamine-type substance precursors (excluding MDMA) detected at the Australian border in 2017–18, which suggests that there is high and enduring domestic demand for substances used to manufacture methylamphetamine.

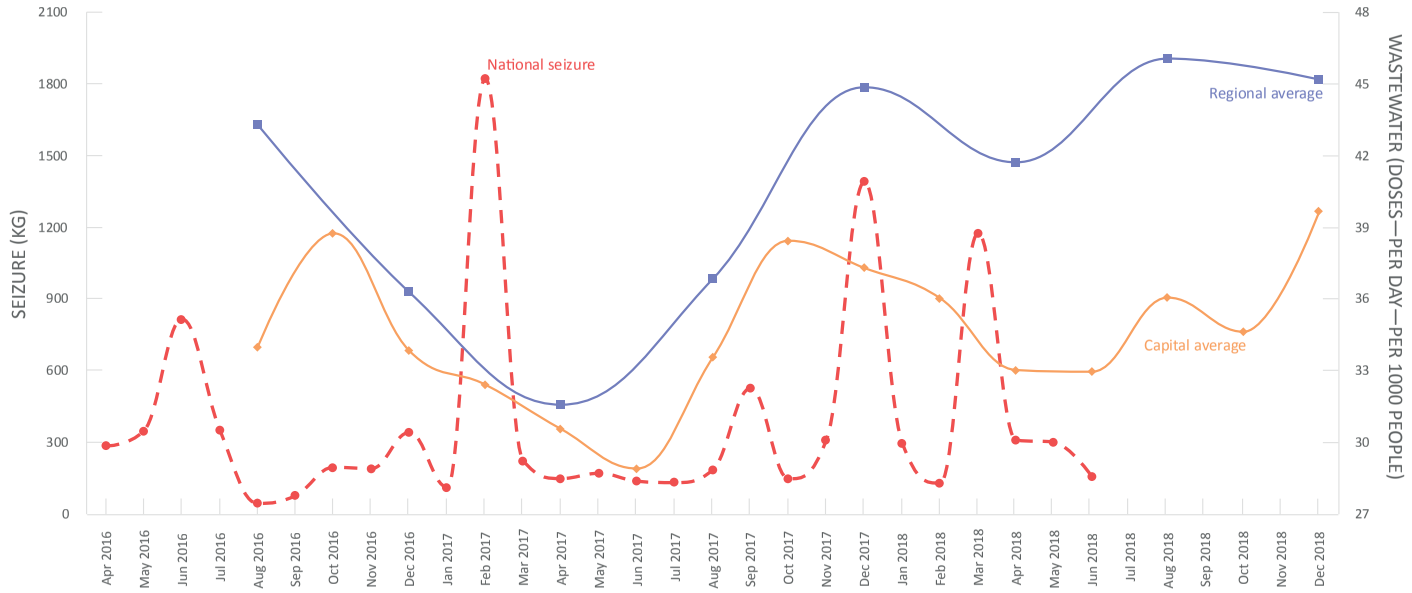
Issues for consideration

The ACIC is currently unable to determine with any confidence the impact of supply reduction on purity levels because of differences in forensic testing regimes across the states and territories, particularly at the retail level. Access to, and analysis of, health-related administrative data (such as hospital and ambulance data) is likely beneficial in understanding the impact of demand reduction activity on the market.

This paper indicates that supply reduction can have a temporary impact on consumption of methylamphetamine. However, addressing consumption long-term requires a concurrent and equivalent focus on demand and harm reduction activities, complementing supply-side efforts. This is consistent with Australia's current National Drug Strategy, which seeks a balanced approach between supply, demand and harm reduction.

Appendix

Figure 1. Weight of amphetamines seized nationally and average national methylamphetamine consumption (regional and capital city), April 2016 to December 2018



Please note the approved seizure data provided to the ACIC for inclusion in the *Illicit Drug Data Report*, on which these figures are based, are current to 30 June 2018. Figures 1 to 9 therefore do not include seizure data from July to December 2018.

Figure 2. Weight of amphetamines seized in NSW and average NSW capital city methylamphetamine consumption, April 2016 to December 2018

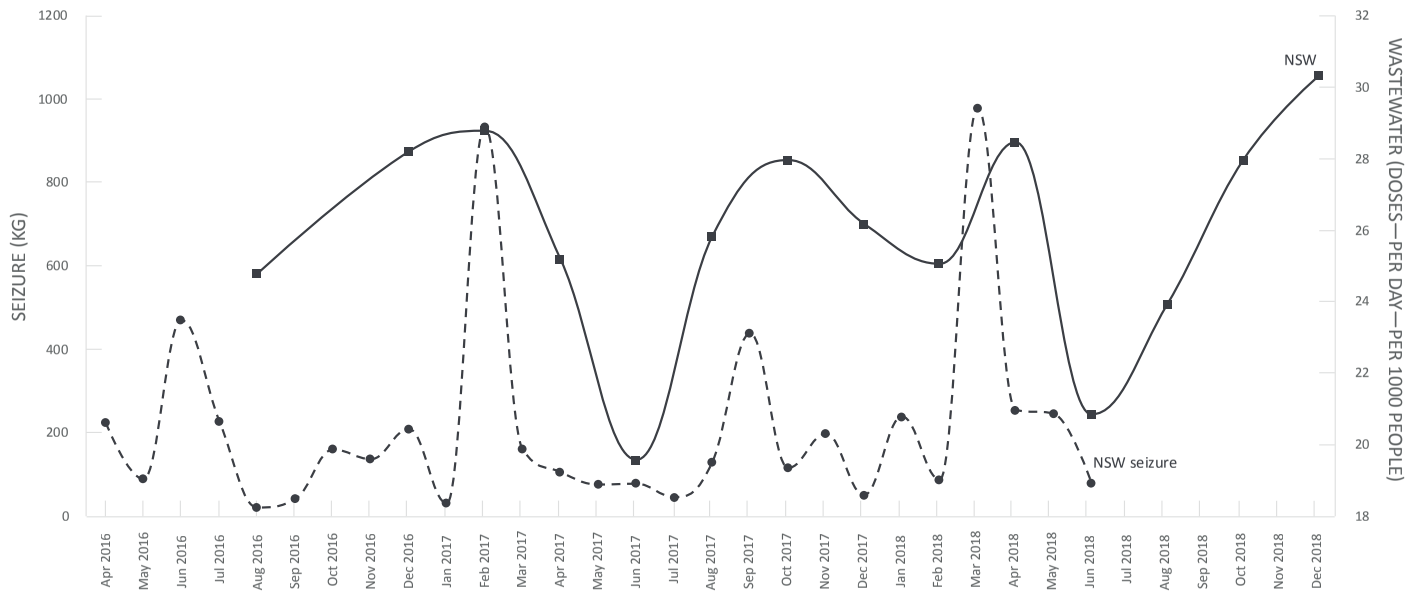


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Figure 3. Weight of amphetamines seized in NSW and Victoria and average Victoria capital city methylamphetamine consumption, April 2016 to December 2018

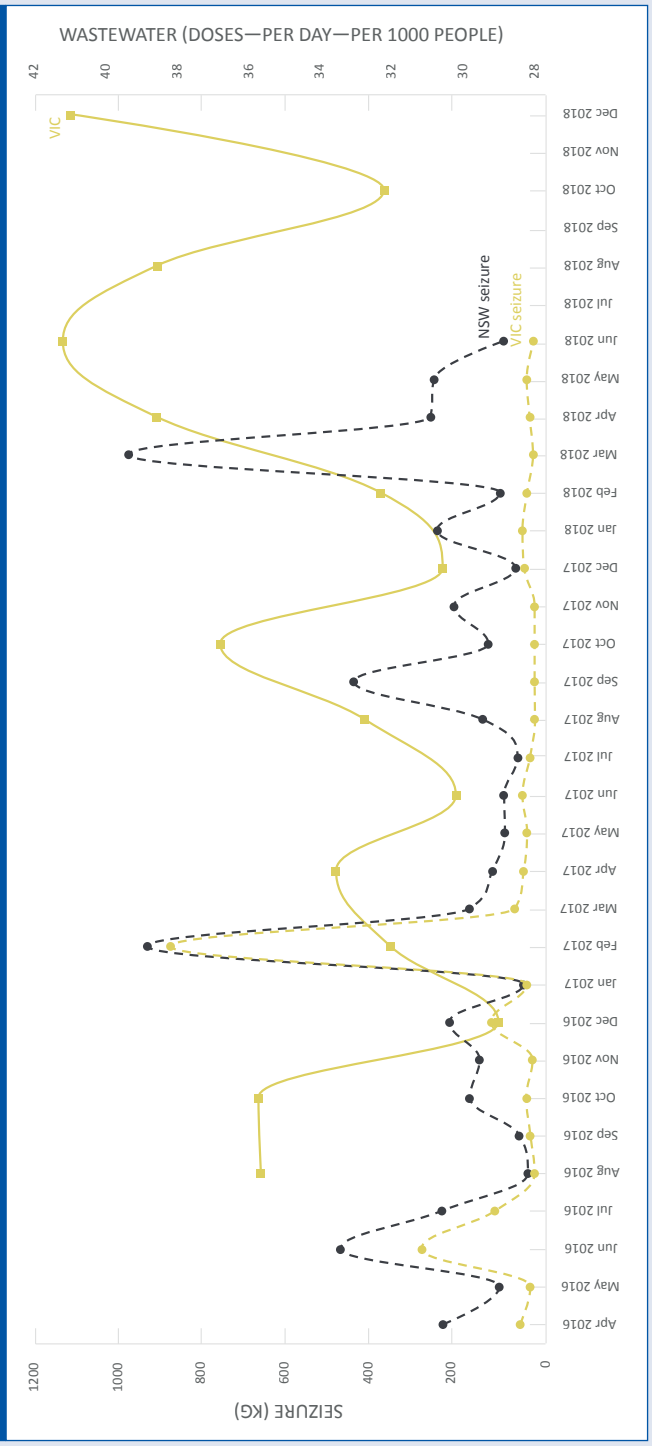

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Figure 4. Weight of amphetamines seized in NSW and average ACT and NSW capital city methylamphetamine consumption, April 2016 to December 2018

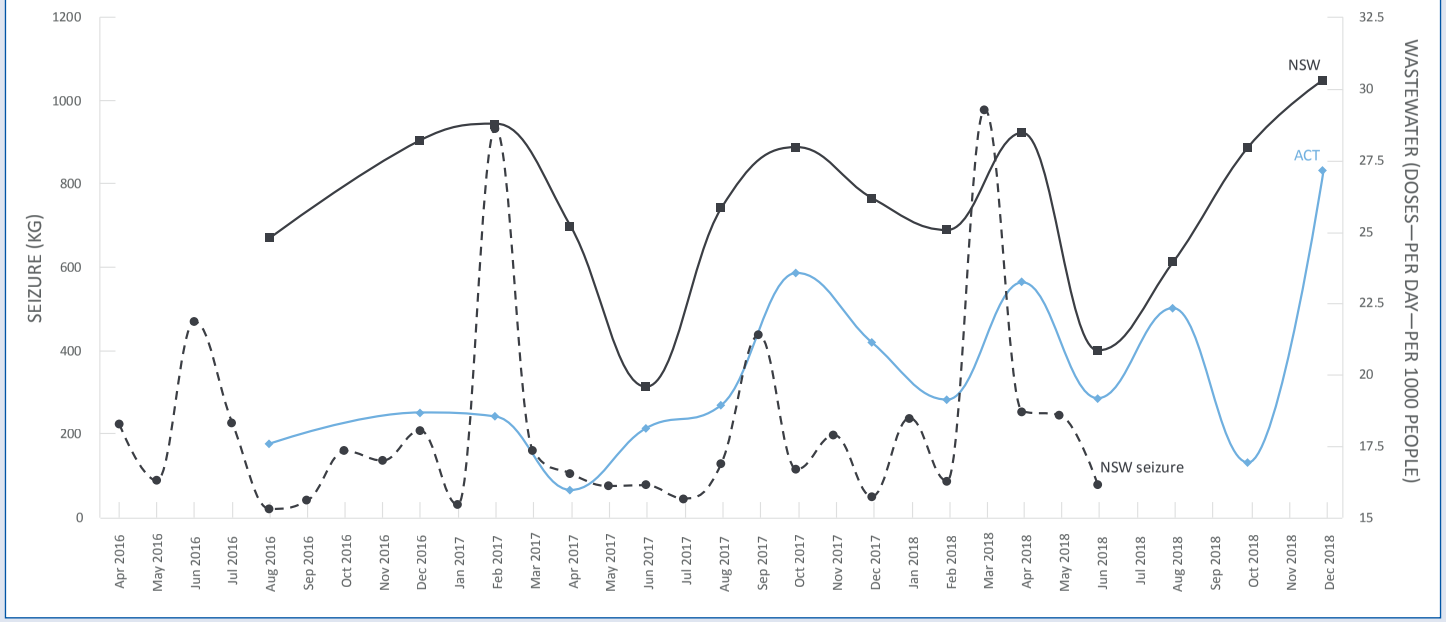

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Figure 5. Weight of amphetamines seized in NSW and Victoria and average ACT, NSW and Victoria capital city methylamphetamine consumption, April 2016 to December 2018

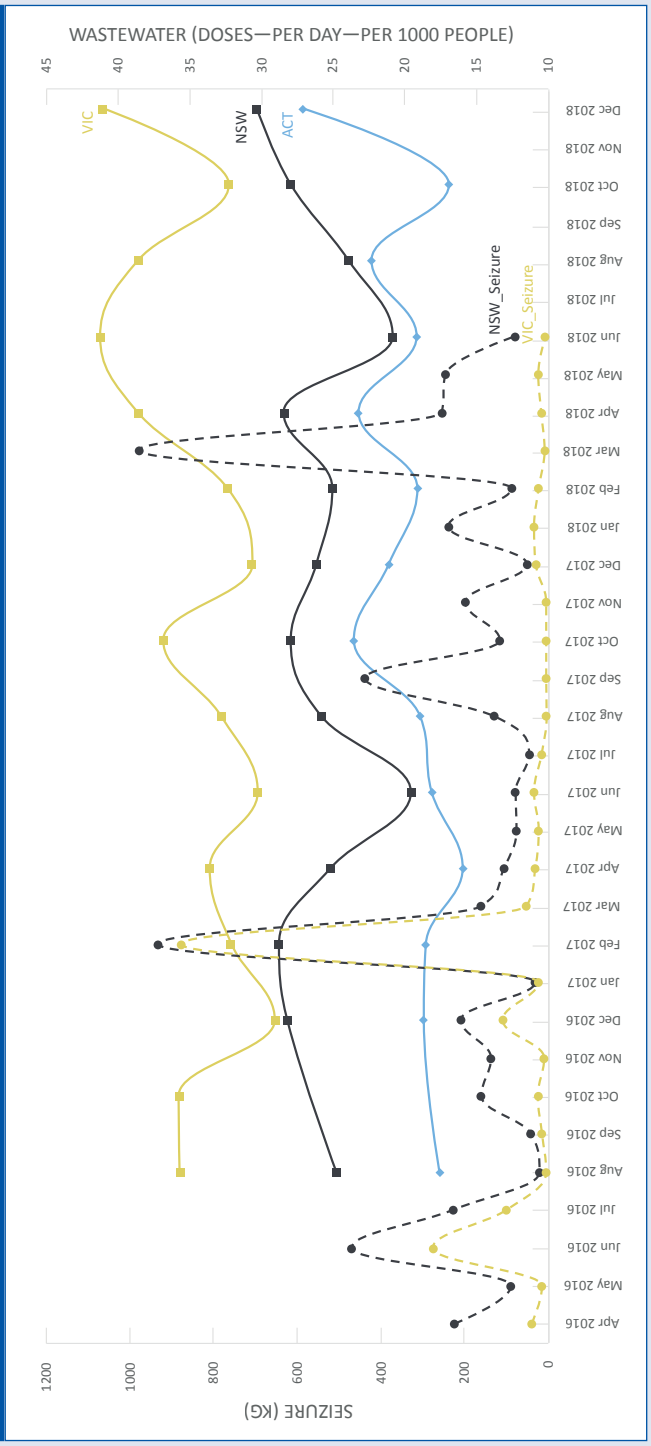

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Figure 6. Weight of amphetamines seized in NSW, Victoria and WA and average NSW, Queensland and Victoria regional methylamphetamine consumption, April 2016 to December 2018

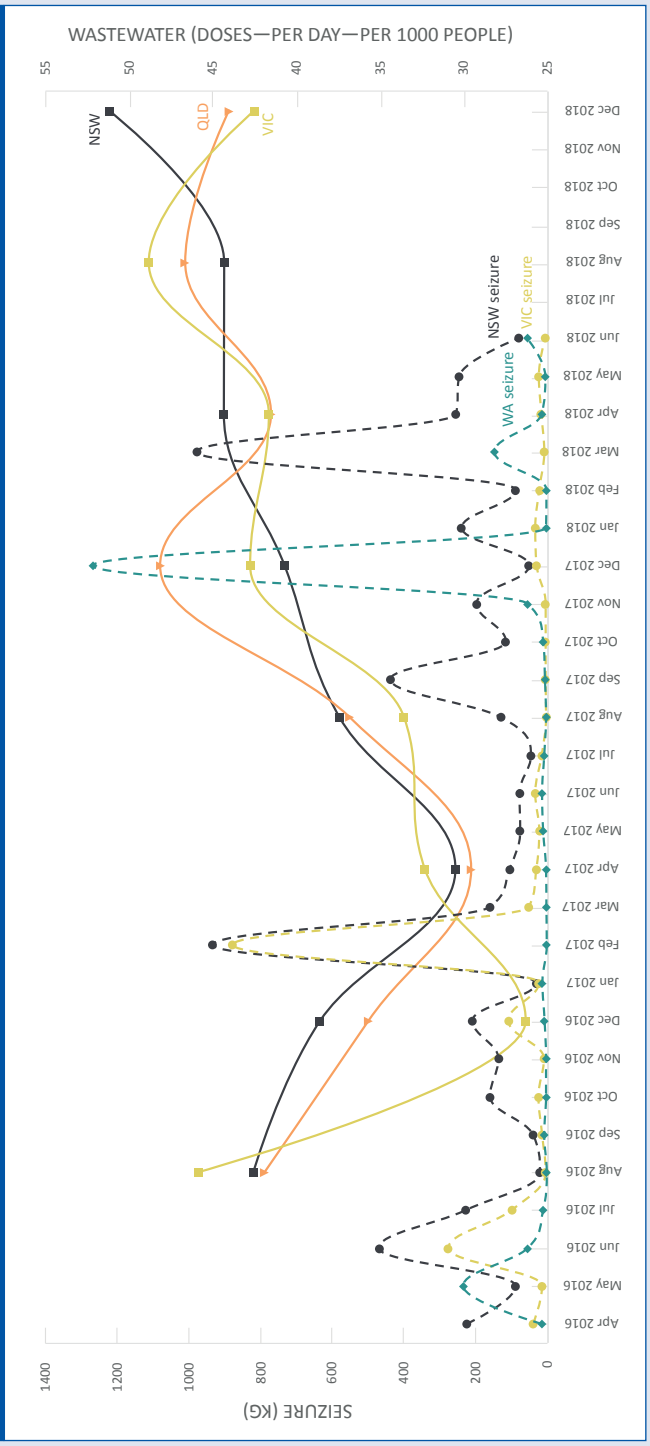

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Figure 7. Weight of amphetamines seized in WA and average SA, WA, Queensland and Tasmania capital city methylamphetamine consumption, April 2016 to December 2018

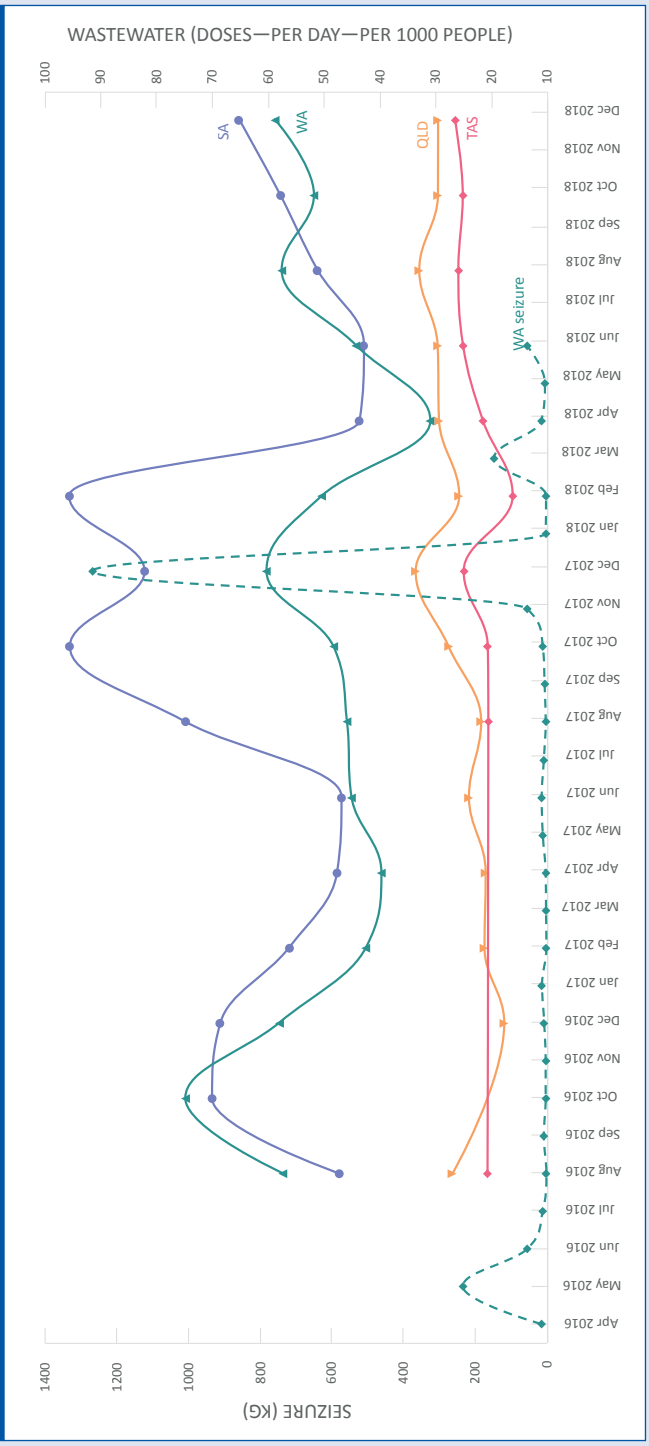

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Figure 8. Weight of amphetamines seized in WA and average SA, WA, Queensland, Victoria and Tasmania regional methylamphetamine consumption, April 2016 to December 2018

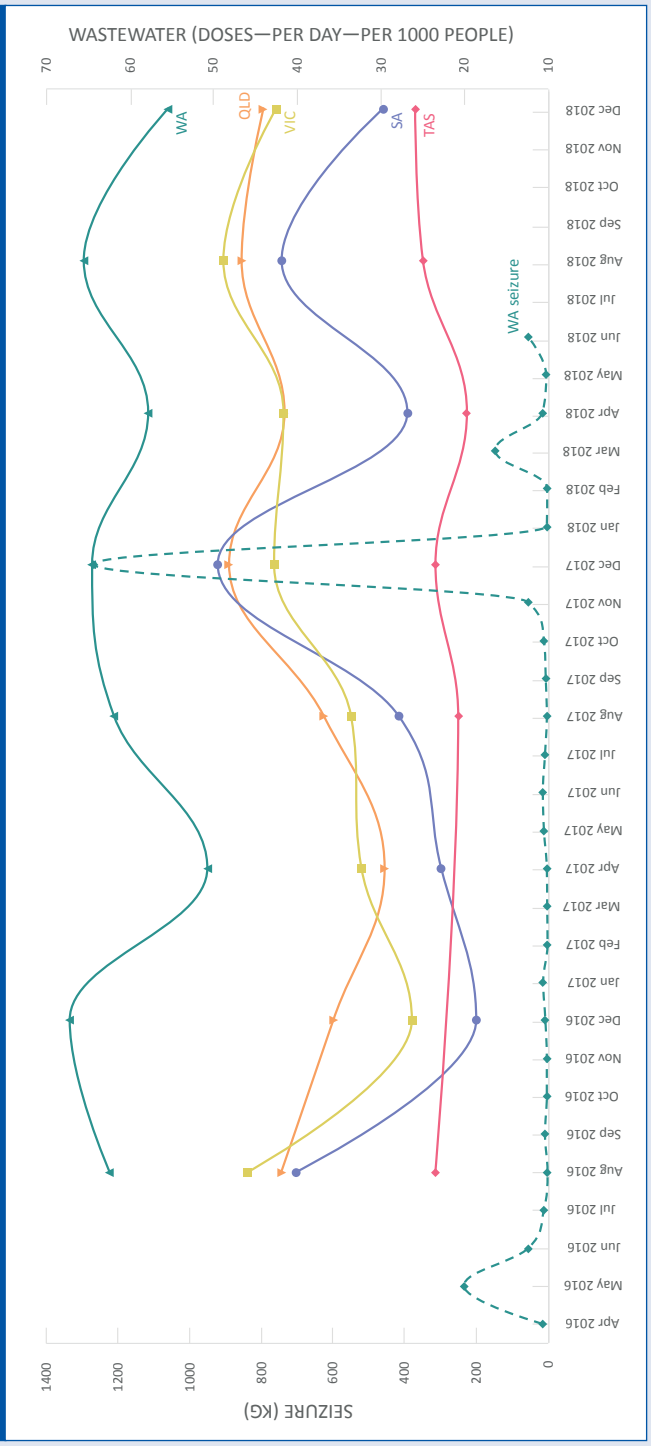

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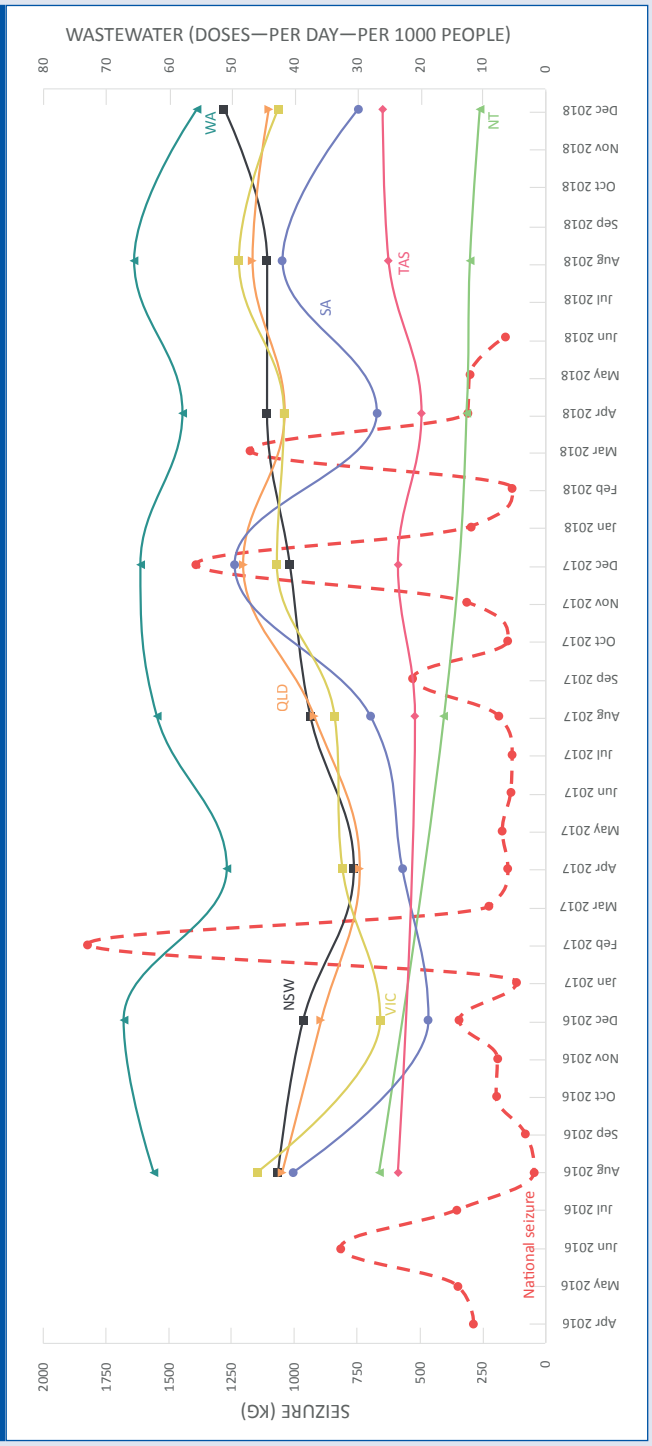
Figure 9. Weight of amphetamines seized nationally and average regional methylamphetamine consumption, April 2016 to December 2018



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Note: The ACT is not included in this chart as ACT wastewater data samples are only collected from metropolitan areas.

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